392/D-201
vol. 2

10-38
(November 1954)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FORT SUMTER NATIONAL MONUMENT
(Area)

FILE CODE:

COMPLETION REPORT OF CONSTRUCTION PROJECT

EXCAVATION

5-13-59

FROM:

TO:

IMPORTANT

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Form 10-174
(Rev. 1/56)

REPORT 7 SPL

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION	AREA	COUNTY	STATE
One	Fort Sumter National Monument	Charleston	South Carolina

PROJECT OR JOB TITLE: Uncover Fort Sumter, N. W. half, Relocate Anderson flagpole memorial, uncover esplanade

PCP NO.: M-6-2, M-4-2, M-7-2

LOCATION IN AREA: Fort Sumter National Monument

MASTER PLAN NO.: NM-SUM-2005A

BUILDING NO.:

WORKING DRAWING NO. AND TITLE: Excavation and related work, NM-SUM-2013

APPROPRIATION TITLE AND SYMBOL: 14X1035

ACCOUNT NO.: 8-1 7080

CONTRACT NO.: 14-10-131-495

DATE WORK STARTED: 12/29/58

DATE WORK COMPLETED: 5/23/59

NAME OF CONTRACTOR: Chitwood House Moving Company

ADDRESS: 2101 Camden Rd., Columbia, 4, S. C.

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
1. Excavation	17,151cy	$ 1.37	$ 23,496.87
2. Brick Masonry (Demolition)	252.7 cy	7.40	1,869.98
3. Concrete Masonry (Demolition)	1599.5cy	7.40	11,836.30
4. Concrete Sidewalks (Demolition)	250 sy	.90	225.00
5. Brick Sidewalks (Salvage)	123 sy	2.00	246.00
6. Steel Hand Rail (Salvage)	280 lf	.40	112.00
7. Sod (Salvage & Replacement)	526 sy	2.50	1,315.00
8. Temporary Bridge	1 ea	150.00	150.00
9. Flagpole	1 ea	400.00	400.00
10. Relocate 15" Rodman	1 ea	400.00	400.00
11. Relocate 10" Columbiad	1 ea	350.00	350.00
12. Relocate Garrison Monument	1 ea	800.00	800.00
13. Rubble Masonry (Relocation)	22.1 cy	40.00	884.00
14. Brick Masonry	-	-	-
15. Concrete Masonry	6.6 cy	40.00	264.00
16. Lawn Development	1,850 sy	1.00	1,850.00
		TOTAL	$ 44,199.15

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES
OTHER $ 29.54	$ 20.00	$ 193.69

$ 272.16

ORIGINAL CONTRACT AMOUNT	CHANGE ORDERS: FIRST	SECOND	THIRD
$36,066.61			
FINAL CONTRACT AMOUNT	FOURTH $ 650.00	FIFTH $ 150.00	SIXTH No Money
$37,197.15	$ 284.00	$ 1,924.00	

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES

SUBMITTED BY (Name and title): William W. Lukens

DATE:

WILLIAM W. Inskeep, Superintendent

DATE: June 27, 1960

(ATTACH NARRATIVE STATEMENT, PHOTOGRAPHS, AND "AS BUILT" DRAWINGS TO THIS FORM)

GPO 911643

N A R R A T I V E R E P O R T

Contract Obligations and Change Orders:

The contract called for the removal of fill materials from the following areas: north and west of Battery Huger, adjacent to and paralleling the salient and right face gunrooms, and the esplanade west of the comfort station. In addition, it specified that the contractor relocate two large guns, disassemble and remove the Anderson Flagpole Memorial, relocate the Federal Garrison Monument, demolish concrete and brick masonry, salvage brick and steel handrails, and relocate some dry rubble masonry. The Chitwood House Moving Company, 2101 Camden Road, Columbia, South Carolina, was awarded the contract at a cost of $36,066.64. Construction started December 29, 1958.

Later, however, unforeseen jobs made it necessary to issue four change orders which increased the cost approximately 8 percent. They were as follows:

No. 1 added the mounting of two large cannon on stone slabs. These guns were too heavy for park personnel and equipment to handle. Two weeks extra time was allowed for this work and the cost amounted to $650.00.

No. 2 added the filling of holes (with concrete) in the roofs of several gunrooms which had been excavated. It was through these holes that sand had been poured to fill seven gunrooms during the 1890's. These repairs cost $150.00.

No. 3 allowed a time extension of two weeks. This extension was granted because of unusually wet and foggy weather, unexpectedly large amounts of concrete to be demolished, and removal of sand from seven right face gunrooms. No additional cost to the Government was involved.

No. 4 added a concrete block wall underneath the northwest end of Battery Huger. This wall was needed to prevent sand from filtering out from under the Battery. Two weeks additional time was allowed and the cost amounted to $284.00.

No. 5 added the excavation by hand of four gunrooms and portions of three others. This work was performed at a cost of $1,914.00.

The contract was based on a unit price bid. During excavation, however, the uncovering of unexpectedly large amounts of concrete, including gun mounts and tunnels, increased the total cost.

Final Payment:

All work was completed and accepted under this contract on May 13, 1959. The following is a cost-breakdown for the entire job.

Original contract amount	$ 36,066.64
Change order No. 1, March 31, 1959	650.00
Change order No. 2, April 21, 1959	150.00
Change order No. 3, April 14, 1959	0.00
Change order No. 4, May 6, 1959	284.00
Change order No. 5, May 8, 1959	1,914.00

