

Appendix A: Data Sheets and Field Forms

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: fasteners Artifact Number: FN-15-1

Material: wood Condition: OK

Location: _____

Dimensions: L 6'9" W 4" D 6"
(sided) (molded)

Number and type of fasteners:

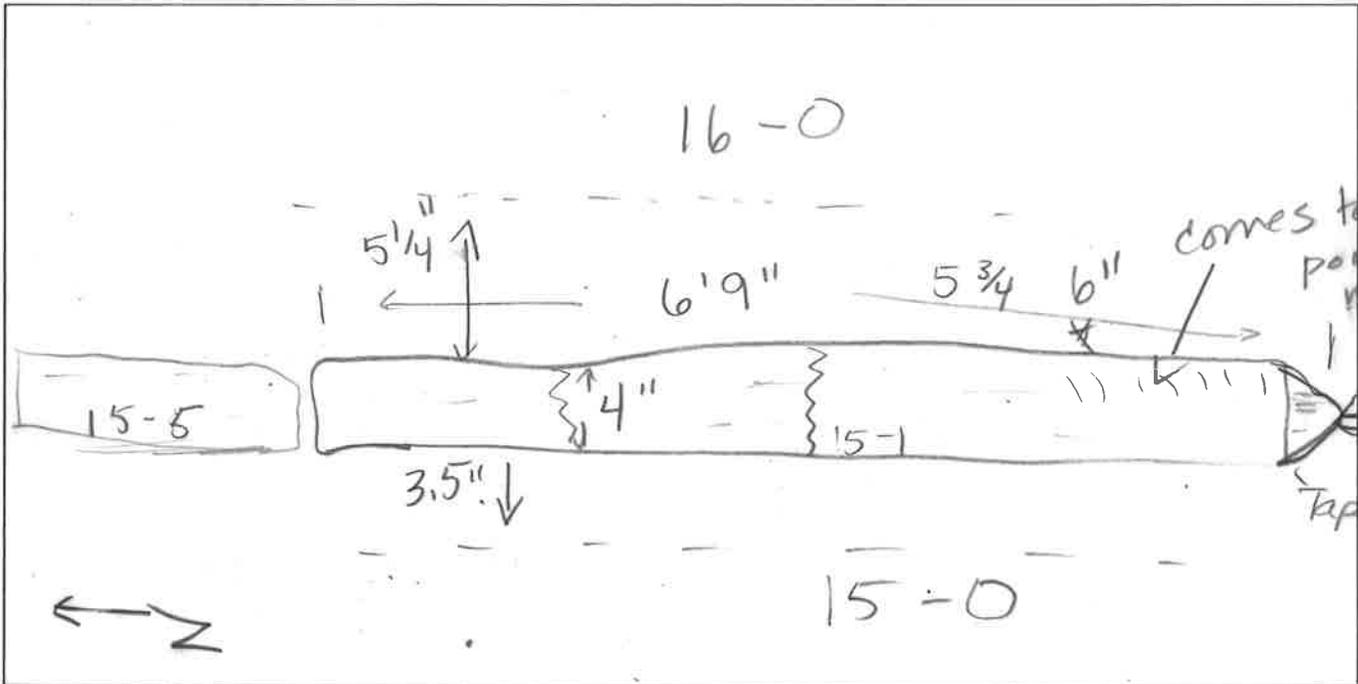
____ Spikes ____ Trunnels ____ Other (Describe: _____)

Photographs: ____ in situ ____ full ____ details

Detailed Illustrations? _____

Associated Timbers: Frame 15

Notes tapers to point near keelson
15-1 Now Broken into 3 pieces



Scale: NO

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fulcrums Artifact Number: FN-16-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 59.5" W 6 1/2" D 5 1/2"
(sided) (molded)

Number and type of fasteners:

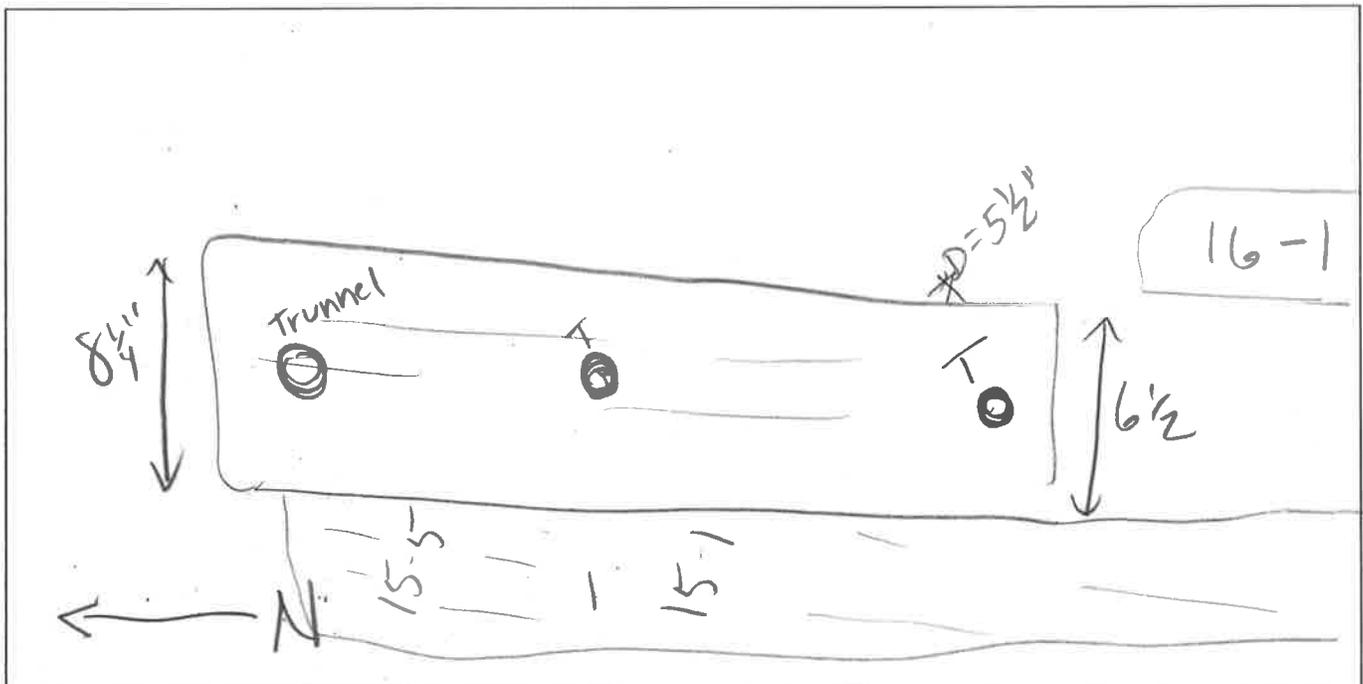
_____ Spikes Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes Extends over last preserved plank



Scale: NV

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fullocks Artifact Number: FN-16-1

Material: wood Condition: _____

Location: _____

Dimensions: L 5'4" W 5" D _____
(sided) (molded)

Number and type of fasteners:

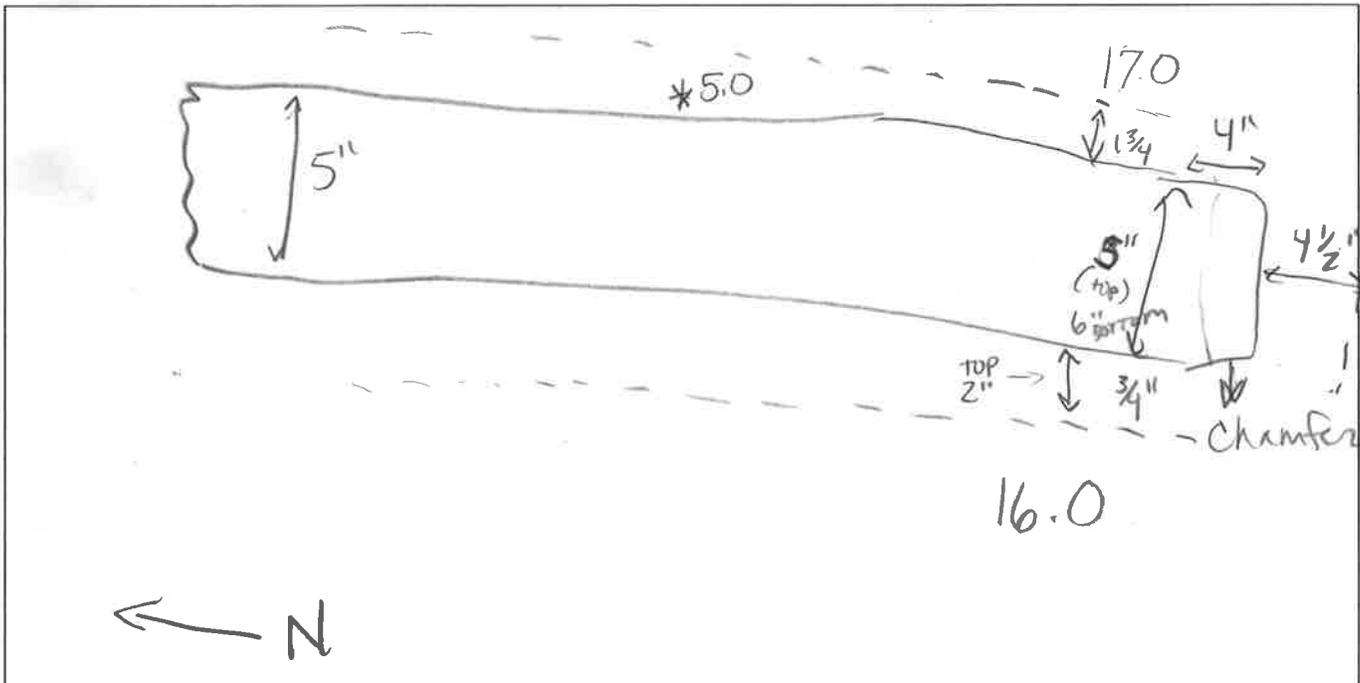
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes North side



Scale: NV

Sketch by: C Fulton

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: fulcrum Artifact Number: FN15-5

Material: wood Condition: OK

Location: North

Dimensions: L 1'5 1/4" W 4" D 4"
(sided) (molded)

Number and type of fasteners:

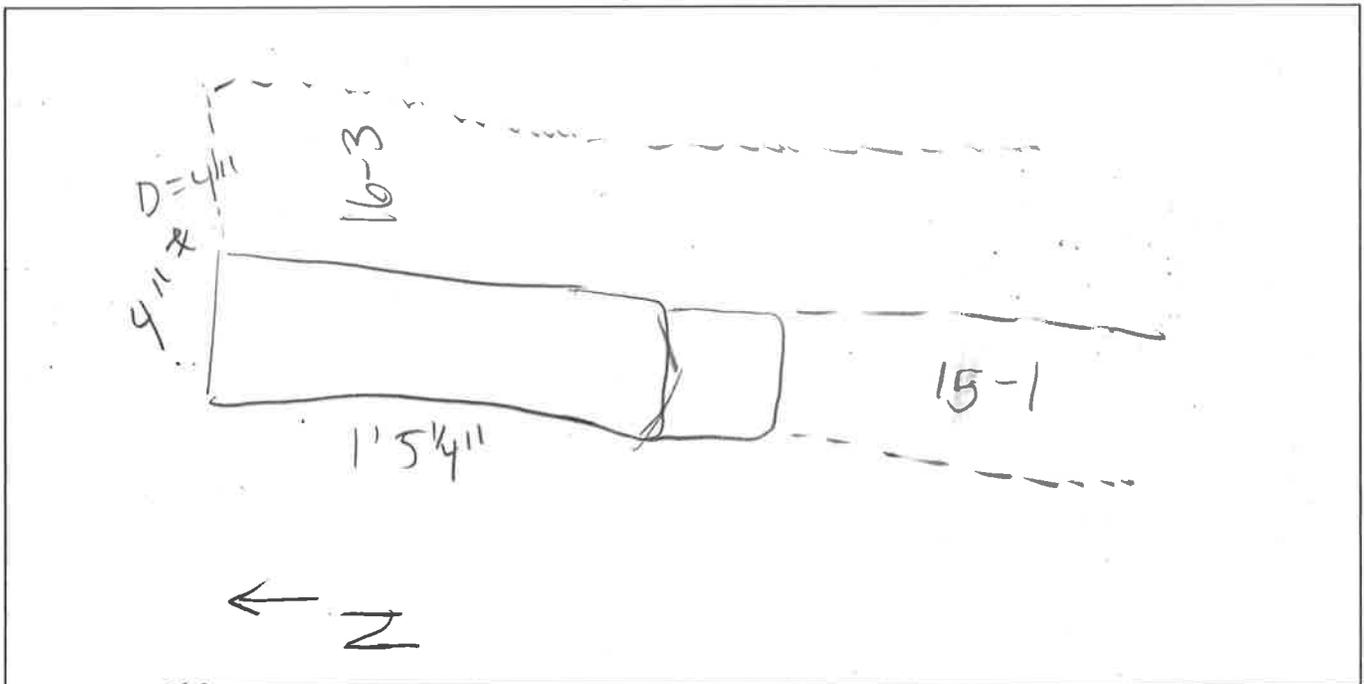
 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers:

Notes top of FN-15



Scale: NO

Sketch by: C Fulton

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Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: fulcrums Artifact Number: FS 15-2

Material: _____ Condition: _____

Location: south of opposite of 15-1

Dimensions: L 3'10" W _____ D 5"
(sided) (molded)

Number and type of fasteners:

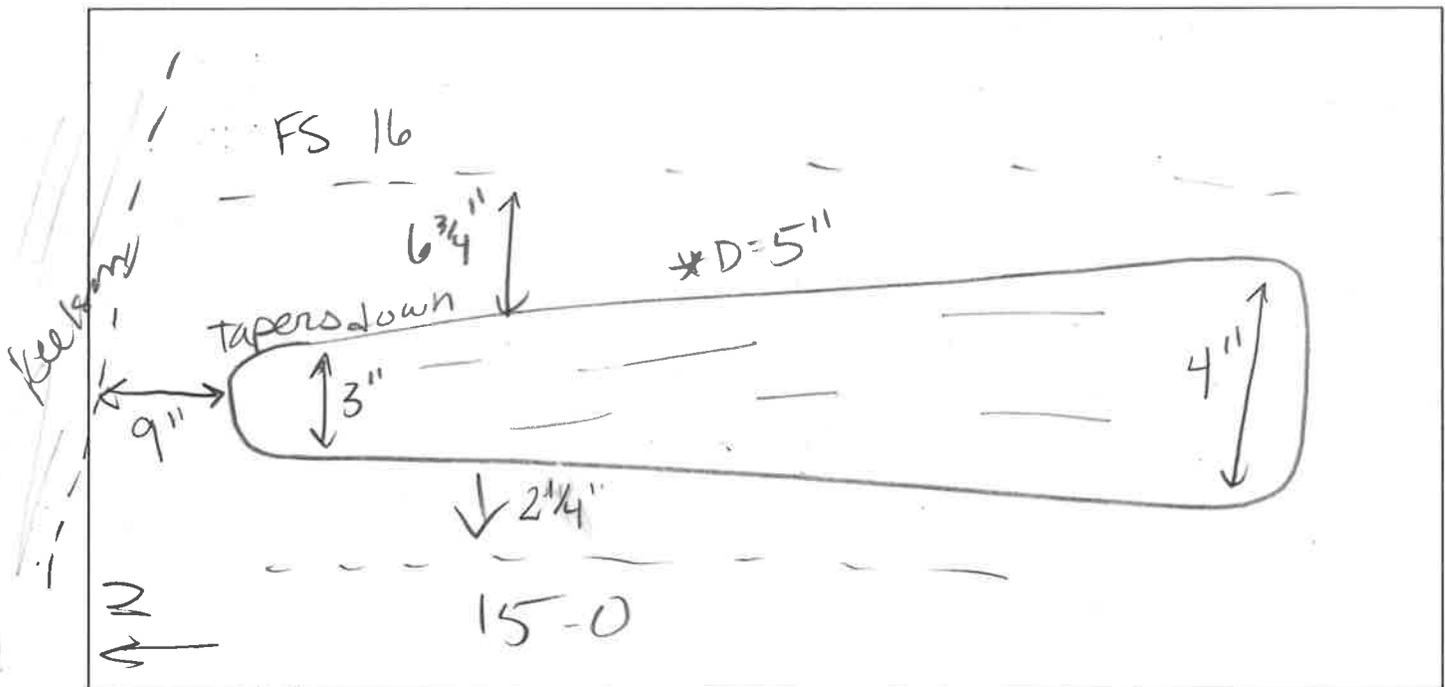
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: ND

Sketch by: C Fulton

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Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Flare timber Artifact Number: FV/FS 15-0

Material: wood Condition: ok

Location: _____

Dimensions: L 10'11.5" W _____ D 6"
(sided) (molded)

Number and type of fasteners:

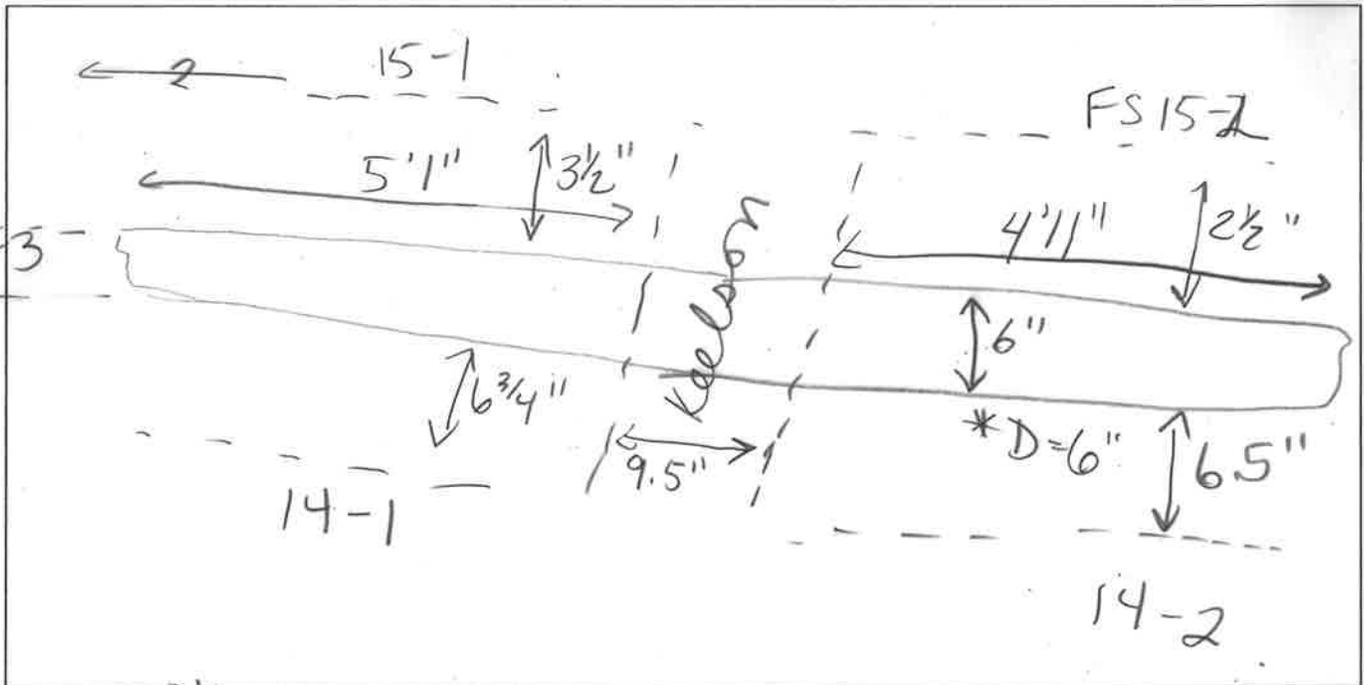
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: NO

Sketch by: C Fulton

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fulcrum Artifact Number: FN-15-3

Material: wood Condition: good

Location: N top

Dimensions: L 2'10.5" W 4 1/2" D 4 1/2" D
(sided) (molded)

Number and type of fasteners:

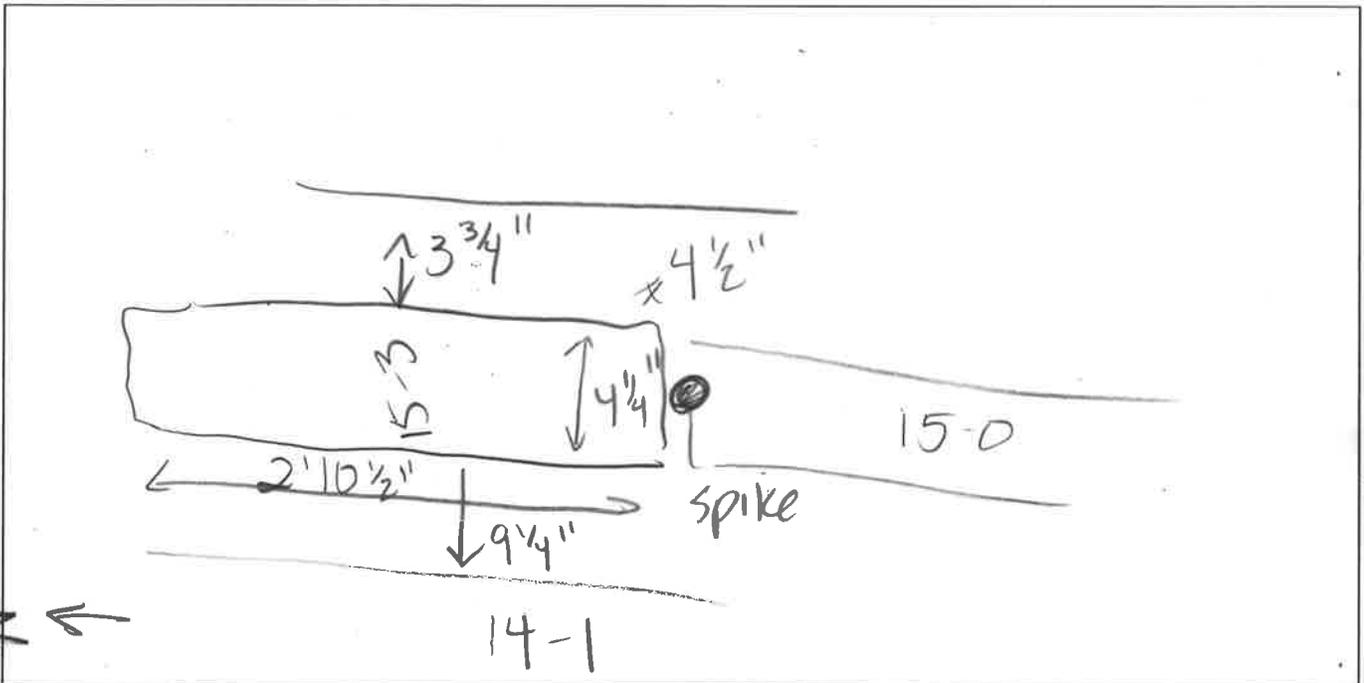
Spikes Trunnels Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? _____

Associated Timbers: _____

Notes to top of outside plank



Scale: ND

Sketch by: C Fulton

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 20-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 139" W 5 3/4" D 6 1/4"
(sided) (molded)

Number and type of fasteners:

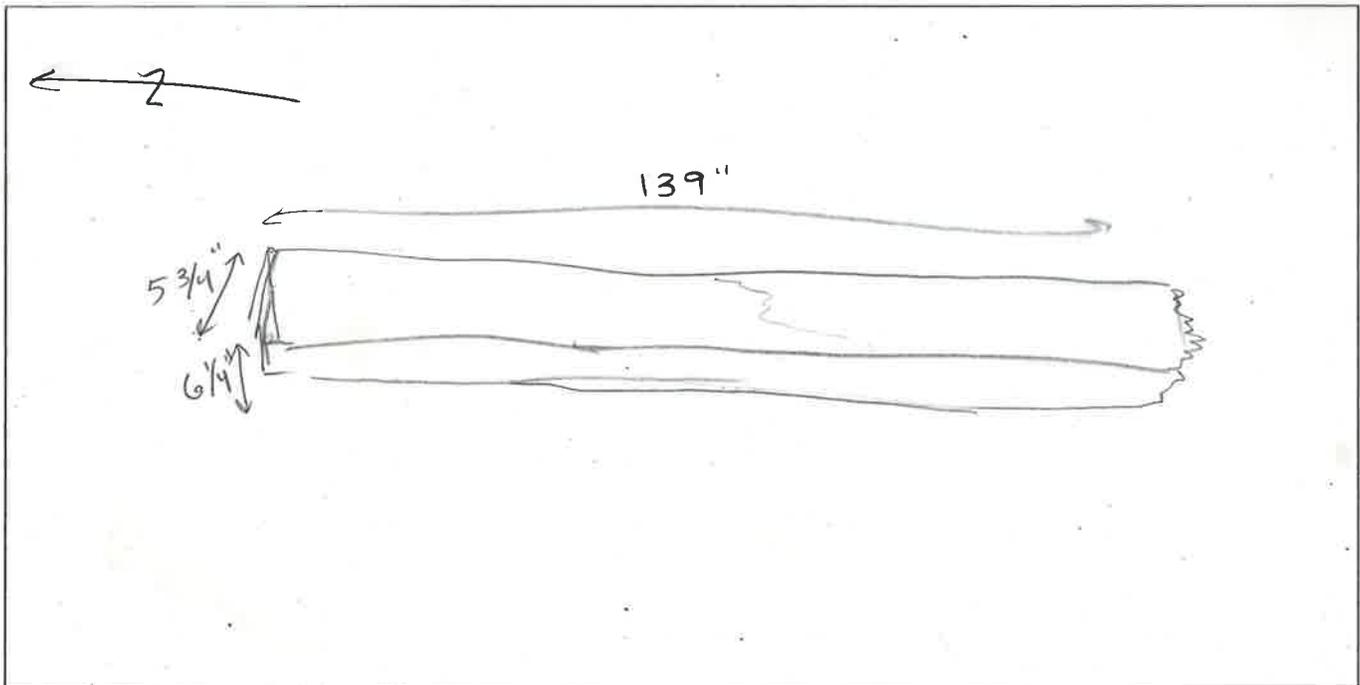
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Carl Shaffer

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 22 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 19-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 18" W 5.5" D 6"
(sided) (molded)

Number and type of fasteners:

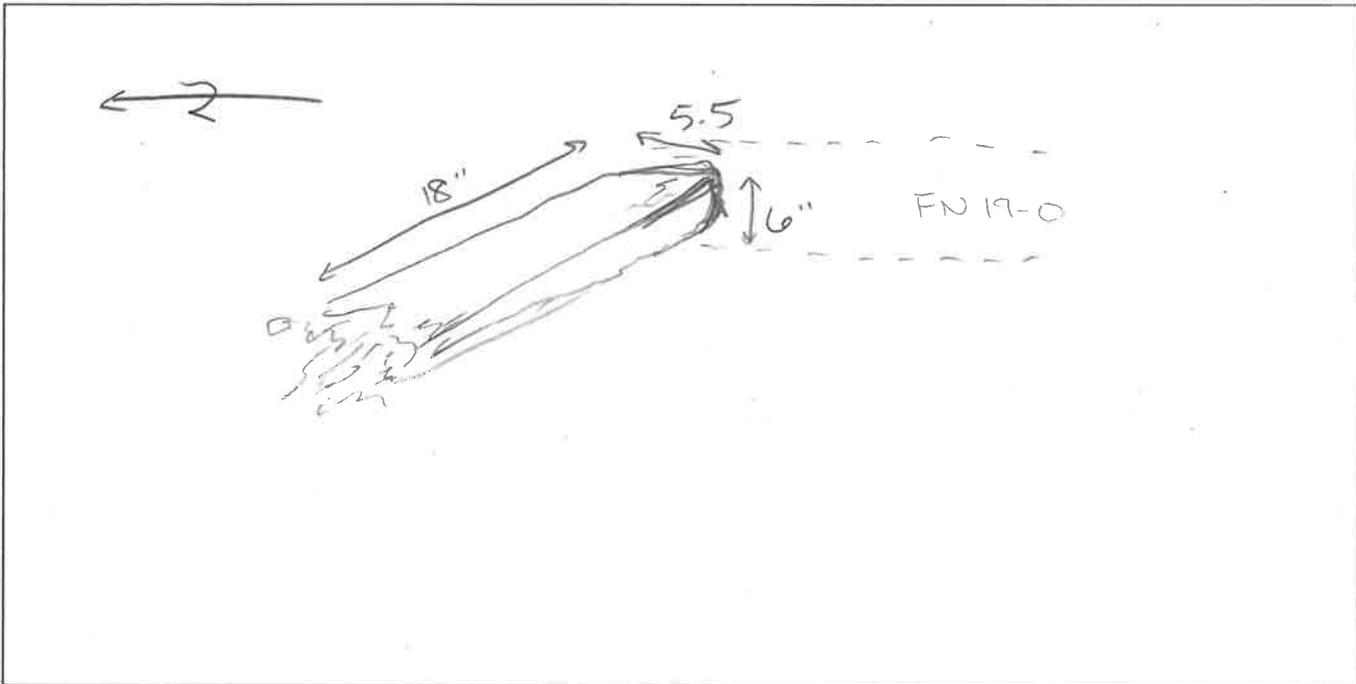
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Carl Shaffer

