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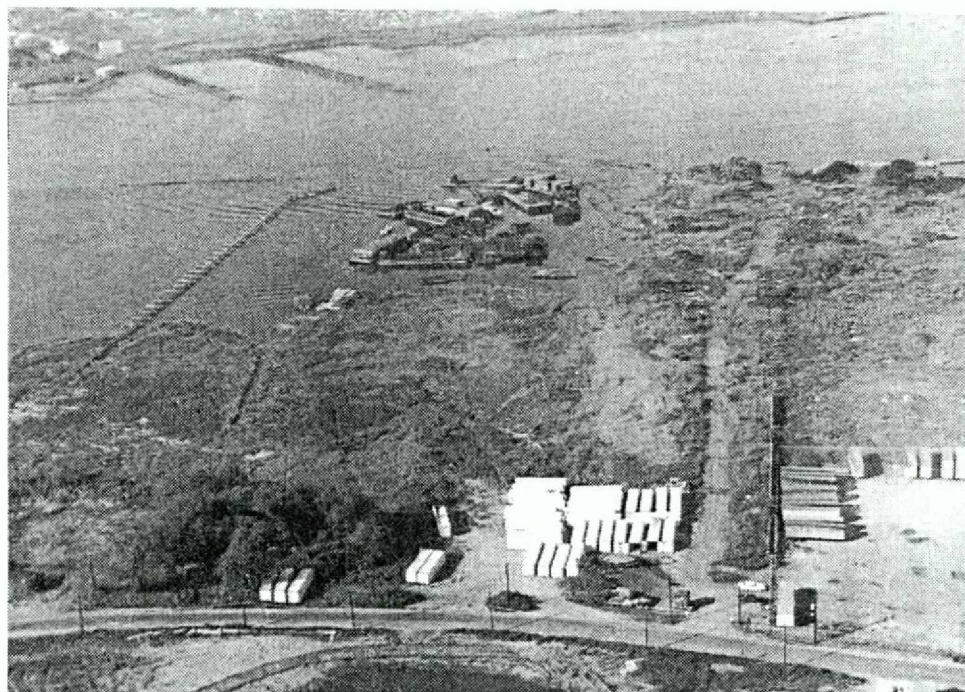
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LANDMARKS PRESERVATION
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RECONNAISSANCE OF MARINE CULTURAL RESOURCES
AT THE NEWARK BAY SITE
STATEN ISLAND, NEW YORK

NEW YORK CITY LONG RANGE SLUDGE MANAGEMENT
GEIS III/NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION



Prepared by: Thomas Flagg, Gerry Weinstein, and Norman Brouwer

April 10, 1992

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RECONNAISSANCE OF MARINE CULTURAL RESOURCES AT "NEWARK BAY SITE"

New York City Long Range Sludge Management Plan GEIS III

New York City Department of Environmental Protection

Prepared for Allee King Rosen & Fleming, Inc.

by Thomas Flagg, Gerry Weinstein, and Norman Brouwer

A previous survey of the potential historic cultural resources of the Newark Bay Site (Flagg, 1991, p. 3) recommended a more detailed reconnaissance of the marine resources on the site than was permitted by the scope of that survey, because of the strong possibility that some of the approximately 35 hulks and pieces of wooden marine vessels present on the site might be eligible for the State and National Registers.

This report contains the result of field work and research conducted to further explore the marine resources at the site, in order to provide a more informed assessment of their potential for historic significance. Field visits were made by the team on March 8 and on March 15, 1992, with appropriate equipment to reach and survey the resources. The marine resources in two areas of the site were found to be of sufficient historic interest to be potentially eligible for the State and National Registers, while the marine resources on the rest of the site were not. These two areas are marked on Fig. 3.

DESCRIPTION OF SITE BOUNDARIES

The Newark Bay site is bounded by the pierhead line of the Kill van Kull to the north, the Mariner's Harbor marina to the east, Richmond Terrace to the south, and the Howland Hook Marine Terminal to the west (see Fig. 1 for general location and Fig. 2 for parcel boundaries). It consists of two sections: the

main parcel (Block 1301, Lot 1 and Block 1306, Lot 14) and the pier parcel (Block 1309, Lots 1, 2, and 10).

HISTORY OF THE MILLIKEN/DOWNEY SHIPYARD SITE

The Milliken Bros. Co. constructed a plant for iron and steel fabrication on or near this site beginning in 1902. The facilities constructed for this company occupied considerable acreage on both sides of Richmond Terrace at their most extensive, in 1907. During World War I (circa 1915) the fabricating plant became, or was purchased by, the Downey Co. which constructed a ship-building plant on the peninsula north of Richmond Terrace. A series of photographs of this plant are in the collection of the South Street Seaport Museum library. The piles from the four sets of "ways" for this plant are still present on the site. Shortly after World War I the shipyard was closed and subsequent uses of the site shown on later maps were confined to an underground gas pipeline and to maintenance facilities located adjacent to Richmond Terrace, with no structures constructed on the peninsular portion of the site.

However at some later time, probably in the 1950s or 1960s, a person or group of persons began to use the site for scrapping wooden barges; this operation was not shown on maps and may have been conducted illegally. The barges were brought in to the shallow waters on both the east and west sides of the peninsula and beached in the mud. Any valuable parts were removed; some of the wood in them was burned at the site (1991 interview with Mr. Nalwasky, local resident, cited in Flagg, 1991). At present we do not know whether this was done by a formal company that owned the site, or by an informal group of some sort. In any case, the operation was apparently ended in the late 1960s or early 1970s. Two aerial photos of the site (Fig. 5, made circa Oct. 1969, on cover of this report; Fig. 6, published 1971 by the Port of New York Authority) show a number

of barges present in fairly good condition. Most or all of these are still on the site today, in much more deteriorated condition. The photos themselves do not reveal whether scrapping was still in progress at that time, but the text accompanying the Port Authority photograph suggests the entire site was officially vacant and available for development.

TWO TYPES OF WOODEN CRAFT

The present reconnaissance found two main types of hulks. Those we call the "powered" type are characterized by "lines", that is pointed bows, rounded sterns, shaped ribs, and the other traditional curves of wooden hull construction. Features of these hulls suggested that all had been powered vessels. One fragment may have come from a sailing lighter; the rest were powered by engines of some sort. The vessels of this type (located on Fig. 4) are 12, 15, 17, 21, 22, 23, and 30-34.

The other, "unpowered", type of vessel also possessed a wooden hull but is characterized by the square ends, flat sides, and generally boxy construction typical of unpowered scows and lighters used within a port. All other craft shown on Fig. 4 were of this type.

HISTORY OF HARBOR CRAFT AT THE PORT OF NEW YORK

The harbor craft of the Port of New York served a major role in world commerce. New York was for many years the premier general cargo port in the U.S., but it could not have served this role without a system of moving goods, called "lighterage", that made it possible for each railroad that reached the port to serve all parts of the port, including every steamship pier. The many waterways and the densely built up nature of New York City made it impossible

for the railroads to serve all parts of the city and the port by the more conventional means of rails on land. "Lighterage" meant the ferrying of goods using scows, covered barges, floating derricks or grain elevators, and car-floats, between the railroads' waterfront terminals and any point on the waterfront. These craft also performed services similar to lightering for other movement of intraport cargo, for example delivering cargo from ocean freighters directly to industrial establishments located on the waterfront and the canalized waterways around the region.

With the rise of containerization and trucking, the use of these craft declined after about 1960; by 1976 lighterage was no longer performed by the railroads and very little by any other agency. For a time a large number of wooden craft were left abandoned in out-of-the-way corners of the huge port (steel barges contained valuable scrap and were less likely to be simply abandoned). Some were used by workmen or boat clubs as storage places. By now, however, most of these wooden craft have vanished, either because they deteriorated completely or they were removed in harbor cleanup projects.

As Norman Brouwer has noted (e.g. in Kardas & Larrabee, 1985, p. 49-50), there is no significant historic archive containing details of the construction of these wooden barges. In an article in the South Street Reporter (1977), he described their importance at the Port of New York and noted that they should not be allowed to disappear without leaving behind a record.

Only one of these craft (Lehigh Valley RR No. 79, a covered barge serving as the Hudson River Waterfront Museum in Jersey City) is on the National Register. Others have been surveyed or recorded to HAER standards, namely a group of four barges at Edgewater, NJ, and two more plus a sailing lighter at Shooter's Island. (Norman Brouwer participated in in these two previous recording projects for the Historic American Record [Brouwer, 1985; Kardas & Larrabee, 1985].)

VESSELS AT THE NEWARK BAY SITE

The condition of these vessels is such that their individual histories are unlikely to be recovered. The circa 1969/1972 photographs (Figs. 4 and 5) are not detailed enough to identify the markings on any of them. All of these vessels lack individual identification at present. Their historical significance lies rather in the information about barge construction that can be obtained from them.

The lack of individual identification also makes it impossible to state their exact ages. With respect to the powered vessels found here, the type of construction used in them went out of use after about 1930. As to the unpowered vessels, wooden construction of square-ended barges began in the late 19th century and continued into the 1950s. However by 1950 most of these barges were being built of steel. At least some of these barges are almost certainly over 50 years old, and their type and method of construction is much older - the wooden vessels constructed after World War II were built using the earlier methods.

HISTORIC SIGNIFICANCE OF THE POWERED VESSELS

The powered vessels, those hulks with "lines", were built according to methods evolved over many centuries of wood sailing ship construction, modified in the second half of the 19th century to accommodate the installation of engines and screw propellers. This form of construction, with its own vocabulary and its traditional methods of utilizing wood to meet the special stresses of life on the sea, has been described in some printed sources (e.g., Desmond, 1919). Plans for both typical and specific vessels of this type are in several

archives, including the Mystic Seaport Museum and the South Street Seaport Museum Library.

The powered vessels on this site all used variations on this kind of construction and were relatively small (under 100 ft. in length) yet built with considerable strength, suggesting they were tugboats or possibly steam lighters. These hulks have all deteriorated to the point where only some remnants of their bottoms and sides remain. The little information that can be gotten from them would be difficult to place in context because of this deterioration. See, for example, Photos S, T, and X, which show the best-preserved remains of powered vessels at the Newark Bay site.

