National Park Service
Harpers Ferry Center
Museum Conservation Services

Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube Order in Survey: 3 **Survey by:** Curtis Sullivan

CAT.#: CASA 1581 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, N. Curtain **Previously Treated:** Yes **When?:** 10/29/1991*

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: **Where made:**

Caliber / Pounds: 3 PNDR.

Markings:

Barrel:

Cascabel:

Other:

*Treated at Florida Archeological Resources Lab, Tallahassee.

No Carriage. Inclined downward (not collecting water)

Measurements:

Overall Length:	190.5 cm.	75.00 in.
Bore Depth:	cm.	in.
Bore Diameter:	8.0 cm.	3.15 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☒ Stable ☐ Medium ☐ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Cannon has been heavily cratered with old losses due to burial and rusting. Tube is plugged. Cannon is resting directly on a wood platform. it appears to have a thin black coating over a white primer. Did not observe exposed metal or rust and appears to be stable. There are many spot losses of the black topcoat, especially to the cascabel.

*Treated at Florida Archeological Resources Lab, Tallahassee.

No Carriage. Inclined downward (not collecting water)

The bore appears to have a 1" recessed concrete plug.

The touch hole is also plugged and its surface feels rubbery.

Interior Surface and Coatings:

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Additional Comments

Not a high priority for re-treatment.

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CASA 1581

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CASA 1581

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon (unmounted) Order in Survey: 11 **Survey by:** Curtis Sullivan

CAT.#: CASA 1582 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, W. Curtain, platform, 2nd fr. N **Previously Treated:** Yes **When?:** 1999 - 2003

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1700 **Where made:**

Caliber / Pounds: 2 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	148.9 cm.	58.62 in.
Bore Depth:	cm.	in.
Bore Diameter:	8.89 cm.	3.50 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Top coat is a chalky matte black. It appears to have been applied over the 2003 treatment surface. It is poorly adhered to the preservation coating and is flaking, exposing white primer -- especially on the trunnion.

There is paint flaking and exposed rusting metal adjacent to the touch hole plug.

Both the barrel and the touch hole are plugged. The tube is resting on a timber platform.

Note: a pair of small round indentations behind the front ring -- to allow attachment of some accessory such as an aiming sight or shield?

Interior Surface and Coatings:

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Additional Comments

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CASA	1582

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube Order in Survey: 9 **Survey by:** Curtis Sullivan

CAT.#: CASA 1584 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, S. Curtain, W. **Previously Treated:** Yes **When?:** 1990-91*

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: c. 1690 **Where made:** Finspong Foundry, Sweden

Caliber / Pounds: 4 PNDR

Markings:

Barrel:

Cascabel:

Other:

*Treated by FL Archeological Resources Lab in Tallahassee, FL

trunnions: F on ea.

Measurements:

Overall Length:	282 cm.	111.02 in.
Bore Depth:	cm.	in.
Bore Diameter:	13.6 cm.	5.35 in.

Metal:

- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☐ Medium ☒ Unstable (active) ☒ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

The paint on the underside of the tube (see image #2) is flaking badly and there is a substantial amount of exposed rust.

The trunnion covers are developing heavy rust pustules and the PL cover key is badly damaged

There are several dozen rusty spots on the top surface of the tube. The bore is open, tilting upward, presumably collecting salt-laden rainwater, and inaccessible for routine maintenance unless cannon can be moved rearward on its carriage.

Interior Surface and Coatings:

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Additional Comments

Carriage needs to be fully functional at all times in order to allow park staff to properly maintain both the exterior and interior of the tube. Carriage hardware: both the most recent (chalky black) and earlier black topcoats are peeling and some parts (see image #4) are so badly corroded that they are delaminating. Some timbers are delaminating. The wheels are split, the iron tire ends have separated as much as 3" making the carriage unsafe to use. Some of the hardware can be salvaged, some will have to be reproduced. Major repairs or replacement is in order.

At minimum, the tube should be lowered to prevent water from accumulating in the bore.

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CASA 1584

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube Order in Survey: 40 **Survey by:** Curtis Sullivan

CAT.#: CASA 1585 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA HQ rear parking lot **Previously Treated:** Yes **When?:** 1999 - 2003

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1690 **Where made:** Seville, Spain

Caliber / Pounds: 9 PNDR.

Markings:

Barrel: Muzzle: No. 40 (US Army No.?)

Cascabel:

Other:

First reinforce: "San Marco" in relief

Measurements:

Overall Length:	256 cm.	100.79 in.
Bore Depth:	cm.	in.
Bore Diameter:	10.2 cm.	4.02 in.

Metal:

- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☒ Fair ☐ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Their are a few spots where rusty metal is exposed. This tube is mounted on timbers at ground level. The tube is plugged.

Note: This tube appears to have been re-coated since its 2003 treatment. Its topcoat has bluish iridescent sheen to it that has been observed on many other tubes both at CASA and FOMA. There also appears to have been much post-treatment overpainting on -- or rust conversion of -- rust eruptions that have developed since 2003.