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Site Number: A06101.018000

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FS / FN 18-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 99 3/4" W 6" D 6"
(sided) (molded)

Number and type of fasteners:

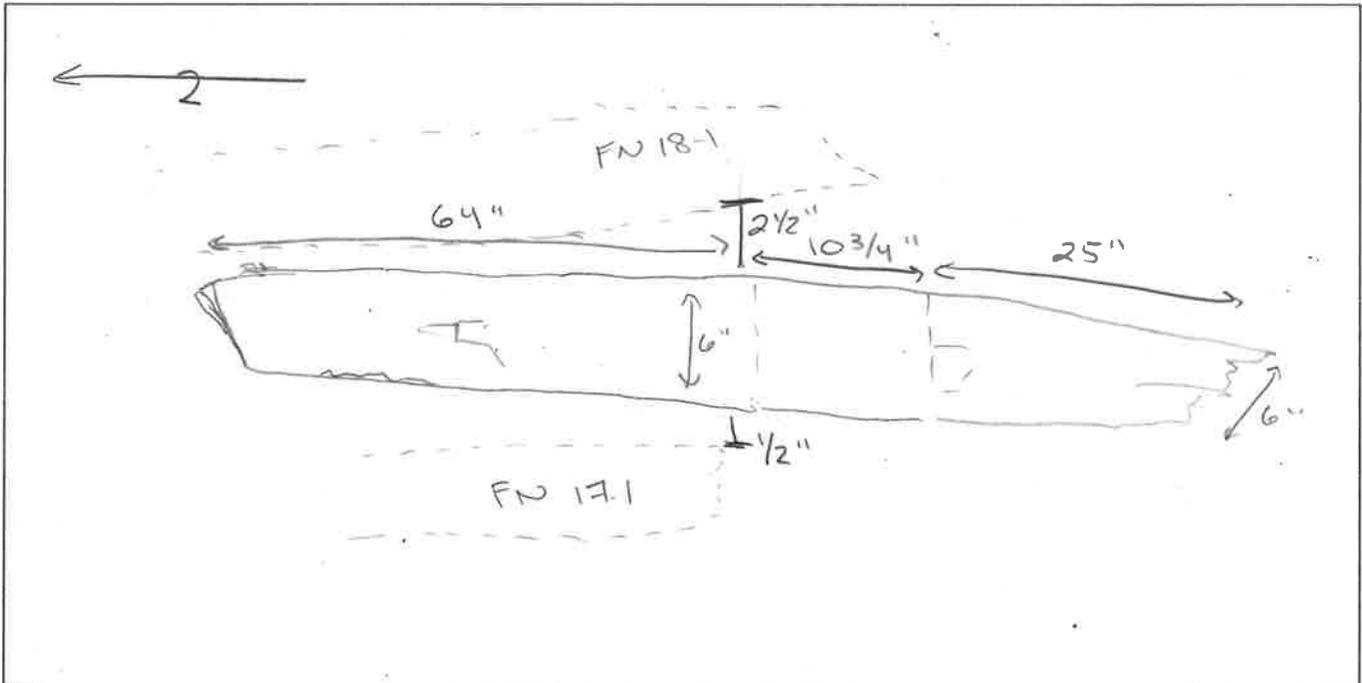
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: Cait Shaffer

Vehicular Security Center at World Trade Center: Vessel Inventory Form

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN/FS 17-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 102.5" W 5 3/4" D 5 1/4"
(sided) (molded)

Number and type of fasteners:

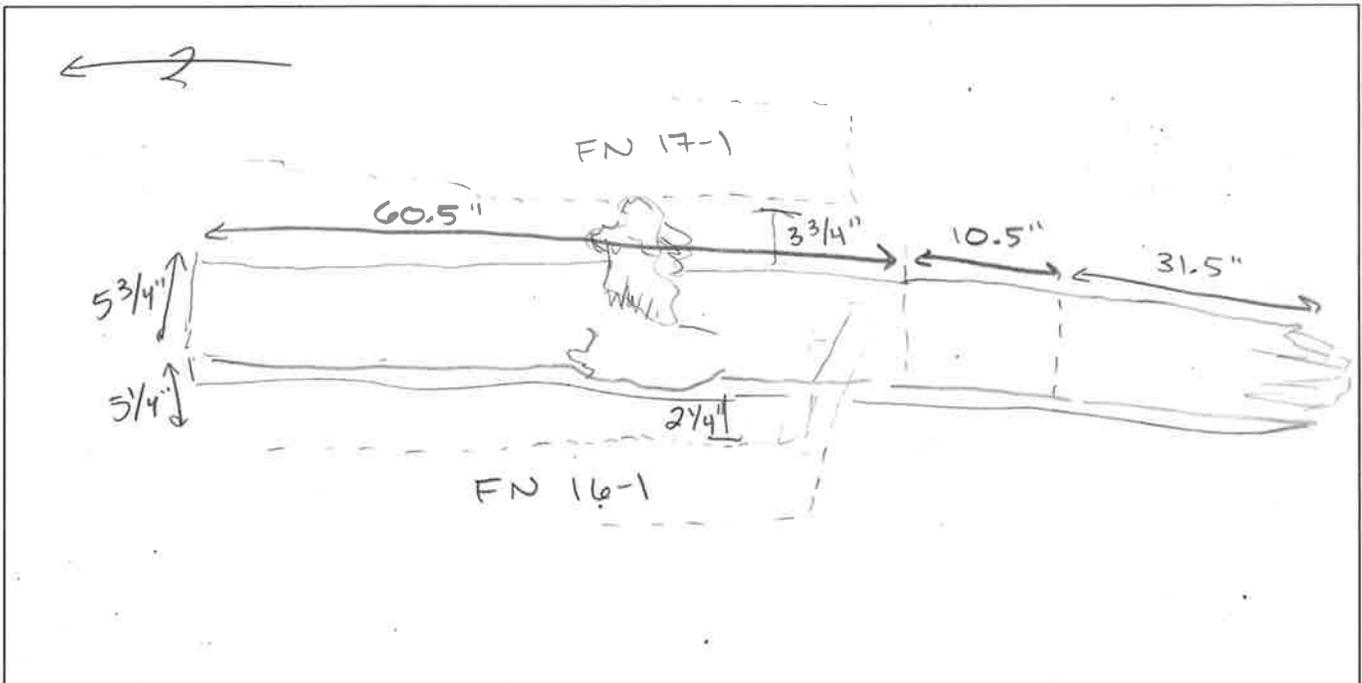
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Carl Shaffer

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN/FS 16-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 133 1/4" W 5 3/4" D 6"
(sided) (molded)

Number and type of fasteners:

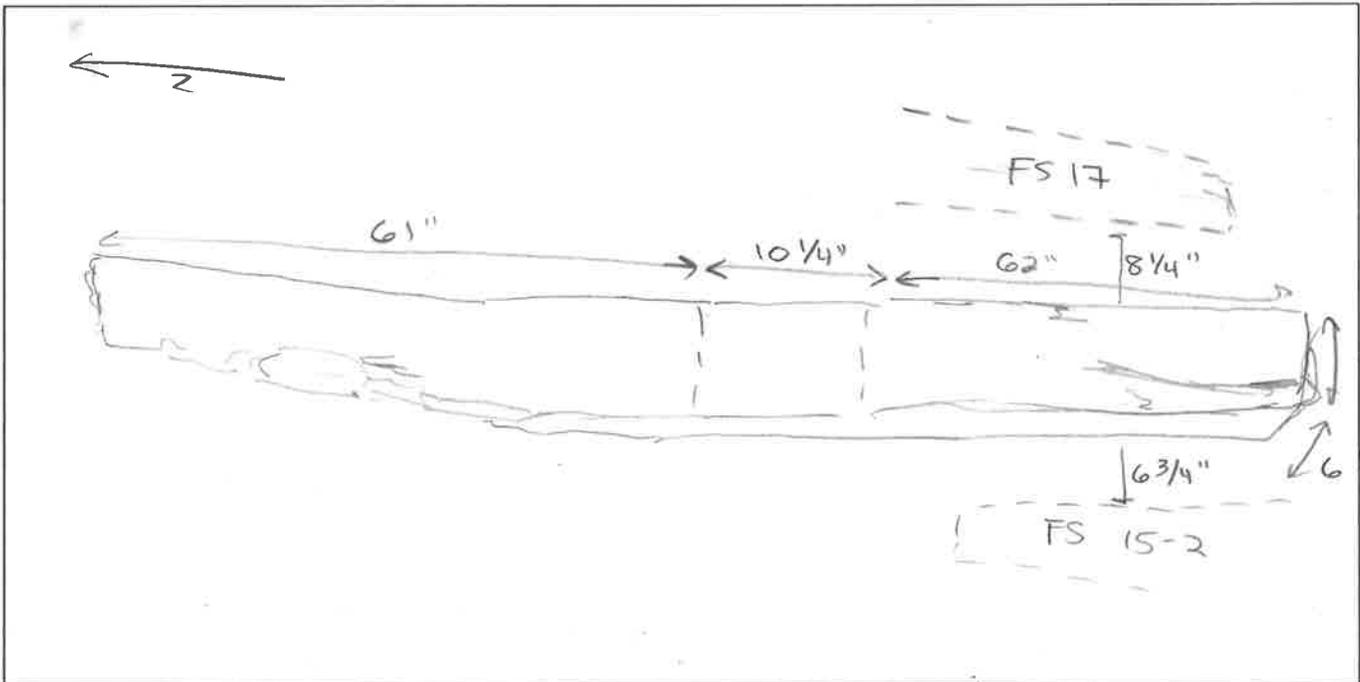
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Carl Shaffer

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FIJ 20-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 76" W 5 3/4" D 5 1/4"
(sided) (molded)

Number and type of fasteners:

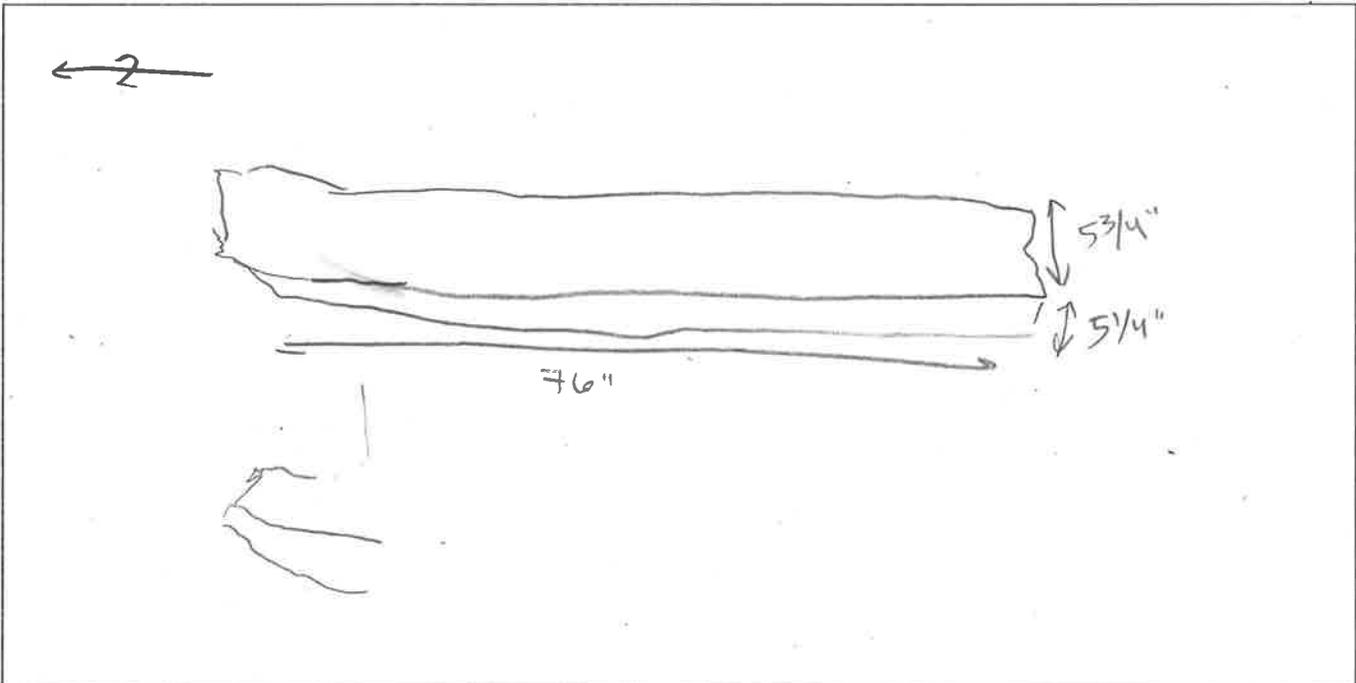
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Carl Shaffer

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 27 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 21-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 81" W 5" D 5 3/8"
(sided) (molded)

Number and type of fasteners:

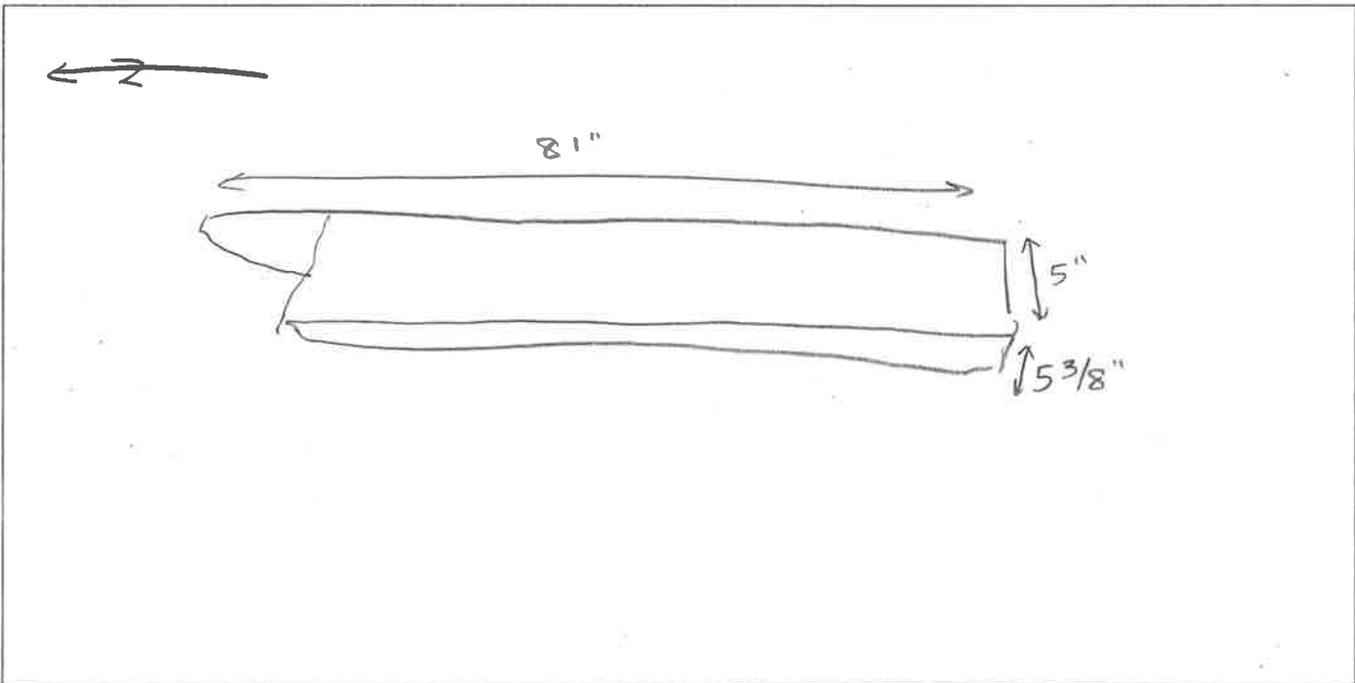
____ Spikes ____ Trunnels ____ Other (Describe: _____)

Photographs: ____ in situ ____ full ____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Cait Shaffa

Vehicular Security Center at World Trade Center: Vessel Inventory Form

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Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 22-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 11" W 4.5" D 4.5"
(sided) (molded)

Number and type of fasteners:

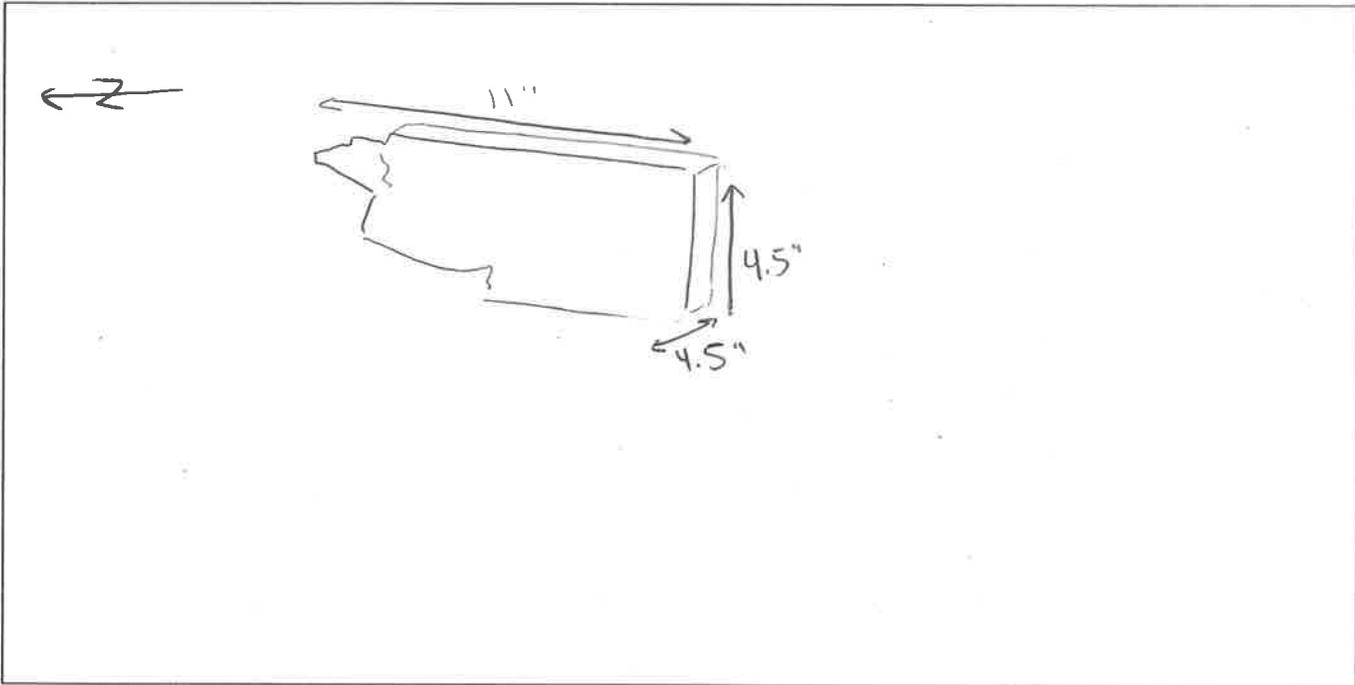
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Cait Shaffer

Vehicle Security Center at World Trade Center: Vessel Inventory Form

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Date: 7/27/2010

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Site Name: Vehicle Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 19-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 82.5" W 6.5" D 6"
(sided) (molded)

Number and type of fasteners:

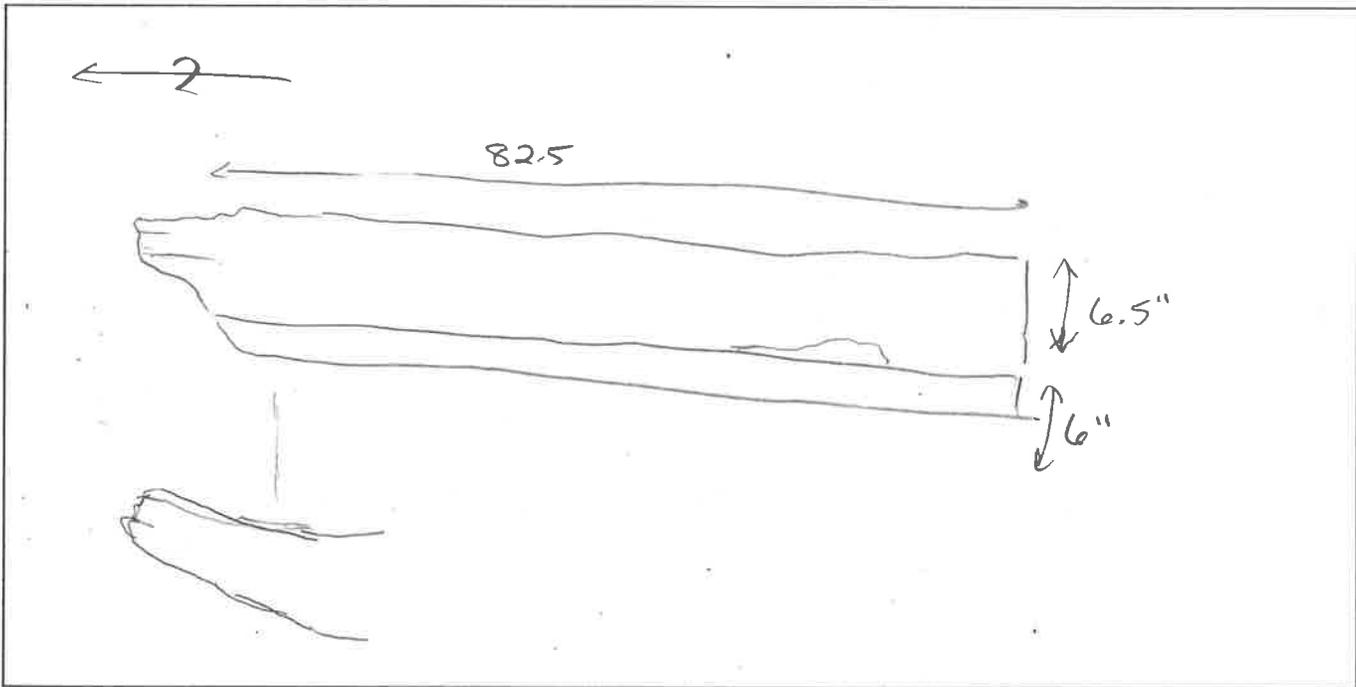
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: Cait Shaffer

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fulcrum Artifact Number: FN 17-3

Material: wood Condition: _____

Location: N

Dimensions: L 3' 1/2" W _____ D _____
(sided) (molded)

Number and type of fasteners:

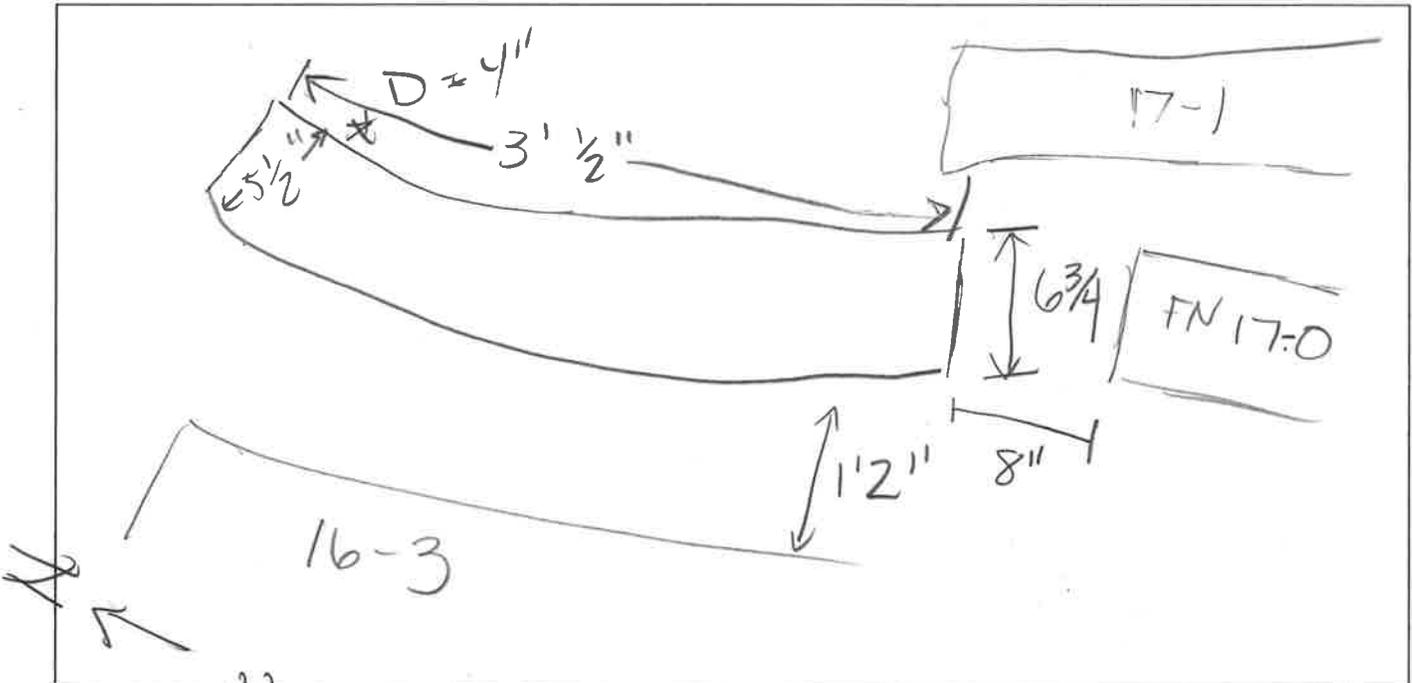
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes TOP Fulcrum



Scale: 00

Sketch by: C. Fulton

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Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: FITLOCKS Artifact Number: FN 18-3

Material: WOOD Condition: _____

Location: North Side

Dimensions: L 32" W 4 1/2" D 4"
(sided) (molded)

Number and type of fasteners:

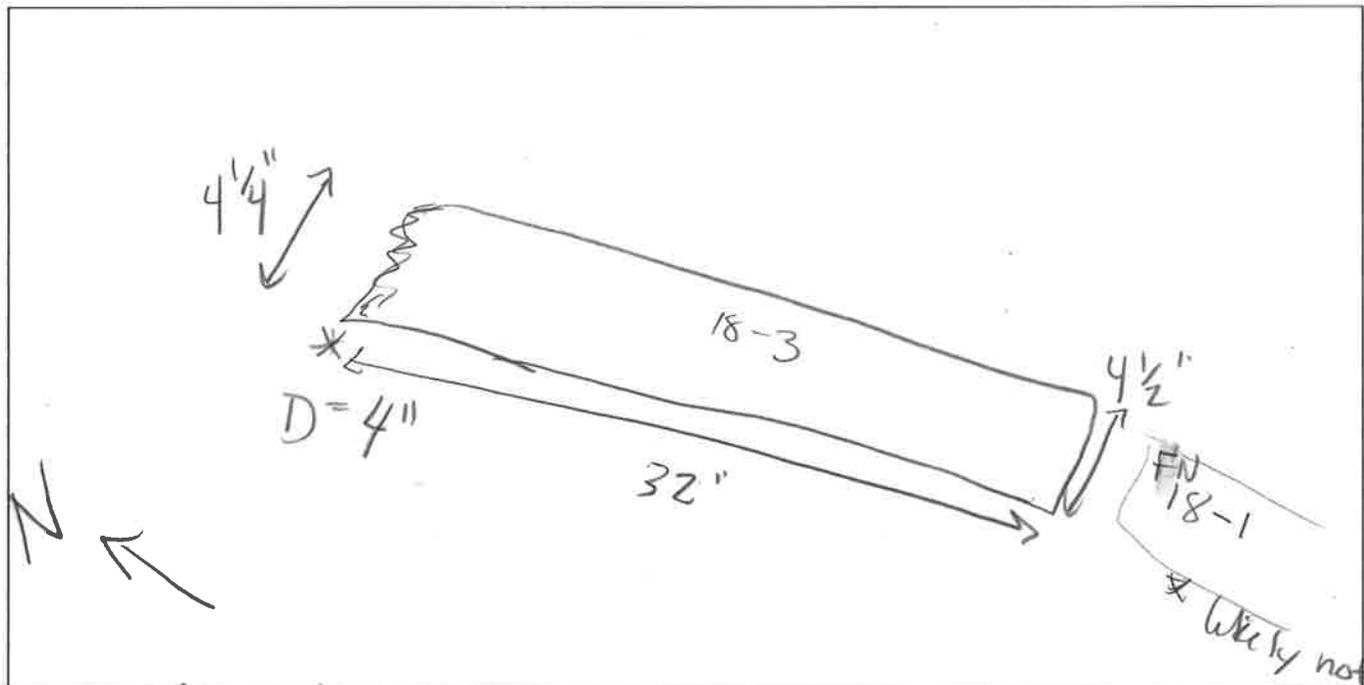
Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes seems to be dislocated from rest?