HISTORIC SIGNIFICANCE OF THE UNPOWERED VESSELS

The unpowered vessels, with squared-off ends rather than sharp lines, utilized some of the same methods as the more traditional hulls, such as knees to connect horizontal and vertical members. But their functions were very different: they were built to hold as much cargo as possible, and did not have to move at relatively high speeds nor in the open ocean. They were often used to store cargo as well as to move it around. They had to be strong, to shrug off all sorts of impacts, but they also had to be inexpensive if they were going to be used as storage containers much of the time. They also had to have some kind of cabin to accommodate the barge captain who almost always stayed with the barge at all times, at least prior to World War II.

These conditions resulted in distinctive forms of construction that, as described above, have not been documented in any published works, and have only been surveyed and recorded in the limited manner described on page 4. A number of the unpowered barges remaining on this site retain sufficient material to

provide useful information now lacking about this type of vessel. In our survey, for example, we found several of the different types of barge used by railroads and others in the harbor, and it was possible to distinguish different systems of hull framing which seemed to correspond with the different strength requirements of the various types.

The previous recording efforts cited above have not included some of the types of craft, especially hold barges (also called "coal boxes"), strong deck scows used for carrying heavy cargo, and wooden car floats found on the site. In addition, our survey of these hulks found a great deal of variation in the arrangement and fittings of the cabins provided on each vessel for the barge captains, and only a few of these variations were covered in the previous recordings.

Photographs taken during the field visits are presented here. They were selected to show some typical hulks and also several features of wooden construction as used in unpowered vessels. They are labeled with letters, to distinguish them from vessel labels, which use numbers. The lettered arrows in Fig. 4 present a key to the views depicted in the photographs.

CONCLUSIONS CONCERNING SIGNIFICANCE

We find that the hulks within the two areas delineated on Fig. 3 constitute a site potentially eligible for the State and National Registers of Historic Places as a marine archeological site containing accessible information about the arrangements and types of construction used in typical wooden harbor craft. These physical remains exemplify a traditional type of craft, with several variations, that was important in the history of the Port of New York, and the nation's commerce as a whole. They also embody vernacular construction

methods significant in the history of the wooden marine construction. Thus they fit National Register criterion C.

The boundaries on Fig. 3 are drawn to include most of the unpowered barges in both areas, including Vessel 13, which lies against the shore of the site; the areas extend no further onto land than the line of high tide. The boundary of the first area extends south of the main collection of hulks to include a number of wooden barge parts that exemplify the methods of wood ship construction used in this type of vessel.

SPECIFIC DATA AVAILABLE AT THIS SITE

The specific data that can be yielded by this site, with special attention to items not covered in previous hulk surveys in the region, include:

1. the types of hull framing, deck support structure, and variations in fastenings and materials used in these vessels, and the sources of these variations. A good source for some of these data are the parts of vessels lying in the wetlands south of the westerly group of barges (see Fig. 3; the most important item is a bulkhead labeled as "vessel" 36).

2. barge captain's cabins (while some of these have been recorded at other sites, such cabins seem to vary considerably in floor and window arrangement, materials, sizes, and equipment). There are three such cabins (on vessels 1, 2, 7) in relatively good condition at this site, one of which (on Vessel 7) still contains some original furnishings and may be worthy of preservation by itself.

3. the construction of hold barges, such as coal boxes (vessels 5, 6, and 10).

4. the construction of wooden carfloats (vessel 13).

Vessels which should receive the most attention in any HAER-level recording include 1, 2, 4, 5, 6, 7, 9, 10, 13, 18, 19, 20, and 24 (photos of most of these are included in this report). The other vessels are either of a type about which more is known or are sufficiently deteriorated to provide lesser amounts of information.

See Fig. 4 for specific locations of hulks. Survey notes on most of these hulks are provided on pages 13 through 20, and photographs of many of the vessels are also attached.

SUMMARY WITH RECOMMENDATIONS:

The abandoned wooden marine vessels of the unpowered type, contained within the areas delineated on Fig. 3, are historically significant and potentially eligible for the National Register. With respect to the criteria provided by National Register Bulletin 20 (Delgado, et al., 1986) for assessing the significance of vessels, the type of vessel found here is "Type 4, Hulks"; the area of significance is primarily "Number 2, Commerce", and though long abandoned, they are located in a setting and location appropriate to their history as work vessels in New York Harbor. They retain sufficient integrity of materials, workmanship, feeling and association to be potentially eligible for the National Register. They embody the distinctive characteristics of the square-ended wooden New York harbor work vessel used from the late 19th century until 1960. Since their structural integrity as vessels is gone, the two groupings of hulks and components (as delineated on Fig. 3) should be considered similar to an archeological site on land, with the potential to yield information about the materials and methods used in the construction of this type of wooden harbor craft. This type of vessel is an important part of the marine history of the

New York area; the structural details visible on these vessels have not been adequately documented.

The hulks and pieces of wooden ships not located within the two areas indicated on Fig. 3 (this includes all areas of land not reached by the tides) are not considered to be capable of providing sufficient historic information to make them potentially eligible as an archeological resource. This is true even though one or more of the vessels (i.e., vessels 15, 21, 22 and 23) may be an express lighter, as suggested in the earlier Cultural Resource Survey of this site (Flagg, 1991). All these hulks are either too deteriorated to provide any information, or the remaining portions provide information only about already well known methods of construction.

Should there be an impact from the proposed work on items within the potentially eligible sites, then it is recommended that mitigation take the form of a recording based on the guidelines of the Historic American Engineering Record (HAER). Such a recording could consist primarily of large format photography using simple photogrammetric procedures to allow retrieval of dimensions from the photographs; this would make it possible to prepare drawings at a later date if desired and would greatly reduce the amount of measurement necessary on the site. To make such a recording more efficient it is recommended that specific research topics appropriate to this site be formulated in advance; a list of these is provided above on page 8.

REFERENCES

The following reports were all conducted for the U.S. Army Corps of Engineers New York Harbor Collection and Removal of Drift Project. Copies are available for reference at the New York office of the Corps.

Brouwer, Norman, 1981: Survey of Cultural Resources in the Form of Derelict Ships and Barges: Area I (Completion) of Shooters Island, New Jersey. 1 Aug. 1981

Brouwer, Norman, 1983: Survey of Cultural Resources in the Form of Derelict Ships and Barges: Area II (Completion) of Shooters Island, New Jersey. 22 Feb. 1983. In this report Brouwer essentially recommended that one of the vessels was eligible for the National Register and that several others be recorded.

Brouwer, Norman, 1984: Survey of Cultural Resources in the Form of Derelict Ships, Hudson River Shoreline of Edgewater, New Jersey. April 1984.

Brouwer, Norman, 1985: Text: Recording of Selected Barges Lying at Edgewater, New Jersey. Supplement to Brouwer, 1984, cited above; includes the large format photography and the measured drawings. August 9, 1985.

Kardas, S., and Larrabee, E. (Principal Investigators), with Norman Brouwer, 1985: Historic American Building Survey/Historic American Engineering Record Level Recordation at The Ships Graveyards at Shooter's Island, Staten Island, Richmond County, New York, and Bayonne-Elizabeth, Hudson and Union Counties, New Jersey. Performed by Historic Sites Research, ,

New Jersey; October 1985. This was the actual HAER recording of four vessels at this site.

Payne, Ted M., and Baumgardt, Kenneth: "Howland Hook Marine Terminal Expansion Cultural Resources Reconnaissance", submitted by MAAR Associates, 1986. In library of U. S. Army Corps of Engineers, Environmental Division.

OTHER REFERENCES

Brouwer, Norman, 1977: "Harbor Archeology: Searching for Mud Covered Secrets" in South Street Reporter, vol. 11, April 1977, pp. 9-14.

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Delgado, James P., and National Park Service Maritime Task Force, 1986: Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places, published as National Register Bulletin 20, 1986.

Desmond, Charles, 1919: Wooden Ship-Building, originally published in 1919 by The Rudder Publishing Co. (NY) and reprinted in 1984 by the Vestal Publishing Co., Vestal, NY.

Flagg, Thomas, 1991: Cultural Resource Survey: Newark Bay Site: Main Parcel and Pier Parcel, Staten Island, NY, prepared for the New York City Department of Environmental Protection, August 12, 1991.

SURVEY NOTES ON INDIVIDUAL VESSELS

Notes: dimensions on first line are estimated width and length, in ft. Whether or not each vessel is located within proposed historic area is indicated.

VESSEL 1: COVERED BARGE

30 x 98

(Within proposed historic area)

Photos: A, B, C, D, E

Condition: some elements of deckhouse roof and ends remain, also cabin at stern. Deck in relatively good condition. Sides of deckhouse have fallen away. Wood appears to be relatively good condition, newer than most of the other barges.

HULL: Longitudinals: posts down center; two solid bulkheads between center and sides. Supporting athwartship beams are 10" deep by 5 to 12" thick (wide). Some cross-brace diagonals.

DECKHOUSE:

Two doors per side, 4 posts down center, with wedged roof cross-bearers.

Double floor planking across deck between doors.

Non-tapered corner vents still present (framework at least).

FITTINGS: Capstan each end; bow capstan has raised letters cast into it saying "Harry Gossum of Tottenville, 1918". Same name (no date) on bitts.

CABIN: Stern cabin inside covered deckhouse, with own ceiling below deckhouse roof by 36". Ceiling 7'6" from floor to planks over ceiling beams. 8'6" fore and aft. Vertical tongue and groove forms inside wall lining, 3.5", beveled, no center score.

Two rooms in cabin:

Port room 12'9" long: contained Shipmate stove now in pieces. Two windows aft, one forward to cargo space but later blocked up. Port side door plus aft door later blocked up. Closet. Stove was on raised platform (11"). Next to it was a bench with a hinged lid for holding coal.

Starboard room: 9'6". raised bunk, 2 windows aft; outside wall gone.