Interior Surface and Coatings:

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Additional Comments

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CASA 1585

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube Order in Survey: 41 **Survey by:** Curtis Sullivan

CAT.#: CASA 1586 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA HQ Rear Parking Lot **Previously Treated:** Yes **When?:** 10/29/1991*/again bet. 1999 -2003

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: **Where made:**

Caliber / Pounds: 9 PNDR.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	270 cm.	106.30 in.
Bore Depth:	cm.	in.
Bore Diameter:	10.2 cm.	4.02 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☒ Light ☐ Stable ☐ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Rust clearly visible around the perimeter of the touch hole plug. The plug is large, recessed about 1" and collects water. There are a number of exposed rusty spots that appear to be the result of local scraping. Red primer is visible where over-paint or top coating has flaked-away. Exhibits same bluish iridescence as CASA 1585 and many others -- possibly from most recent staff-applied coating materials.

The tube is at ground level, sitting on timbers that have accommodating cutouts for their stability.

Interior Surface and Coatings:

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Additional Comments

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CASA 1586

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CASA 1586

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube Order in Survey: 7 **Survey by:** Curtis Sullivan

CAT.#: CASA 1587 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, W. Curtain, N. **Previously Treated:** Yes **When?:** 1990-91*

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1700 **Where made:**

Caliber / Pounds: 4 PNDR

Markings:

Barrel:

Cascabel:

Other:

*Treated by FL Archeological Resources Lab in Tallahassee, FL

Measurements:

Overall Length:	231.1 cm.	90.98 in.
Bore Depth:	cm.	in.
Bore Diameter:	8.4 cm.	3.31 in.

Metal:

- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

PR trunnion is mostly missing.
There are small losses with exposed rusty metal, especially about 20" aft of the muzzle where there are about a dozen such losses. White primer is exposed on the margins of many losses.
Bore is plugged with concrete.
The touch hole appears to have been plugged with a caulking material.
The tube is at ground level, set on timbers that have accommodating cutouts for their stability.

Interior Surface and Coatings:

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Additional Comments

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CASA 1587

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube Order in Survey: 9 **Survey by:** Curtis Sullivan

CAT.#: CASA 1584 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, S. Curtain, W. **Previously Treated:** Yes **When?:** 1990-91*

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: c. 1690 **Where made:** Finspong Foundry, Sweden

Caliber / Pounds: 4 PNDR

Markings:

Barrel:

Cascabel:

Other:

*Treated by FL Archeological Resources Lab in Tallahassee, FL

trunnions: F on ea.

Measurements:

Overall Length:	282 cm.	111.02 in.
Bore Depth:	cm.	in.
Bore Diameter:	13.6 cm.	5.35 in.

Metal:

- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☐ Medium ☒ Unstable (active) ☒ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

The paint on the underside of the tube (see image #2) is flaking badly and there is a substantial amount of exposed rust.

The trunnion covers are developing heavy rust pustules and the PL cover key is badly damaged

There are several dozen rusty spots on the top surface of the tube. The bore is open, tilting upward, presumably collecting salt-laden rainwater, and inaccessible for routine maintenance unless cannon can be moved rearward on its carriage.

Interior Surface and Coatings:

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Howitzer, Field (Unmounted) Order in Survey: 33 **Survey by:** Curtis Sullivan

CAT.#: CASA 1588 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, S. side **Previously Treated:** _____ **When?:** _____

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1777-1812 **Where made:** USA

Caliber / Pounds: 24 pdr

Markings:

Barrel: 1st reinforce, PR side: "No 420"[over "C.F. I.M" on top of barrel]

Cascabel:

Other:

Measurements:

Overall Length:	100 cm.	39.37 in.
Bore Depth:	cm.	in.
Bore Diameter:	14.6 cm.	5.75 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☒ Good ☒ Fair ☐ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Catalog Note: 2 holes: front right of center, rear on center.
Tube is unplugged and tilting upwards. It collects water and contains sand, and other debris. There are a large number of small eruptions of rust that have created small bumps under the paint coating.
Concrete "carriage" is cracked in front of the tube's trunnion.
The coating inside the boar is heavily undermined by rust, cracked, and flaking. There is also rusty staining extending downward from the lower lip of the bore.
Note: there are areas of gray primer slopped on the PL carriage side.

Interior Surface and Coatings:

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Additional Comments

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CASA 1588

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Howitzer, Seacoast Order in Survey: 26 **Survey by:** Curtis Sullivan

CAT.#: CASA 1589 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, N. side **Previously Treated:** Yes **When?:** 1985

TR on file at site?: Yes

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: c. 1841 **Where made:** U.S.

Caliber / Pounds:

Markings:

Barrel: Muzzle face: "I.S. No. 14"
Second Reinforce: "US"

Cascabel: Under Cascabell: 5820

Other:
lefft trunnion: 1841
right trunnion: "J.M / C.F."