Scale: NO

Sketch by: C Fulton

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Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: FV Hooks for LS Artifact Number: 18-5

Material: _____ Condition: _____

Location: _____

Dimensions: L 3' 1/2" W _____ D _____
(sided) (molded)

Number and type of fasteners:

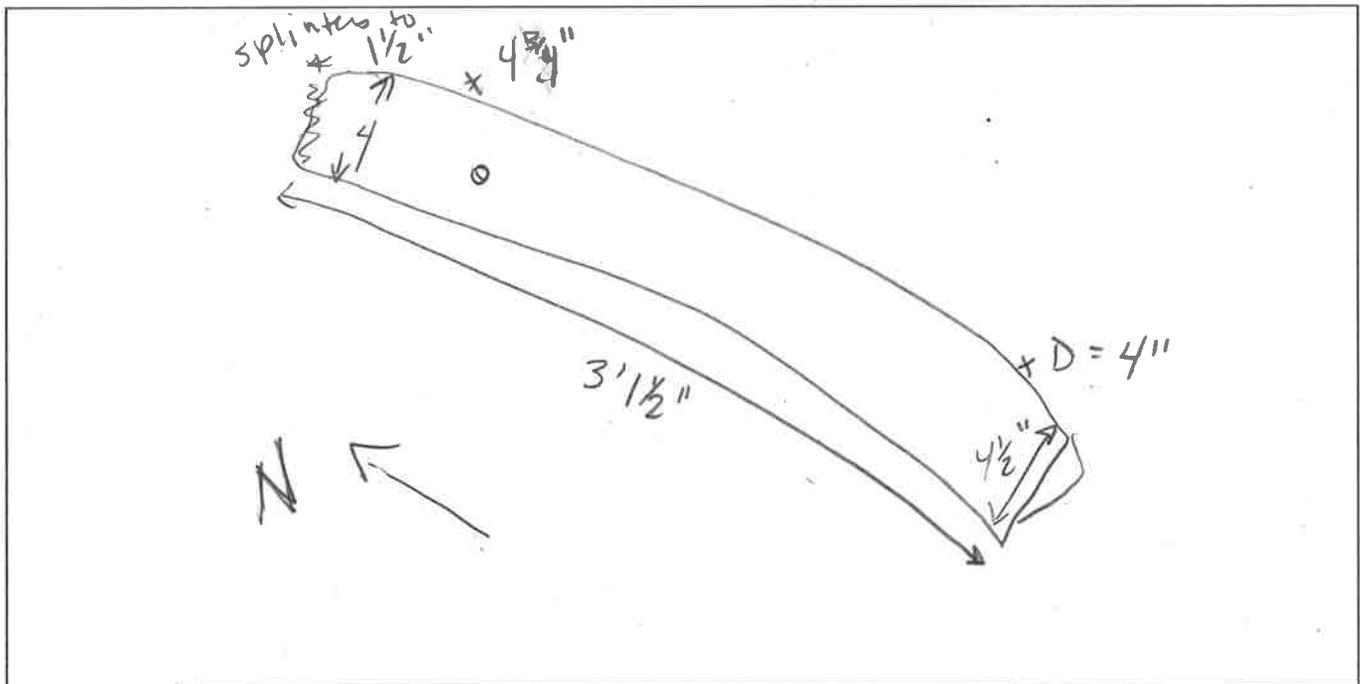
Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: W

Sketch by: C Fulton

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Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: FUTURKS Artifact Number: FN 18-1

Material: wood Condition: _____

Location: North side

Dimensions: L 5'1" W 4" D 5 1/2"
(sided) (molded)

Number and type of fasteners:

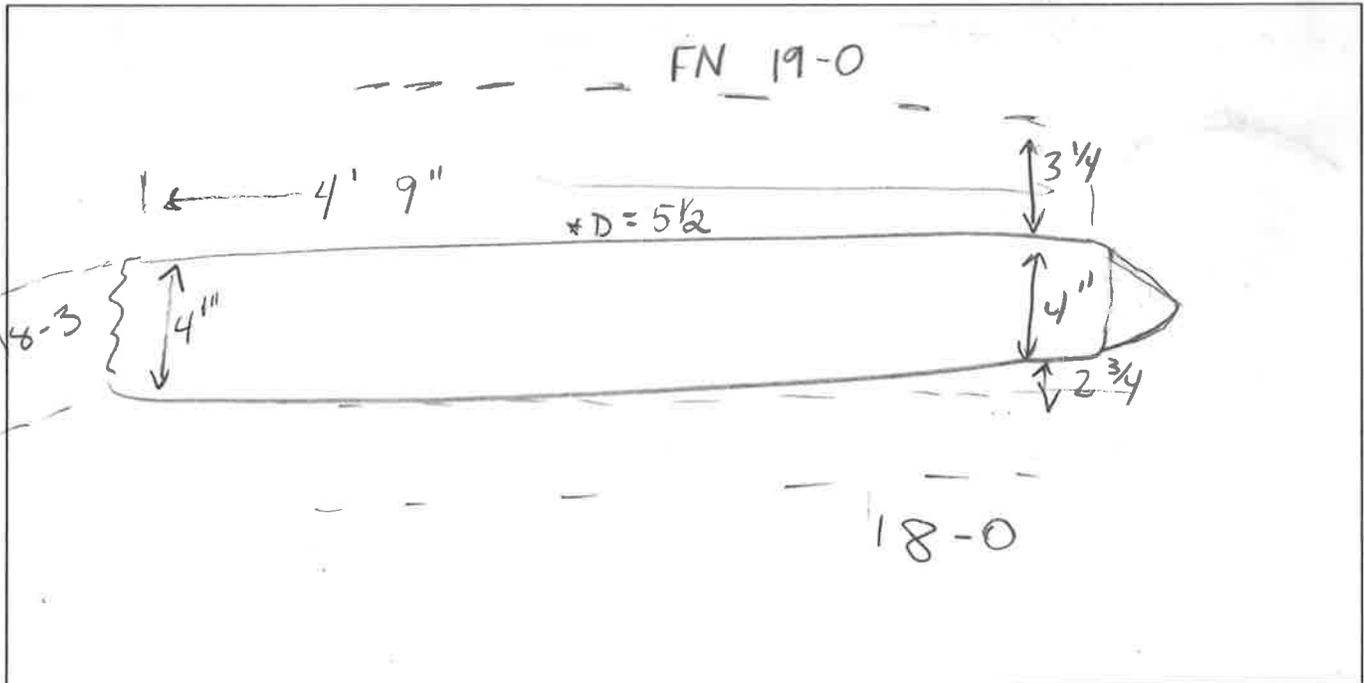
____ Spikes ____ Trunnels ____ Other (Describe: _____)

Photographs: ____ in situ ____ full ____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: N61

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

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Date: 7/27/2010

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Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CS-1/1 - 1/4

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

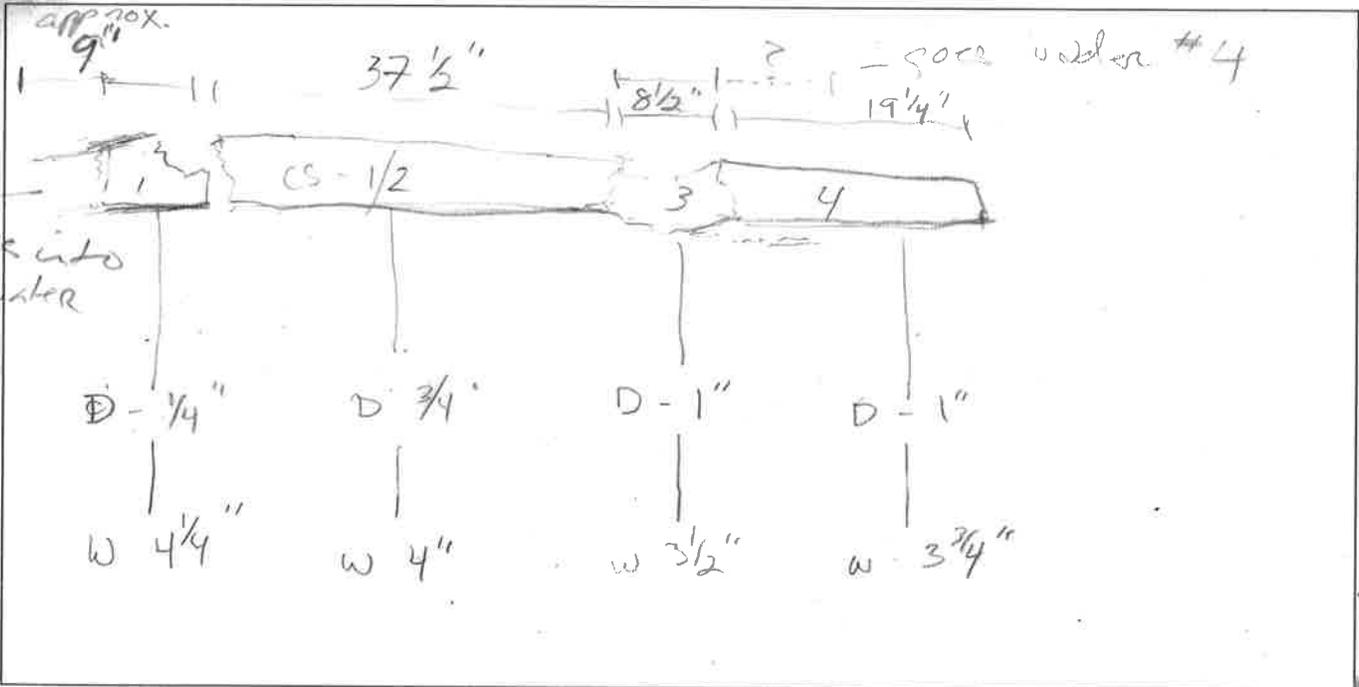
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: W Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

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Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: CEILING (NORTH) UNKNOWN

Artifact Number: CN-1 Q/1 + Q/2

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D # Q1 - 1 3/4" Q2 - 1 1/4"
(sided) (molded)

Number and type of fasteners:

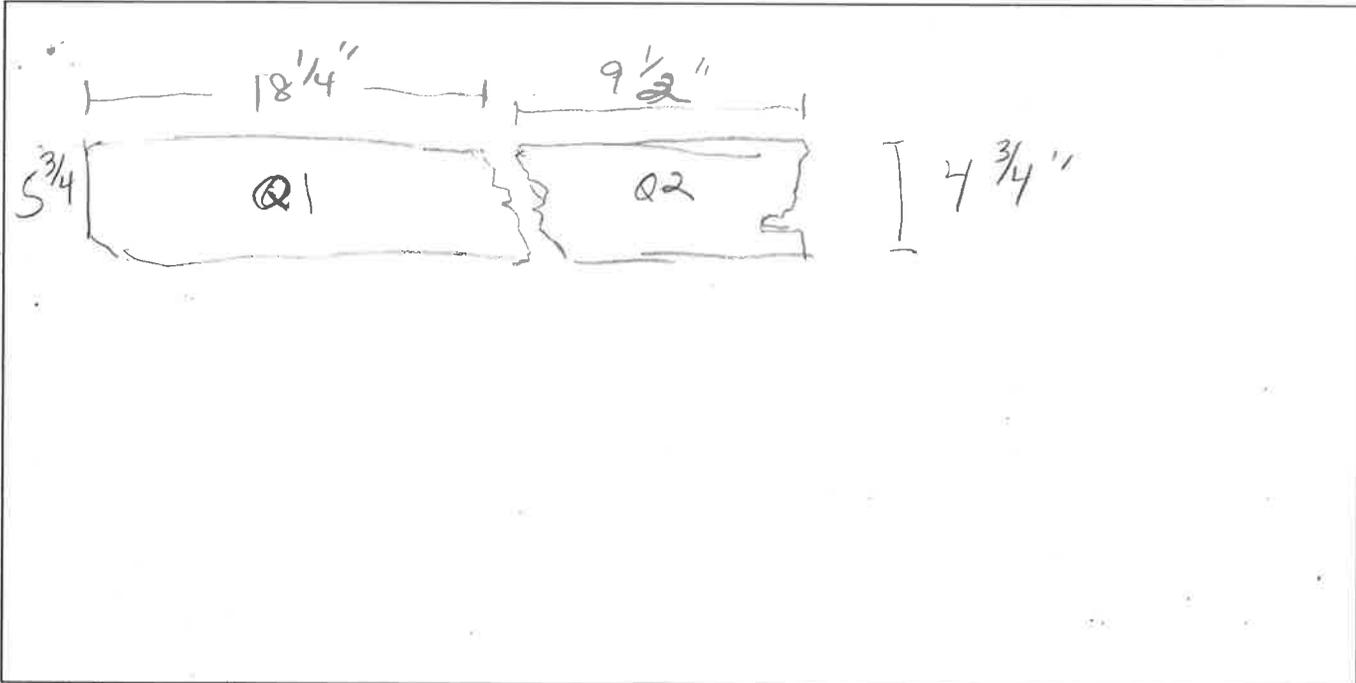
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: in situ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: C RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CS-2/14-16

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

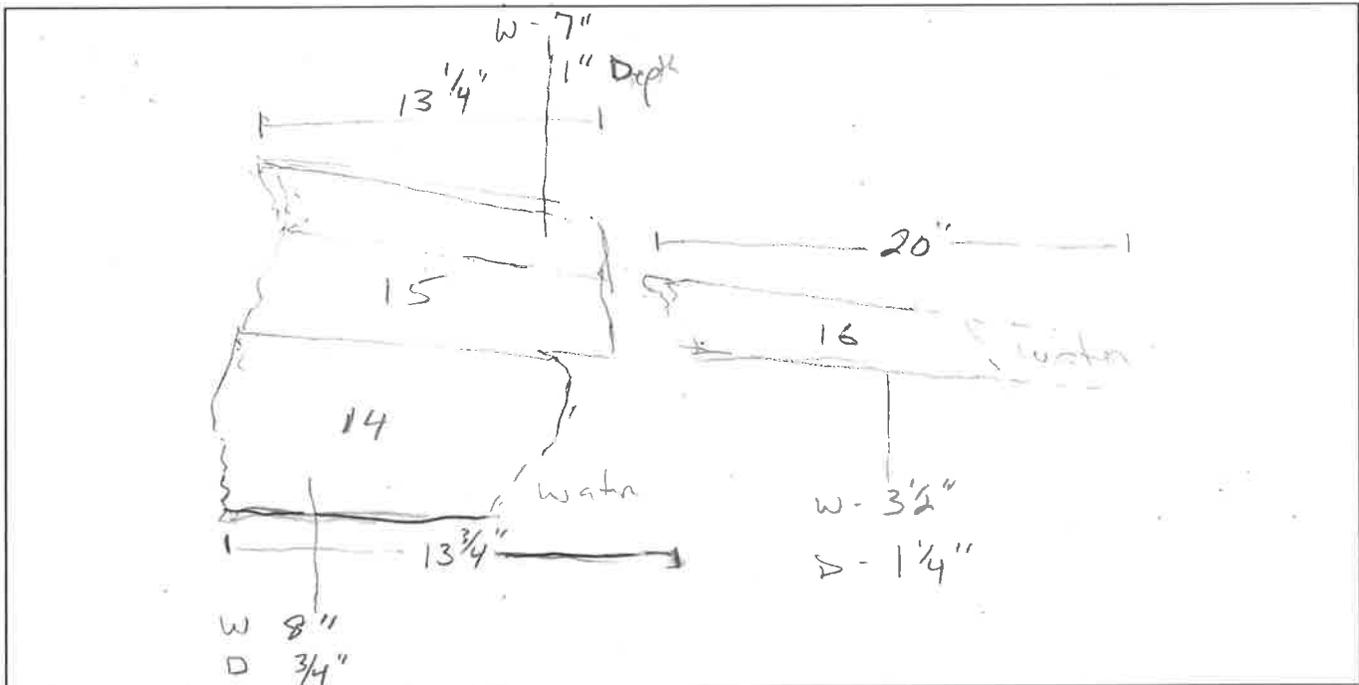
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: COILING (NORTH) UNKNOWN

Artifact Number: CN-2/Q1-5

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D 1" - all pieces
(sided) (molded)

Number and type of fasteners:

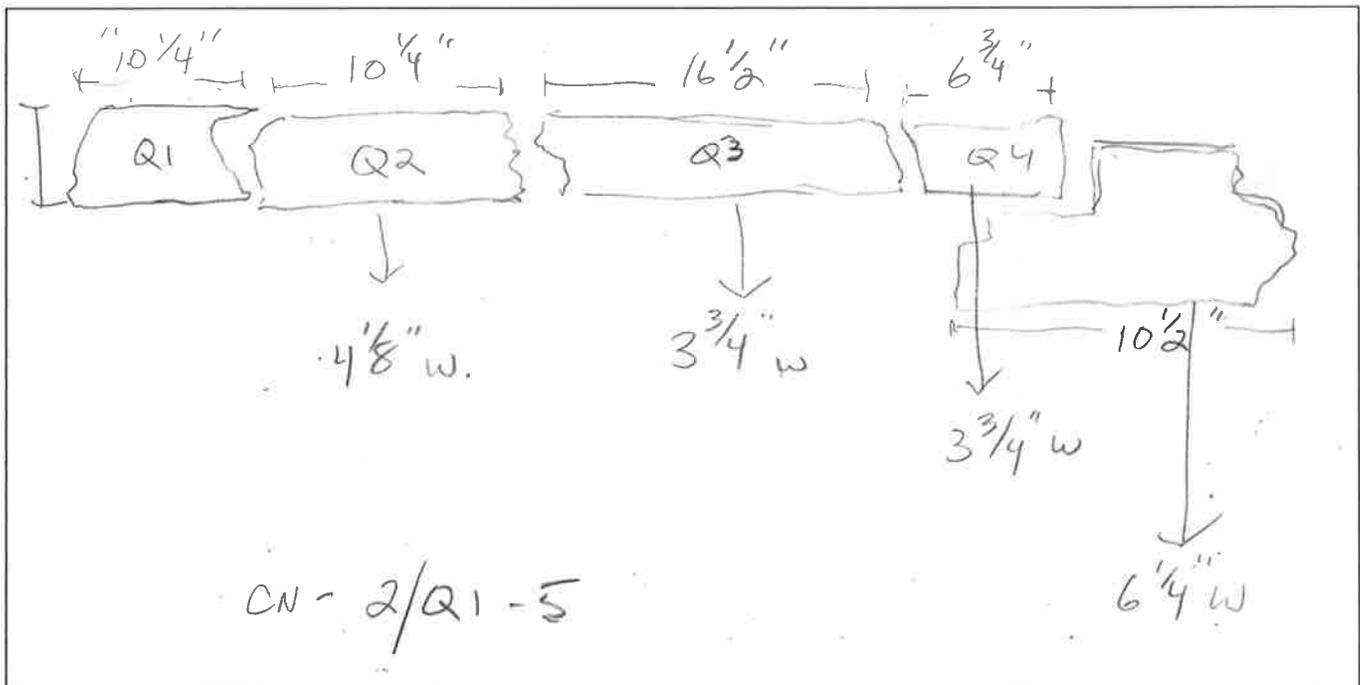
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 26 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: OP-22/1

Material: _____ Condition: fragile

Location: _____

Dimensions: L 13.5" W 4.5" D 1/2"
(sided) (molded)

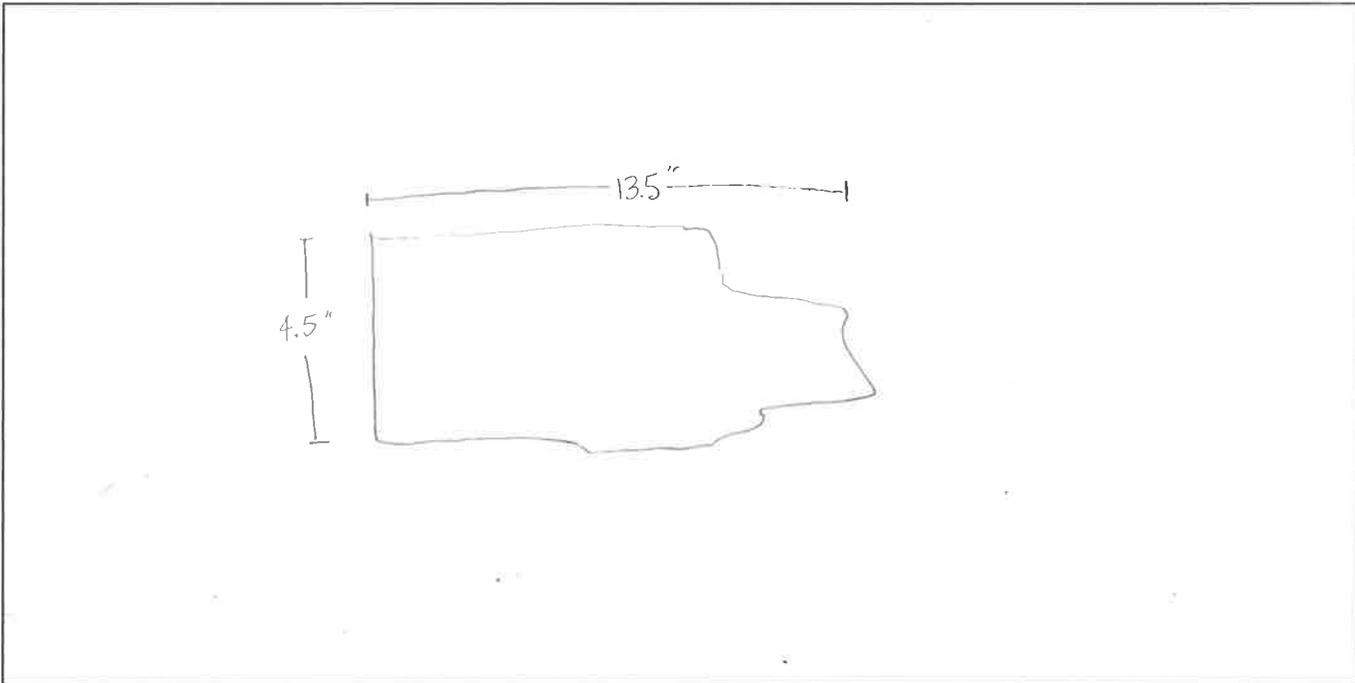
Number and type of fasteners: NONE
____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: see notes

Notes west end flatter



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP PLANKING Artifact Number: OP-5/1

Material: SOFTWOOD Condition: FRAGILE

Location: ORLOP DECK

Dimensions: L 2'8" W 6 1/2" D 3/4"
(sided) (molded)

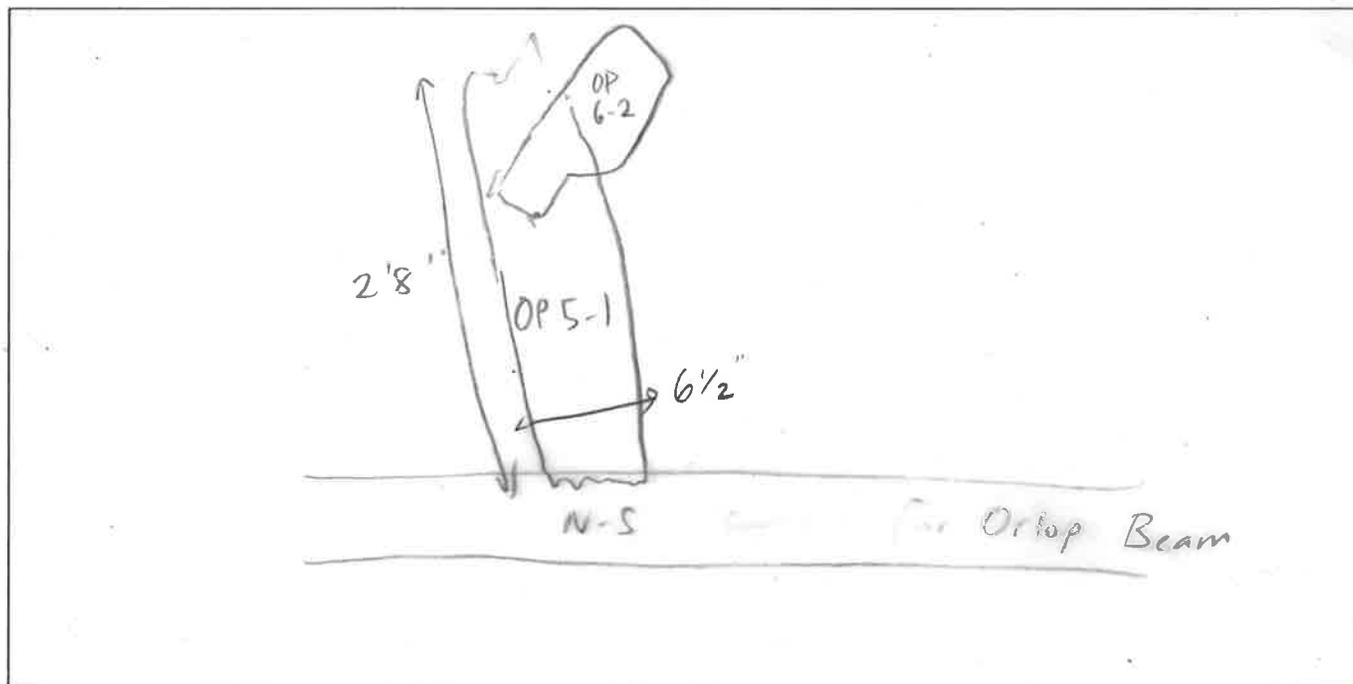
Number and type of fasteners: None vis.
Spikes Trunnels Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? _____

Associated Timbers: _____

Notes OP 6 1/2 is over the W end -
Note: During Soil Sampling/Screening
MP noted organic material



Scale: _____

Sketch by: M. MCB

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP Artifact Number: OP-21/1-4

Material: _____ Condition: _____

Location: _____

Dimensions: L	#1	#2	#3	#4	W	D	#3	#1	#2	#4
	18"	13"	13"	24 1/2"	(sided)		.5	.75	.75	.75
							(molded)			

Number and type of fasteners:

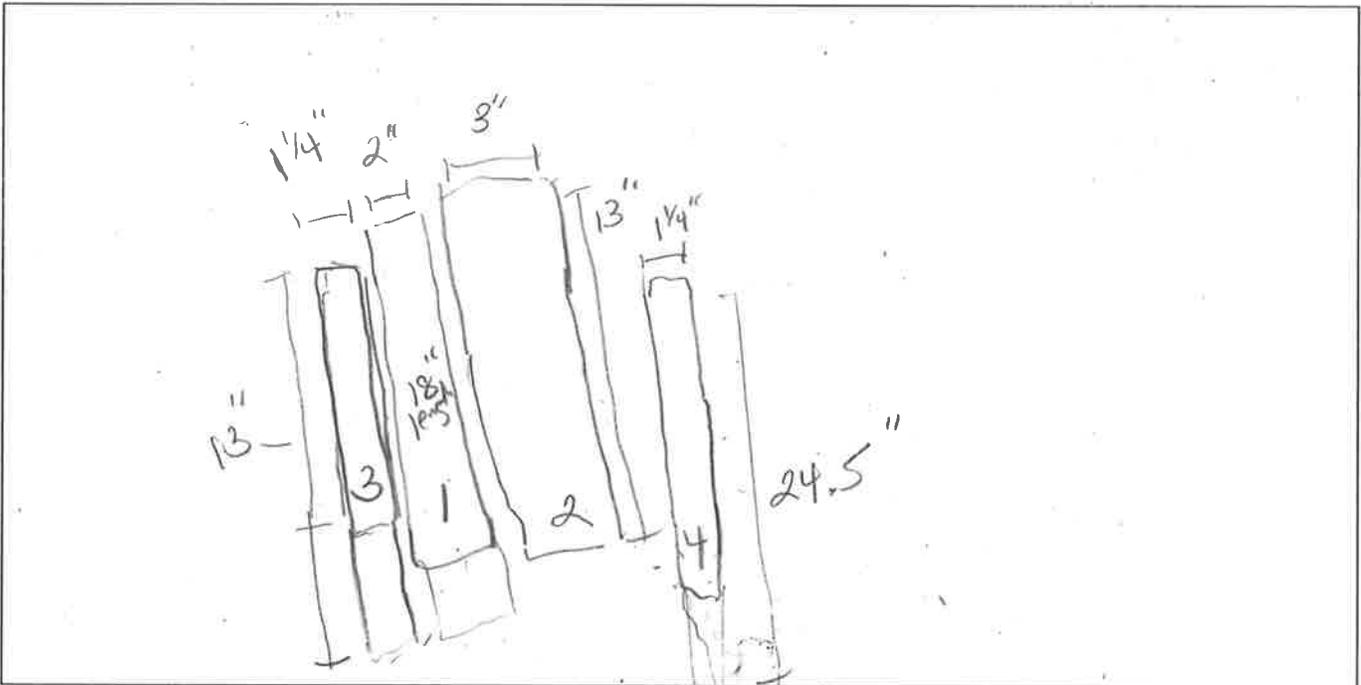
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: W Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Orlop deck plank Artifact Number: 00 20/1 + 00 20/2

Material: Soft wood Condition: poor

Location: orlop deck, south side

Dimensions: L see below W 3" D 1/2"
(sided) (molded)

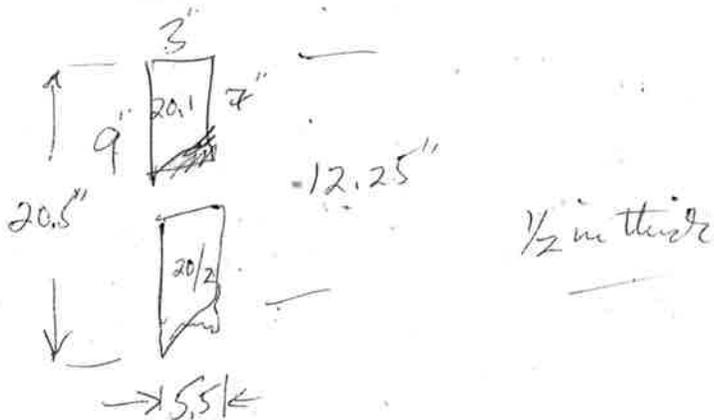
Number and type of fasteners: None seen
Spikes Trunnels Other (Describe: _____)

Photographs: ✓ in situ full details

Detailed Illustrations? No

Associated Timbers: 00B 2/2 + 00B 2/3

Notes May have slipped 0016 thru 0019 because
we weren't sure where we stopped earlier



Scale:

Sketch by:

W C Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: / /2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP PLANKS

Artifact Number: Q-2 & Q-3

Material: Softwood Condition: Fragile

Location: ORLOP DECK

Dimensions: L 1'2", 1'9" =W 5", 2-2 1/2" D 3/4"
(sided) (molded)

Number and type of fasteners: None

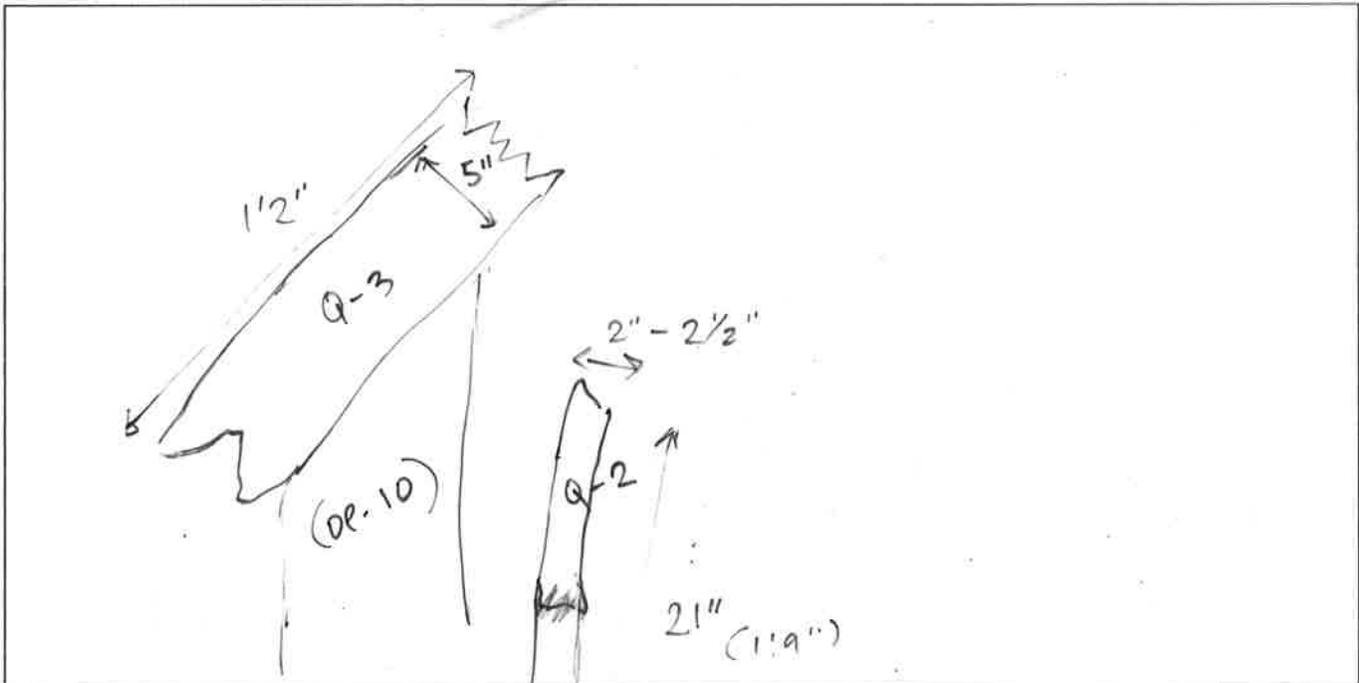
 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations? N

Associated Timbers:

Notes Appear to be dislocated. Not fully
certain if these belong to or of deck.



Scale:

Sketch by:

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP PLANKS Artifact Number: OP-4/1 & OP 4/2

Material: SOFTWOOD Condition: FRAGILE

Location: ORLOP DECK

Dimensions: L 1'4 1/2", 1" W 5", 1.5" D 1"
(sided) (molded)

Number and type of fasteners: None

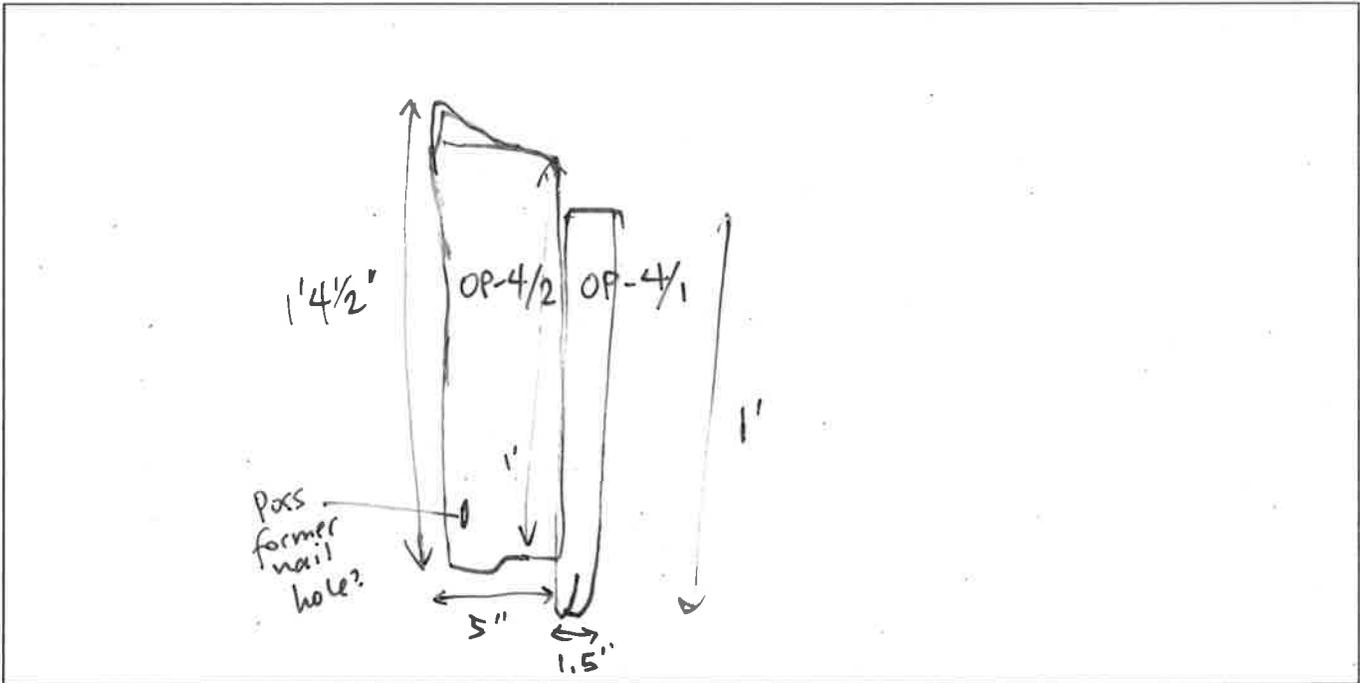
0 Spikes 0 Trunnels 1 Other (Describe: POSS. Nail hole)

Photographs: in situ full details

Detailed Illustrations? N

Associated Timbers: OP-5/1 imm S of it

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP PLANKS Artifact Number: OP-4/1 & OP 4/2

Material: SOFTWOOD Condition: FRAGILE

Location: ORLOP DECK

Dimensions: L 1'4 1/2", 1" W 5", 1.5" D 1"
(sided) (molded)

Number and type of fasteners: None

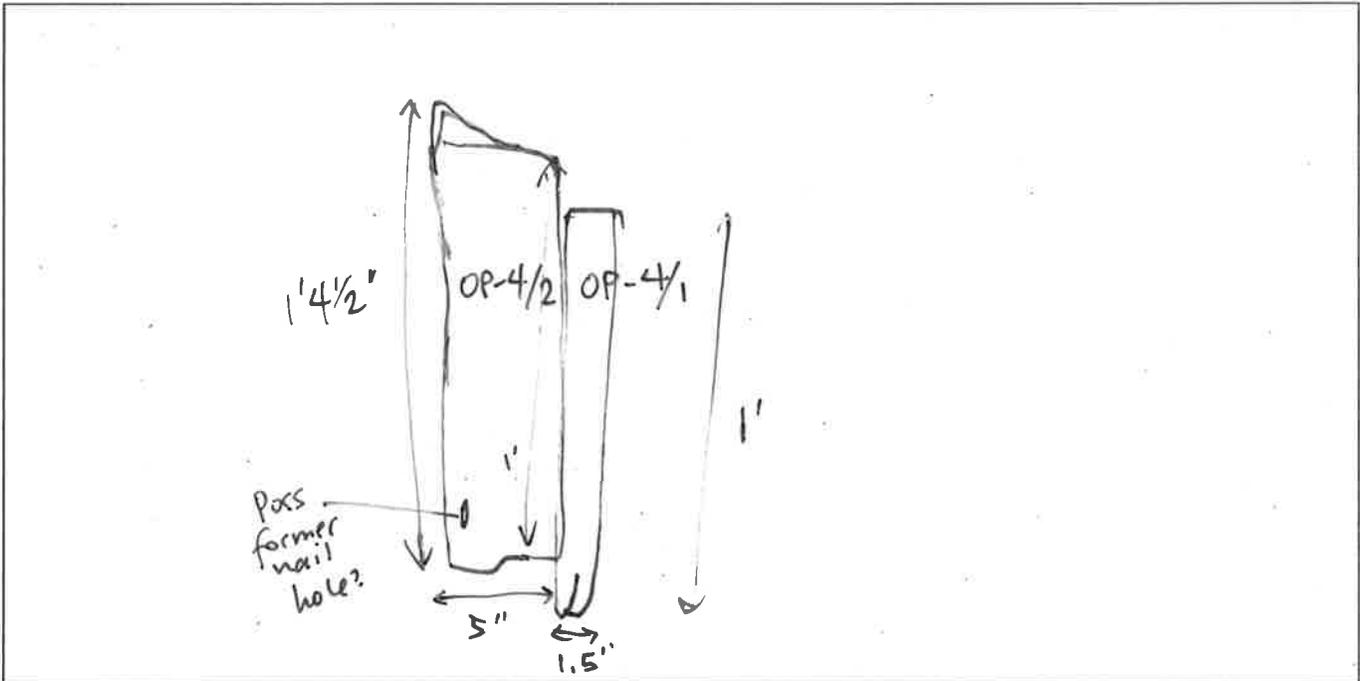
0 Spikes 0 Trunnels 1 Other (Describe: POSS. Nail hole)

Photographs: in situ full details

Detailed Illustrations? N

Associated Timbers: OP-5/1 imm S of it

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 26 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP PLANKS Artifact Number: OP-11

Material: SPRWOOD Condition: FRAGILE

Location: ORLOP DECK

Dimensions: L 3'1" W 4" D 1"
(sided) (molded)

Number and type of fasteners:

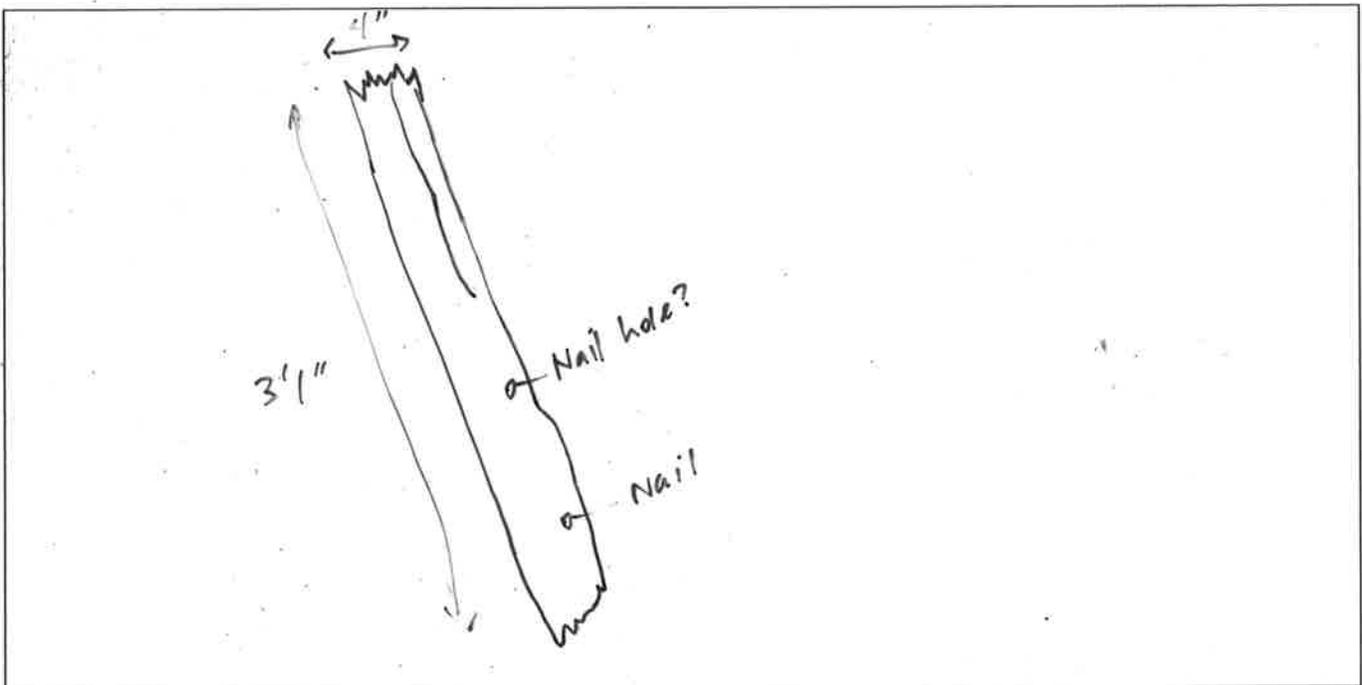
1-2 Spikes Trunnels Other (Describe:)

Photographs: ✓ in situ full details

Detailed Illustrations? N

Associated Timbers: between Q-2, Q-3, OP-14 & OP-4/1

Notes Diagonally oriented plank from orlop deck



Scale:

Sketch by: NMcD

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP PLANKS Artifact Number: OP-10

Material: Softwood Condition: Fragile

Location: ORLOP

Dimensions: L 25-27 W 6" D 3/4"
(sided) (molded)

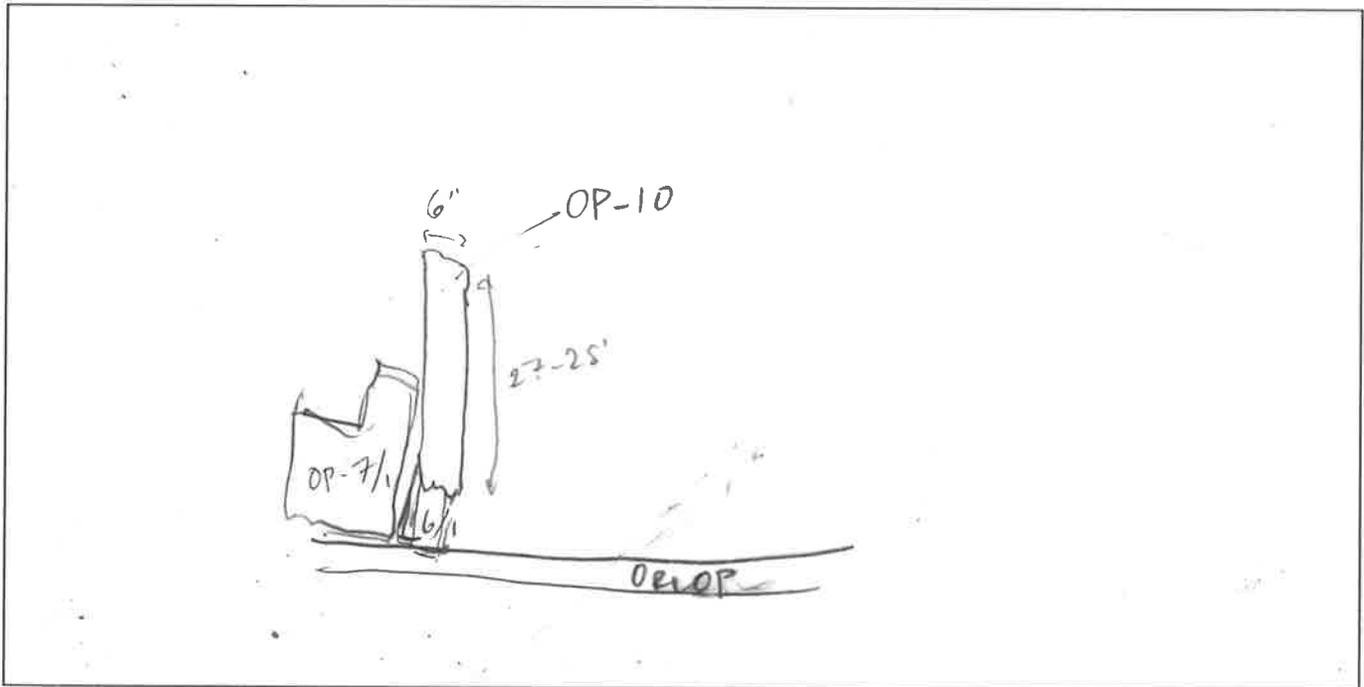
Number and type of fasteners: None Vis
Spikes Trunnels Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? N

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP PLANKS Artifact Number: OP-9/1

Material: SOFTWOOD Condition: FRAGILE

Location: ORLOP DECK - FAR SOUTH END

Dimensions: L 15 3/4" - 33 1/4" W 10.5" D 3/4"
(sided) (molded)

Number and type of fasteners: (1-2)

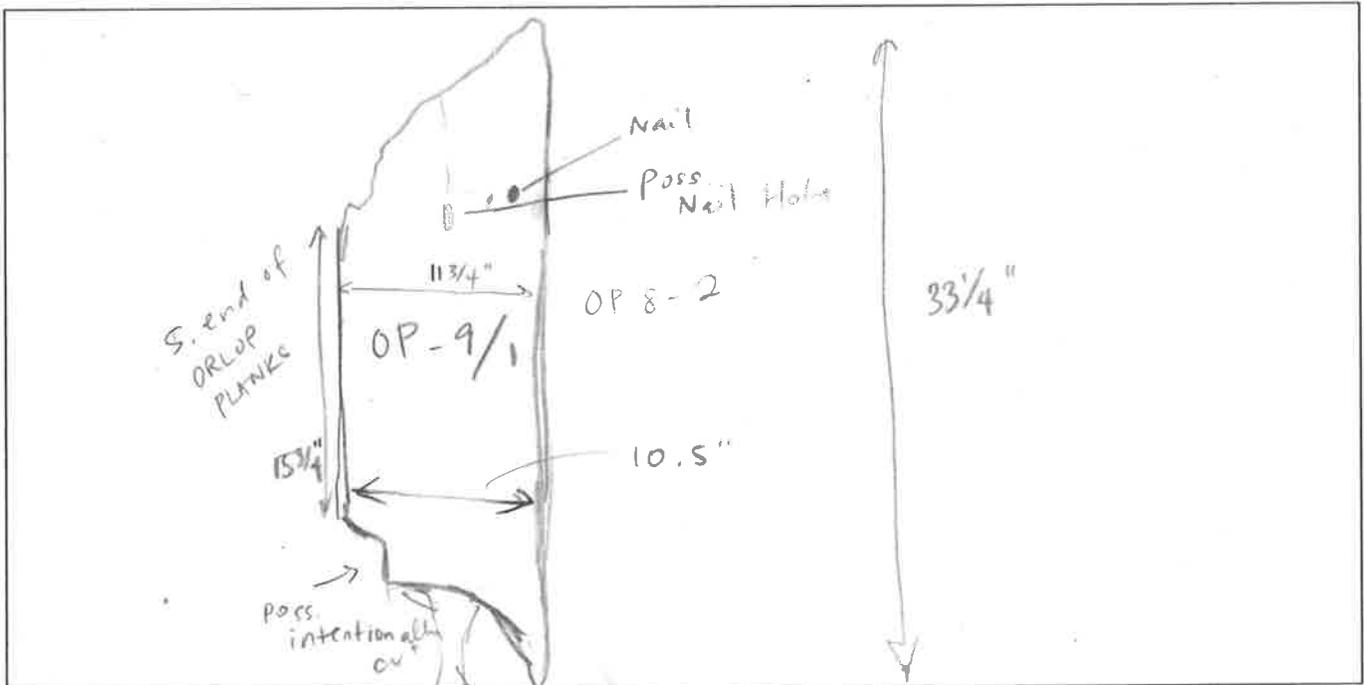
1-2 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers: This is the last orlop plank South, OP 8/2 is imm North of it.