VESSEL 2: DECK SCOW, SAND BARGE type

30 x 95

(Within proposed historic area)

Photos: F, G, H

Condition: deck partially intact; damaged; stern bulkhead largely intact, bow bulkhead (if any) in pieces; cabin remains.

HULL: 7 longitudinals; wood knees at sides. X bracing both ways.

Deck support: heavy (sand barge) type, with crossbeams supporting stringers supporting deck planks laid across the ship.

DECK: Remains of coaming on left and right sides supported by iron knee braces. Rear bulkhead is 8' high, of 4 x 10 planks braced by vertical posts.

FITTINGS: Hand winch at bow; iron hand winch at each of the stern bitts. Six timber 14"x16" mooring bitts, extending down into hull.

PAINT: Outside wall of cabin has some Red/brown paint covered with ochre.

CABIN: Bulkhead forms forward wall. 6'6" x 12'6" inside. Much paint remains (pea green). Walls composed of horizontal boards lined inside with vertical tongue & groove w. score in center of each; 3.5" wide. Outside has vertical siding, partially intact.

Bars remain in rear windows; also one unbarred window on each side 24" wide x 30" high. Rear deck extends 3' behind cabin. One hatch with 20" high coaming at each side of the cabin.

Roof beam has beading. Cabin has hatch to go below.

Also: closet; stove was in port forward corner; bunk across starboard side.

VESSEL 3: COVERED BARGE (prob.)

28 x 72

(Within proposed historic area)

Photos: none in report

CONDITION: Deck poor and dangerous. Little trace of deckhouse, collapsed cabin in rear. Minimum surveying was done due to dangerous condition and lack of remains.

HULL: Two longitudinal, each 3' from center line.

There are remains of vertical posts to support deckhouse; the main one remaining extends up about 3' above deck and has iron sides attached to it.

Deck support is light; has cambered (tapered to give camber to the deck) athwartship (cross ship) beams, longitudinal planking.

VESSEL 4: DERRICK BARGE, A-FRAME TYPE

30 X 90

(Within proposed historic area)

Photos: I, J

CONDITION: deck partly intact; parts of collapsed A-frame present.

Cabin collapsed but some wall parts present.

HULL: 6 longitudinal trusses (posts with x-bracing) (plus the sides). X bracing both ways. Cross-decking rests on top of the longitudinal stringers.

FITTINGS: Timber A-frame sawed off; timber remains lying on forward deck. Iron knees on each side of A-frame stump. Heavy iron chain plates at sides. Some rigging in form of turnbuckles and chain.

VESSEL 5: HOLD BARGE

30 X 85

(Within proposed historic area)

Photos: K

CONDITION: Most parts present but greatly deteriorated; deck has mostly fallen away. Island with vegetation developing inside.

HULL: 7 posts supporting heavy athwartship beams along centerline; at sides supported by natural hanging knees. U-shaped iron straps hold beams to center posts. Some knees support coaming which was at least 3 planks high.

FITTINGS: few or none

CABIN: Collapsed at stern, only roof visible. Has smokestack hole.

VESSEL 6: HOLD BARGE

23 x 80

(Within proposed historic area)

Photos: L

CONDITION: Stern section is collapsed and most vertical center stanchions and the beams they held are collapsed or missing. Portions of sides remain.

HULL: Only a single athwartship beam remaining, tied to a post with iron U-shaped strap. The hanging knees remain, suggesting there were 8 athwartship beams. Has typical vertical sides.

FITTINGS: a gas engine is in the stern area of this barge, possibly associated with this barge and possibly used to power a winch. Its condition is poor.

CABIN: Pieces of a cabin stove were found in the rear, but pieces of rest of cabin, if present, are not distinguishable from other wreckage in stern.

VESSEL 7: COVERED BARGE

30' X 100'

(Within proposed historic area)

Photos: M, N, O

CONDITION: Sides of hull and deckhouse gone. Roof of deckhouse collapsed onto deck. Stern wall gone. Cabin in relatively good shape.

HULL: Center bulkhead plus 3 rows of pillars between the center and each side. Vertical iron tie rods (with turnbuckles) on the middle row.

DECK: the deckhouse has collapsed southwards in "trapezoidal" fashion; on the north end of the deck a center post for supporting the deckhouse roof lies on where it collapsed.

FITTINGS: none observed

CABIN: This was located on top of the deckhouse roof, an unusual location but one favored by a few companies. It is intact and contains a carved bunk, stove, etc. It has two rooms, each with 4 windows.

The north room is 11'6" wide x 14' 7.5" long, has the bunk, and had the stove. The south room is 9'8" long x 11'6" wide.

VESSEL 8: Possible DECK SCOW

Not measured

(Within proposed historic area)

Photos: P

CONDITION: only a few elements of the hull structure remain

HULL: some X bracing remains; difficult to determine rest

VESSEL 9: DECK SCOW

not measured, fairly inaccessible

(Within proposed historic area)

Photos: P, Q

CONDITION: some side planking present, some coaming remains; some of hull elements.

HULL: 5 longitudinal trusses with full X bracing both longitudinally and athwartships

DECK: almost no remains of deck

VESSEL 10: HOLD BARGE

dim's not obtained

(Within proposed historic area)

Photos: P, Q

CONDITION: sides remain, internal beams collapsed, deck collapsed, end collapsed, no cabin visible. Not measured. Relatively inaccessible.

HULL: similar to Vessel 5

DECK: similar to Vessel 5

CABIN: none remaining

VESSELS 11 and 11A: Probably work SCOWS.

Not reached.

(Within proposed historic area)

Photos: none in report

CONDITION: Buried in mud, with only parts of hull structure showing; difficult to observe construction.

HULL: too sunken into mud to describe

DECK: many deck planks present on 11, very few on 11a

FITTINGS: wooden bitts that go down into hold are chief interest here

VESSEL 12: Powered vessel, possible launch or yacht

52' long

(Within proposed historic area)

Photos: none in report

CONDITION: little visible above water except engine remains

HULL: not enough visible to describe

ENGINE: 3 cylinder diesel, possibly air started

DECK: none remaining

VESSEL 13: WOODEN CARFLOAT

not measured

(Within proposed historic area)

Photos: R

CONDITION: Remains consist only of bottom beams and small portions of side frames, plus stubs of angled end beams. Appears to have been on site longer than other barges, to judge from 1969-1970 aerial photos

HULL: bottom longitudinal beams (keelsons) remain, with some hardware

VESSEL 14: Possible DECK SCOW

Not measured

(Within proposed historic area)

Photos: none in report

CONDITION: end of barge apparently cut off and removed; side planking gone, much of deck nonexistent
pile of timber on top

VESSEL 15: Steam vessel, probable early tug abt. 100' long
(Located just north of dike, off northwest tip of land. Bow faces SE.
Not within proposed historic area)
Photos: S

CONDITION: only parts of sides visible, and only at low tide

HULL: Heavy ceiling planking (5" thick). Upper and lower fendering strips visible on starboard side - upper one at level of main deck (possibly). 9" or 10" thick decking protruding in short distance from starboard side. Continuous 11x11" shelf inboard of side, as corbelled support of deck?

Wale 8x8"; Planks 3.5" thick; Frames 8x8; "Upper Pins 7" long.
Vertical stem; Double decked.

VESSEL 16: very little of this vessel remains; type unknown
(May be partially within proposed historic area, but is not historically significant)
No photo in this report

VESSEL 17: TUG, small; age unknown abt. 20 x 50 to 60'
(Within proposed historic area)
Photos: T

CONDITION: little visible above waterline except some ironwork

HULL: has ceiling planking

DECK: no remains

FITTINGS: two large double towing bitts; rudder quadrant

VESSEL 18: SCOW approx. 20x50'
(Within proposed historic area)
Photos: U

CONDITION: only bottom of this craft and 3 or 4 planks of the side remain

HULL: Longitudinal beams and keelsons visible; some athwartship planking over portions of the bottom

VESSEL 19: Concrete covered OPEN DECK BARGE 30 x 90'
(Within proposed historic area)
Photos: U, V

CONDITION: concrete deck in fairly good shape. Little side planking remains at ends, some on sides. Timbers, some charred, on deck; may have been used to dispose of wood by burning.

HULL: 3 long. bulkheads, solid, hatches to each compartment so formed are iron rigs set in concrete

DECK: concrete slab apparently cast in place; no wood deck beneath.

FITTINGS: some cleats

CABIN: All concrete, Post and beam, 5 posts fore and same aft walls; shower stall in one corner; forward starboard corner. Furring strips indicate previous interior wall lining of some kind. The walls are reinforced with mesh. Four windows aft, two windows forward (toward deck).

VESSEL 20: DECK SCOW, probably SAND BARGE type
(Within proposed historic area)
Photos: W

CONDITION: no decking or side planking, evidence of fire, some structure remaining; vegetation rampant

HULL: 3 long. x-braced bulkheads, no vertical posts - iron rod verticals instead, like Howe truss. This barge shows some characteristics of the type of construction used in sand barges (e.g. its open deck had a bulkhead like that on vessel 2) but had longitudinal deck planks and was relatively lightly built, like the structure of a covered barge.

DECK: still has three verticals that once were posts holding up rear bulkhead, one snapped off, others charred. At edge there is a wooden bitt going down all the way into hold, characteristic of sand barge type.

FITTINGS: none remain
CABIN: no remains

VESSEL 21: (most NE vessel, foot of ways)
(Not within proposed historic area)
Powered wood vessel, probably an early TUG
Photos: none in report

Not measured

CONDITION: only parts of sides remain visible, at low tide; few features are left.

HULL: Built very strongly; Frame members are in pairs: two 9"x11" members, molded; plus ceiling planks 7" thick; outer planks 3.5" x 10.5". Connections are partly wedged 1.25" treenails plus 1.5" iron spikes, plugged, at the butts.