Measurements:

Overall Length:	283 cm.	111.42 in.
Bore Depth:	cm.	in.
Bore Diameter:	20.32 cm.	8.00 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

There are many surface lumps that indicate rust buildups beneath the coating. The area around the touch hole bolster shows active rusting that has resulted in exposed rusty metal especially on the upper edges.

The surface is matte black -- reportedly Rustoleum applied by staff -- applied over a glossy black sub-coating.

While the Rustoleum is holding up well on the PR side, rust is errupting actively on the undersides and needs attention. A bluish-white primer is exposed both on the underside and on the muzzle face.

The tube is unplugged and despite it presently being level is contains debris that includes sand, bottles, and coins.

Interior Surface and Coatings:

Extant previous coatings are badly corrupted.

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Additional Comments

Although the tube appears to be level, it in point of fact collects water, and has a large amount of sand and much other debris inside -- extending all the way to the breech end.

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CASA 1589

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CASA 1589

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Howitzer, Seacoast, Smoothbore Order in Survey: 27 **Survey by:** Curtis Sullivan

CAT.#: CASA 1590 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, 2nd from N. Side **Previously Treated:** No **When?:** _____

TR on file at site?: _____

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1841 **Where made:** U.S.

Caliber / Pounds: _____

Markings:

Barrel: Muzzle face: I.S. No. 11
2nd reinforce: US

Cascabel: Under cascabel on breech: 5840

Other:

Right trunnion: J.M. / C.F.
Left trunnion: 1841

Measurements:

Overall Length:	283 cm.	111.42 in.
Bore Depth:	cm.	in.
Bore Diameter:	20.32 cm.	8.00 in.

Metal:

- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts: _____

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☒ Fair ☐ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☐ Medium ☐ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Some flaking with exposed gray primer or an old gray top coat.
There is some serious rusting on the upper edges of the touch hole bolster.
The most recent matte black topcoat was - reportedly - Rustoleum applied by staff.
This tube appears to be level and its bore is plugged with a 6" recess.
The underside is not completely painted and has a band of uncoated gray primer or old topcoat.
The vent is plugged.

Interior Surface and Coatings:

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Additional Comments

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon, dis-mounted Order in Survey: 2 **Survey by:** Curtis Sullivan

CAT.#: CASA 1591 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, E. Curtain, S. side **Previously Treated:** Yes **When?:** Feb. 1990 - Oct. 1991*

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1750 **Where made:** Spain

Caliber / Pounds: 24 pdr

Markings:

Barrel:

Cascabel:

Other:

*FL Archeological Resource Lab, Tallahassee, FL

Measurements:

Overall Length:	339 cm.	133.46 in.
Bore Depth:	cm.	in.
Bore Diameter:	15.5 cm.	6.10 in.

Metal:

- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☒ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

The tube rests directly on a wooden platform. It is inclined downward and is plugged aft a 1" recess. The touch hole is plugged.

There are a number of exposed rust patches, especiall on the PR chase and top and around the muzzle. One patch is on the PR 2nd reinforce. There is another on the cascabel, two on the vent field top and PL side.

White primer is exposed at many areas of small top coat losses.

Interior Surface and Coatings:

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Additional Comments

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CASA 1591

Survey Images



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CASA	1591

National Park Service
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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube, Garrison Order in Survey: 22 **Survey by:** Curtis Sullivan

CAT.#: CASA 1592 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, S. Curtain, 2nd from E. **Previously Treated:** Yes **When?:** 1990-91 / Tallahassee, FL?

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1750 **Where made:**

Caliber / Pounds: 18 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	320 cm.	125.98 in.
Bore Depth:	cm.	in.
Bore Diameter:	14.3 cm.	5.63 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Note: square holes afore the cascabel on both sides. Function?
Cascabel has lost a lot of its top coat from excessive visitor handling. There is both exposed iron and white primer.
The bore is open and the touch hole is plugged. There are exposed rusty spots overall.

Interior Surface and Coatings:

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Additional Comments

The carriage wheels show serious deformations and cracking. There are both separation and cracks in the side timbers. While the condition of this carriage is not among the worst at CASA, plans should be made for its replacement with one that is designed to withstand routine withdrawal from the curtain wall for routine maintenance of the interior of the tube.

If the tube is not at a measurably negative tilt, it should adjusted so that water cannot collect in its interior.

There are numerous areas of surface deformations that indicate rust build-ups occuring beneath the extant coating system. Additionally, there are a number of areas of complete loss of both primer and top coat and rust is exposed and rusty stains emanate downward from them.

At some point, a red primer was applied and is now exposed. Currently the uppermost coating is matte black -- most likely Rustoleum applied by staff.

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CASA 1592

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Order in Survey: 23 **Survey by:** Curtis Sullivan

CAT.#: CASA 1593 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, S. Curtain, E. side **Previously Treated:** Yes **When?:** 1990-91 / Tallahassee?