Notes



Scale:

Sketch by: only bottom layer survives, appears to have splintered

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP DECK BEAM etc Artifact Number: ODB-3/1 + 2

Material: _____ Condition: _____ OP 23/1 - 4

Location: _____

Dimensions: L 31" - OBD W 6" - ODB D 2 1/4" - ODB
 (sided) (molded)

Number and type of fasteners:

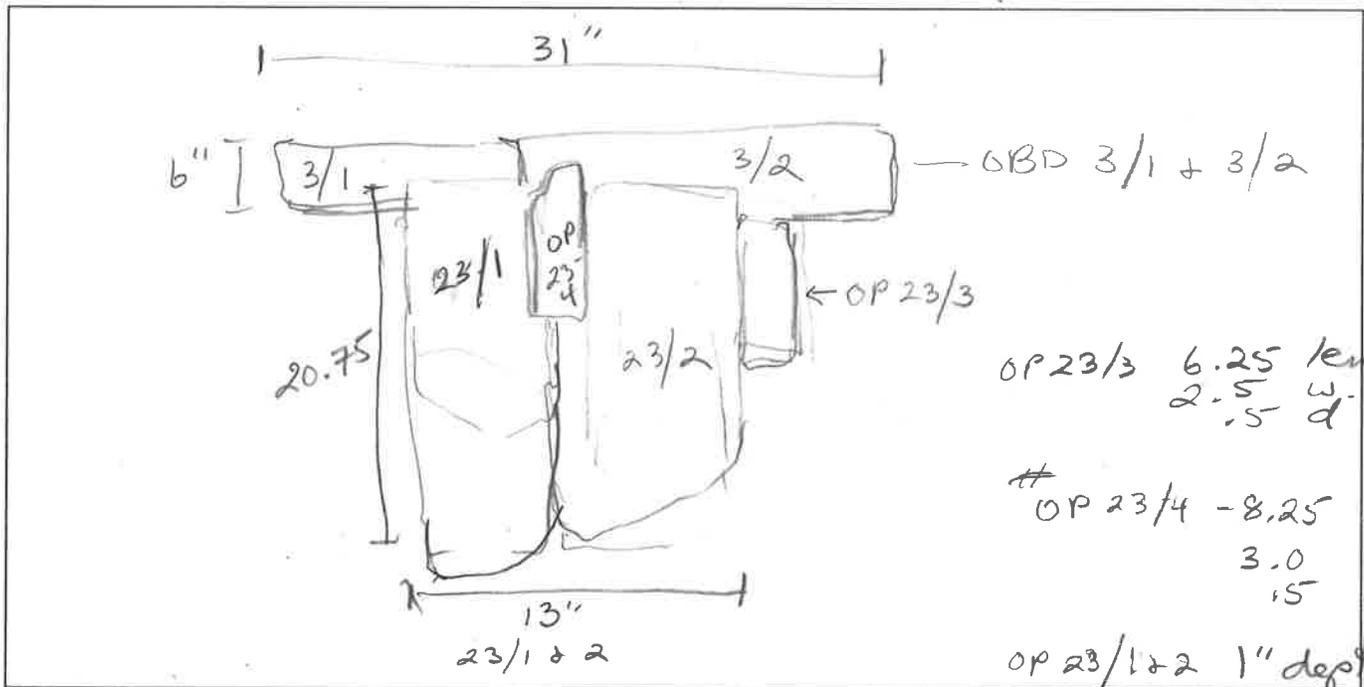
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CN-5/11

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W 11" D 1. 1/4
(sided) (molded)

Number and type of fasteners:

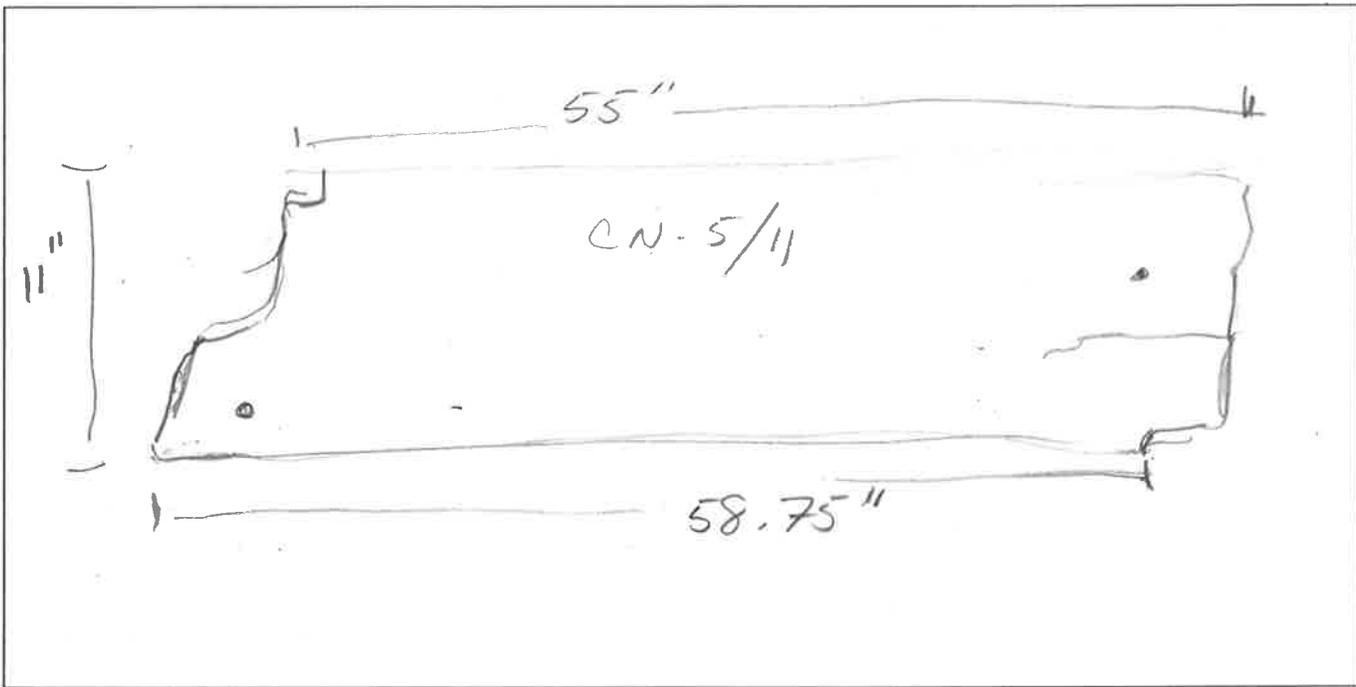
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CN-6/1-5

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W 13" D 1.25
(sided) (molded)

Number and type of fasteners:

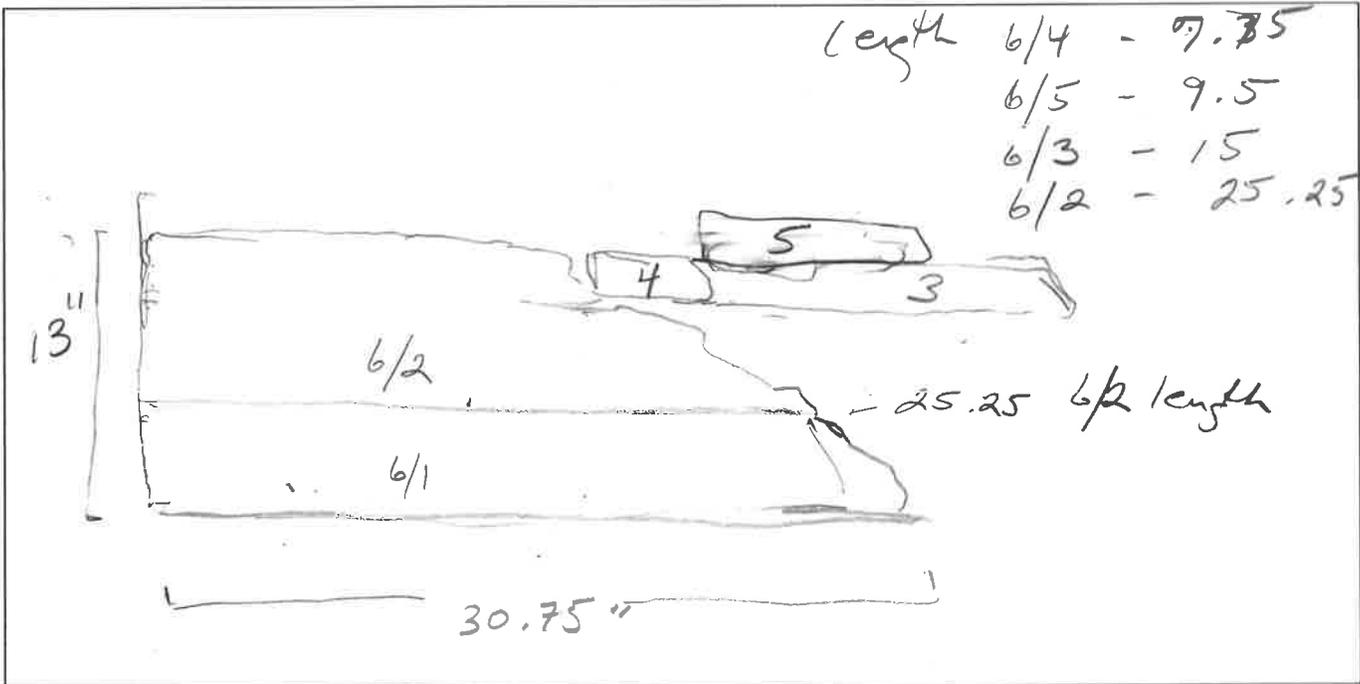
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K Riess

13.5"
3.5"
6.7"

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOCK DECK BEAM # 2

Artifact Number: ODB 2/1, 2/2, 2/3, 2/4

Material: HARDWOOD? Condition: FRAGILE

Location: ORLOCK DECK (W OF ODB 1)

Dimensions: L _____ W _____ (sided)

ODB 2/1: 1" - Tapers in depth @ bevelled ends
 ODB (molded) 2/2: 1 3/4" depth
 ODB 2/3: 2"
 ODB 2/4: 1 3/4"

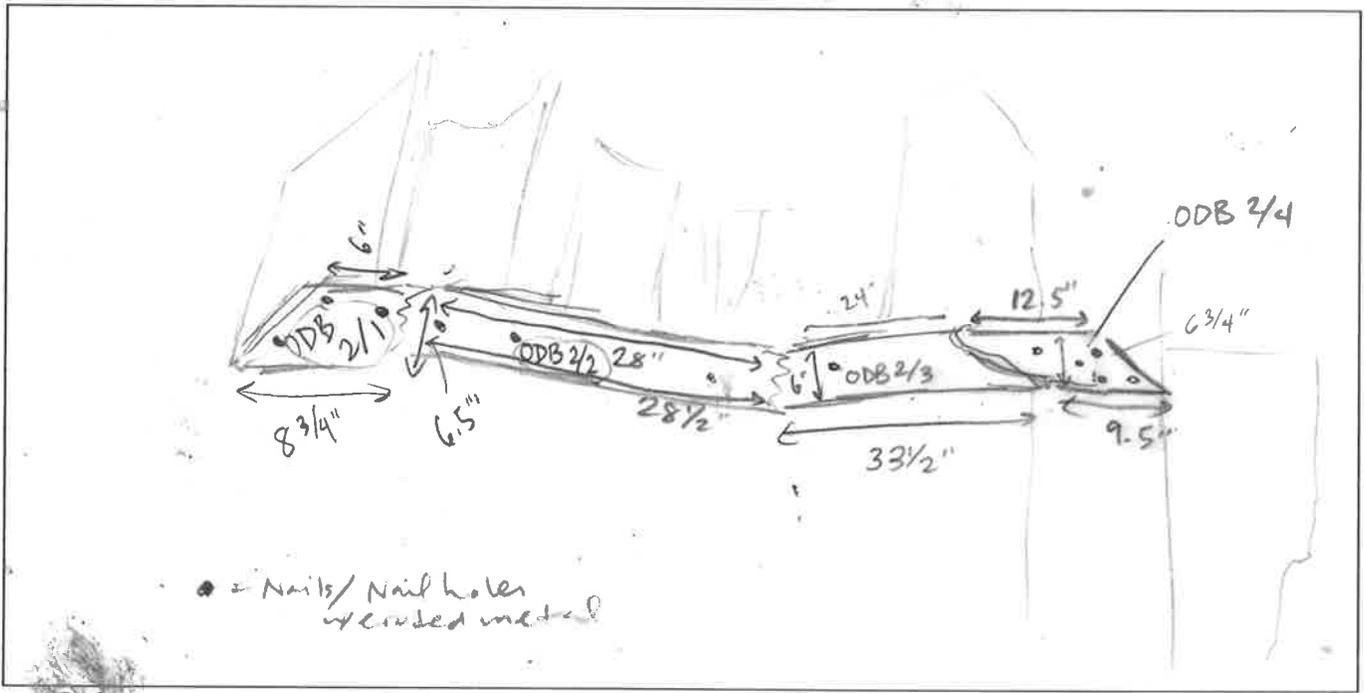
Number and type of fasteners: 12 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? N

Associated Timbers: (ODB 1/1-4 & ODB 3)

Notes _____



Scale: _____

Sketch by: M. McD.

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP DECK BEAM

Artifact Number: 0DB-1-4

Material: _____

Condition: _____

Location: _____

Dimensions: L see draws. W 5.25 D 3"
 (sided) (molded)

Number and type of fasteners:

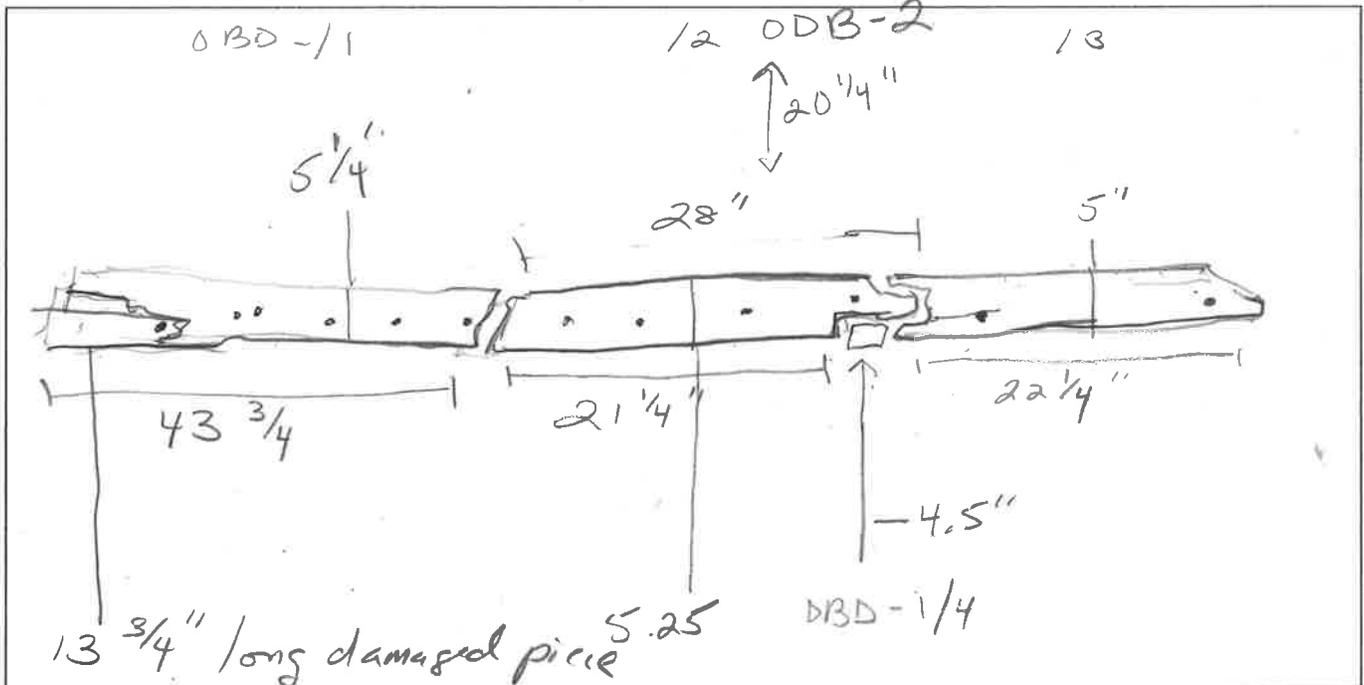
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: OP-7/1

Material: _____ Condition: _____

Location: _____

Dimensions: L 21", 14" W 12 1/2" D 3/4"
(sided) (molded)

Number and type of fasteners:

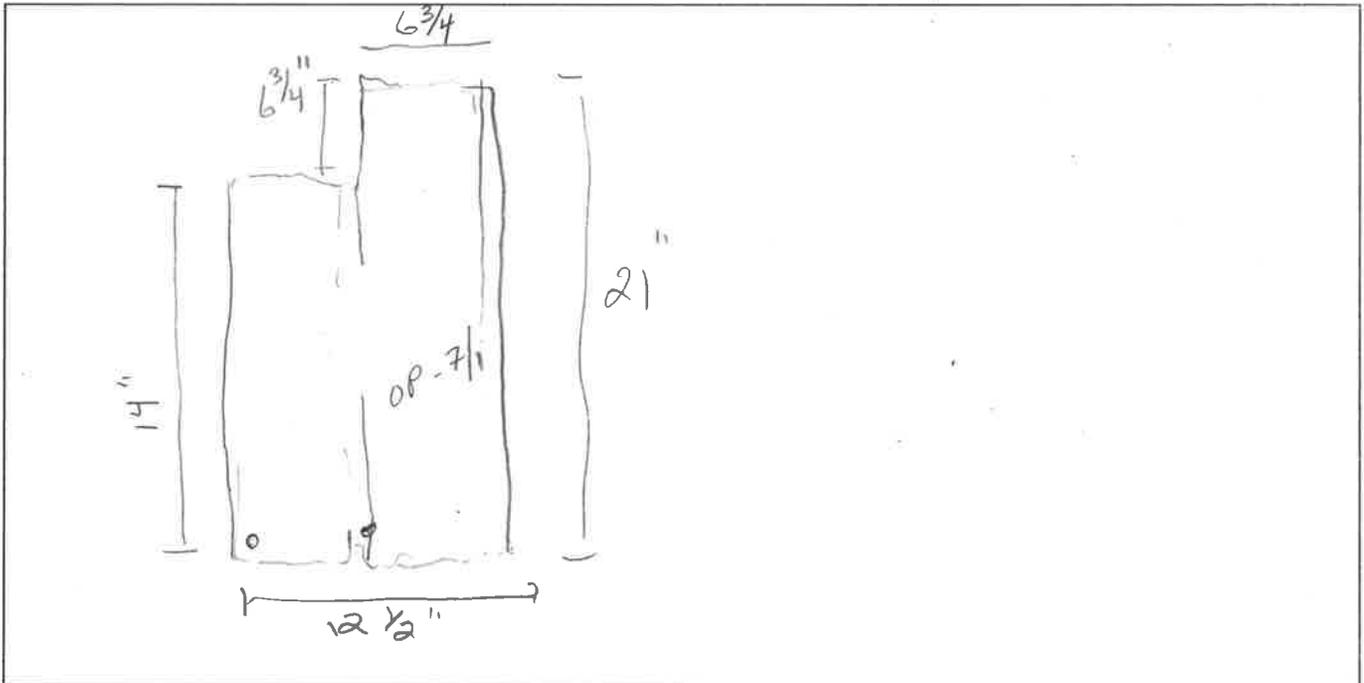
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: W RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: OP-8/1, 2 + 3

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W 12" D 1"
(sided) (molded)

Number and type of fasteners:

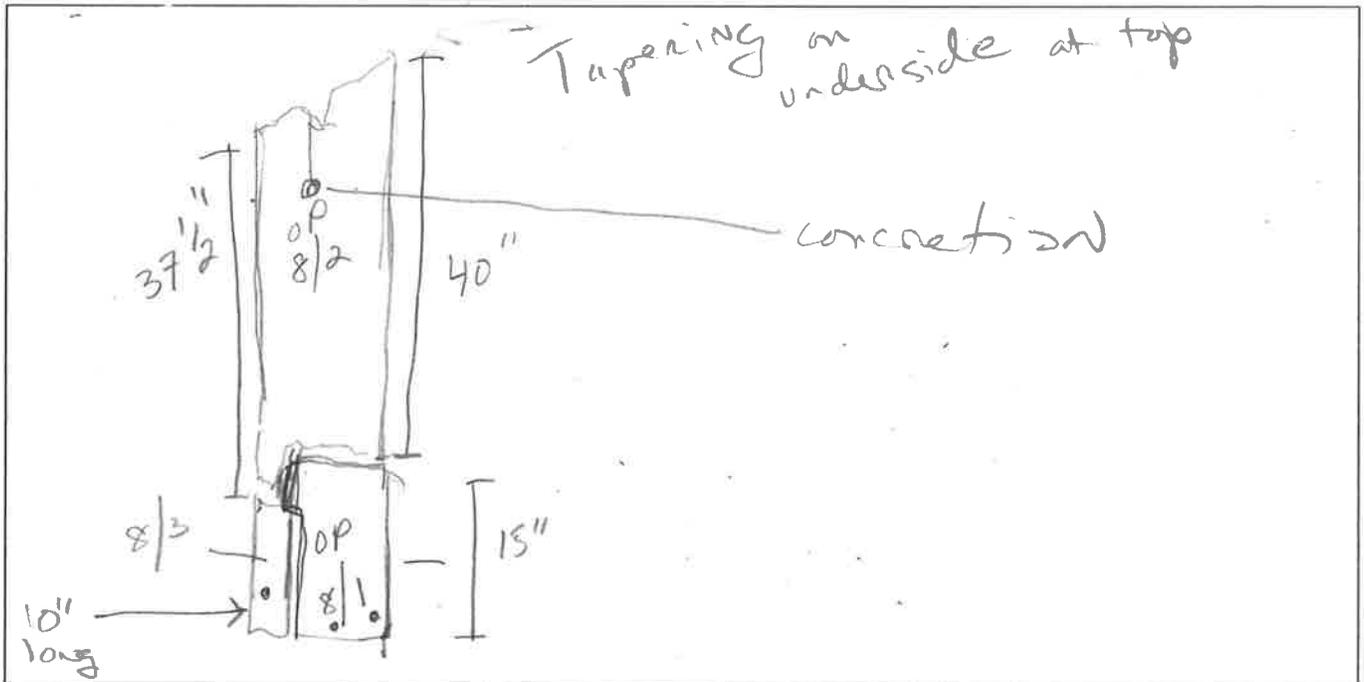
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes concretion in 8/2 mid-width



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: oval Artifact Number: OP-13

Material: _____ Condition: _____

Location: _____

Dimensions: L 14" W 5 5/8" D 3/4"
(sided) (molded)

Number and type of fasteners:

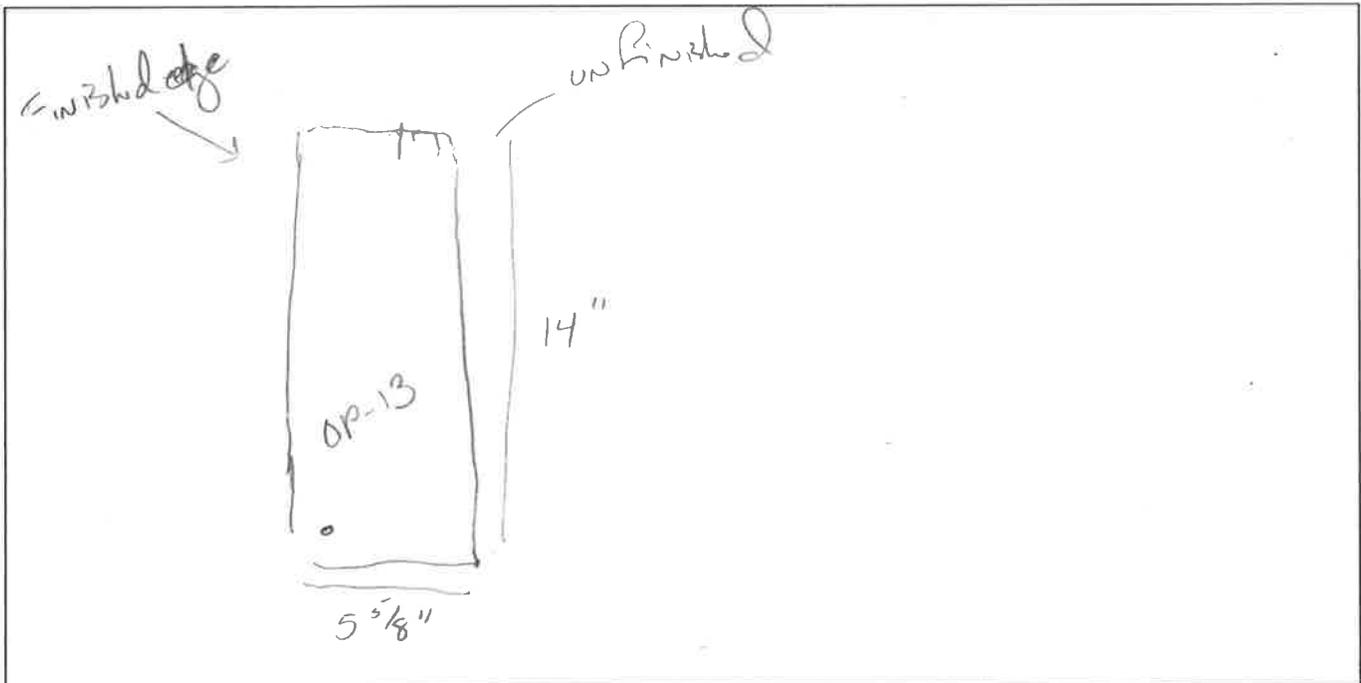
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: OP-14

Material: _____ Condition: _____

Location: _____

Dimensions: L 14 1/4 W 6 3/4 D 3/4
(sided) (molded)

Number and type of fasteners:

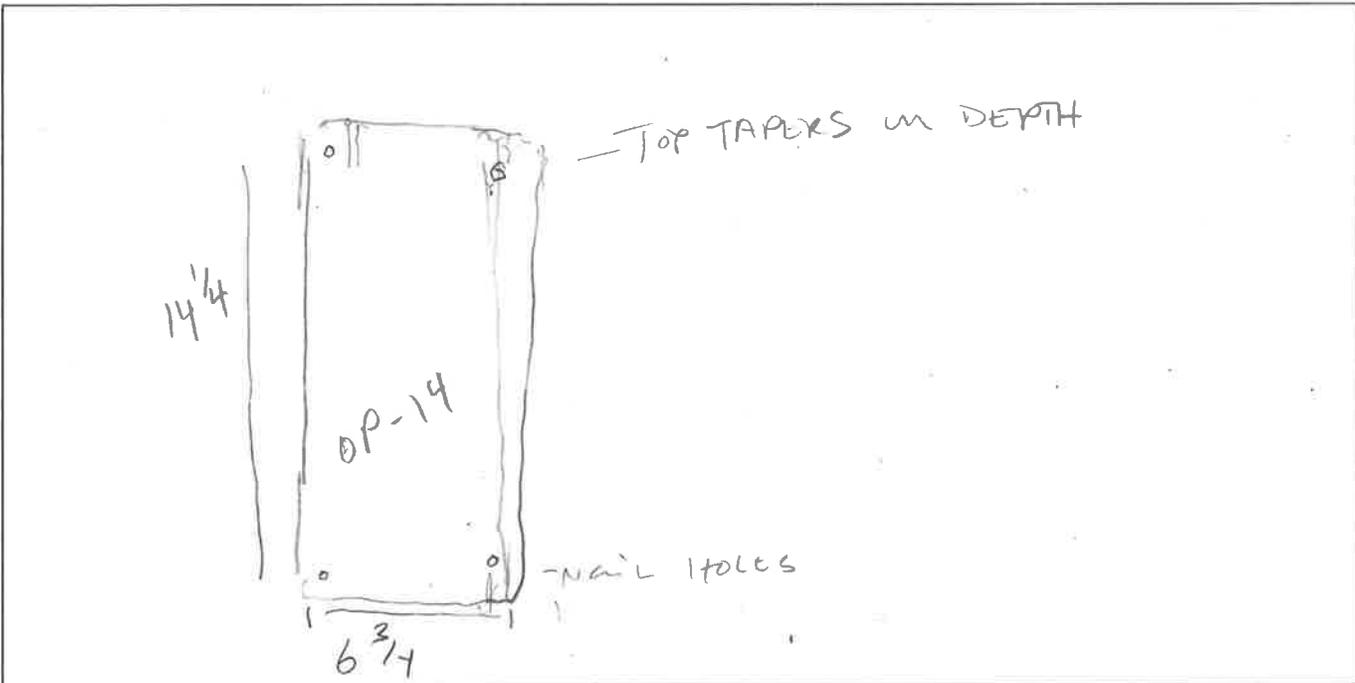
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? _____

Associated Timbers: _____

Notes ~~TOP TAPERS~~ TOP TAPERS



Scale: _____

Sketch by: K Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP Artifact Number: OP-12 + 12/2

Material: _____ Condition: _____

Location: _____

Dimensions: L see drawing W 8.5" D 3/4"
16", 10 1/4" (sided) (molded)

Number and type of fasteners:

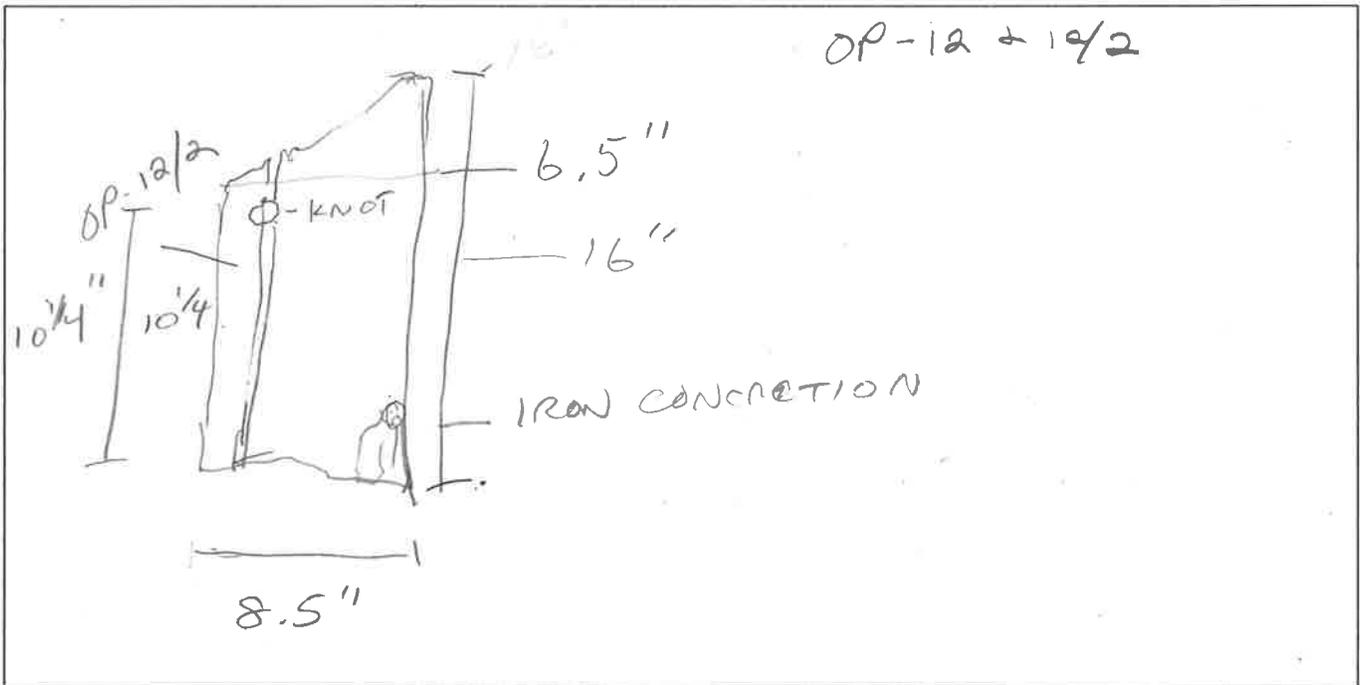
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: in situ full _____ details