VESSEL 22: Probable powered vessel
(Not within proposed historic area)
Photos: none in report

90' long

CONDITION: same as 21

HULL: frame 9.5"x11"; planks 3.5"x 10.5"

VESSEL 23: Powered wood vessel
(Not within proposed historic area)
Photos: X

100' long

CONDITION: only parts of sides visible, and only at low tide, plus parts of stern post with propeller

HULL: Outer planks 4"x8", fastened with trunnels; ceiling planks are 1.5"x10" and have iron fasteners; the frames consist of pairs of 7.5" x 7.5" timbers

DECK: none remaining

VESSEL 24: Probable COVERED BARGE
(Within proposed historic area)
Photos: Y, Z, AA

28 x 80'

CONDITION: most of deck is gone except pieces of cross beams; most planking is gone; some interesting remains of bulkheads and hull framing

HULL: knees at sides; cross bracing at center seems to be turnbuckled
iron tension rods

Two longitudinal bulkheads, solid, made up of 6x12 planks, scarfed at joints. Square access holes in each bulkhead for access, plank and a half high and about 2' wide, near stern or bow.

Center longitudinal may have been posts instead of solid - evidence: spikes sticking up out of bottom cross beams.

Remains of two pairs of upright posts which probably held the vertical support for roof of deckhouse. Posts are 4x10" verticals that brace bulkheads, Athwartship bottom members are 10x12", 6' on center fore and aft; longitudinals are 14 ft. apart (7' each from center bulks), vertical iron rods hold solid planks together, approx. 1"

Distance between centers of end oblique frames are 23'6", outer ones much thicker than inner ones.

DECK: little remaining

FITTINGS: some cleats and other ironwork remain

CABIN: none remaining

VESSELS 25, 26, 27: Type not known
(Within proposed historic area)
Photos: CC

VESSEL 30: (shoreward of shipways)
(Not within proposed historic area)
Possible sailing lighter, only bottom remaining
Photos: none in report

Probably a non-engined vessel, but probably powered by sail, bottom planks held down by trunnels, paired frames 3.25"x5" with 1" spacers between pairs, down center frames are solid, left ones interlaced with right ones.

VESSEL 31: (shoreward of shipways)
(Not within proposed historic area)
Photos: BB

Engine bed for possible sidewheeler

Attached with iron, abt. 20' x 5-6' wide, bed made of longitudinal 8x10s on cross 8x10's, frames very light 2.5x3.5 paired spaced by 3" spacer;

VESSEL 32: (shoreward of shipways)
(Not within proposed historic area)
Powered vessel
Photos: none in report

Rear stern piece (sternpost) has hole for propeller shaft; behind that is a rudder post; support for large single cylinder engine, bolts sticking up, thrust box. Paired frames.

Vessels 33, 34, and 35: these vessel parts are too vestigial to identify and are not within proposed historic area.

Item #36 on Fig. 4: (In marsh south of main body of barges)
(Within westerly proposed historic area)
Photos: none in report

This is a bulkhead lying on its side, 8'6 high, by about 100-100'; consists of 6 x 12 planks with scarf-type joints, vertical rods tying planks together, built for great strength.

LIST OF FIGURES AND PHOTOGRAPHS

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Y	Vessel 24, view east
Z	Vessel 24, view southwest
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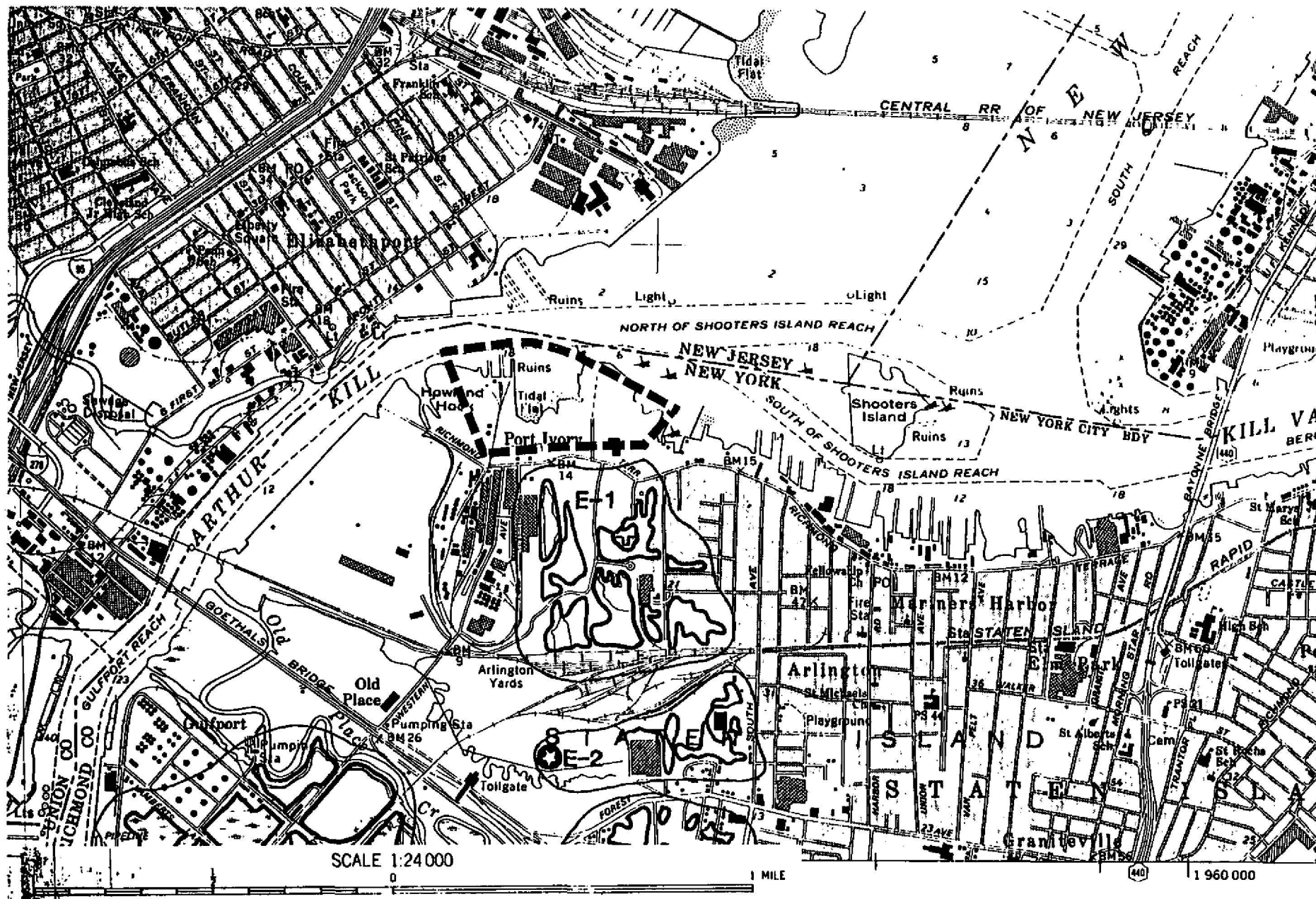
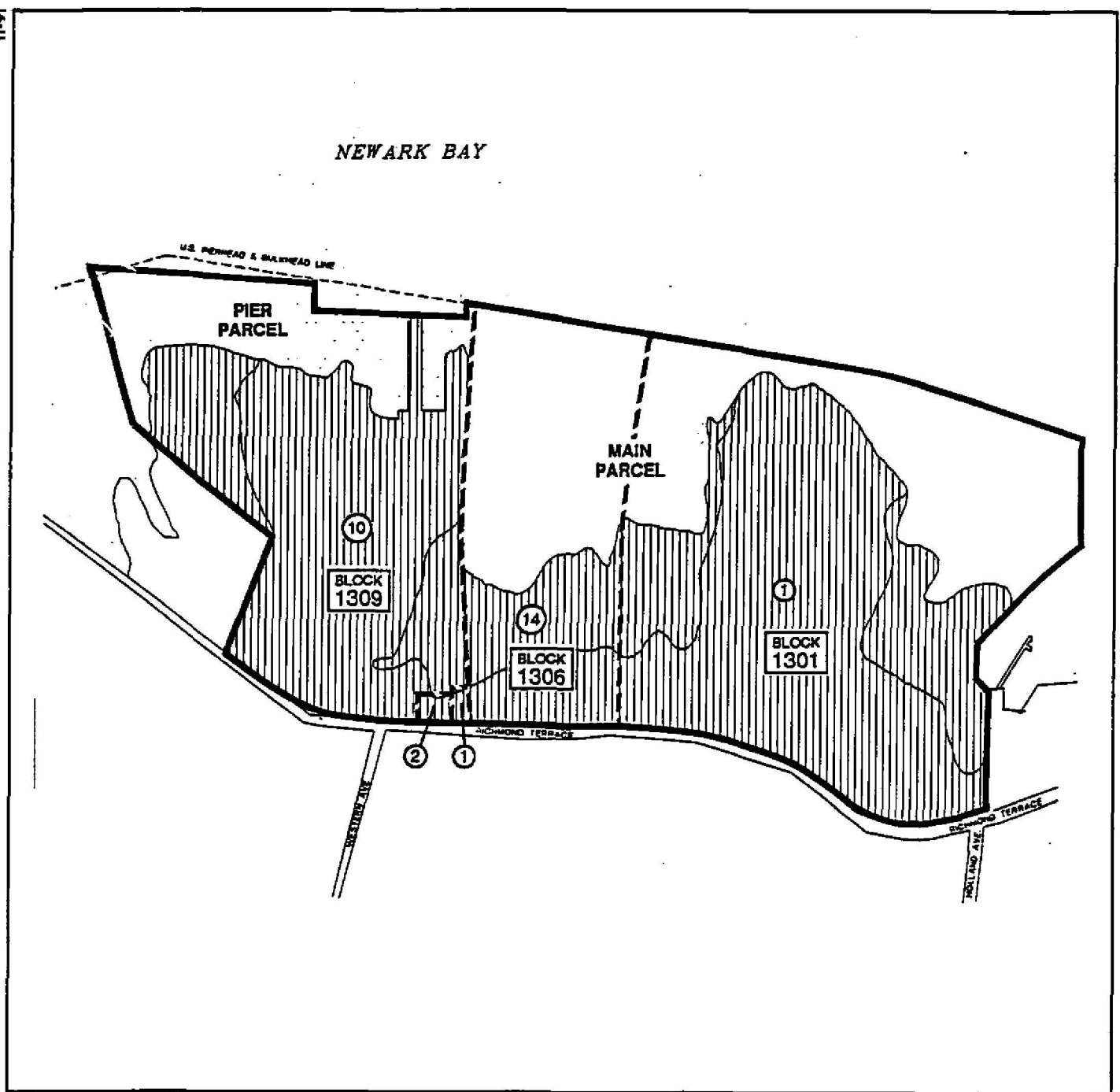


FIG. 1: Location of site in the Port of New York. Base map is USGS Elizabeth, NJ, 7.5 minute quadrangle.