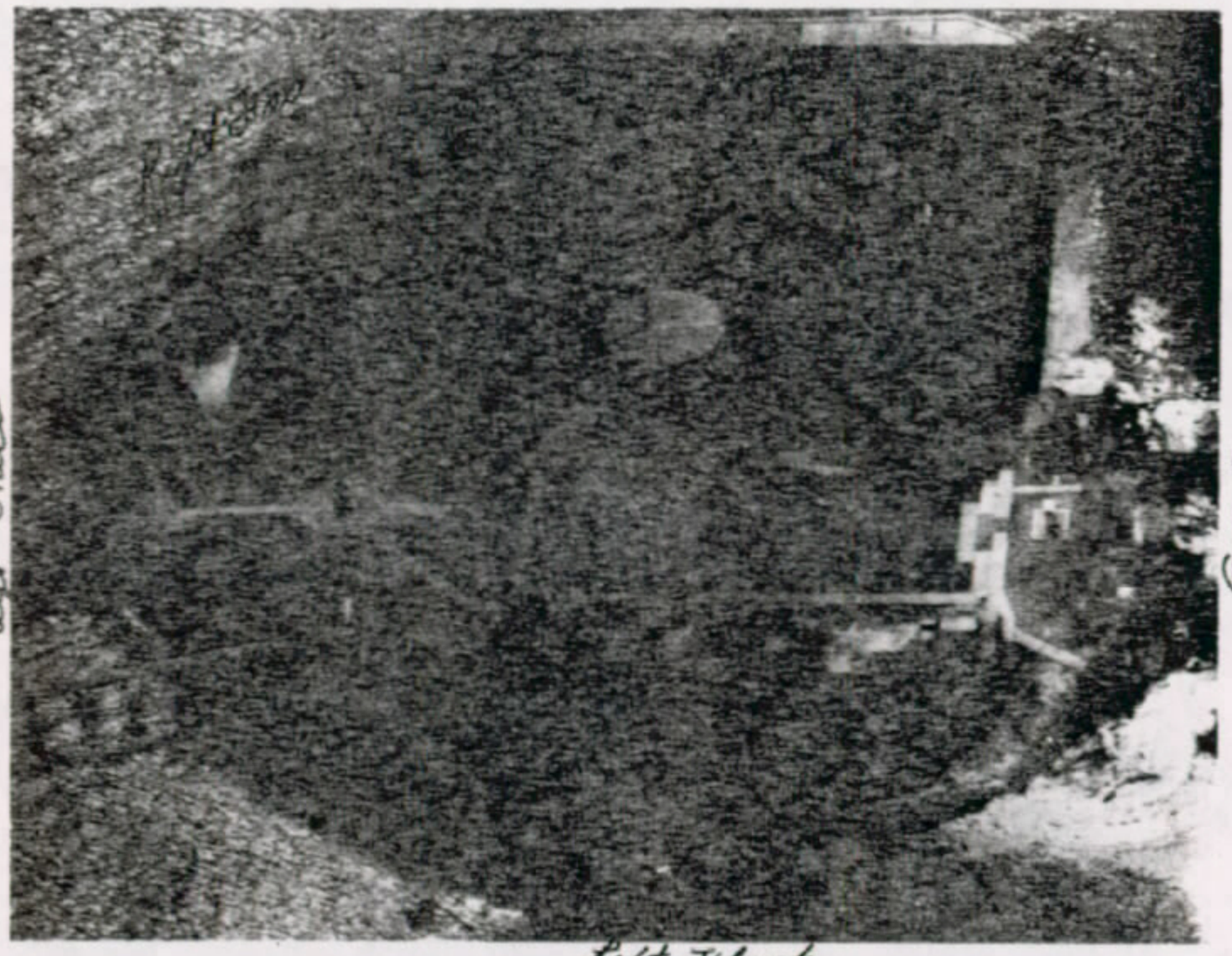
Item	Unit	Quantity	Bid	Amount
1.	Cu. yd.	17,151	1.37	$ 23,496.87
2.	Cu. yd.	252.7	7.40	1,869.98
3.	Cu. yd.	1,599.5	7.40	11,836.30
4.	S/yds.	250	.90	225.00
5.	S/yds.	123	2.00	246.00
6.	L/ft.	280	.40	112.00
7.	S/yds.	526	2.50	1,315.00
8.	Ea.	1	150.00	150.00
9.	Ea.	1	400.00	400.00
10.	Ea.	1	400.00	400.00
11.	Ea.	1	350.00	350.00
12.	Ea.	1	800.00	800.00
13.	Cu. yd.	22.1	40.00	884.00
14.	Cu. yd.	-	-	-
15.	Cu. yd.	6.6	40.00	264.00
16.	S/yds.	1,850	1.00	1,850.00

Change order No. 1	650.00
Change order No. 2	150.00
Change order No. 3	-
Change order No. 4	284.00
Change order No. 5	1,914.00
T O T A L	$ 47,197.15

The Fort Prior to Excavation:

A visitor at the Fort just prior to the excavation, which actually began December 31, 1958, would have found post-war fill materials 8½ feet deep on the left half of the esplanade, from 5½ to 16.66 feet on the original parade elevation (left half), 3½ feet on the left flank gunrooms, 5½ feet on the salient and right face gunroom roofs, and 19½ feet (average) in that area in rear of the right face gunrooms. In addition, he would have observed a concrete tunnel (flanked by a service magazine) leading to one of the left flank gunrooms and its exit, a flagpole monument, two large cannon atop the left face fill, and a monument on the esplanade fill.