Detailed Illustrations? _____

Associated Timbers: OP 13, 14 & 15

Notes _____



Scale: _____

Sketch by: K Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: OUTER PLANKING (fell off N. side) Artifact Number: OPN-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 97" W see drawing D 1 3/4"
(sided) (molded)

Number and type of fasteners:

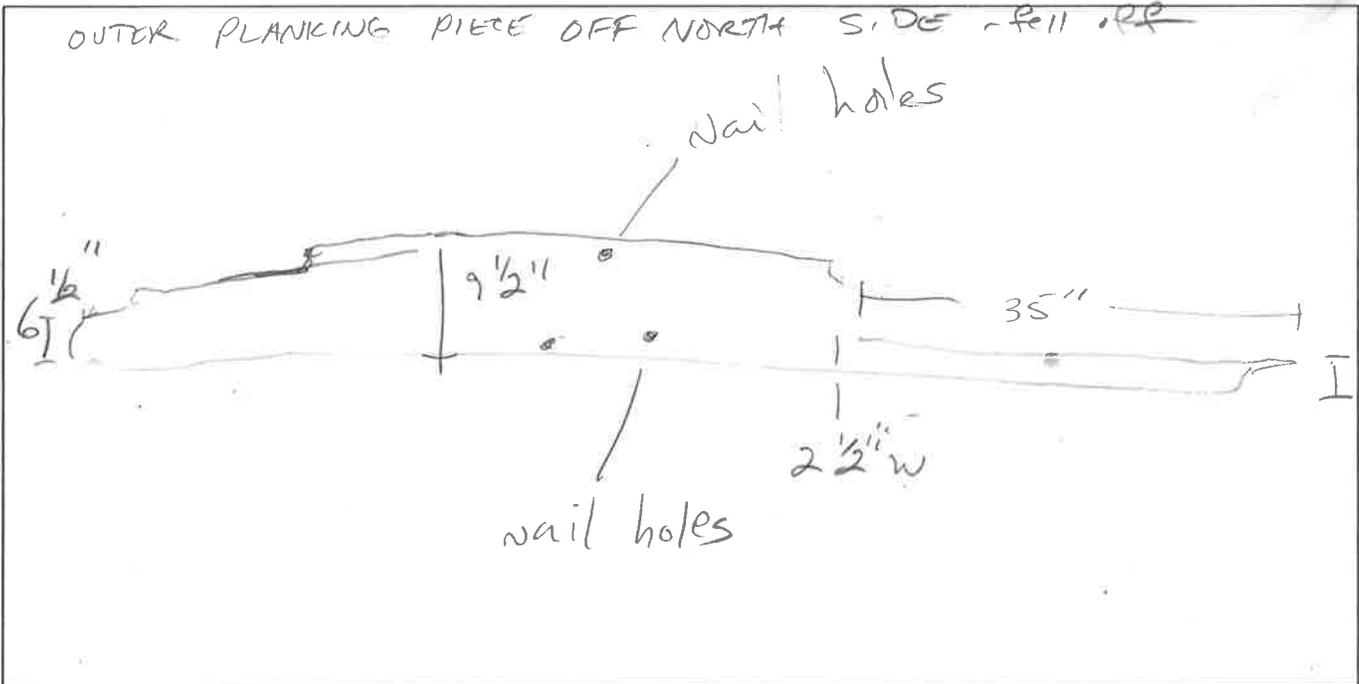
_____ Spikes _____ Trunnels _____ Other (Describe: IRON NAIL HOLES)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes 3 NAIL HOLES + concretions on flip side



Scale: _____

Sketch by: W Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: OUT Artifact Number: OUT-1

Material: _____ Condition: _____

Location: in SOUTH FILL

Dimensions: L 2' 6" W see draw D 3"
(sided) (molded)

Number and type of fasteners:

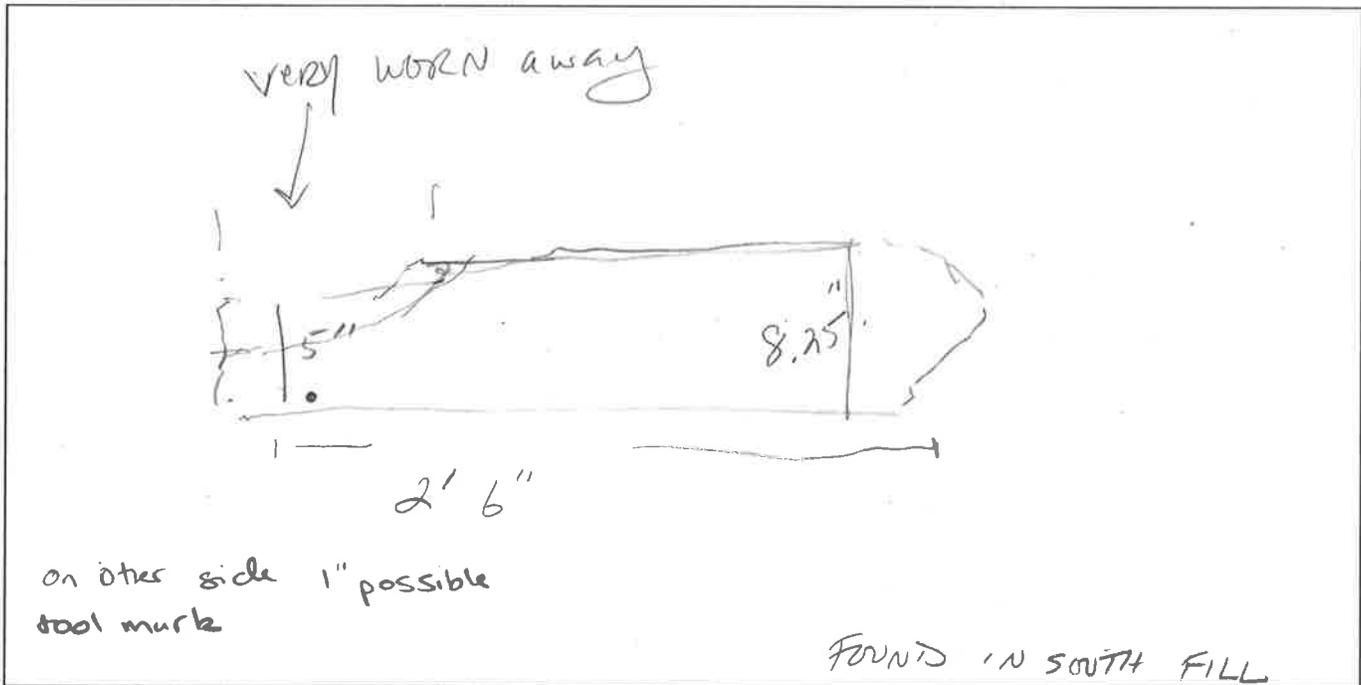
_____ Spikes _____ Trunnels _____ Other (Describe: NA)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Q-1/1 Part of cask Artifact Number: Q-1/1

Material: Wood (& Metal) Condition: Fair

Location: Orlop Deck

Dimensions: L 24" W 3" D 1"
(sided) (molded)

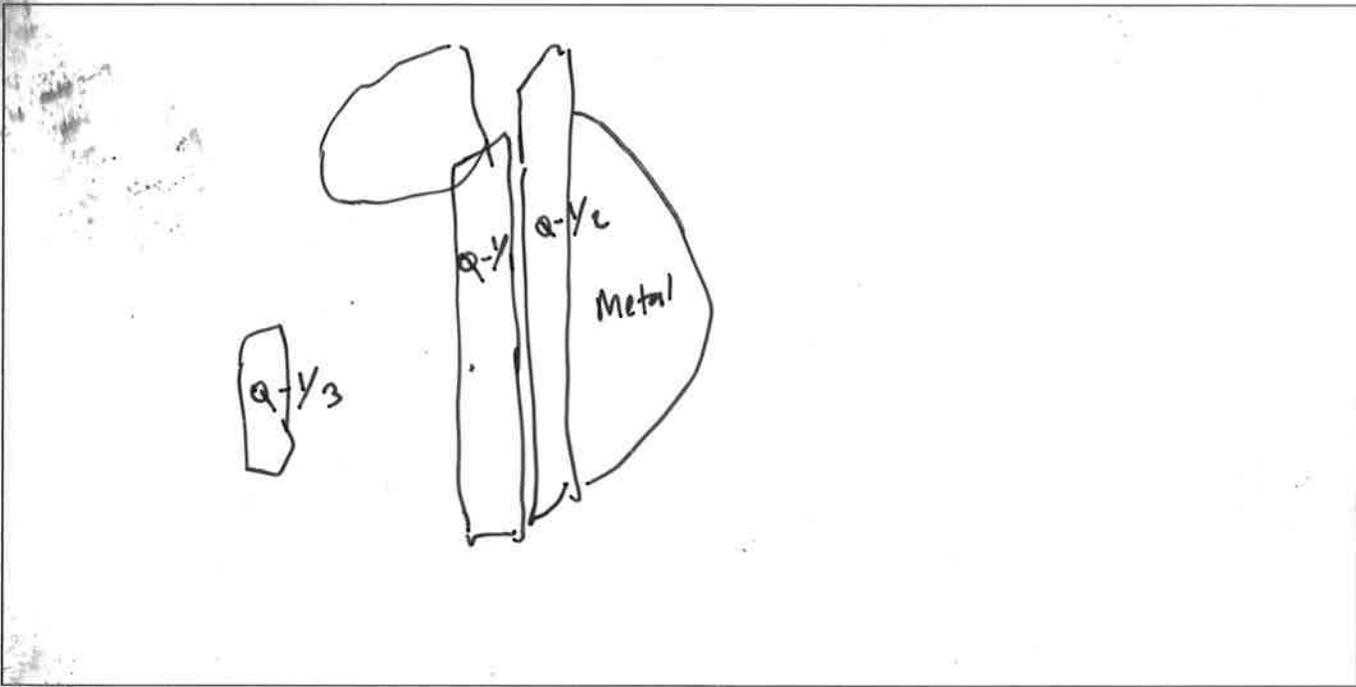
Number and type of fasteners: None vis
Spikes Trunnels Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? No

Associated Timbers: Q-1/2 & Q-1/3

Notes: Plank integral to metal piece -
apparently part of a cask



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 26 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: CASK Artifact Number: Q-1/3

Material: Wood (& Metal) Condition: Poor/Fair

Location: Orlop Deck

Dimensions: L 6" W 2" D 1"
(sided) (molded)

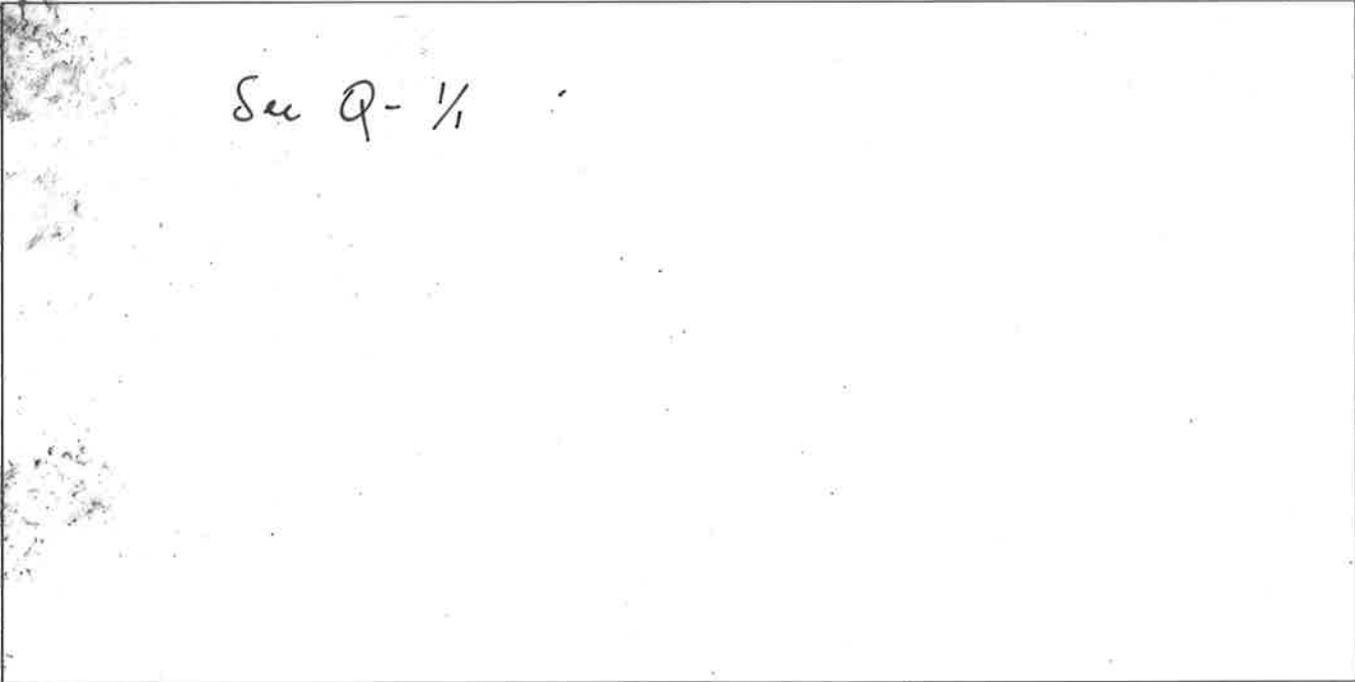
Number and type of fasteners: None Us
Spikes Trunnels Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? No

Associated Timbers: Q-1/1 & Q1/2

Notes: See Q-1/1



Scale:

Sketch by: MM

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 26 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: CASK ? Artifact Number: Q-1/2

Material: Wood (& Metal) Condition: Pool/Fair

Location: Orlop Deck

Dimensions: L 20" W 2" D 1"
(sided) (molded)

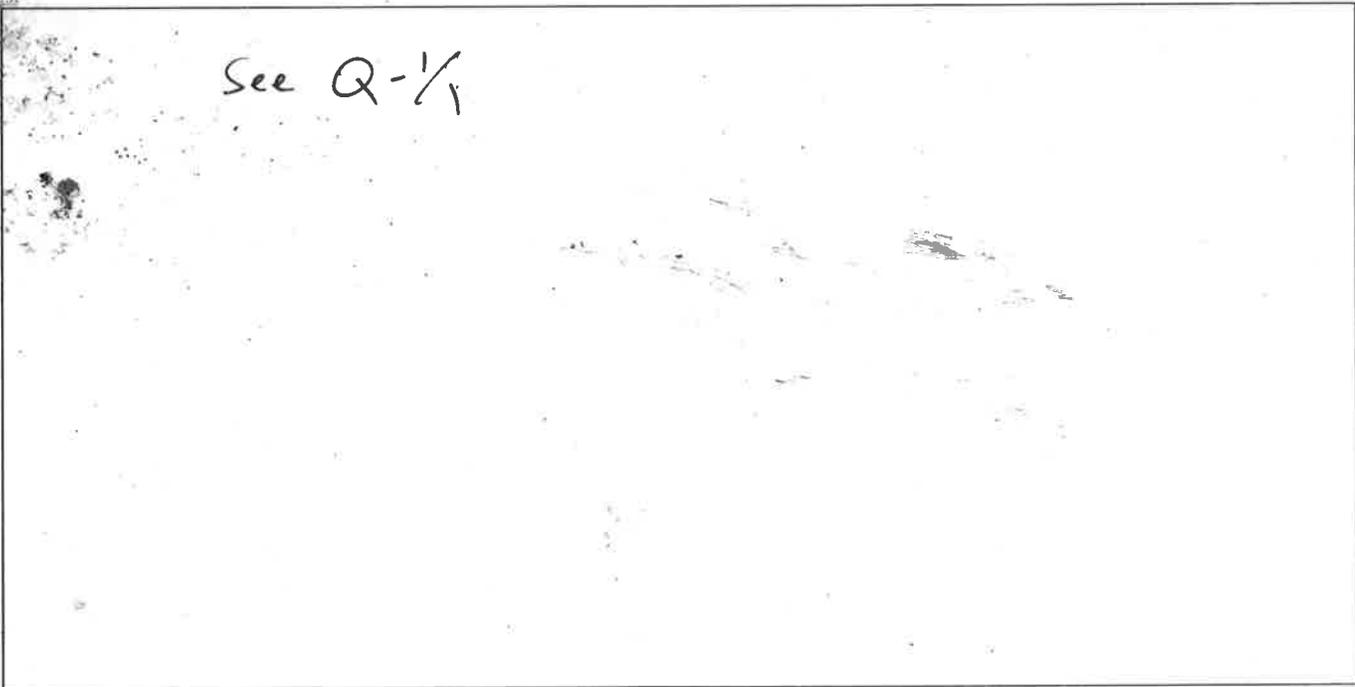
Number and type of fasteners: None vis
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes See Q-1/1



Scale:

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

MON. Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: OP-1/1, 2 + 3 OR 1/2 PLANK Artifact Number: OP-1/1, 2, 3

Material: _____ Condition: _____

Location: _____

Dimensions: L 3' 5 1/2 W 11' 2 5/8 D .75 3/4
(sided) (molded)

Number and type of fasteners:

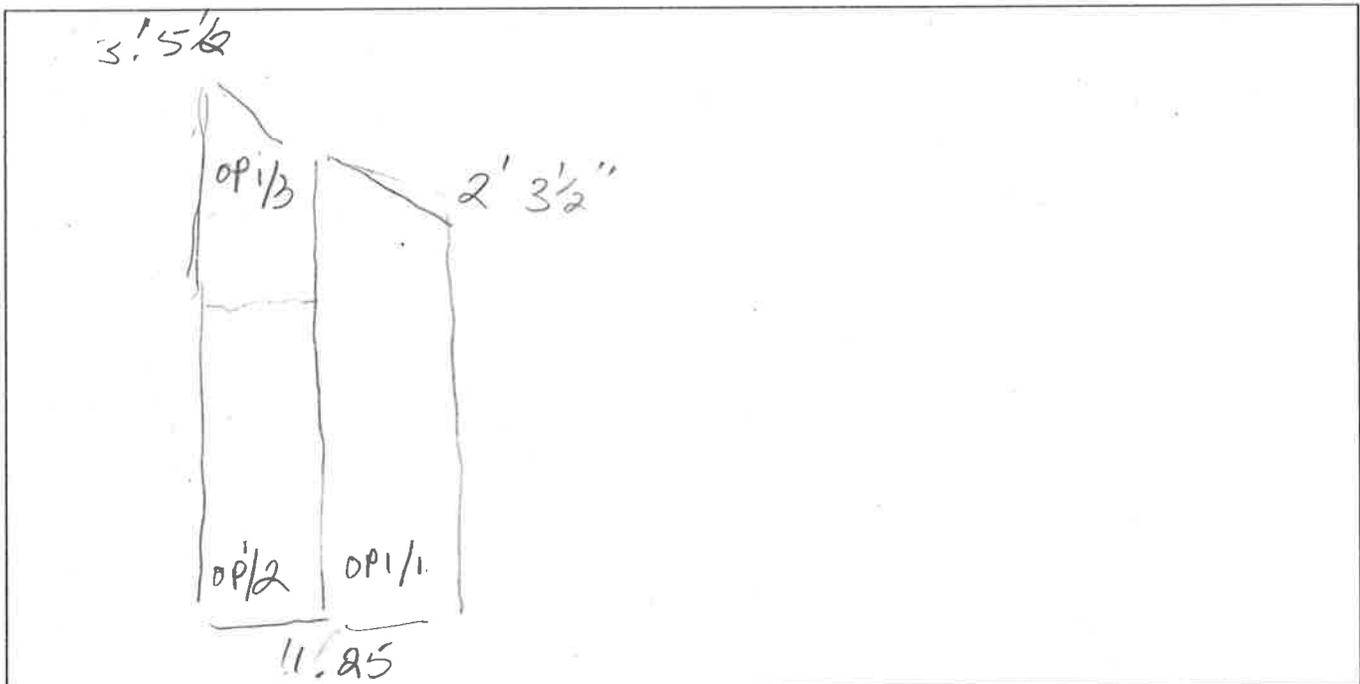
_____ Spikes _____ Trunnels _____ Other (Describe: small nails)

Photographs: in situ full NA details

Detailed Illustrations? NA

Associated Timbers: _____

Notes NONE



Scale:

Sketch by: K. Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ORLOP PLANK Artifact Number: OP-2/1+2

Material: _____ Condition: _____

Location: _____

Dimensions: L 2' 1/4, 1' 6 1/2" W 1' 3" D 1 1/2" 3/4"
(sided) (molded)

Number and type of fasteners:

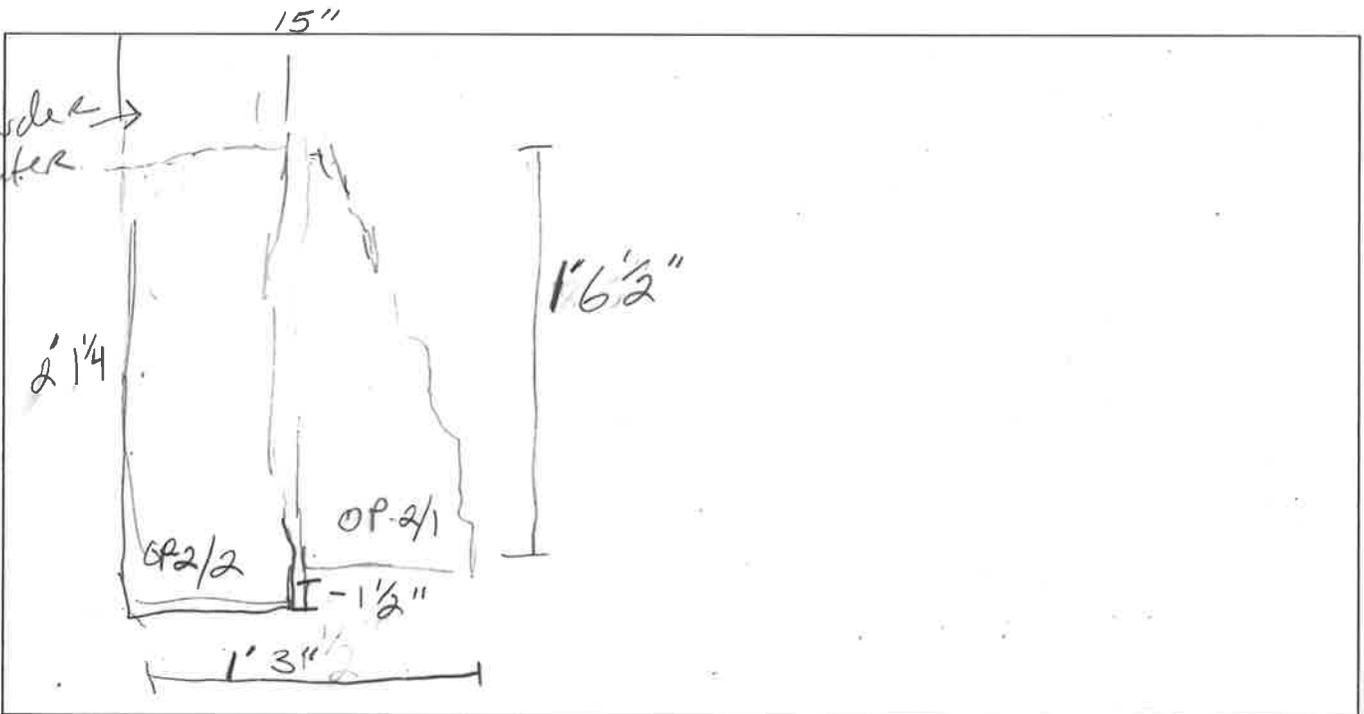
_____ Spikes _____ Trunnels _____ Other (Describe: NONE)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: OP-2/3 + 2/4

Notes NONE



Scale:

Sketch by: K. Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Orlop Deck Artifact Number: OP-2/3 & OP-2/4

Material: Softwood Condition: Degraded

Location: Orlop Deck

Dimensions: L 18 1/2 - 27 3/4" W 12 1/2 total D 3/4"
(sided) (molded)

Number and type of fasteners:

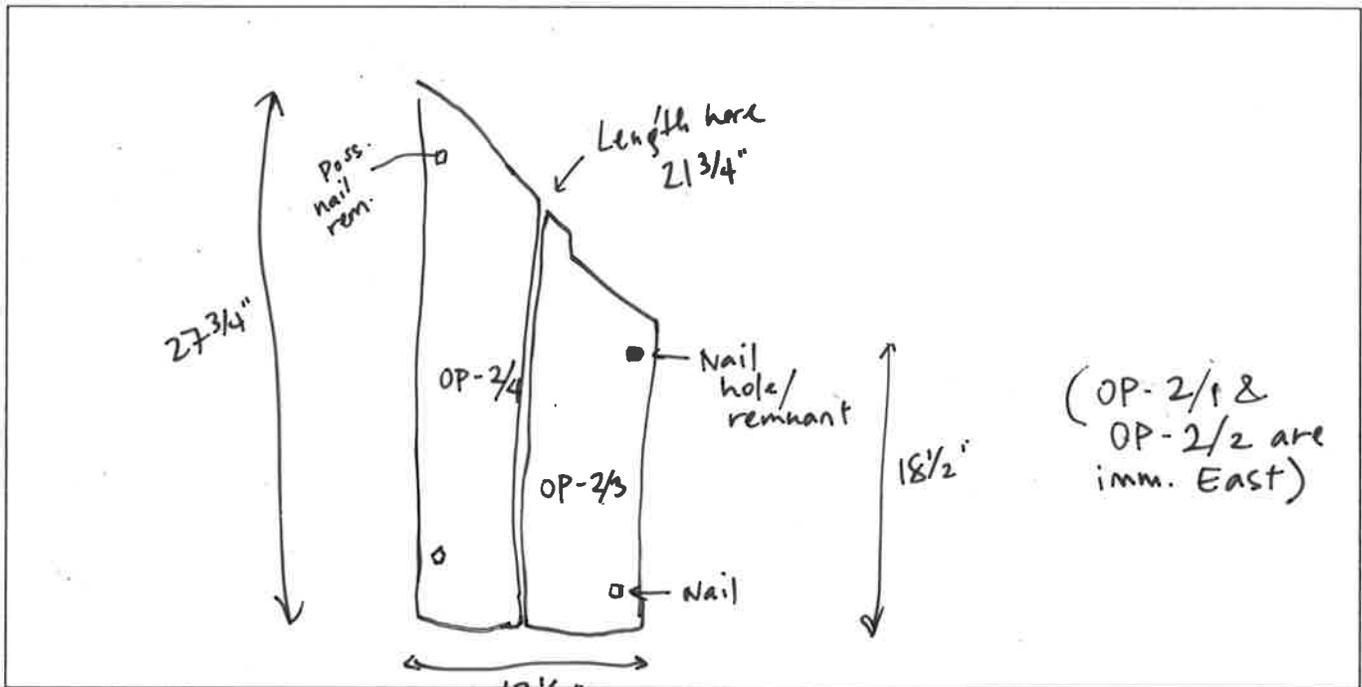
3-4 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers: OP-2/1 & OP-2/2 (all OP-2s bagged together)

Notes: Midway on orlop deck, OP-2/3 & OP-2/4 appear to have been part of same plank originally. Cut on an angle (orig).