 Newark Bay Project Site

 Property Boundary

 Lot Boundary

 Lot Number

 Block Number

0 300 600 feet



FIG. 2: Blocks and lots contained in the "Newark Bay" site.

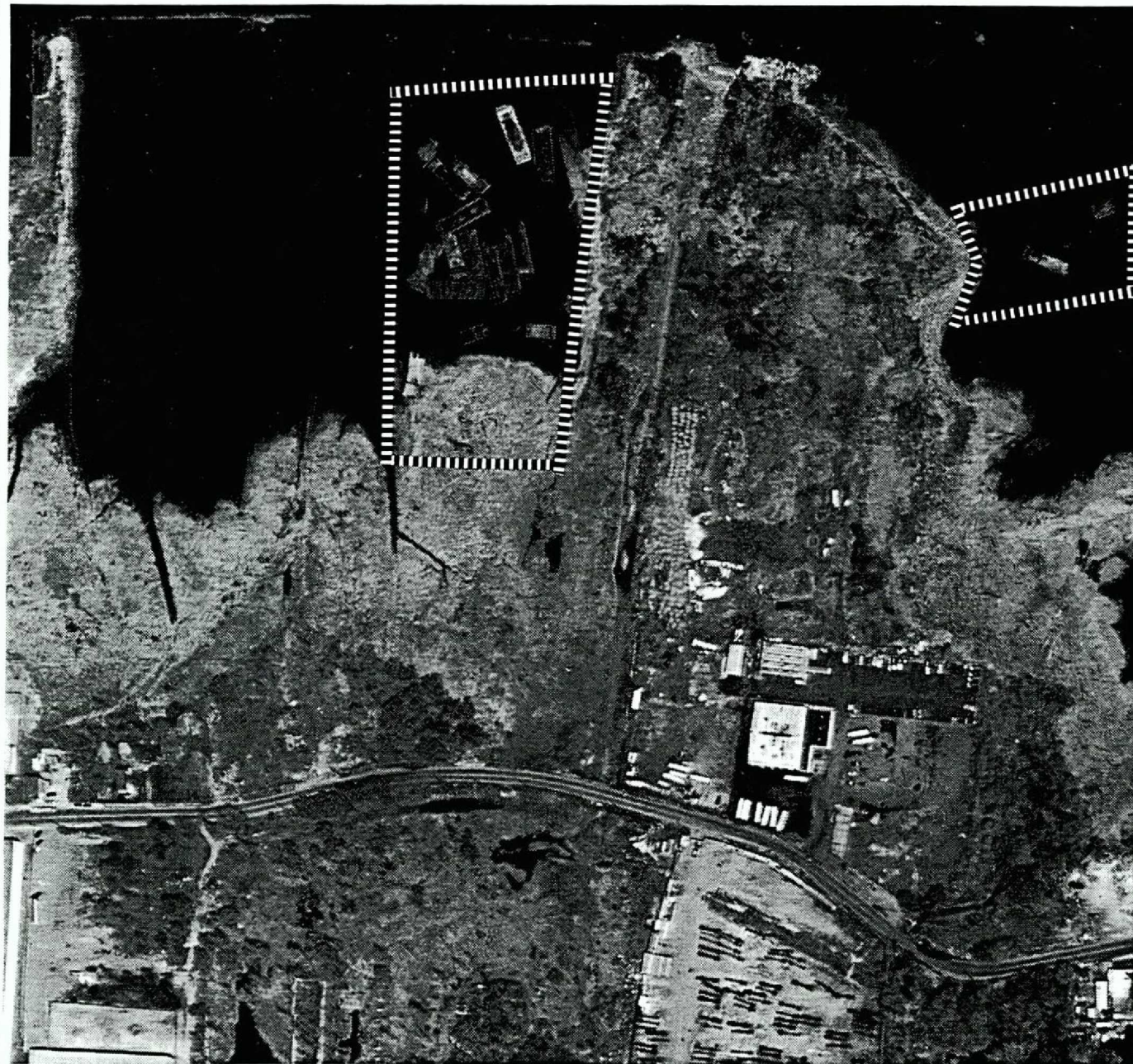


FIG. 3: Vertical aerial photograph of site with added boundary lines indicating the two areas within which all marine resources are of historic significance and should be considered potentially eligible for the State and National Registers of Historic Places. These boundaries should be considered as coinciding with the high water line where they contact the shoreline.

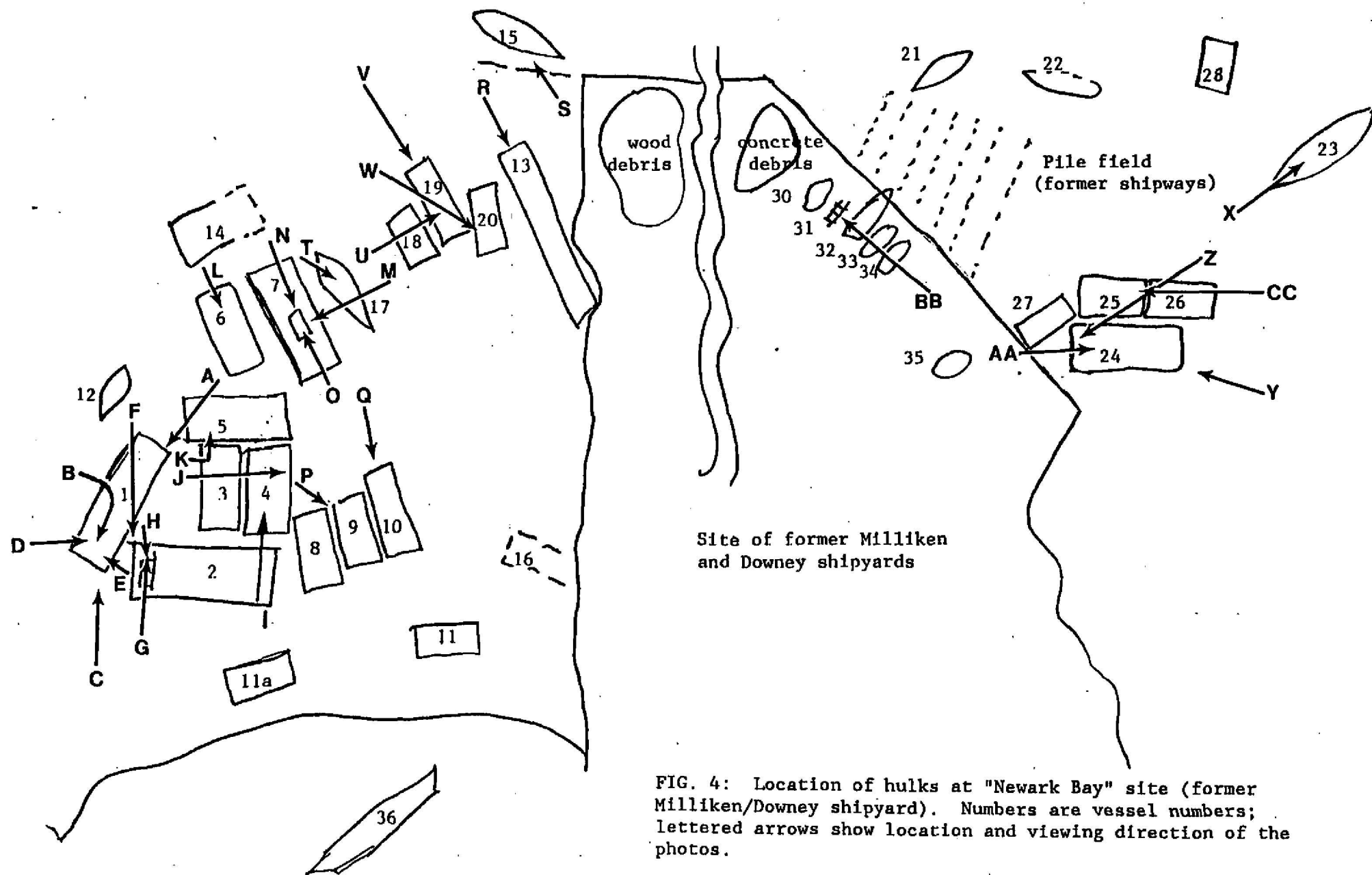


FIG. 4: Location of hulks at "Newark Bay" site (former Milliken/Downey shipyard). Numbers are vessel numbers; lettered arrows show location and viewing direction of the photos.