Right Flank



Left Flank

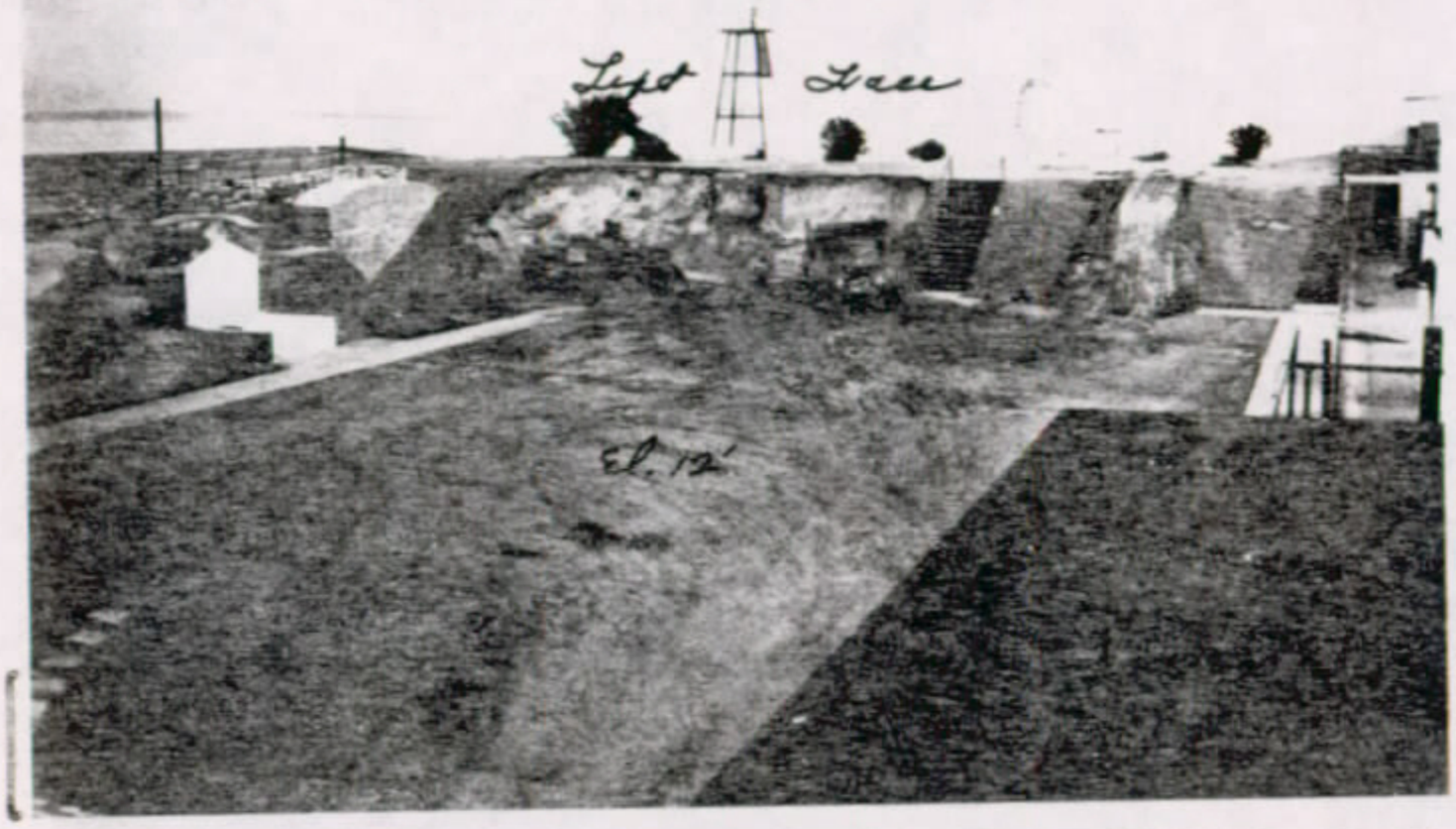
FORT SUMTER BEFORE EXCAVATION

A study of the records would have told him that underneath this post-war fill were the following original fort features: an esplanade consisting of huge blocks of granite protected by rubble during the war, wall footings in the officers' quarters, one gunroom and a kitchen floor on the left flank, ruins (except for one gunroom) on the left face, and 10 gunrooms, sealed by retaining walls, at the salient and along the right face. Also he would have learned about the existence of eleven 100-pounder Parrott rifles mounted in the gunrooms, a 20,600 gallon cistern located alongside Battery Huger's left shoulder, a series of 16 cisterns (in two rows) between Huger and the left flank sallyport, and possibly timber remains of two post-war gunmounts on the left face. Furthermore, plans would have revealed that Battery Huger, built in 1899, stood on a foundation of sand fill varying in height above the original parade elevation from 2½ to 5 feet. Since post-war work had cleared out most of the rubble inside the fort, and then pumped in sand, he would have expected to find but few relics or artifacts.

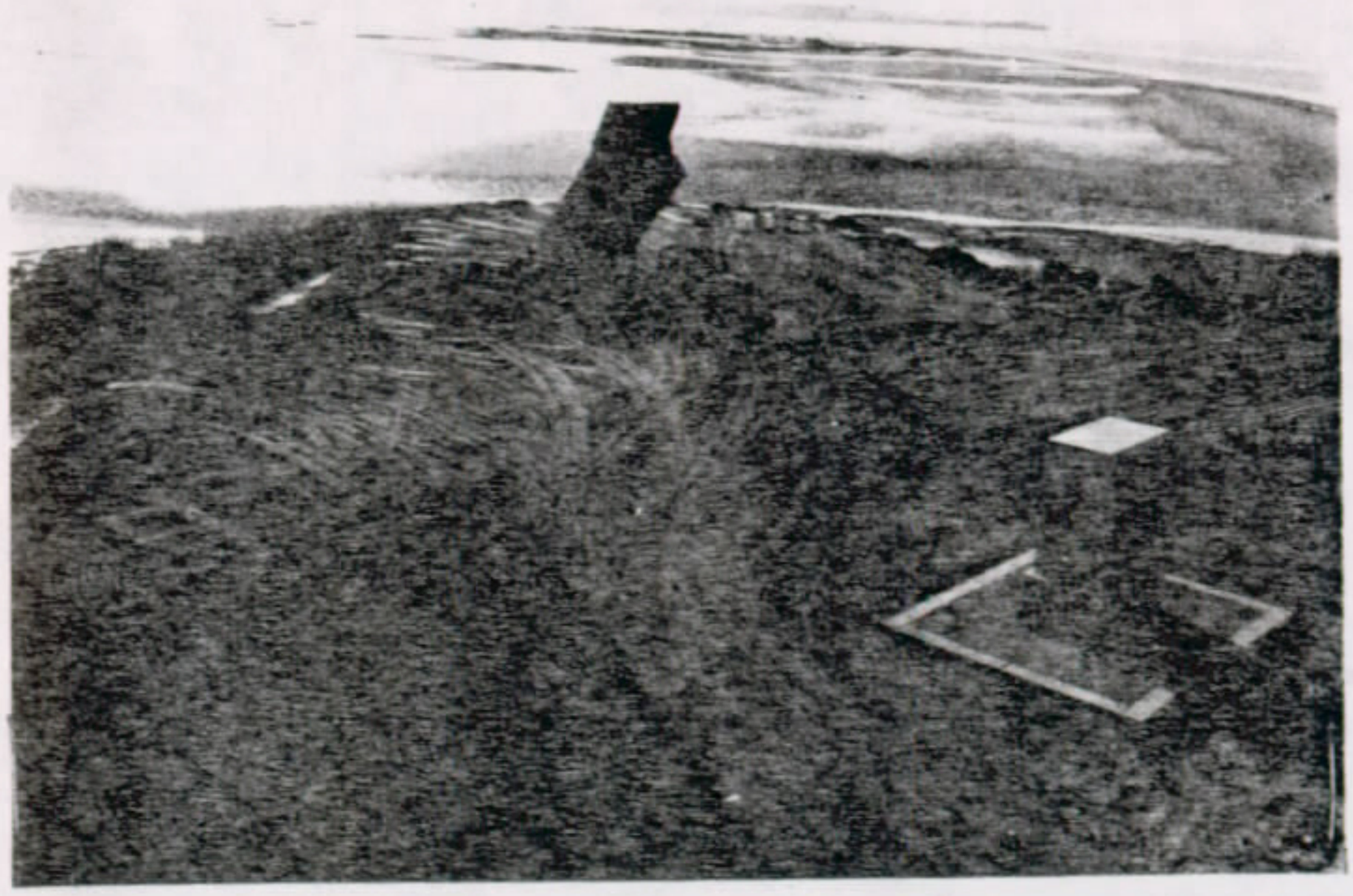
The Dig:

Plans called for the following: removing stones forming a retaining wall above the left flank gunrooms to the parade side foundation of Battery Huger; disassembling the Anderson Flagpole Memorial; moving the Federal Garrison Monument from the esplanade fill to the original parade level, near the point where Battery Huger intersects with the officers quarters; moving the 10-inch columbiad to original parade level near the right shoulder angle; dragging the 15-inch Rodman from the left face fill to the parade; removing gunroom retaining walls; uncovering all gunroom roofs, the left half of the esplanade (except for the comfort station area), the left parade, a small portion of the officers' quarters west of Battery Huger, the north end of the left flank barracks floor, and a 10-foot-wide strip of parade (with a 2 to 1 slope) paralleling the right face gunrooms; top-soiling and seeding the left half of the parade; and sodding the slope in rear of the right face gunrooms. By uncovering the area in rear of these gunrooms, they would benefit from natural light and ventilation. In addition, all excavated sand, small stone and rubble on the left half of the fort were to be spread to high water elevation on the sandbar behind the Fort. Heavier stones and concrete would be used as rip-rap to protect the left flank exterior. The fill materials on the right face were to be dumped overboard on the right flank. Heavy machinery was to be used in the removal of the bulk of the fill. Lighter equipment would take over in excavating the gunroom roofs and as the ruins were approached. After that, it was felt that hand labor would be required.