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1750 **Where made:** Spain

Caliber / Pounds: 24 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	336.6 cm.	132.52 in.
Bore Depth:	cm.	in.
Bore Diameter:	15.24 cm.	6.00 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings: White primer is exposed on the cascabel from handling by visitors. Red primer is exposed on the trunion, cross bolts, iron tires, and trunnion keepers. The top coating is more sound than most other cannons at CASA.

Interior Surface and Coatings: The bore is not plugged and is inaccessible for routine maintenance without withdrawing the carriage from the curtain wall.

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Additional Comments

The wheels are deeply cracked. The PL front wheel is delaminating and has suffered a very large loss. The PL rear whel is also delaminating. Carriage timbers are cracked and exhibit rusty bolt heads.

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CASA 1593

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Order in Survey: 21 **Survey by:** Curtis Sullivan

CAT.#: CASA 1594 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, S. Curtain, Middle **Previously Treated:** Yes **When?:** _____

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1750 **Where made:** Spain

Caliber / Pounds: 18 pdr.

Markings:

Barrel: _____

Cascabel: _____

Other: _____

Measurements:

Overall Length:	319 cm.	125.59 in.
Bore Depth:	cm.	in.
Bore Diameter:	14.6 cm.	5.75 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts: _____

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☒ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Based on test peening of a number of bumpy spots on the surface of this tube, and observing already-exposed rusty spots, it appears that the tube is slowly rusting under its layers of paint and primers.

Strangely, one of the peened areas afore the breech ring released an odor similar to creosote. It had the appearance, however, of having been treated with a rust converter such as tannic acid.

The bore is unplugged and the touch-hoe is caulked. The tube appears to be tilting slightly upward which allows salt-laden water to collect on its interior.

Interior Surface and Coatings:

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Additional Comments

The PR Rear Wheel is delaminating and has been doing so for many years -- evidence for which is the fact that it has been painted-over.

The PL Rear Wheel has a large jagged crack with a 3/4" wide open split. This tire makes the entire carriage unsafe to move, yet this carriage should always be maintained in a working state for routine withdrawal from the curtain wall for bore inspection and maintenance.

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CASA 1594

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Order in Survey: 20 **Survey by:** Curtis Sullivan

CAT.#: CASA 1595 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, S. Curtain, 2nd from W **Previously Treated:** Yes **When?:** 1990-91 / Tallahassee, FL?

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: c. 1740 **Where made:** Spain

Caliber / Pounds: 24 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	332.7 cm.	130.98 in.
Bore Depth:	cm.	in.
Bore Diameter:	15.24 cm.	6.00 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☒ Heavy ☐ Unk.

Exterior Surfaces and Coatings: The cascabel shows many areas of exposed red and white primer from various layers of topcoat systems that are being blown away due to sub-surface development of rust. In addition to the tube having an irregular surface prior to its last treatment (1991?), there appears to be a fair amount of more recent deformities developing under the paint due to re-rusting.
Exposed bolt heads are badly deteriorated and have been rendered unusable.
Even its modern chain staples are very badly rusted.

Interior Surface and Coatings:

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Additional Comments

There is a large amount of cracking or checking occurring with the carriage wheels. Some iron tire ends do not comprise a continuous band of coverage and support around the wheels. While these are not the worst examples of damaged carriage wheels at CASA, they *are* actively deteriorating and replacement should be a priority. The PL front wheel is undergoing both delaminating and cracking and urgently needs replacement.

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CASA 1595

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon (Unmounted) Order in Survey: 1 **Survey by:** Curtis Sullivan

CAT.#: CASA 1596 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, SE Bastion, N **Previously Treated:** Yes **When?:** Possibly in 1990/Tallahassee

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: c. 1690 **Where made:** Spain

Caliber / Pounds: 16 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	285.8 cm.	112.52 in.
Bore Depth:	cm.	in.
Bore Diameter:	15.24 cm.	6.00 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

The tube is resting on three short cradling timbers that in turn rest on a low wooden platform.
The bore is plugged with concrete aft a 2.5" recess.
The surface of the front 2/3 of the tube shows hundreds of small areas of rust poking through the extant paint layers.
Note: the trunnions are very withered from a great many years of continuous corrosion.