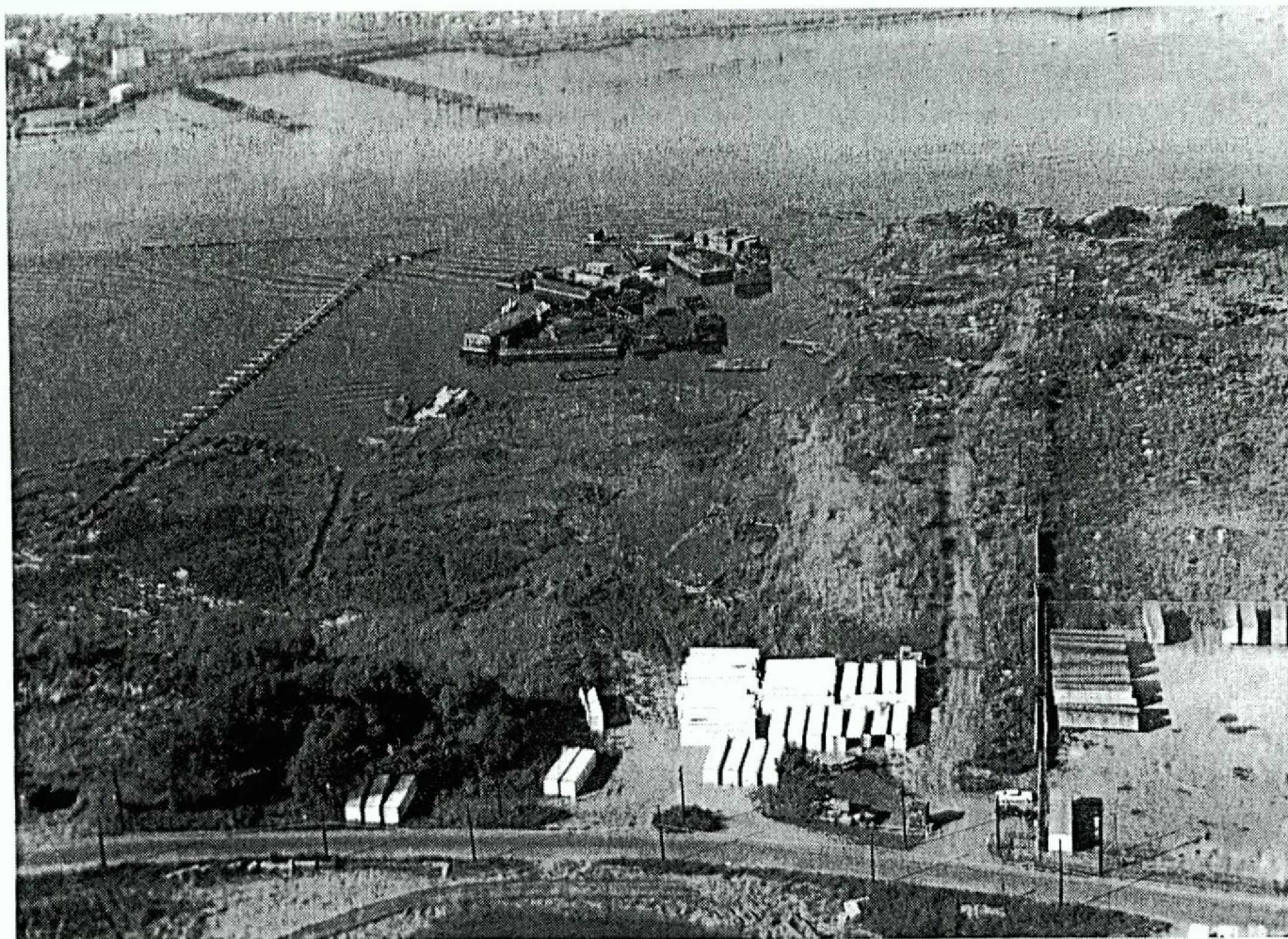


FIG. 5: Oblique aerial view of the site circa October 1969,
courtesy of the South Street Seaport Museum library.



FIG. 6: Oblique aerial view of the site circa 1970-1971, from Port of New York Authority, 1971, p. 14.



PHOTO A: Vessel 1, a covered barge, 3/4 view toward southwest, showing part of starboard side framing collapsed into water. Note capstan to right, which bears date of 1918, though the barge itself was probably built later. (Neg. 101-28)



PHOTO B: Vessel 1, view south (toward stern) to rear wall of cargo space, cabin is on other side of this wall, interior doorway to cabin to right. Most of side walls and some of roof of the covered cargo space are missing. Note roof support post and cross timber. (Neg. 101-22)

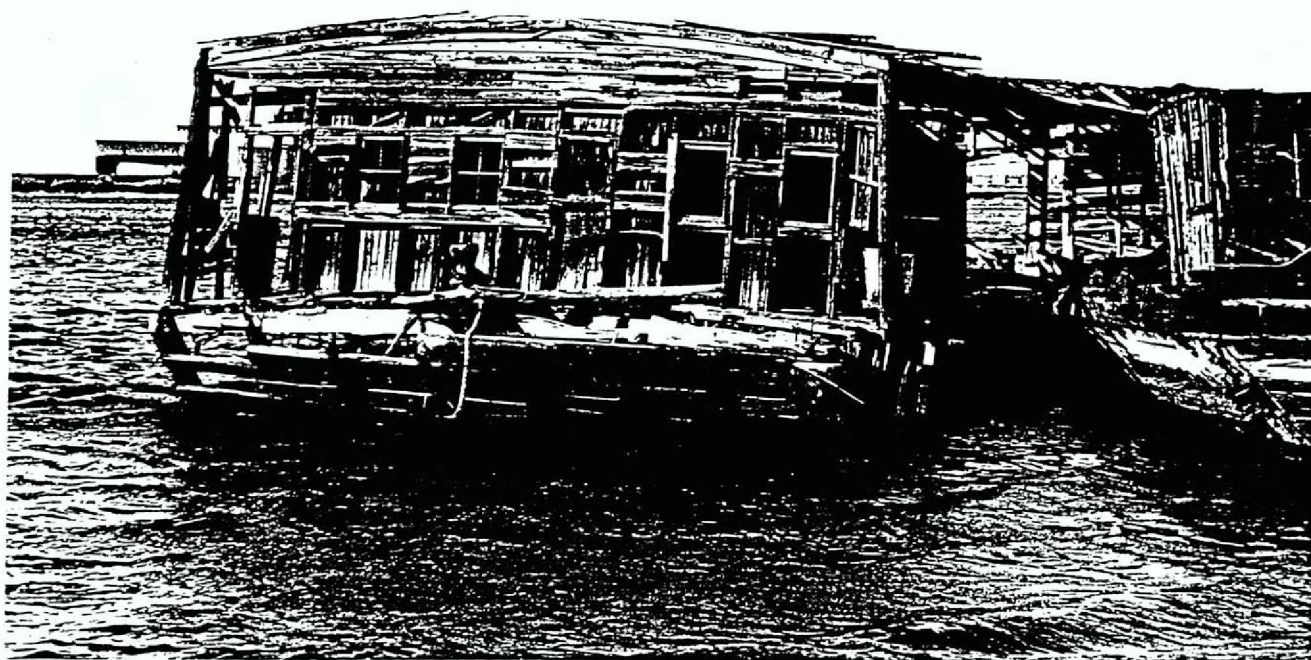


PHOTO C: Vessel 1, view north from land, showing outer stern wall of covered cargo space, which is also the outer wall of the cabin, which was placed within the covered cargo space on this particular vessel (on other covered barges, the cabin was placed outside the covered cargo space). The outer siding has fallen away from the wall in many places here, revealing the cabin framing and the back side of the interior wall boards. The slant of the hull end is easily seen here, as is its structure. The stern capstan is also visible. The bowed fascia provided at the junction of the roof and end of the deckhouse is typical. Vessel 2 is to the right. (Neg 404-37)



PHOTO D: Vessel 1, view northeast, showing interior of cabin. The wall on the left backs onto the covered cargo space. Just right of center is the space for the stove, with wall protected by metal. Left of center is the coal bunker, also used as a bench. To right is the doorway to the bedroom. The walls are faced with vertical tongue-and-grove boards. (Neg. 401-25)



PHOTO E: Vessel 1, view northwest, showing interior of cabin as seen from vessel 2. The southeast (starboard) wall of the cabin is entirely missing, allowing the camera to look directly into the cabin from outside, and showing how the cabin was built within the barge's deckhouse, with the cabin's ceiling located about 2.5 ft. below the crossbeams of the deckhouse roof. To the right is a bunk attached to the wall. The two members of the survey team are standing in the former cargo space of the deckhouse. (Neg. 101-15)

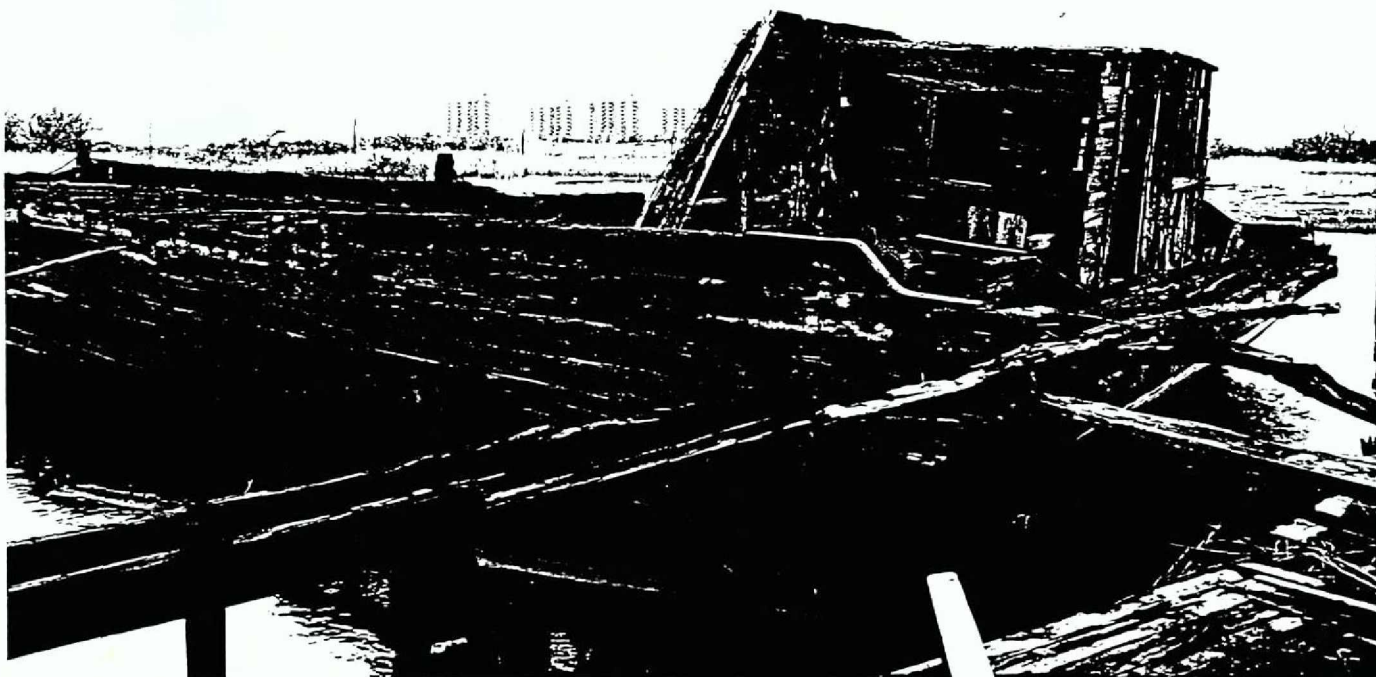


PHOTO F: Vessel 2, view southeast, showing stern area, as seen from vessel 1. The cabin at the stern is protected from the cargo by the bulkhead with the slanted sides. The barge's side coaming makes a transition to a lower level just below and to the left of the cabin window. Wooden bitts are visible. (Neg. 101-19)