Scale:

Sketch by: MMed

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: _____

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D ^{CN3/1} = .75"
 (sided) (molded) 3/2 - 3/4"

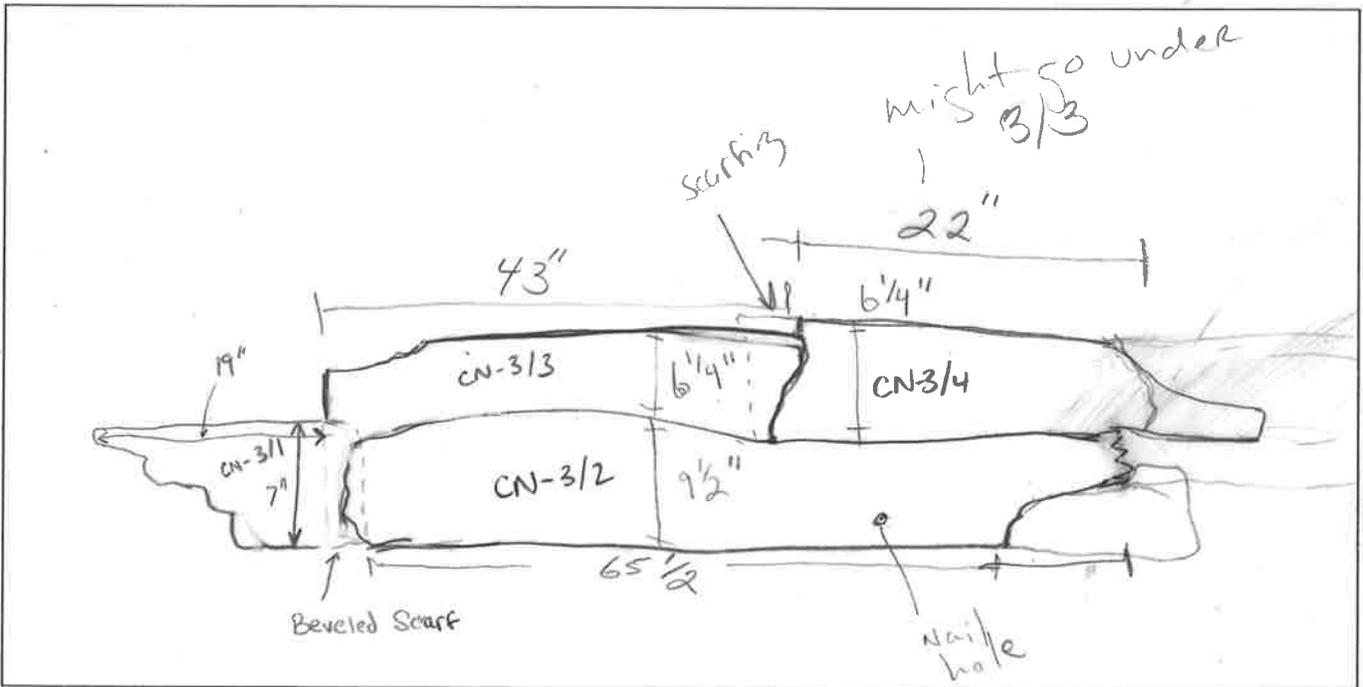
Number and type of fasteners:
 _____ Spikes _____ Trunnels _____ Other (Describe: _____) 3/3 - 3/4"

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: Elizabeth Meade

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: CEILING PLATE NORTH Artifact Number: CN-1/1

Material: _____ Condition: _____

Location: _____

Dimensions: L 33" W 5 1/2" D 3/4"
(sided) (molded)

Number and type of fasteners:

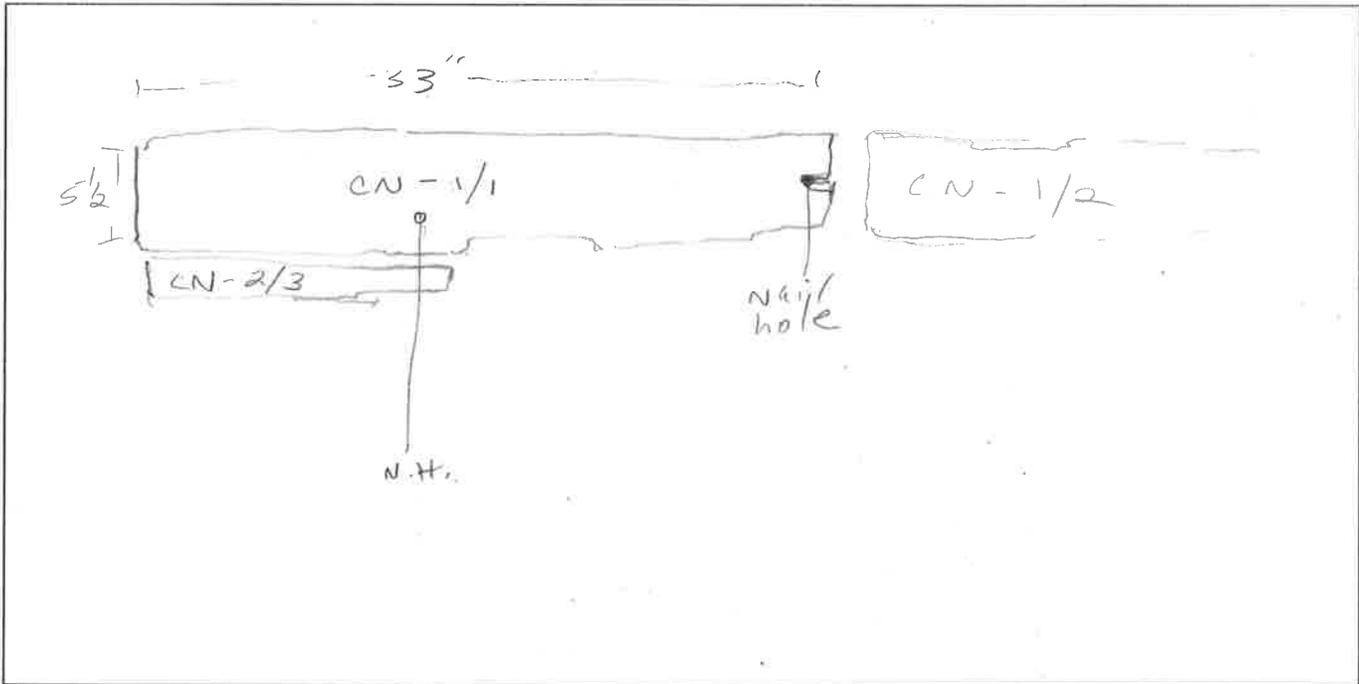
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CN-2/1-3

Material: _____ Condition: _____

Location: _____

Dimensions: L #1 32 1/4" #2 5" W _____ D #1-1 1/2" #2-1 1/2" #3 3/4"
(sided) (molded)

Number and type of fasteners:

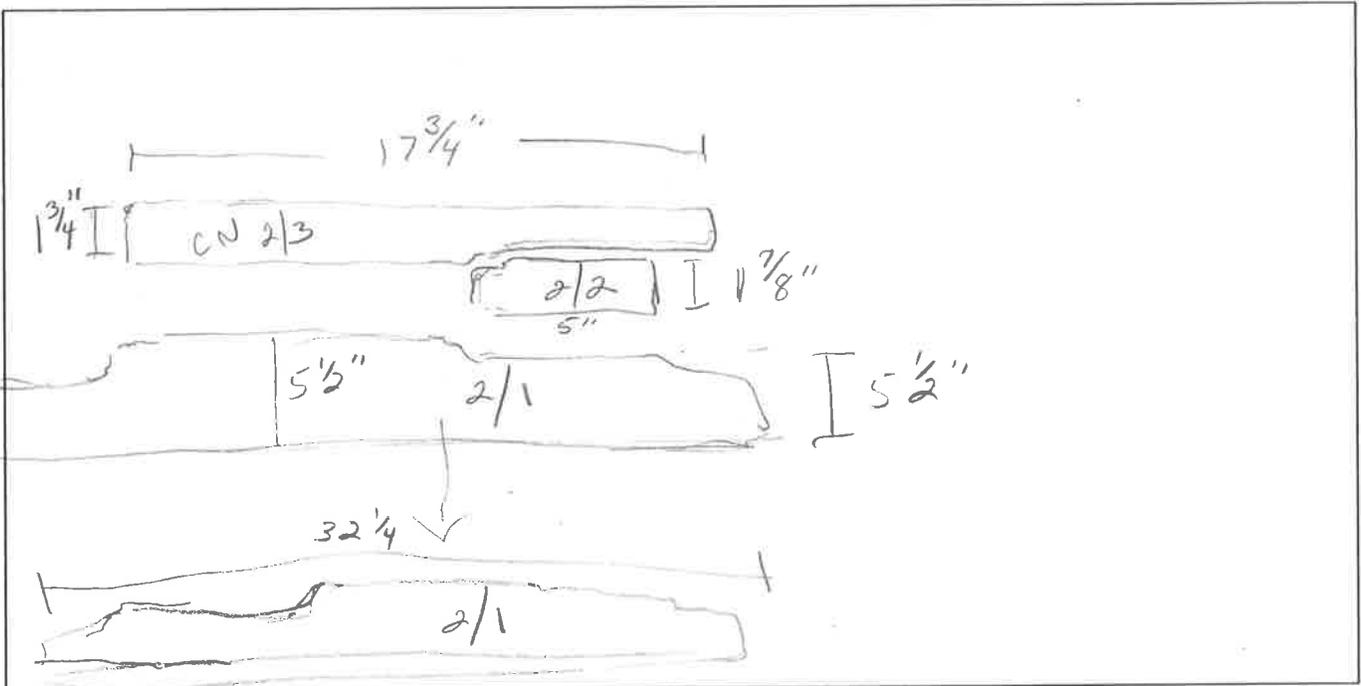
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: 16 Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CN-1/2

Material: _____ Condition: _____

Location: _____

Dimensions: L 20" ? W 5" D 3/4"
(sided) (molded)

Number and type of fasteners:

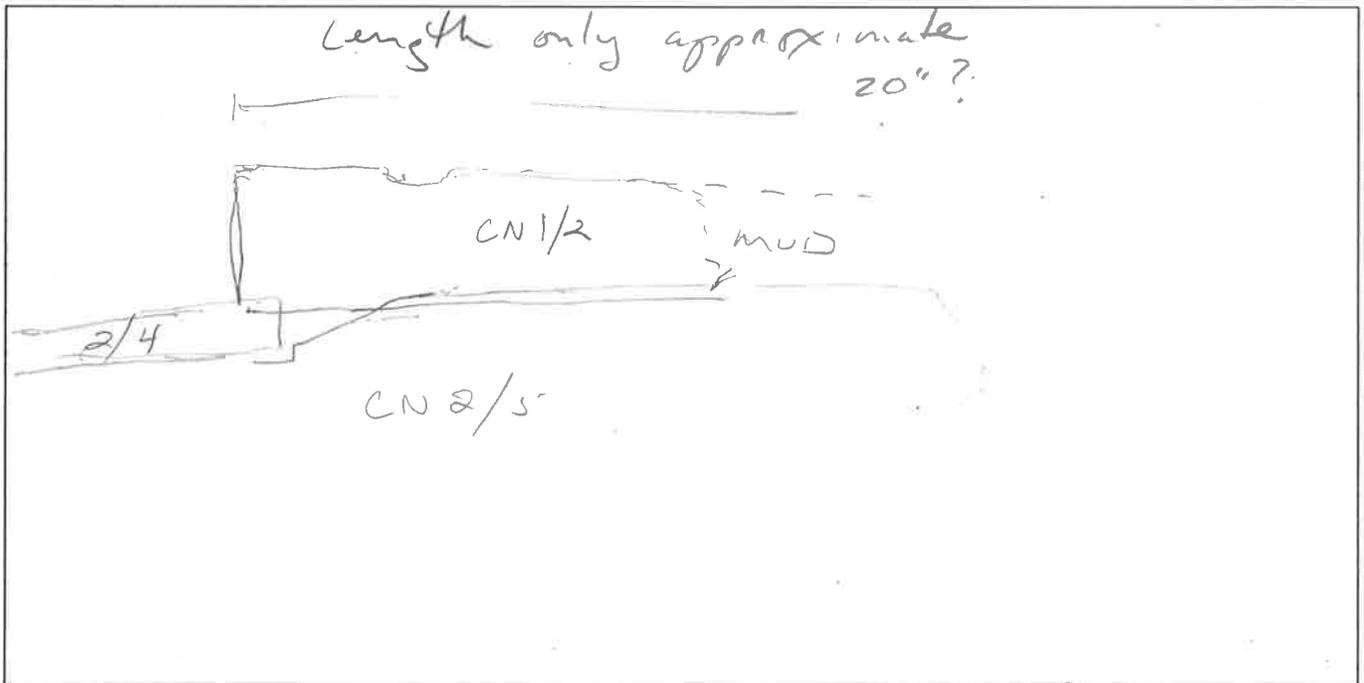
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Q N of keelson w/ CN

Artifact Number: Q-5/1 & Q-5/3

Material: Softwood? Condition: Fragile

Location: CN

Dimensions: L _____ W _____
(see below) (sided)

D _____
Q-5/3 : 1/2" depth
Q-5/1 : 1/2" depth
(molded)

Number and type of fasteners:

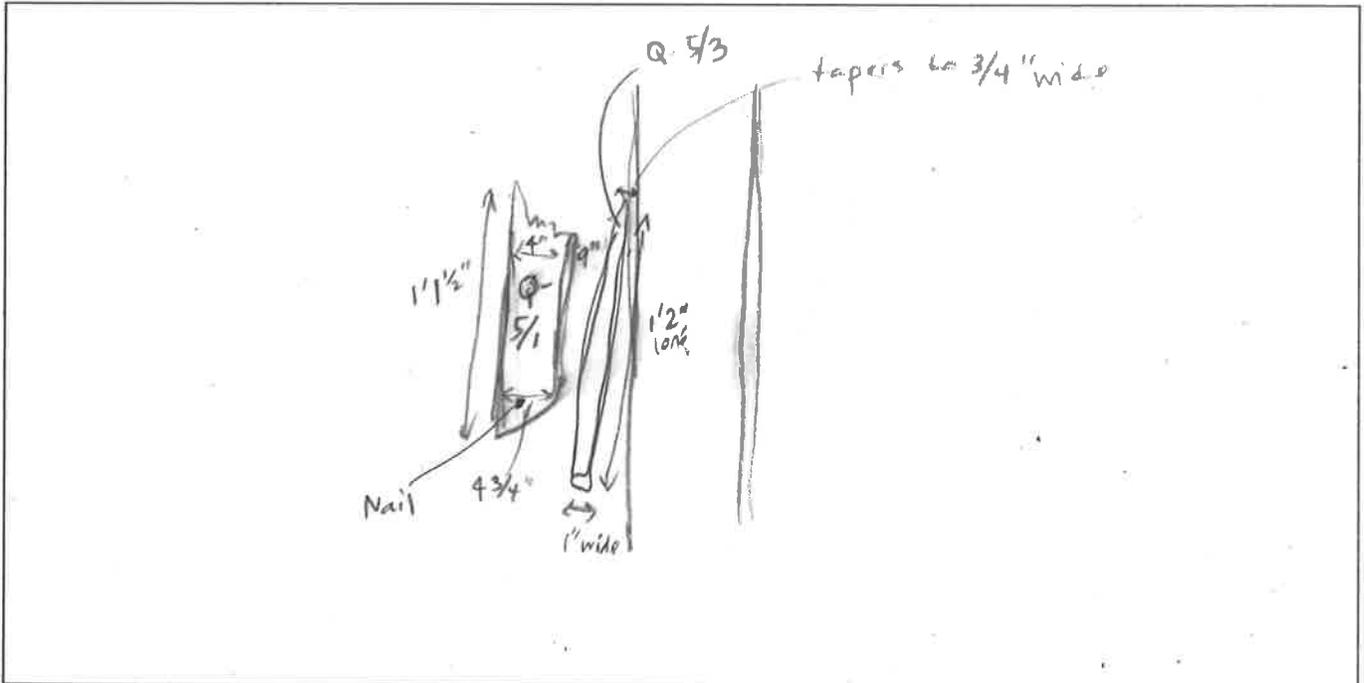
1 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: in situ _____ full _____ details

Detailed Illustrations? N

Associated Timbers: Q-5/2 on sep. form.

Notes _____



Scale:

Sketch by: M. McD

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: CN

Artifact Number: CN-2/11, 2/12 & 2/13

Material: Softwood? Condition: Fragile

Location: CN north of Keelson

Dimensions: L _____ W _____
(see below) (sided)

D CN-2/11 = 1" depth
CN-2/13 = 1 1/4" (molded)

& 2/14
(in a bag)

Number and type of fasteners: 17

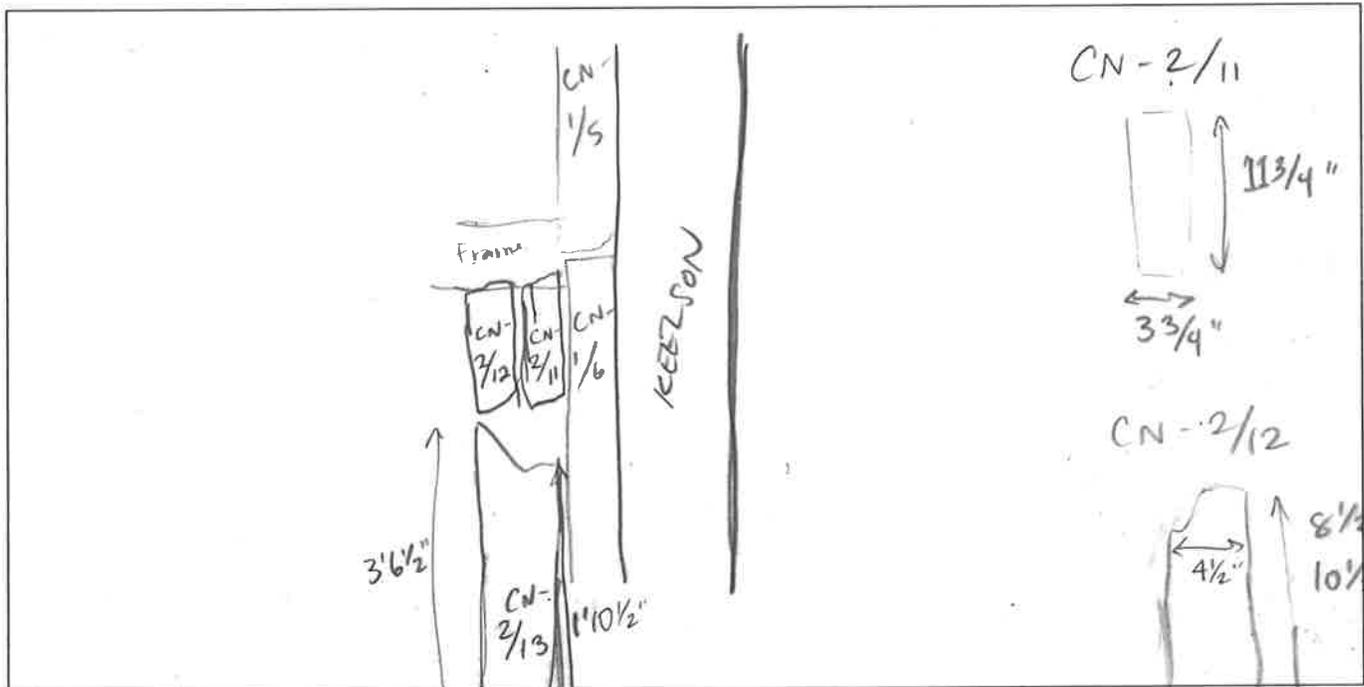
17 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: / in situ _____ full _____ details _____

Detailed Illustrations? N

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: _____

Nail holes
Dislocated pcs = CN-2/14 is in a bag
(2'6" length @ mid pt.)

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 26 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Q (N of Keelson, among 'CN') Artifact Number: Q-6/1 & Q-6/2

Material: Softwood Condition: Very Fragile

Location: With 'CN'

Dimensions: L 1'2" W 1 3/4' D 1 3/4' Q-6-2 Q-6-1
(sided) (molded)

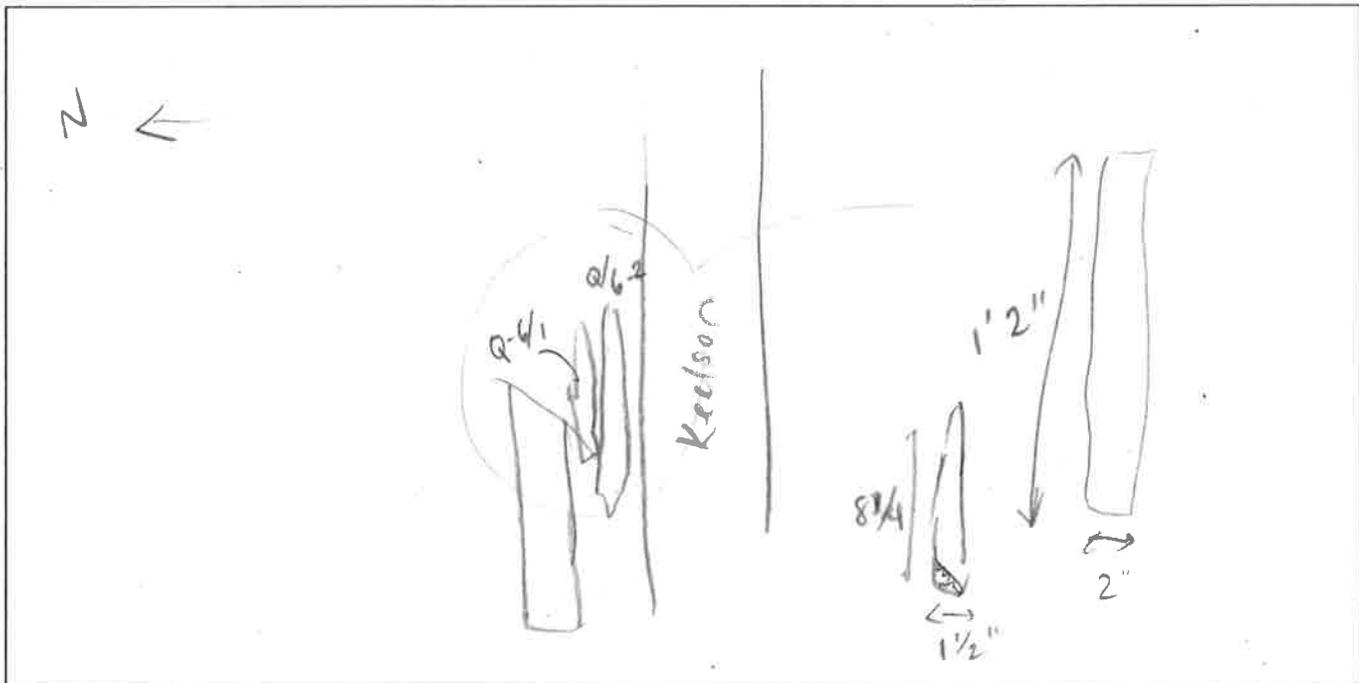
Number and type of fasteners: None visible
Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers: Near Q-5/2

Notes



Scale:
Sketch by: M McD

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Q in of Keelson, amid CN Artifact Number: Q-5/2

Material: Softwood? Condition: Fragile

Location: CN north of Keelson

Dimensions: L 1'4"-1'7" W 3 3/4" D 1/2"
(sided) (molded)

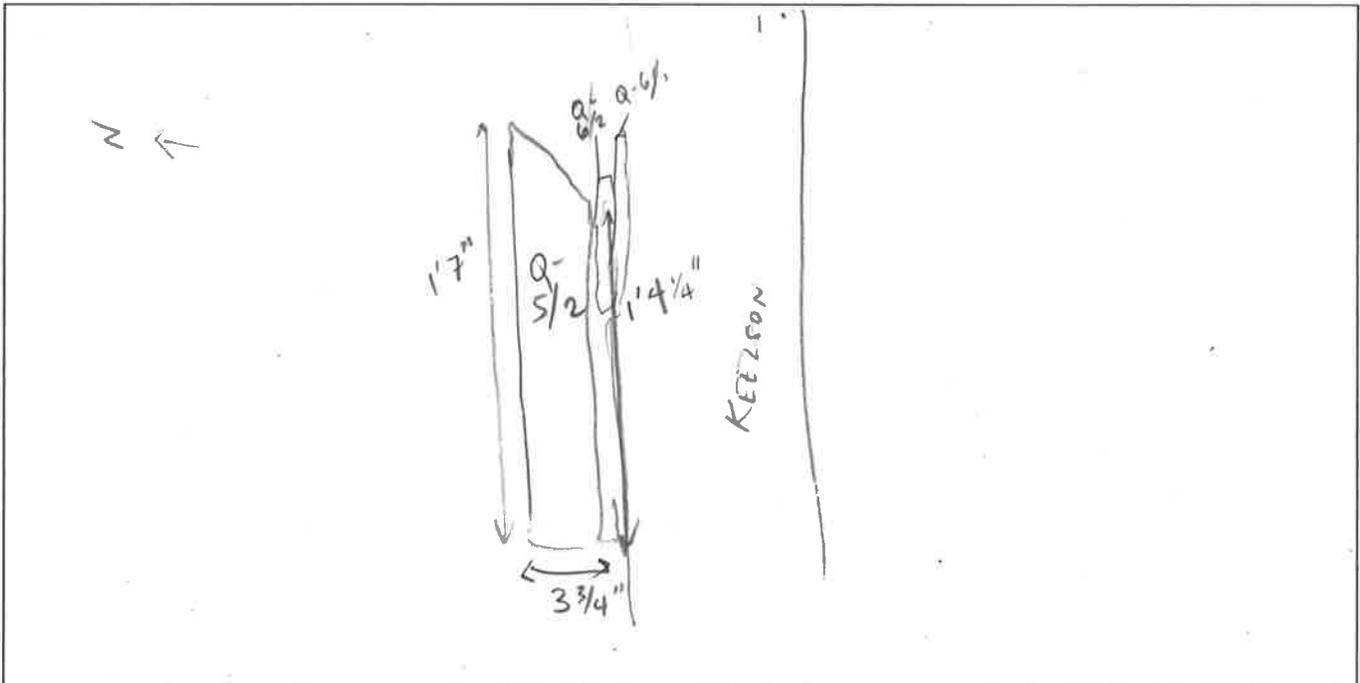
Number and type of fasteners: None visible
Spikes Trunnels Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: None Q 5/3

Notes _____



Scale:

Sketch by: MMCD

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Q-7/1 among Ceiling Planks N Artifact Number: Q-7/1

Material: Softwood? Condition: Fragile

Location: Along Keelson, amid "CN"

Dimensions: L 4 1/2" W 3 1/4" D 1"
(sided) (molded)

Number and type of fasteners: None Vis

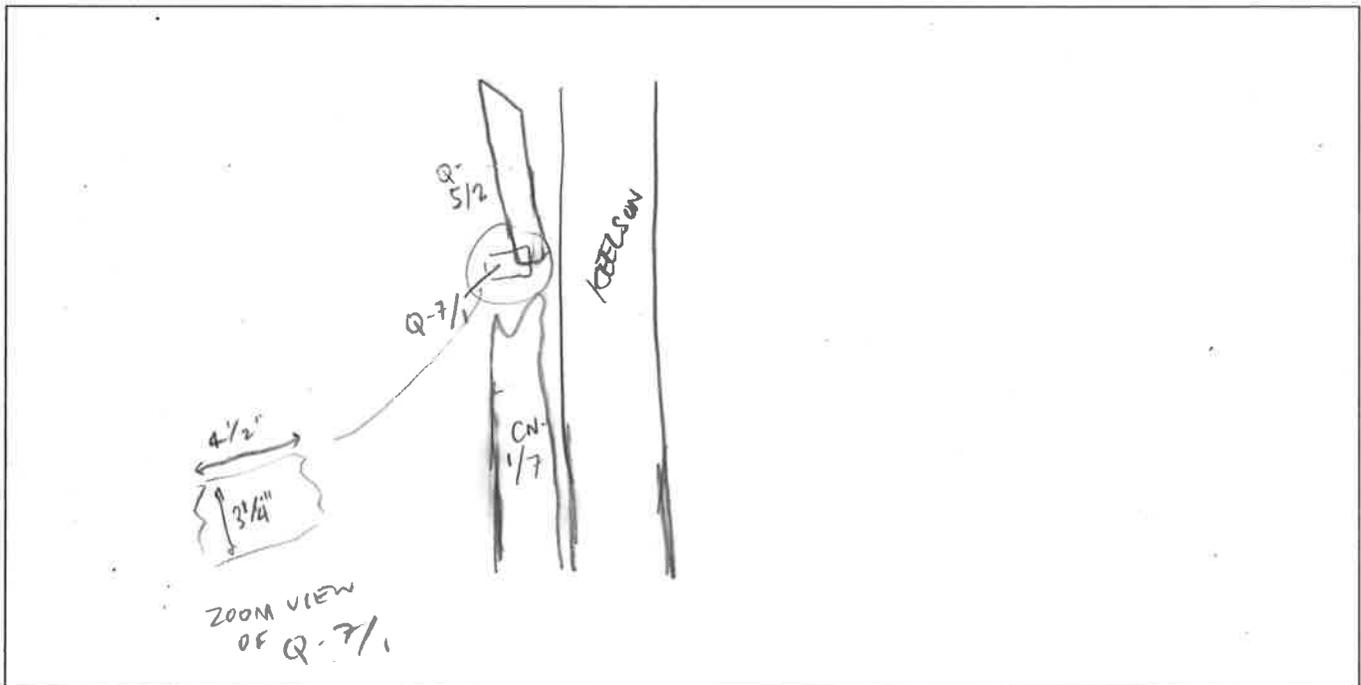
0 Spikes 0 Trunnels 0 Other (Describe:)

Photographs: / in situ 0 full 0 details

Detailed Illustrations? N

Associated Timbers: Near CN-1/7 & Q-5/2

Notes Apparently dislocated, maybe part of "CN" group.