The contractor, arriving on December 29, 1958, made plans for transporting equipment to the area the following day, and began work on the 31st. He was represented by a foreman; the Park Service, by an engineer from BCDC, the superintendent, and the supervisory historian.



BIG BULLDOZER PLUNGES FIRST
INTO THE FILL ON LEFT FACE



TRUCK DUMPING FILL MATERIALS ONTO SANDBAR AT REAR OF SUMTER. THE MONUMENT, STANDING ON 8½' OF FILL ABOVE ESPLANADE, WAS LATER MOVED TO PARADE GROUND

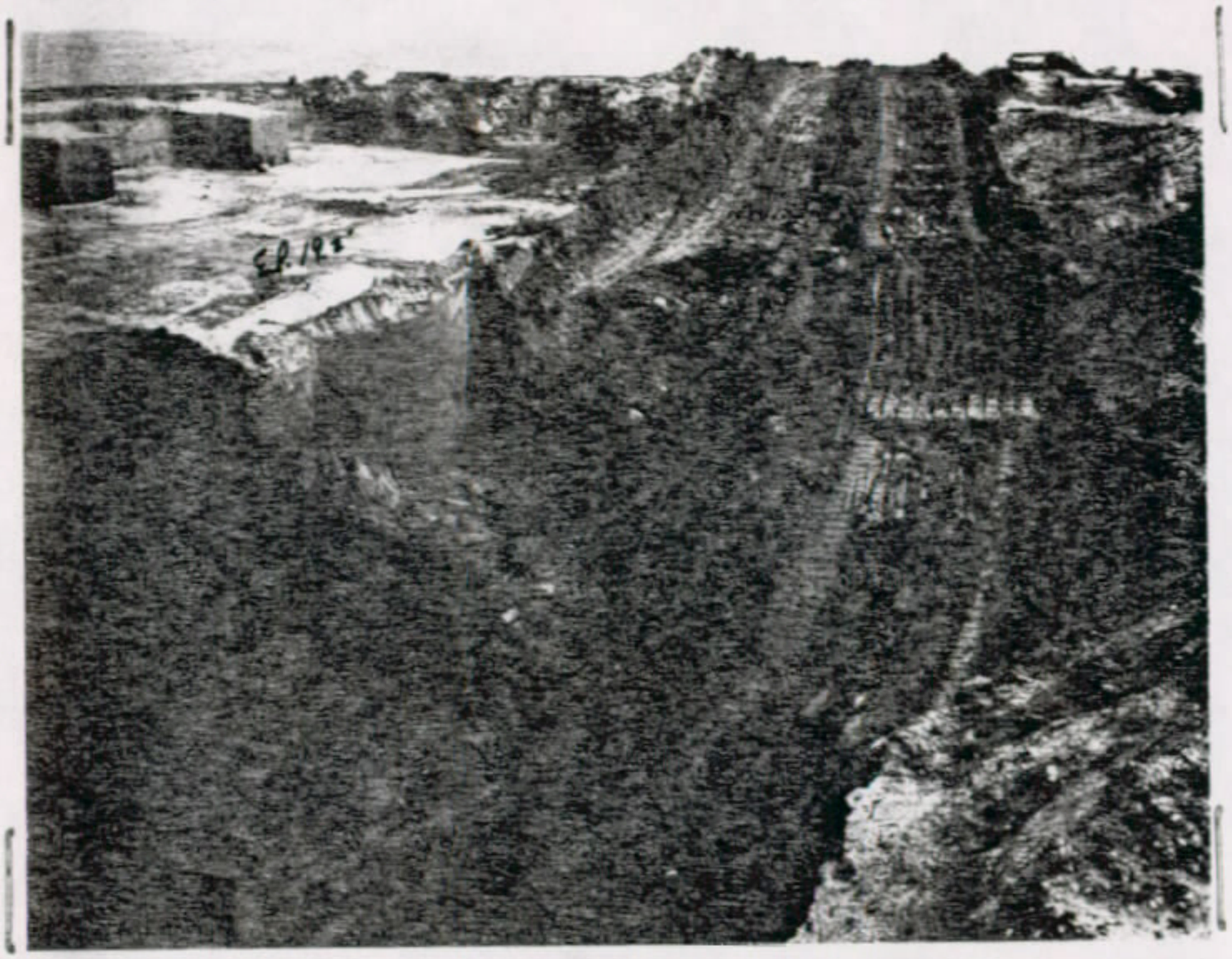
Using a bulldozer, a ramp was built over the gorge wall so that a truck could haul materials to the sandbar at the rear of the Fort. The first material removed came from the left flank barracks area and near the remnants of two breast-high masonry gunmount walls. The main portion of this gunmount had been moved the previous year by park labor. Here, we found the first artifacts: a deteriorated uniform and a few buttons.

Meantime, a crew was salvaging sod along the right face and removing flagstone from the flagpole memorial base. After two weeks of excavation near the flagpole, the bulldozer moved in and began digging behind the right face gunrooms. Soon it ran into a huge service magazine which, after considerable difficulty, was blasted out with dynamite. In conjunction with the bulldozer a small Fordson tractor was engaged in uncovering the gunroom roofs. It was atop these that a 200-pounder Parrott rifle was found, and later mounted on stone slabs above the slope in rear of the right face. A smaller bulldozer, because of its maneuverability in close places, was used to uncover the retaining walls at the rear of the channel face gunrooms. This completed, an air hammer began working on the walls while the small bulldozer and truck were put to work on the left face. After removing a huge gunmount, aided by blasting, and encountering a concrete tunnel and a gunmount, it also returned to the left half of the Fort.

For sometime men had been knocking out the curved retaining walls in rear of the left flank gunrooms, and removing and storing the flagstone foundation and stones forming the plinth around the flagpole. Excavating cautiously on one side of the deeply buried concrete-covered base, it was expected that the pole could be brought down slowly. Instead, the fall was most sudden, causing it to bend. Water had filled it and the weight was much greater than had been expected.

Removal of the 20,600-gallon cistern proved to be the most difficult job on the left half of the Fort. Unlike all the other masonry structures, it contained reinforcing steel. Again, blasting was necessary before demolition could be achieved. This work was followed by excavating around the 16 cisterns crossing the left parade so that blasting could be made effective. After breaking up thismaterial they went to work on the massive concrete tunnel entrance in the left flank sallyport and the thick-walled service magazine adjacent to it.