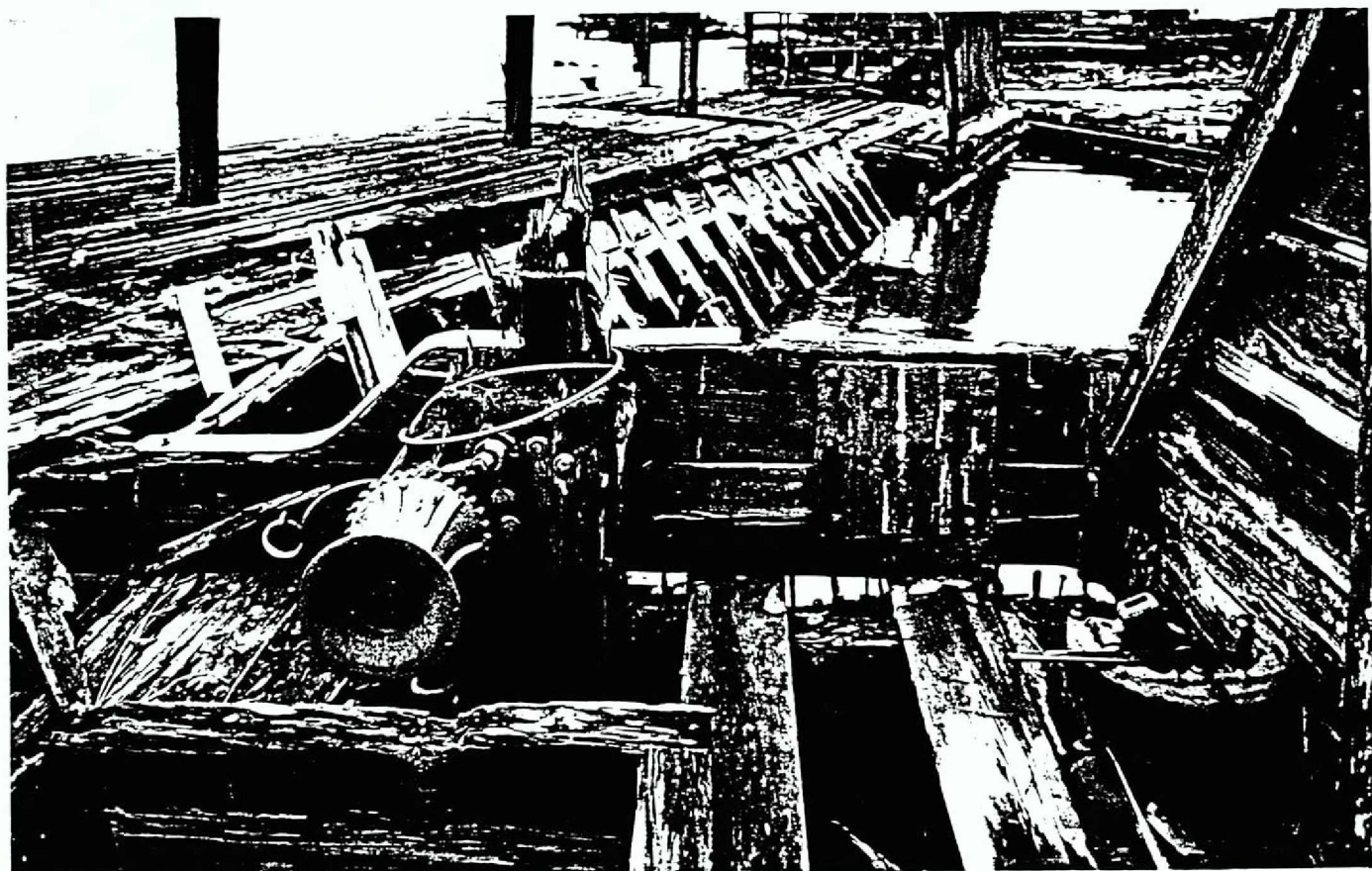


PHOTO G: Vessel 2, view north, showing aft end of port-side coaming, in the opposite direction from that of Photo F. This view shows the port end of the bulkhead seen in the Photo F, as well as the remains of a wooden bitt (left of center) and of a winch, and in the foreground the coaming around a hatch down into the barge's hold. (Neg. 101-8)



PHOTO H: Vessel 2, view south, showing interior of cabin. Open doorway in center marks a shallow closet. (Neg. 401-22)



PHOTO I: Vessel 4, view north, looking aft on a crane barge, showing part of the structure of the A-frame derrick that once stood upright on this barge. It is now flat on the deck, with the casting that formed the apex of the A-frame in the center of the right half of the photo. The rest of the A-frame consisted of laminated wood beams. Many pieces of hardware litter the deck of this vessel. The cabin in the distance is on another vessel. (Neg. 101-6)



PHOTO J: Vessel 4, view east, showing a detail of the "chain plates" that once braced the A-frame of this crane barge. This is the port side of the barge, aft quarter. (Neg. 401-6)



PHOTO K: Vessel 5, view north, showing stern area. The horizontal surface is actually the cabin roof, collapsed into the hold of this "coal box" type of barge. Note the hole in the roof for the chimney pipe. To the right is one of the structural members of this barge, consisting of a vertical post strapped to a horizontal athwartships beam; this beam is composed of two pieces of lumber, one on top of the other. (Neg. 101-35)



PHOTO L: Vessel 6, view south, looking down the centerline of the interior of a "hold barge" or "coal box". In the distance is a vertical post carrying a horizontal athwartships beam. Originally there was a row of these posts along the centerline but most of them are now gone, some lying on the mud. The points along the sidewalls of the hold where the athwartship beams connected are still visible, many with their wooden "hanging knees" still remaining. These knees supported the ends of the beams. The cabin seen at the upper left belongs to a different vessel. (Neg. 402-12)



PHOTO M: Vessel 7, view southwest, showing remains of covered barge. Cabin at center was located on the roof of the deckhouse containing the cargo space of the barge (a relatively unusual location), but the deckhouse has collapsed onto the barge's deck. Thus the material around the base of the cabin consists of the former deckhouse roof. The cabin is in quite good condition, with its exterior wall covered by clapboards. The side planking of the hull is almost entirely absent, giving a view of some of the structural elements of the hull. The ribs of vessel 17 are visible in the water in front of vessel 7. (Neg. from fig. 8 of Flagg 1991 report).



PHOTO N: Vessel 7, view south, showing interior of north room of cabin. To the right is a carved wooden bunk. Unlike other cabins, the wall lining here consists of horizontal boards. (Neg. 402-27)



PHOTO O: Vessel 7, view north, showing interior of same room as Photo N but facing in opposite direction. A closet occupies the corner of the room. (Neg. 402-31)



PHOTO P: Vessels 8, 9 and 10 (from near to far), viewing to southeast. In right foreground is the deck of vessel 4, from which the photo was taken. Vessels 8 and 9 may have been deck scows. Only a few of the structural elements of vessel 8's hull remain, including some cross-bracing, plus some side planking. Vessel 9 retains some of its side planking and some coaming. These are typical of the less intact hulks at the site, but they do exhibit some structural elements difficult to observe in the more intact hulks. Vessel 10 is another "hold barge" and is also shown in Photo Q. (Neg. 401-35)

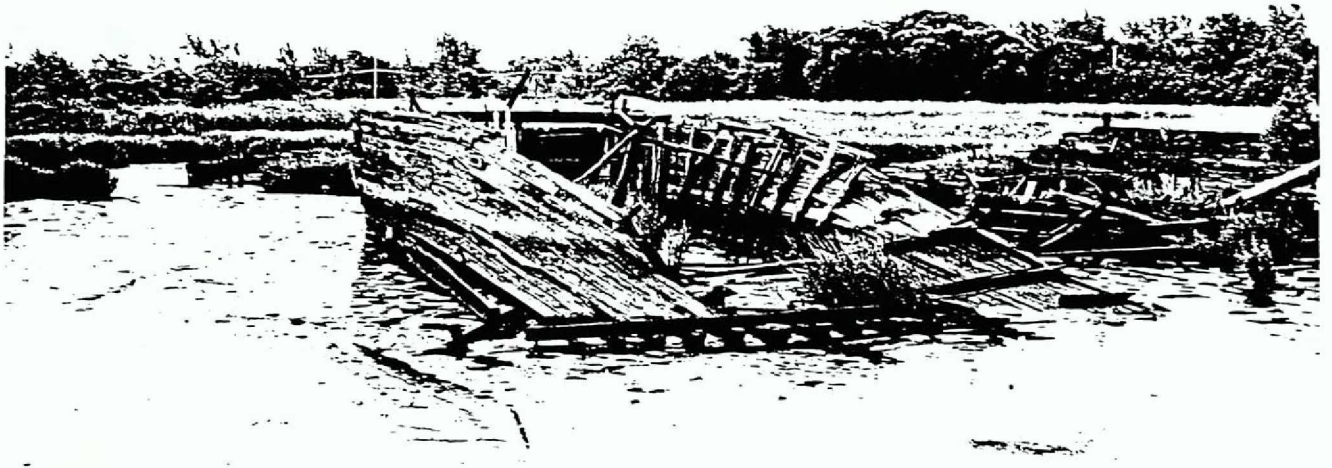


PHOTO Q: Vessel 10 (center) and vessel 9 (right), with vessels 11 and 11A in the distance. View is to south. Although the near end of vessel 10 is missing and the near ends of its sides are collapsed, its similarity to the other hold barges (vessels 5 and 6) is apparent. (Neg. of Fig. 9 from Flagg, 1991).