Interior Surface and Coatings:

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Additional Comments

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CASA 1596

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CASA	1596

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Order in Survey: 18 **Survey by:** Curtis Sullivan

CAT.#: CASA 1598 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Gundeck, W. Curtain, Platform, N **Previously Treated:** Yes **When?:** 1999 - 2003

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: c. 1690 **Where made:** Sweden

Caliber / Pounds: 2 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	142.2 cm.	55.98 in.
Bore Depth:	cm.	in.
Bore Diameter:	8.26 cm.	3.25 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

This tube has an almost camouflage-like appearance because of varying amounts of paint-layer losses and their differing coloration and surface qualities. Whether or not the cause is exposure to the elements or continued substrate rusting, the coatings are invisibly - but actively -- deteriorating, which creates further opportunities for salt- laden water to seep down to the iron surface and continue eating-away at the tube's iron surface and its expanded corrosion products pushing outward against the underside of the paint layers -- creating more cracks. It's an inevitable, vicious cycle.
Given its appearance, it's hard to believe that it was conserved only 14 years ago. It has been touched-up by CASA staff, reportedly with Rustoleum products that do not appear to be adhering well to the glossy polyurethane top coat beneath.
That said, there are but a few exposed rusty metal spots. The bore is plugged with concrete set back 1.5" from the muzzle lip. The touch hole appears to be filled with a plug that has a large, square socket recess.

Interior Surface and Coatings:

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CASA 1598

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Howitzer Order in Survey: 32 **Survey by:** Curtis Sullivan

CAT.#: CASA 1599 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, 2nd from S. side **Previously Treated:** _____ **When?:** _____

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1840-46 **Where made:** USA

Caliber / Pounds: 24 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	100 cm.	39.37 in.
Bore Depth:	cm.	in.
Bore Diameter:	15.2 cm.	5.98 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☒ Fair ☐ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

The matte grey-black top coat is reportedly Rustoleum, applied by staff or volunteers. Much of this coating appears to be doing its job, but there are loss areas that are badly in need of being further expanded until well-adhered paint is found. The newly-exposed surface immediately would need to be de-rusted, re-primed and re-coated. In other words, spot-treated.

In general, the Rustoleum appears to be poorly-adhered to the top-coat beneath as there is a fair amount of flaking occurring in general, but it is concentrated most heavily around the muzzle.

At the top of the cascabel knob there is a large erruption of rust that has caused paint lifting, flaking, and exposed rusty iron. Other areas show cracks and lumping occuring beneath the paint -- indicative of continued corrosion occurring beneath the paint surface. Rust is poking through the surface on the tubes central section.

The tube is unplugged, its bore is rusty and partially covered in a rusty mixed slurry of soil and other debris.

Interior Surface and Coatings:

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Additional Comments

As with other tube "carriages" in the water battery, this one's concrete pad has through-cracks that emanate from the trunnion recesses. It appears to have been repaired, but all should be replaced with "carriages" that are reinforced to not fail at such critical load-bearing points.

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CASA 1599

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Howitzer Tube, Field Order in Survey: 31 **Survey by:** Curtis Sullivan

CAT.#: CASA 1600 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, 3nd from S. side **Previously Treated:** _____ **When?:** _____

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1777-1812 **Where made:** USA

Caliber / Pounds: 24 pdr.

Markings:

Barrel: 1st Reinforce: No 206 / C F I M

Cascabel:

Other:

Measurements:

Overall Length:	100 cm.	39.37 in.
Bore Depth:	cm.	in.
Bore Diameter:	14.6 cm.	5.75 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☒ Fair ☐ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☐ Medium ☒ Unstable (active) ☒ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Catalog Note: 2 touch holes on barrel top: one located between trunnion, the second to the rear.
Tube is unplugged and upwardly inclined -- its muzzle should be lowered to prevent accumulation of water inside the bore. At the time of the survey its old black paint was thoroughly corrupted by emerging break-outs of rust. It contained sand and mixed kinds of debris -- some of it large sticks -- from the muzzle end to the breech end.
As with other Water Battery howitzers, this one has a thick covering of matte grey-black Rustoleum. There are heavy lumps (rust pustules under paint? thick paint drips?) on the end of the PR trunnion. The tube's concrete "carriage" is cracked similarly to the others in the Water Battery.

Interior Surface and Coatings:

While some black paint remains inside the bore, it is largely corrupted by rust erupting from its substrate. Tube contains wet sand, and other debris.

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Additional Comments

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CASA 1600

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Howitzer Tube, Field Order in Survey: 30 **Survey by:** Curtis Sullivan

CAT.#: CASA 1601 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, 4th from S side **Previously Treated:** _____ **When?:** _____

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa:

Where made: U.S.

Caliber / Pounds:

Markings:

Barrel: Top, just afore trunnion: US
Left trunnion: 1846

Cascabel: "32" (?)

Other:

8: "XV"

Measurements:

Overall Length:	168 cm.	66.14 in.
Bore Depth:	cm.	in.
Bore Diameter:	20.3 cm.	7.99 in.

Metal:

- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☒ Fair ☐ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☐ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings: Visible rust is concentrated on the side edges of the vent bolster. Tube is unplugged and tilted slightly upwards. As a result the bore is rusty, and has collected water, sand and debris. Not terrible, but not good.