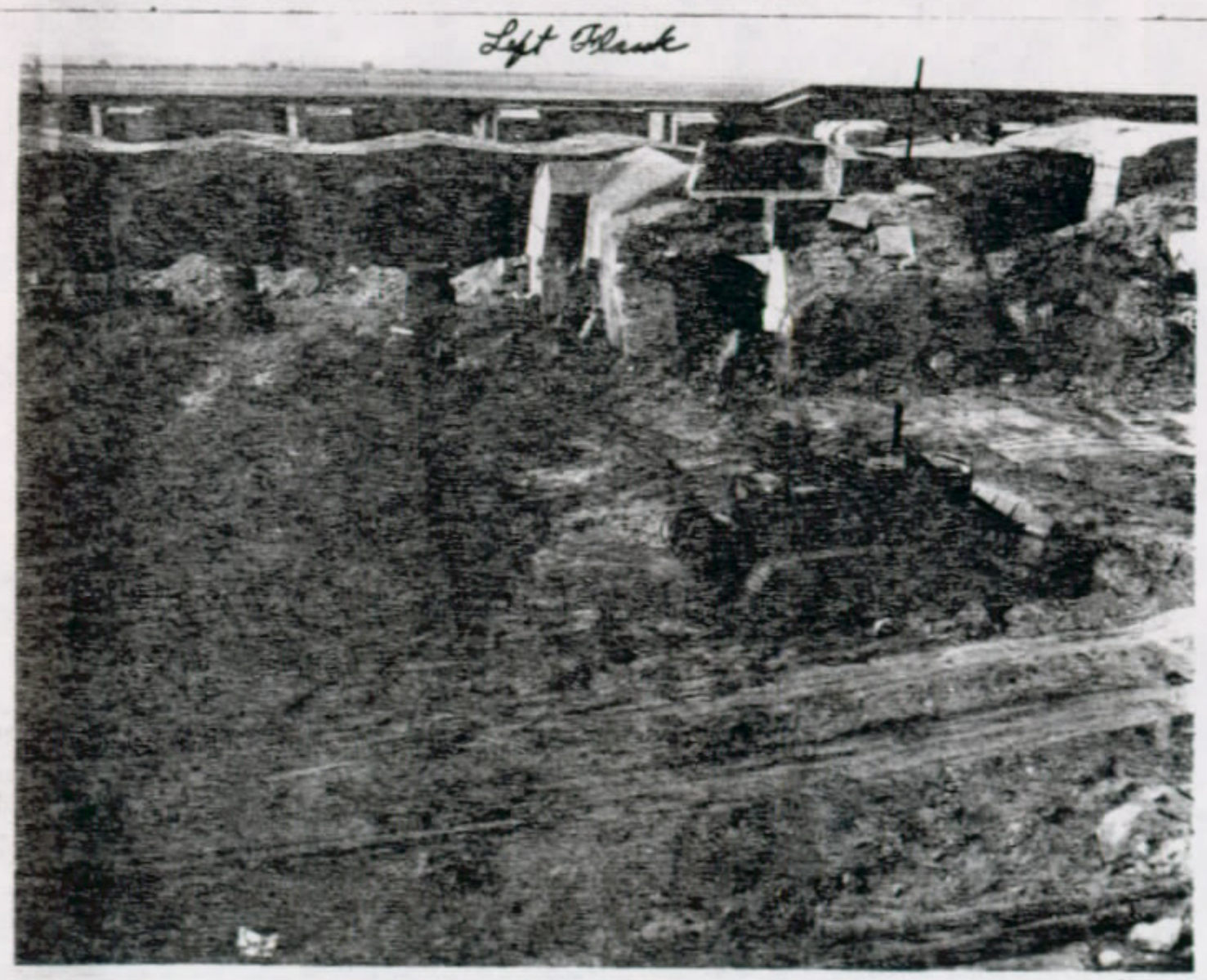
With most of the concrete broken up in the left half of the Fort, all pieces of equipment concentrated on the sand-fill here - especially along the left face. This area proved to be rich in artifacts. A large assortment of projectiles (round and elongated) were found near parade level just back of the westernmost gunroom ruins. Shortly afterwards a 15-inch Rodman was pulled from the sand-fill high above a gunroom floor near the mid-point of the face. Later it, along with a sister model which was exposed before excavation began, was mounted on granite blocks on the parade facing the left face of the Fort. Next began to appear a line of stump-like piers which originally had supported the



IN UNDOVERING THE RIGHT FACE GUNROOMS, SAND WAS DUMPED OVER RIGHT FLANK WALL. HIGH TIDES WOULD SOON SCATTER IT

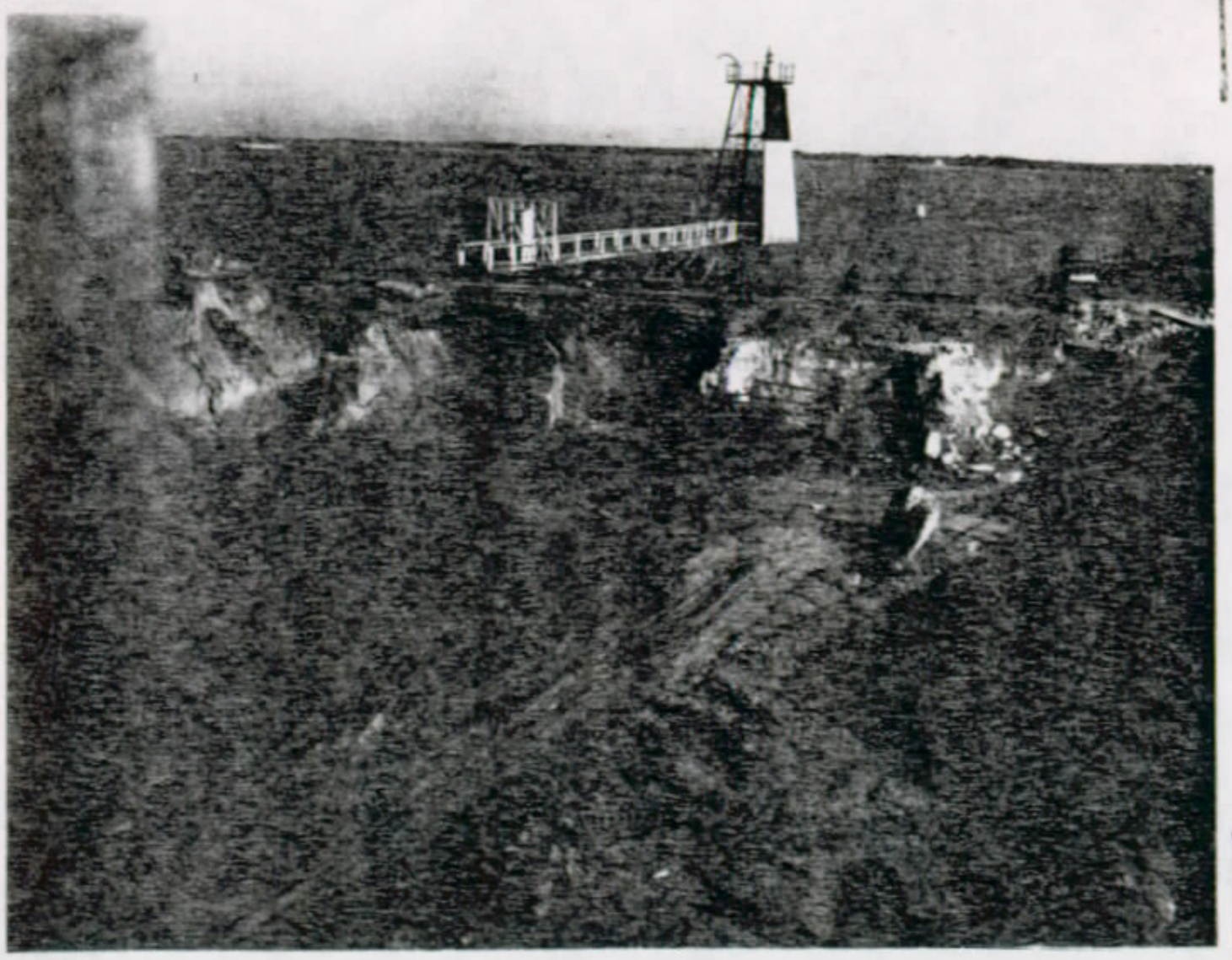
THE 20,600-GALLON CISTERN WAS REINFORCED