PHOTO R: Vessel 13, view to southeast, showing wooden carfloat. Only the bottom of the hull structure remains, showing the fasteners that once held other structural members. There appear to have been six longitudinal truss members, providing the great strength necessary in these vessels. In 1969, when most of the other barges at this site were relatively intact this vessel was already only a hulk showing little more above water than it does now (Figs. 5, 6), suggesting that it has been here much longer. This is not surprising, as wooden carfloats were largely replaced by steel carfloats in the 1920's and 1930's. Few, if any, hulks of wooden carfloats remain elsewhere in the harbor. This one may be able to provide valuable information about the structure of these craft. (Neg 402-37)



PHOTO S: Vessel 15, view northwest, showing remains of a powered vessel, probably an early tugboat approx. 100 ft. long. Like the carfloat (vessel 13), this was already only a hulk in 1969. Although a fine example of wooden craftsmanship, the methods of construction used in this type of vessel are relatively well documented. Vessel 15 is not within the historic areas delineated in Fig. 3. (Neg. 102-2)



PHOTO T: Vessel 17, view southeast, showing the remains of a wooden tugboat. In the center are visible the towing bitts characteristic of a tug, and to the left are the remains of a steering apparatus. (Neg. 102-13)



PHOTO U: Vessel 18 (hull in center) and vessel 19 (with cabin), view east. Only the bottom and a small amount of the side of vessel 18 remains; it may have been a deck scow. The absence of side planking near the front of vessel 19 provides a good view of the interior structure of its bow. (Neg. 102-9)

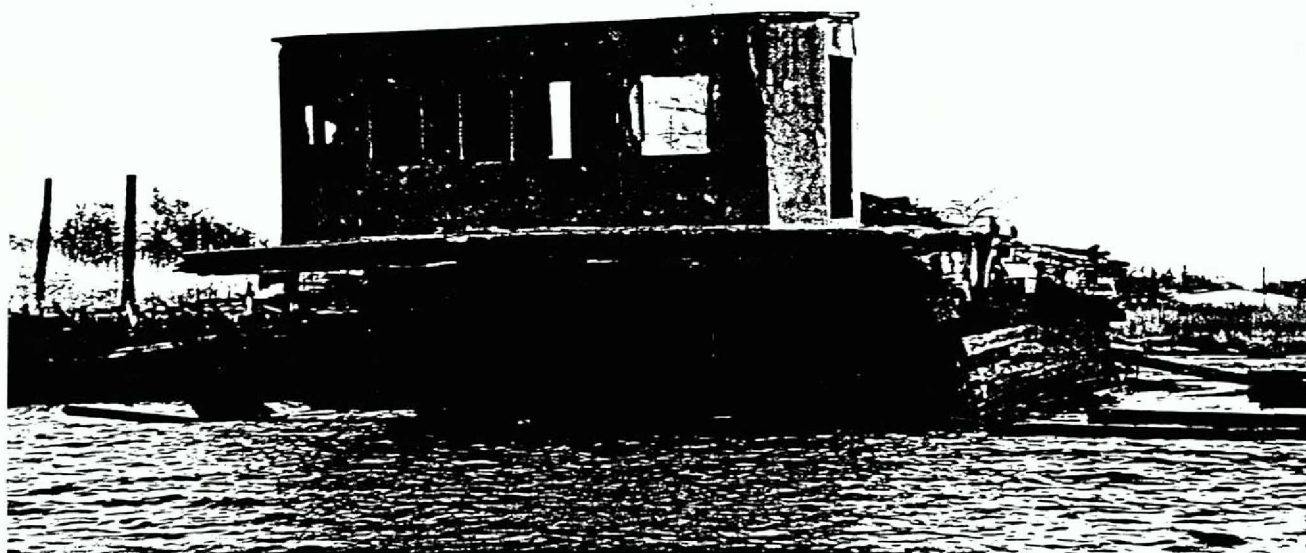


PHOTO V: Vessel 19, view south, showing stern. The concrete cabin and deck of this deck scow are extremely unusual, and were probably added in later years, for reasons that are unclear. The hull structure beneath the deck is, however, typical of standard wooden barges. (Neg. 102-17)

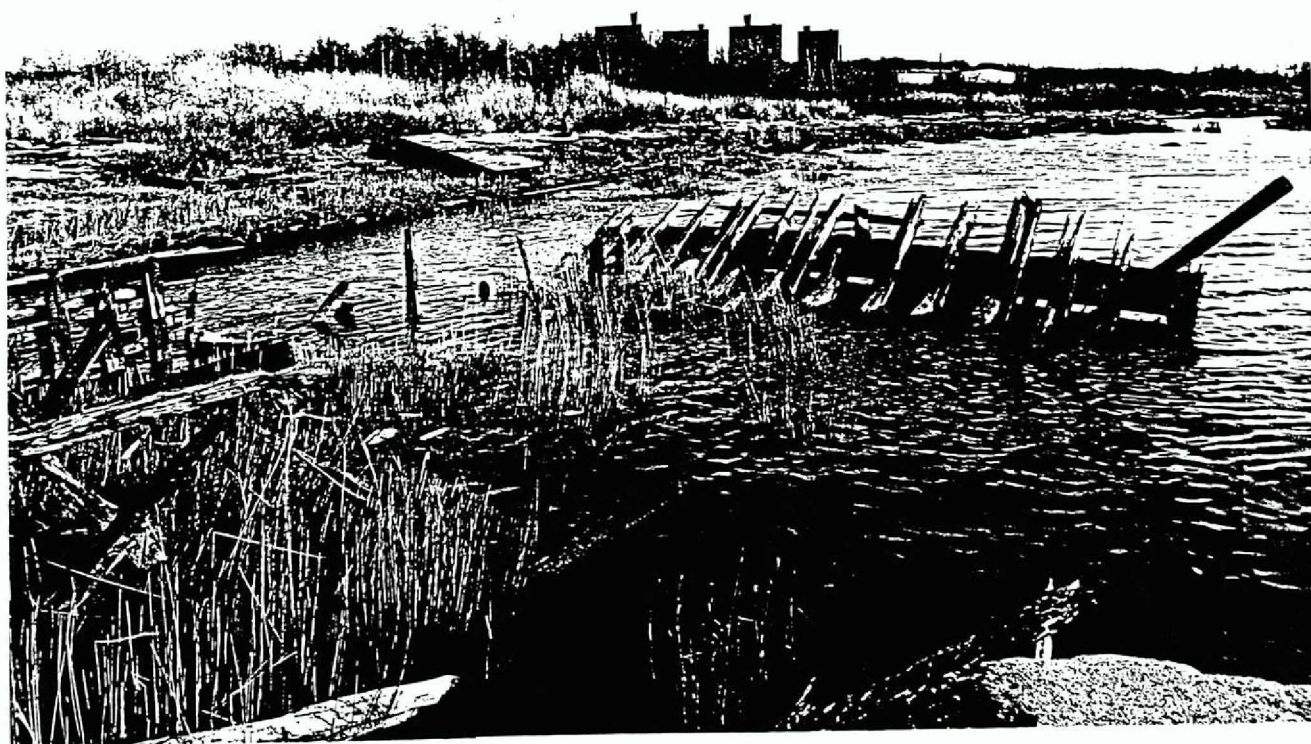


PHOTO W: Vessel 20, view southeast, showing interior structure of a deck scow of the sand barge type. (Neg. 404-27)



PHOTO X: Vessel 23, view northeast, showing interior of hulk of a powered vessel. This may have been a tugboat or another type of powered vessel such as a steam lighter. Its propeller remains, just visible in the center of this picture behind the sternpost. This vessel was already a hulk in 1969. Although a fine example of wooden craftsmanship, the methods of construction used in this type of vessel are relatively well documented. Vessel 23 is not within the historic areas delineated in Fig. 3. (Neg. 403-15)



PHOTO Y: Vessel 24, view east, showing overall view of the remains of this covered barge. This is the most intact hulk within the easterly of the two historic areas delineated in Fig. 3. (Neg. 403-21)



PHOTO Z: Vessel 24, view southwest, showing starboard side of the bow, as well as the forward portion of a longitudinal bulkhead. The entire side of the hull is missing, so that the bottom structure of the hull is visible in the foreground, and the details of the connection of the slanted bow to the bottom of the hull are apparent. The topmost beam in the photo is part of the original deck of the barge. (Neg. 403-35)



PHOTO AA: Vessel 24, view east along the centerline of the vessel toward its stern. At the sides of the picture are two longitudinal bulkheads which formed part of the hull structure, about halfway between the centerline and the sides of the hull. These bulkheads consist of thick timbers piled on each other; they are bolted to each other and to the vertical posts alongside. The two vertical posts in the center of the photo helped steady a vertical post (now entirely missing) that extended up to the roof of the deckhouse. (Neg. 404-15)



PHOTO BB: Vessel 31, view to northwest, on land just southwest of the former shipways. This is a fragment of the hull of a powered vessel; detailed analysis of its structure suggests it was the engine bed and may have served in a paddlewheel boat. The remains of the vessel's ribs are the darker curved pieces of wood extending from the bed. This fragment, like the rest of the vessel remains scattered along the shoreline, lacks sufficient context to reveal more than the information already obtained from the field survey. (Neg. 403-31)



PHOTO CC: Vessels 26 (foreground), 25 (middle), 27 (left distance), and 24 (upper left corner), showing most of the remains within the easterly of the two historic areas delineated in Fig. 3. The portion of vessel 24 seen here is the same as that seen close up in Photo Z. Vessel 25's remains consist of its bottom planking and a fallen side. (Neg. 404-7)