Interior Surface and Coatings:

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Howitzer, Garrison and Siege Order in Survey: 29 **Survey by:** Curtis Sullivan

CAT.#: CASA 1602 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, 4th from N. side **Previously Treated:** _____ **When?:** _____

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1846 **Where made:** USA

Caliber / Pounds: _____

Markings:

Barrel: 2nd Reinforce: US
Muzzle face: R.L.B No 13

Cascabel: XIIII

Other:

Left trunnion:1846
Right trunnion: W.P.F
Under Cascabel at Breech: 2628

Measurements:

Overall Length:	168 cm.	66.14 in.
Bore Depth:	cm.	in.
Bore Diameter:	12.7 cm.	5.00 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☒ Fair ☐ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Visible rust is concentrated on the PL side of the of the vent bolster.
Tube is unplugged and tilted slightly upwards. As a result the bore is rusty, and has collected water, sand and debris. Not terrible, but not good -- very much like its neighbor, CASA 1602.
Vent has become invisible because of accumulated paint layers and possibly a flush plug.

Interior Surface and Coatings:

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Additional Comments

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CASA 1602

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CASA 1602

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube Fragment Order in Survey: 39 **Survey by:** Curtis Sullivan

CAT.#: CASA 1620 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Casemate 6 **Previously Treated:** _____ **When?:** _____

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1st Spanish Pd., **Where made:** Spain

Caliber / Pounds: 16 PDR

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	131 cm.	51.57 in.
Bore Depth:	cm.	in.
Bore Diameter:	14.5 cm.	5.71 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☐ Unstable (active) ☐ Heavy ☒ Unk.

Exterior Surfaces and Coatings:

Object is kept indoors on wooden timber rests.
A previous coating system had a white primer which is exposed in thousands of small losses of the top coat. Other tiny white spots that appear to be above the top coat layer may be built-up areas of white or "clear" wax. There are many areas of exposed rusty iron -- most of which appear to be convenient for visitor handling.
There is a lot of very old pitting, and large, smooth losses probably from sustained periods of submersion or burial.

Interior Surface and Coatings:

Note: unidentified white effluorescence at midpoint inside bore [clear/white wax build-up?]
There are many huge rust pustules that appear to have long-since been painted over inside the lower 1/3 of the bore.

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Additional Comments

Catalog entry exerpt: "TREATMENT REMOVED, HAN CONTACT. TREATMENT FLAKING." This needs to be investigated further in order to be understood. What treatment was removed. Who did the treatment and where is its documentation.

Suggested: that going forward, CASA and FOMA collection management adhere strictly to NPS Museum Handbook guidelines regarding collections' treatment documentation: See Part I, Chapter 8 (*Conservation Treatment*), pp. 23 and 24 -- especially the "Tasks" sections, Phase I and Phase II mandating the contractor to provide written reports. These reports are not subject to NPS office requirements for periodic purging, but must be kept permanently. Also read on p. 8 of Chapter 8 -- the reasons why documentation is critical.

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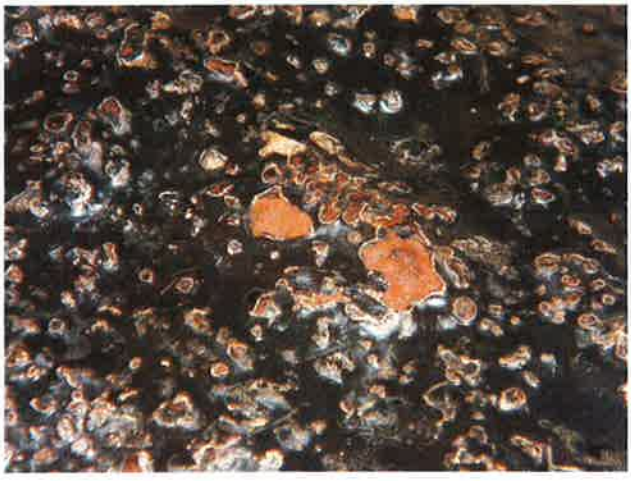
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CASA	1620

National Park Service
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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Howitzer, Garrison Order in Survey: 28 **Survey by:** Curtis Sullivan

CAT.#: CASA 1651 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, 3rd from North **Previously Treated:** _____ **When?:** _____

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa:

Where made: USA

Caliber / Pounds:

Markings:

Barrel: Top, afore trunnion: US
Muzzle face: R.L.B. No 5

Cascabel: 999

Other:

Left trunnion: 1846
Right trunnion: W.P.F
Under Cascabel on breech: 2596

Measurements:

Overall Length:	165.7 cm.	65.24 in.
Bore Depth:	cm.	in.
Bore Diameter:	20.32 cm.	8.00 in.

Metal:

- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☒ Good ☒ Fair ☐ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☒ Medium ☒ Unstable (active) ☐ Heavy ☐ Unk.

Exterior Surfaces and Coatings: As with others in this group of CASA howitzers -- this tube also has rust breaking through the upper PL edge of the touch hole bolster -- which is invisible under multiple layers of paint.

Interior Surface and Coatings: The tube is plugged and painted, though because of its deep recess, sand and debris collects inside the mouth of the bore.