A TUNNEL FLANKED BY 2 ROWS OF CISTERNS (8 IN EACH) CROSSED THE PARADE FROM HUGER TO LEFT FLANK. AT THIS STAGE IT WAS DIFFICULT TO DISTINGUISH OLD FROM NEW

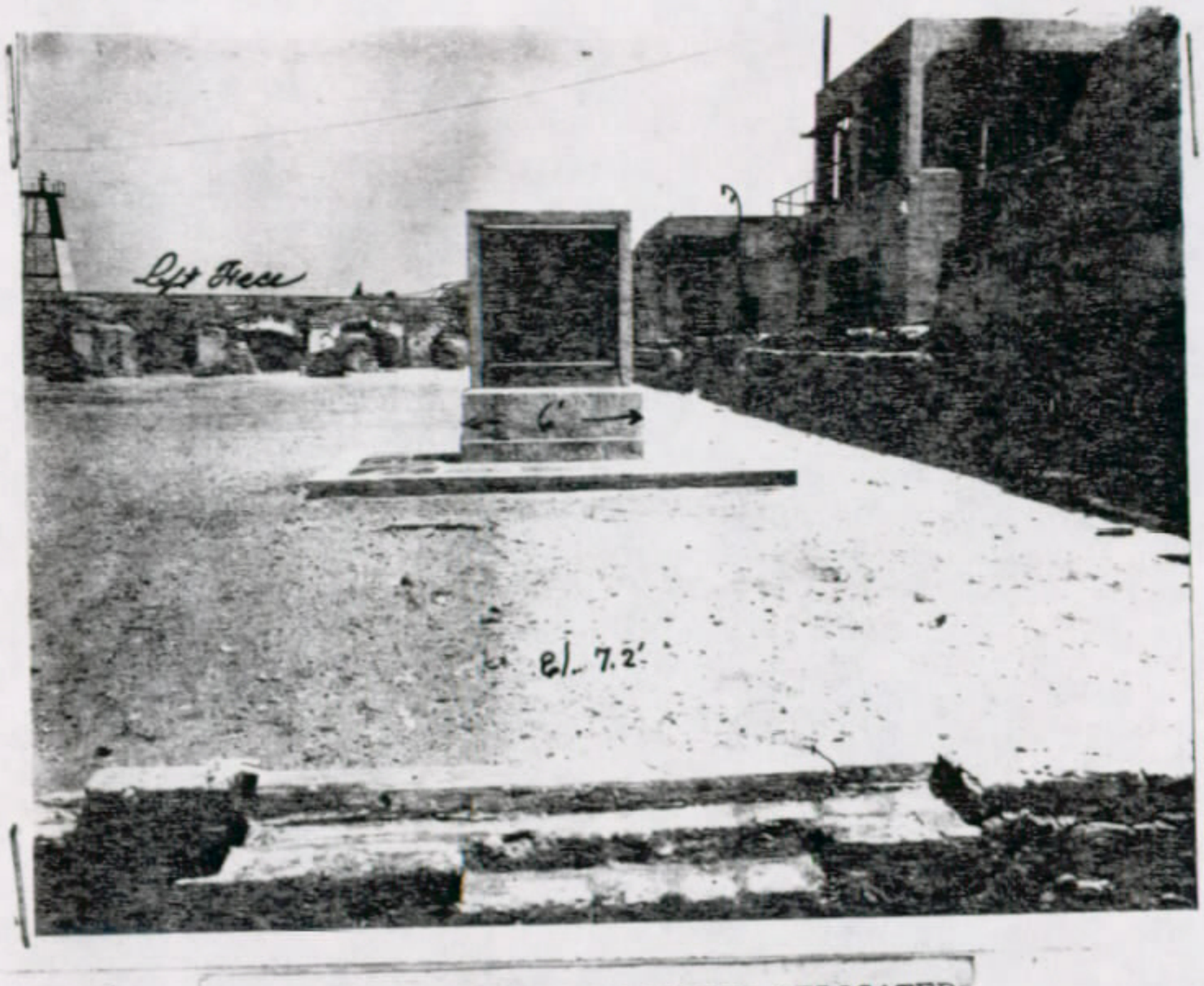


NEXT THEY RAN UP AGAINST THE SALLYPORT WITH ITS UNUSUALLY THICK WALLS AND CEILING. THE SERVICE MAGAZINE AT RIGHT WAS EVEN TOUGHER

SMALL BULLDOZER CLEARING FILL
FROM ROOFS OF LEFT FLANK GUNROOMS



BULLDOZER UNCOVERING STUMP-LIKE REMAINS
OF PIERS AT REAR OF LEFT FACE GUNROOMS



FEDERAL GARRISON MONUMENT RELOCATED

100-PDR PARROTT PROJECTILE LODGED
SECURELY IN WALL OF A GUNROOM ON LEFT FACE

rear arches of the gunrooms. On reaching parade level just back of the mid-point of this line, they uncovered the following artillery pieces: a 42-pounder gun, a 10-inch mortar, and an 8-inch columbiad (Southern 64-pounder). On reaching parade level, rows of solid projectiles (elongated) were found at the bases of the easternmost pier-ruins. Also, deeply embedded in the scarp walls, they found three 100-pounder Parrott projectiles which had been fired from Morris Island during the big siege of 1863-64.