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Additional Comments

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CASA	1651

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Collection Condition Survey
Early Artillery

Park: Castillo de San Marcos National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon, U.S. Model 1841 Order in Survey: 34 **Survey by:** Curtis Sullivan

CAT.#: CASA 3168 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: CASA Water Battery, Near Shot furnace **Previously Treated:** Yes **When?:** Sept. 1993 -- Aug. 1995

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1841 **Where made:** USA

Caliber / Pounds: 32 lbr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	255 cm.	100.39 in.
Bore Depth:	cm.	in.
Bore Diameter:	16.26 cm.	6.40 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☐ Medium ☒ Unstable (active) ☒ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

Both white and -- to a lesser degree -- red primer coats are visible where the top coat has failed or been exposed because of wear.
The PR trunnion has exposed rusty surface.
It is set on a concrete cradle. And is inclined downward.
The barrel is sealed with a spherical plug.
Surface beneath the paint is very rust and uneven with painted-over rust pustules.
This tube was used for demonstrating how to peen rust build-ups.

Interior Surface and Coatings:

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CASA	3168

National Park Service
Harpers Ferry Center
Museum Conservation Services

Collection Condition Survey
Early Artillery

Park: Fort Matanzas National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube and Carriage Order in Survey: 35 **Survey by:** Curtis Sullivan

CAT.#: FOMA 307 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: FOMA Gundeck, Facing South **Previously Treated:** Yes **When?:** 10/10/1991

TR on file at site?: No

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1750 **Where made:** Spain

Caliber / Pounds: 8 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	282 cm.	111.02 in.
Bore Depth:	cm.	in.
Bore Diameter:	10.8 cm.	4.25 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts: Carriage is made of

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☐ Medium ☒ Unstable (active) ☒ Heavy ☐ Unk.

Exterior Surfaces and Coatings: Large portion of lower cascabel knob is missing. Rough. Front of left trunion appears to have been beveled. Bore is too corroded for good measure of caliber. [thus bore measurement is an approximation D.A.]. Bore was plugged during treatment. Dismounted 1991 for preservation treatment in Tallahassee, FL 2/26/1990. Completed 10/10/1991.
"Flaking matte black coating of Rustoleum over all. The surface is in bad shape despite having been coated only 3 or 4 years previously.
White primer is exposed on cascabel - from handling.
Around rusted-through areas, one can clearly see multiple coats of paint applied over a 1991 glossy black top coat and white primer -- all of which have been applied since its preservation treatment.

Interior Surface and Coatings: Bore is unplugged and some interior surfaces are rusty

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Additional Comments

Tilt is neutral - should be lowered enough to keep water from pooling in bore.
Carriage is in deplorable condition and needs to be replaced. Noted huge loss in PR rear wheel and a gap of about 2" between the tire ends. It is probably not safe to move, and yet movement is required for normal maintenance. Some exposed iron parts have deteriorated to the point where replacement is the only option. The long rear carriage cross-bolt is extremely rusted. The front cross-bolt has heavy encrustations of rust pustules.
Priority 1 is to replace the carriage and institutionalize its maintenance into the site's s.o.p.'s. The guns should be frequently moved rearward for inspection and keeping the bores inspected and free of debris. The tube itself needs to be stripped down to bare metal, de-rusted to the extent possible, remaining rust stabilized by conversion, and coated with a modern architectural exterior paint system. At present we recommend a zinc-rich epoxy primer and two coats of a scuff-resistant, glossy black PVDF top coat. Long term plans should also include the acquisition of a cannon gin for lifting and rotating the cannon during maintenance procedures.

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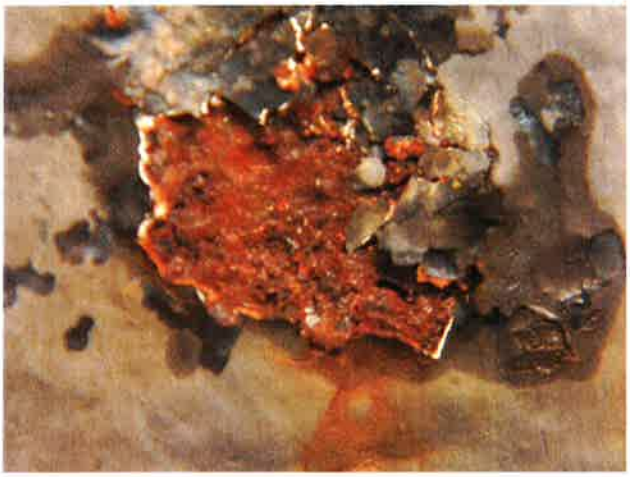
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Collection Condition Survey
Early Artillery

Park: Fort Matanzas National Monument **Project Contact:** Anne R. Lewellen

Object: Cannon Tube and Carriage Order in Survey: 36 **Survey by:** Curtis Sullivan

CAT.#: FOMA 308 **Survey Date:** 4/7/2017 **Assistant:** David Arnold

Location: FOMA Gundeck, Facing East **Previously Treated:** Yes **When?:** 10/10/1991

TR on file at site?:

Description

[Please note: all references to location are given as: proper right (PR) or proper left (PL).]