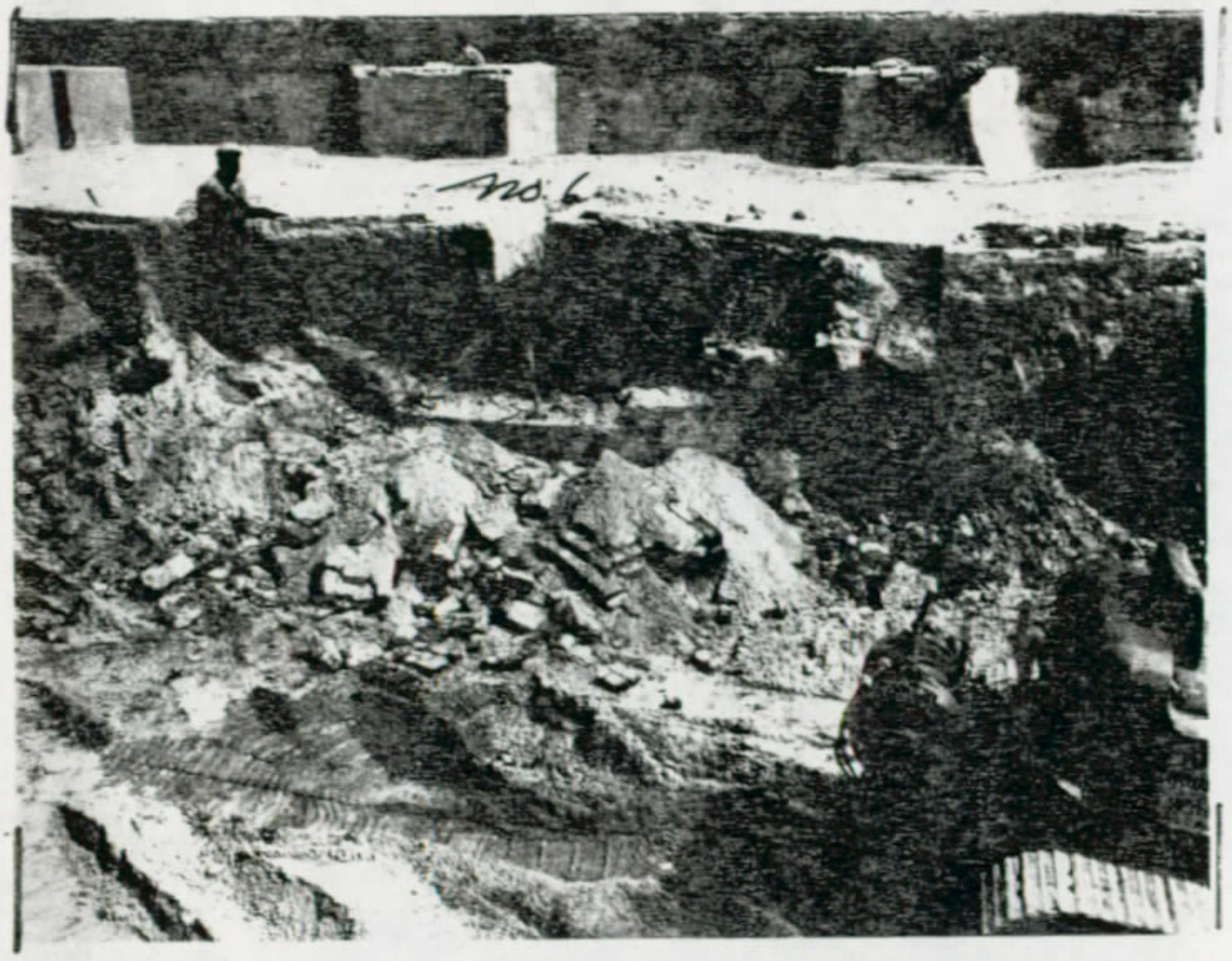
Leaving one of the bulldozers to clear out the rubble, the other returned to the right face. It was here, on March 11, that a break-through was effected in the retaining wall of gunroom No. 6, and the room was found to be filled with sand. Two days later the bulldozer succeeded in removing enough sand to reveal the presence of a 100-pounder Parrott rifle, mounted. On encountering a tunnel which had connected No. 9 with a post-war magazine, we broke it open and entered the room to find it empty except for a second 100-pounder Parrott. As it later developed, the first seven rooms were found to be filled with sand; No. 8, partially filled; and, the last three containing only small amounts. In each there was a 100-pounder Parrott gun, mounted.

Lacking space in which to maneuver with the bulldozers behind Battery Huger, hand labor was used in removing sand from the first four rooms and partially from the next three. Wheelbarrows carried it to both, the bulldozer and to a light loader working up to the first room on the left.

While these rooms were being cleared, the big machine turned its attention to the slope, preparatory to sodding. Before finishing this phase of the job, however, it was necessary to blast three tunnels and a portion of one magazine so that a way could be opened between Battery Huger and the gunrooms and the proper slope could be built east of the Battery. Then hand labor took over again and sodded the big slope.

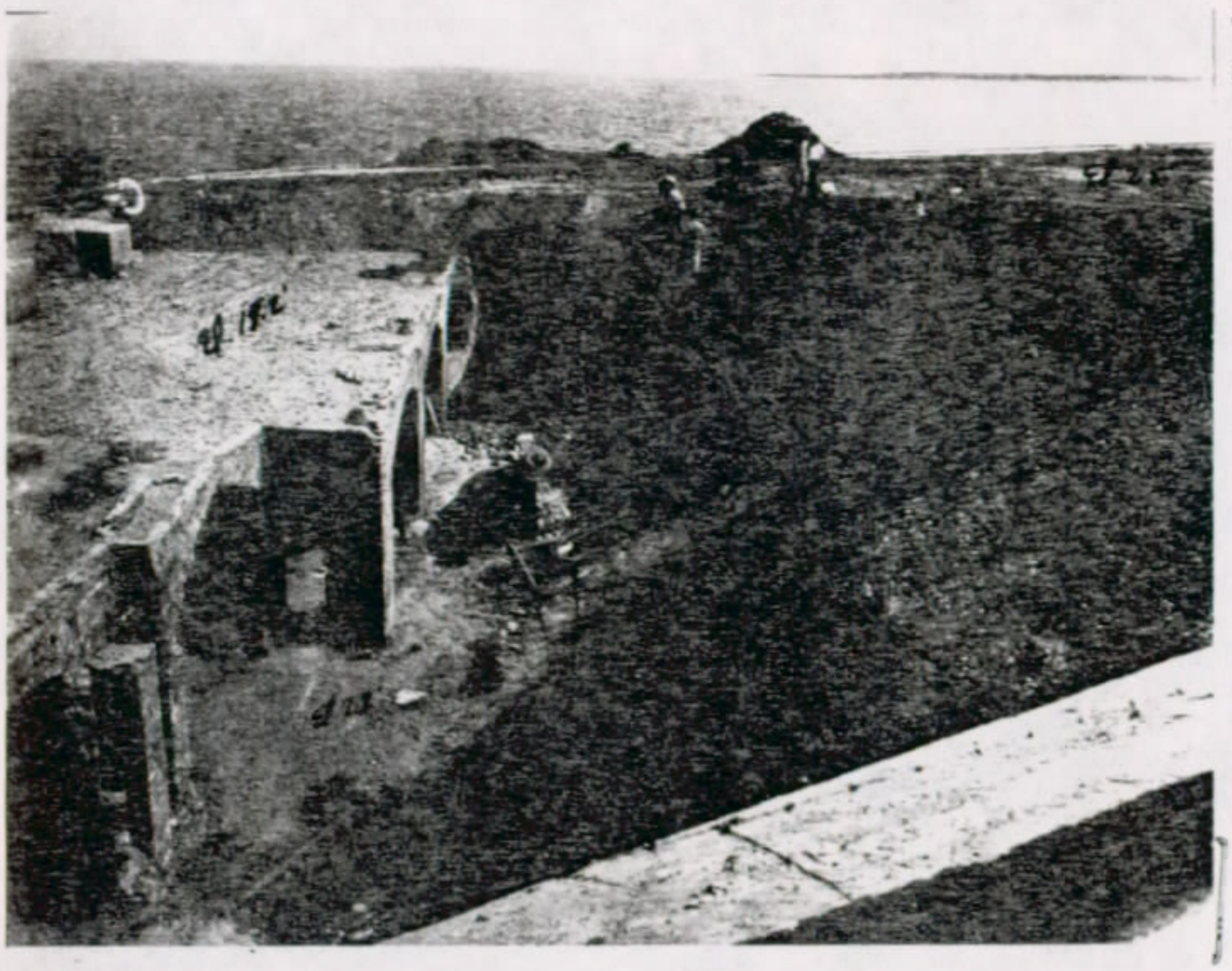
Finishing its work here, the bulldozer moved to the aid of the smaller one which, in the meantime, had been engaged in removing broken-up concrete on the west side of Battery Huger. After grading in this area to parade elevation, they moved to the esplanade fill, pushing it onto the sandbar and, at the same time, aided in removal of the Union Garrison Monument to a newly built base inside the Fort.