Era /Date: / Circa: 1750 **Where made:** Spain

Caliber / Pounds: 8 pdr.

Markings:

Barrel:

Cascabel:

Other:

Measurements:

Overall Length:	283 cm.	111.42 in.
Bore Depth:	cm.	in.
Bore Diameter:	11.43 cm.	4.50 in.

Metal:
- ☒ All Ferrous
- ☐ Ferrous
- ☐ Cuprous
- ☐ Other*

Non-ferrous parts:

Apparent Condition: ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☒ Poor ☐ Functional ☐ ?

Condition

Corrosion: ☐ None ☐ Light ☐ Stable ☐ Medium ☒ Unstable (active) ☒ Heavy ☐ Unk.

Exterior Surfaces and Coatings:

"A 2 cm dimple seen on underside of cascabel. Rough. Front of left trunnion appears to have been beveled. Bore is too corroded for good measure of caliber. [thus bore measurement is an approximation D.A.]. Bore was plugged during treatment. Small hole seen at base of plug. Dismounted 1991 for preservation treatment in Tallahasse, FL 2/26/1990. Completed 10/10/1991."

Yellowed primer visible under a black glossy coat appears to be under multiple layers of overpaint, the last of which was reportedly applied 3 - 5 years ago by park staff. An irridescent blue-black paint appears to have been used most recently for spot-coverage of rusty areas.

Interior Surface and Coatings:

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Additional Comments

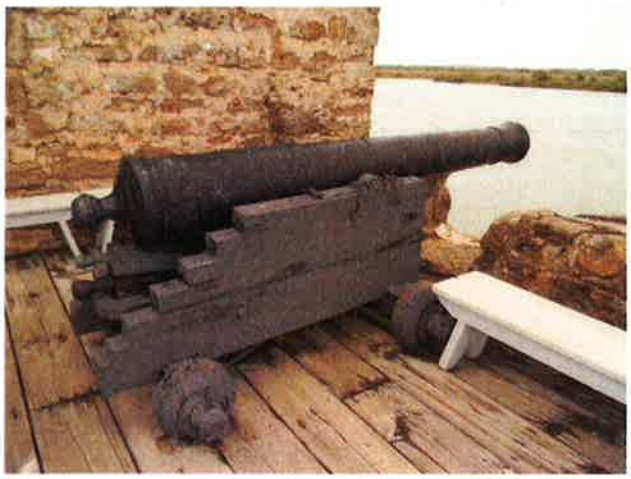
The iron carriage hardware is in terrible condition. In addition to heavy rusting, delamination has occurred on a number of flat metal pieces. All fasteners are in terrible condition, including the long pair of cross-bolts that span the width of the carriage.
The wheels are cracked in multiple places and their "tires" terminate with a 2" gap between ends.
There is a great deal of heavy, exposed rust, especially on the PR and PL sides of the chase. The bore was once painted, but it has largely flaked away revealing a very rusty interior.
Note: unusual blue color emanating downward from rust holes.
Priority 1 is to replace the carriage and institutionalize its maintenance into the site's s.o.p.'s. The guns should be frequently moved rearward for inspection and keeping the bores inspected and free of debris.
The tube itself needs to be stripped down to bare metal, de-rusted to the extent possible, remaining rust stabilized by conversion, and coated with a modern architectural exterior paint system. At present we recommend a zinc-rich epoxy primer and two coats of a scuff-resistant, glossy black PVDF top coat.
Long term plans should also include the acquisition of a cannon gin for lifting and rotating the cannon during maintenance procedures.

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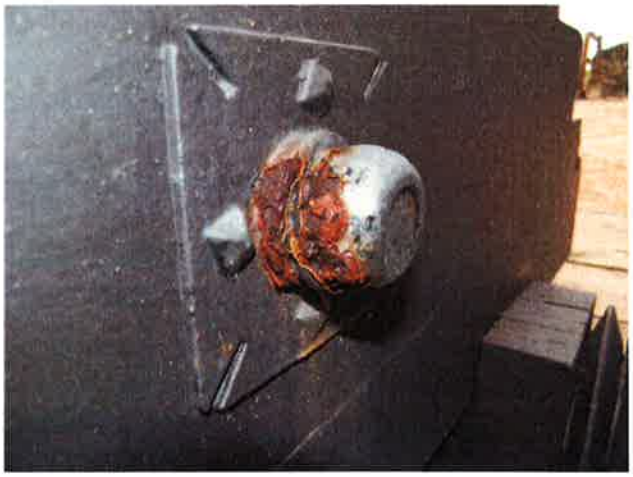
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