While the heavy equipment was engaged in levelling the sandbar to proper grade, hand labor was employed in removing the ramp which had been built over the ruins of the officers' quarters, building a concrete block wall under the northern end of Battery Huger, patching holesin the right face gunroom roofs, straightening the flagpole, and fine grading and seeding the parade west of Huger. With the completion of these jobs, the project ended on May 13, 1958.



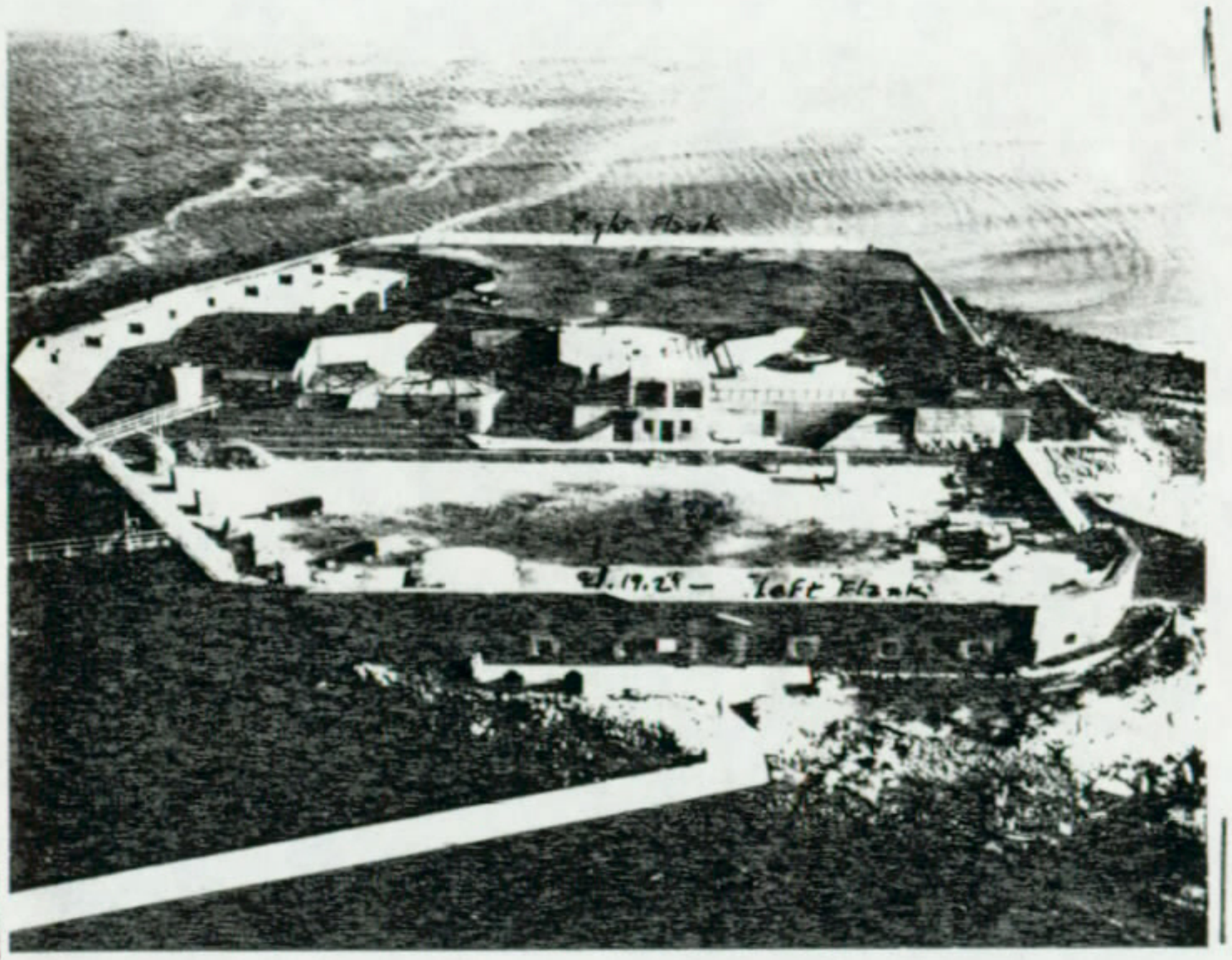
THE FIRST ROOM OPENED ON THE RIGHT FACE IT, LIKE 6 OTHERS, WAS FILLED WITH SAND

GUNROOMS 1 THROUGH 7 WERE FILLED WITH SAND; NO. 8 CONTAINED SOME THAT HAD OVERFLOWED FROM NO. 7; NOS. 9 THROUGH 11 HAD VIRTUALLY NONE. IN EACH THERE WAS A 100-PDR. PARROTT, MOUNTED



SODDING THE SLOPE IN REAR OF THE RIGHT FACE GUNROOMS

REMOVING RAMP WITH [illegible] SHOVELS. THIS MEANS THAT THE JOB WAS NEARING COMPLETION. FEW [illegible]



FORT SUMTER AFTER EXCAVATION
(Dock in foreground, built later)