Scale:

Sketch by: MMCD

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: CEILING PLANKING NORTH Artifact Number: CN-1/7

Material: SOFTWOOD? Condition: FRAGILE

Location: 1MM N OF KEELSON, 1MM. E OF ORLOP DECK

Dimensions: L 2'5" W 4.5" D 1"
(sided) (molded)

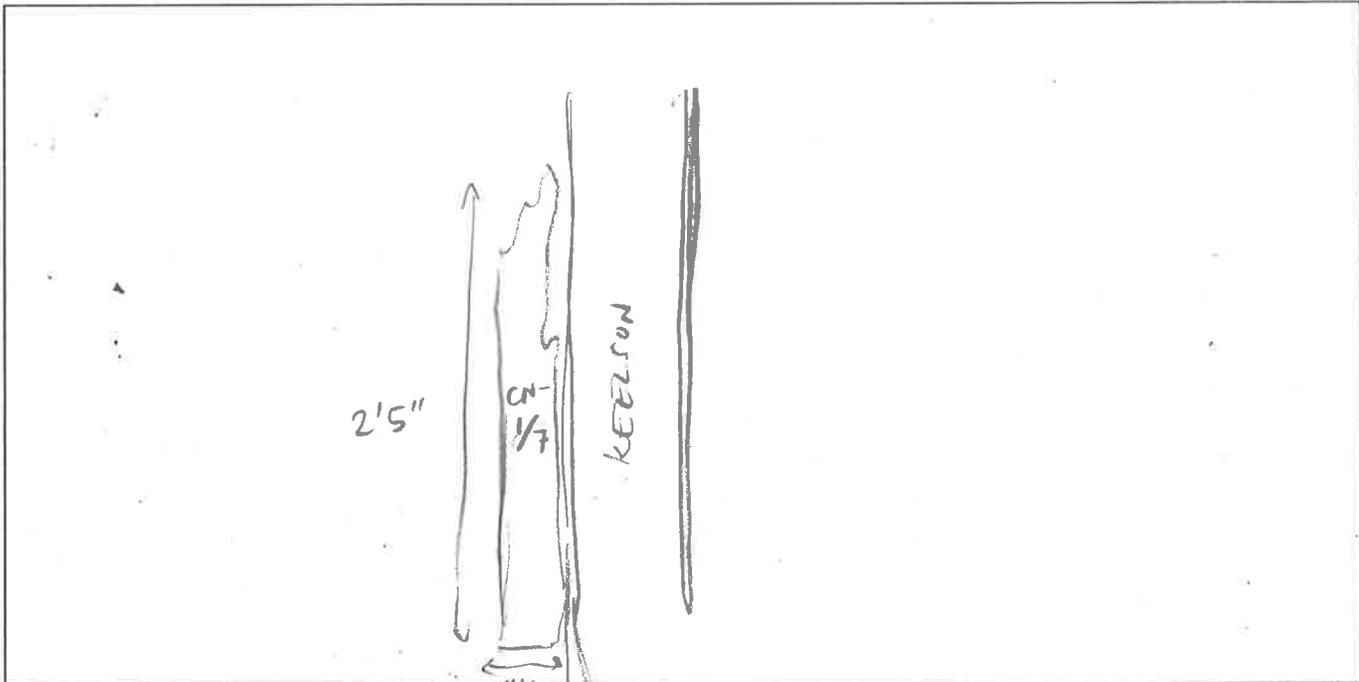
Number and type of fasteners: NONE VIS.
 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations? N

Associated Timbers: KEELSON, Q-5/2, Q-5/1, CN 1/6, CN 1/5

Notes This is one of the long planks running along
the edge of the keelson



Scale:

Sketch by: MM-D.

* 35A under
3/5

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ceiling planing Artifact Number: CN 4/6 + 4/7

Material: wood Condition: good

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

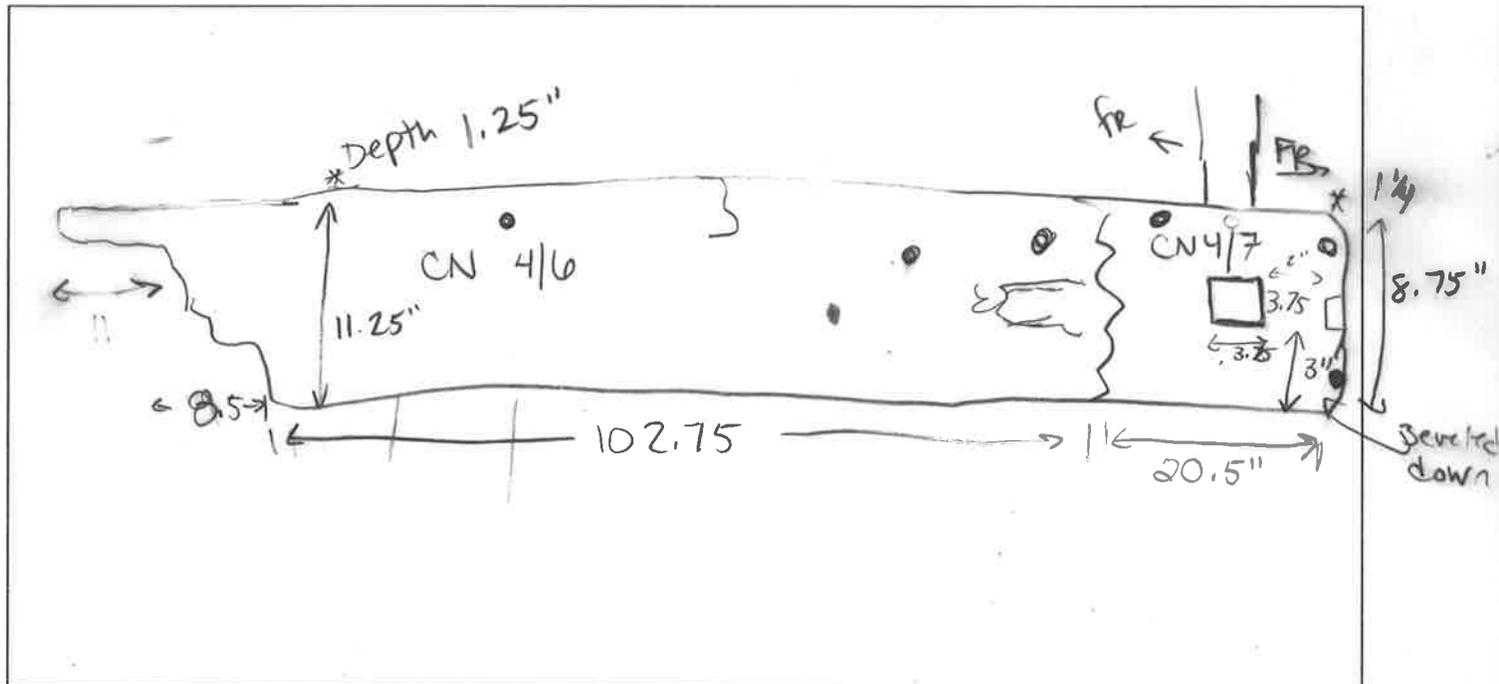
Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: in situ _____ full _____ details _____

Detailed Illustrations? _____

Associated Timbers: in CP 4

Notes _____



Scale: NOT

Sketch by: CARRIE FULTON

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ceiling 5 Artifact Number: CN 5/1-5/10

Material: wood Condition: OK

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

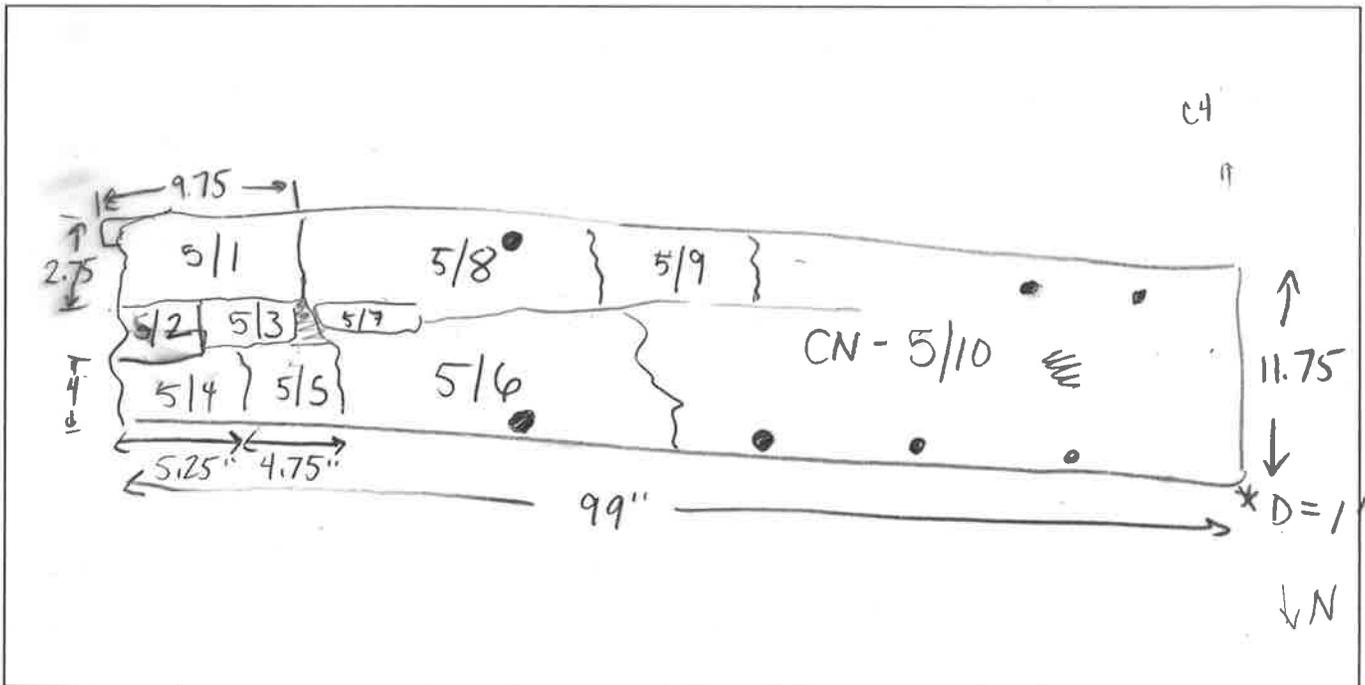
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: yes

Notes _____



Scale:

Sketch by: CARRIE FULTON

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 26 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CN-3/10 + CN-3/10A

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D 1"
(sided) (molded)

Number and type of fasteners:

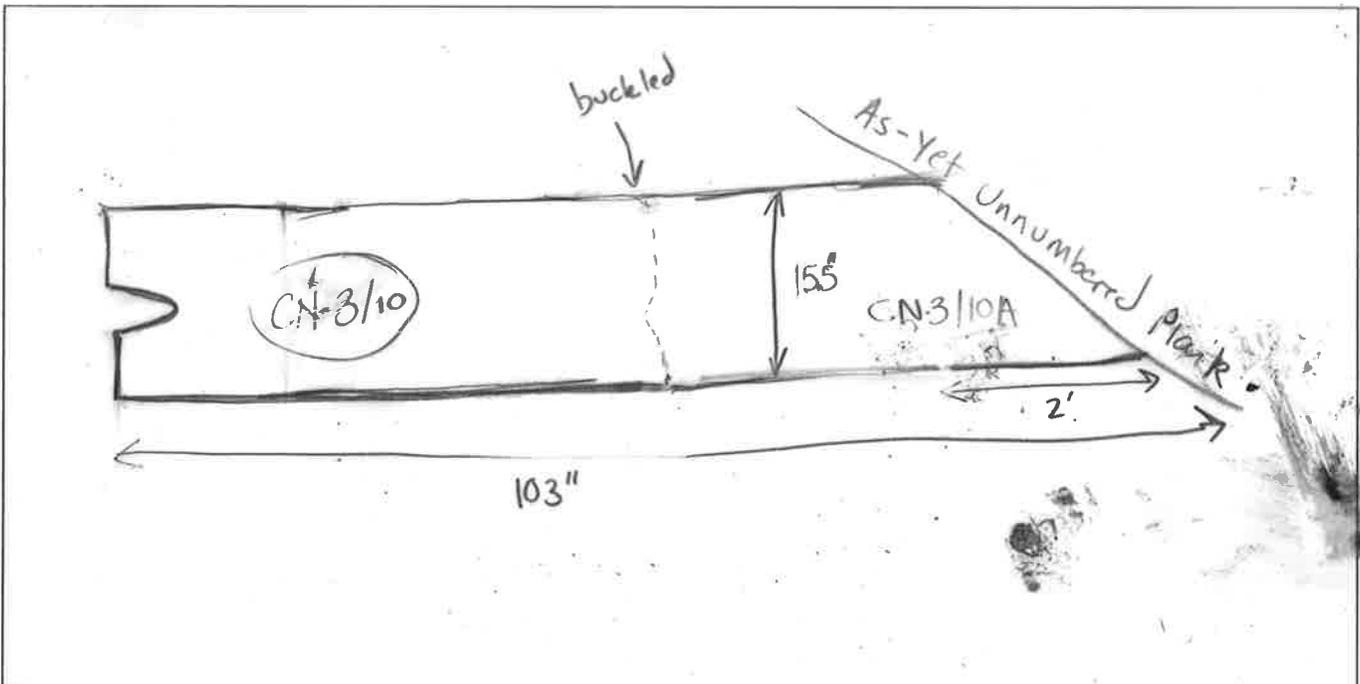
_____ Spikes _____ Trunnels _____ Other (Describe: n/a)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: E. Meade

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CN-2/4 + 2/5

Material: _____ Condition: _____

Location: _____

Dimensions: L C-2/4-17 1/2 W 2/4-2 1/2 D 1/4"-2/4, 2/5-3/4"
2/5-34 3/4 (sided) (molded)

Number and type of fasteners:

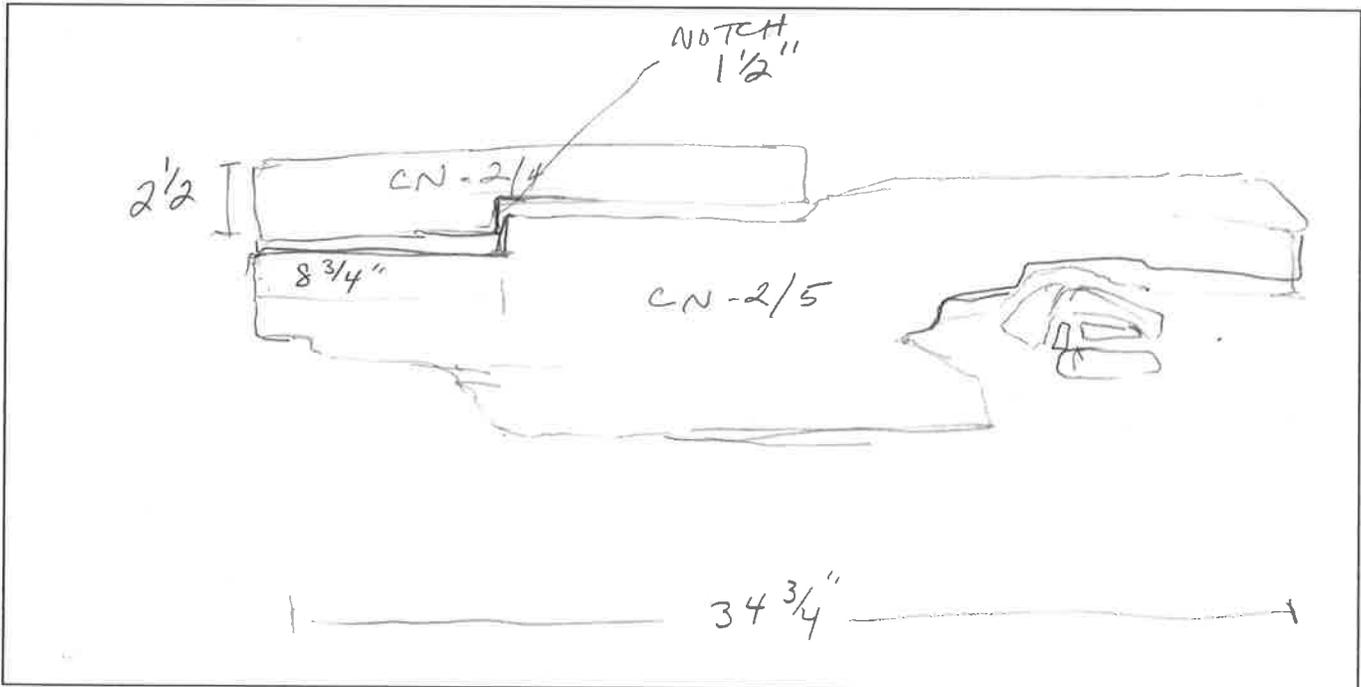
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CN-1/3
CN-2/6

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D 1/3 - 3/4", 2/6 - 3/4"
(sided) (molded)

Number and type of fasteners:

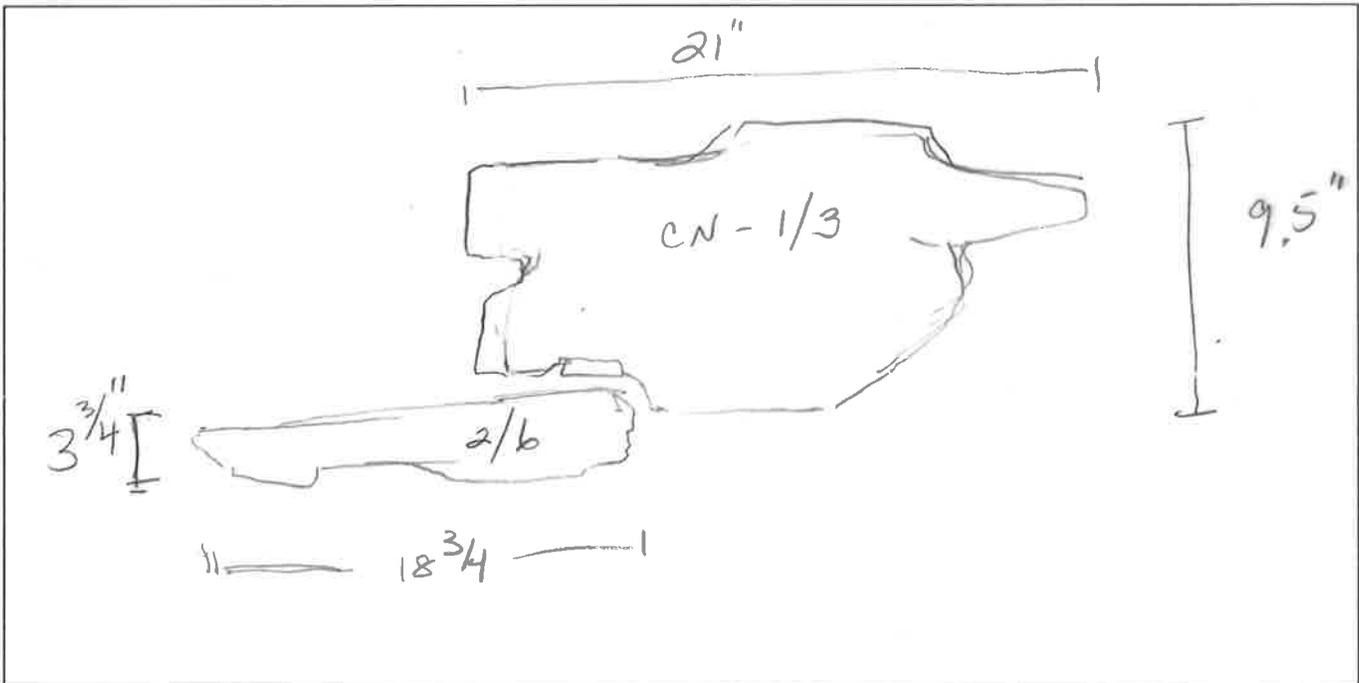
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 26 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CN 2/7-10

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D 3/4 in (all)
(sided) (molded)

Number and type of fasteners:

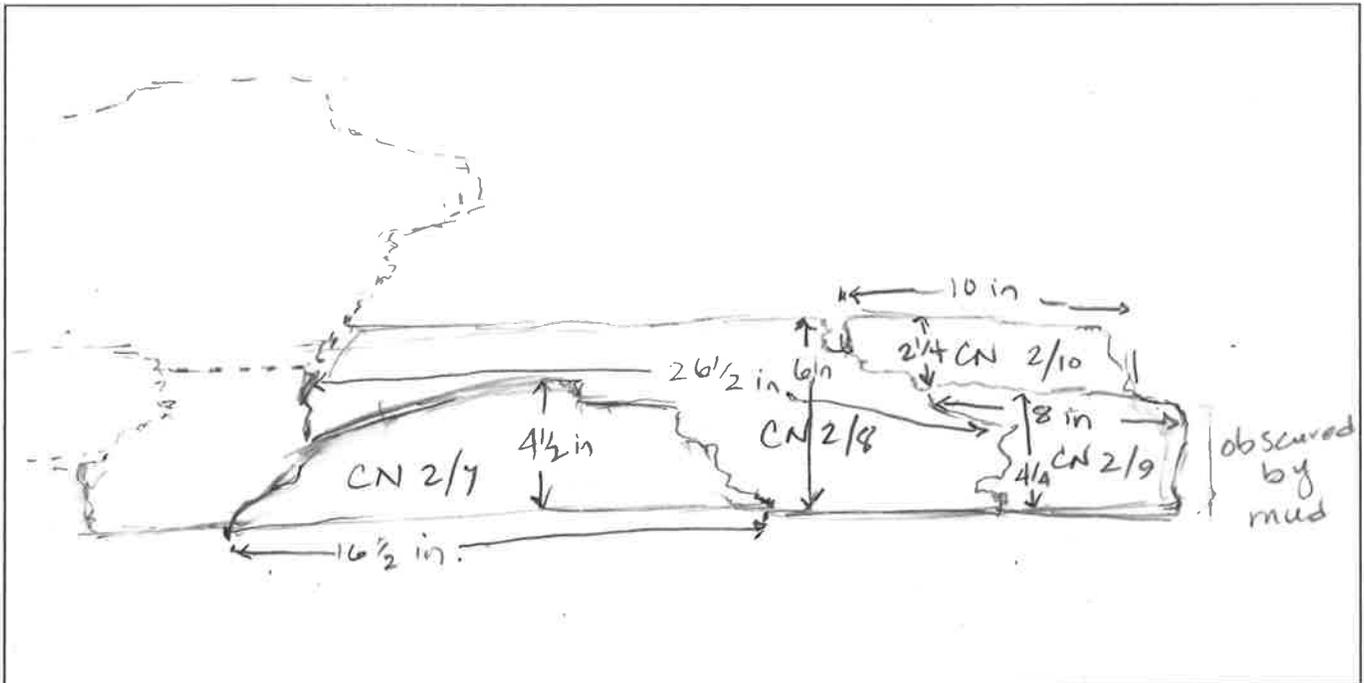
_____ Spikes _____ Trunnels _____ Other (Describe: n/a)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: N Shippen

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/26/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: en-3/5-9

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

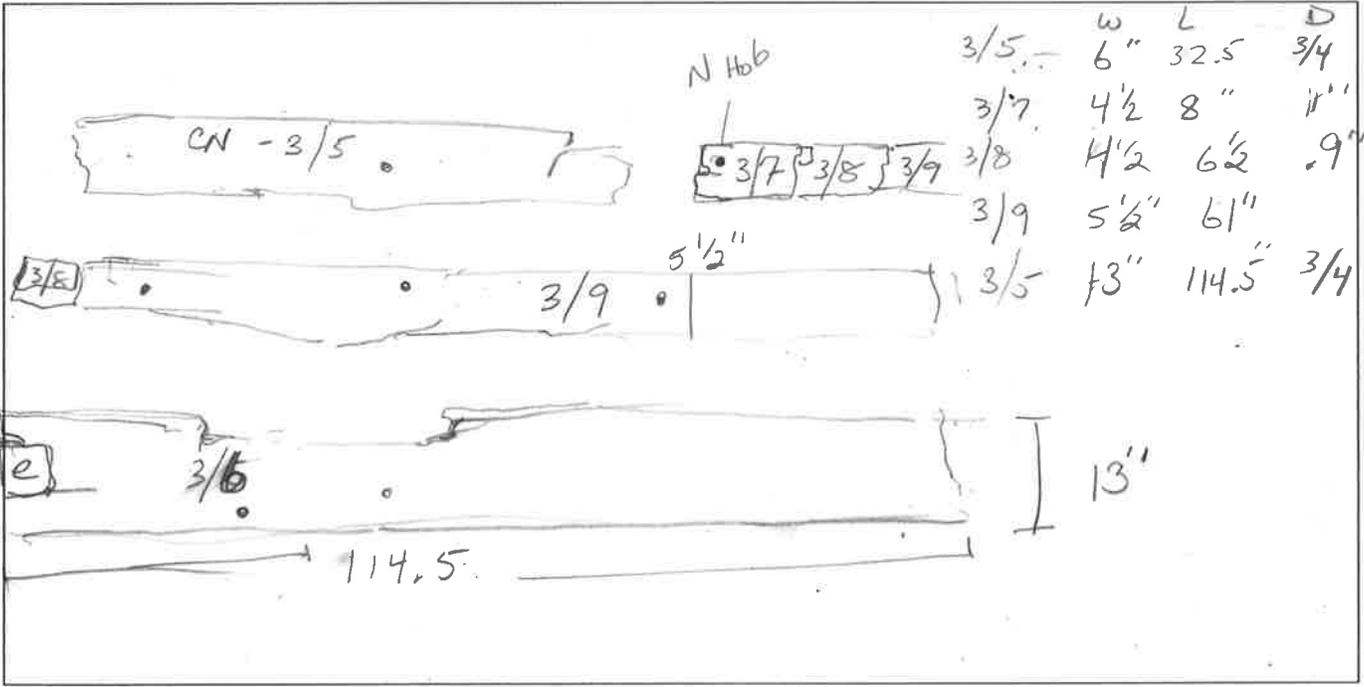
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: lc RISS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: / /2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: unknown Artifact Number: Q-17

Material: wood Condition: ok

Location: Bow - 5, part of CS4?

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

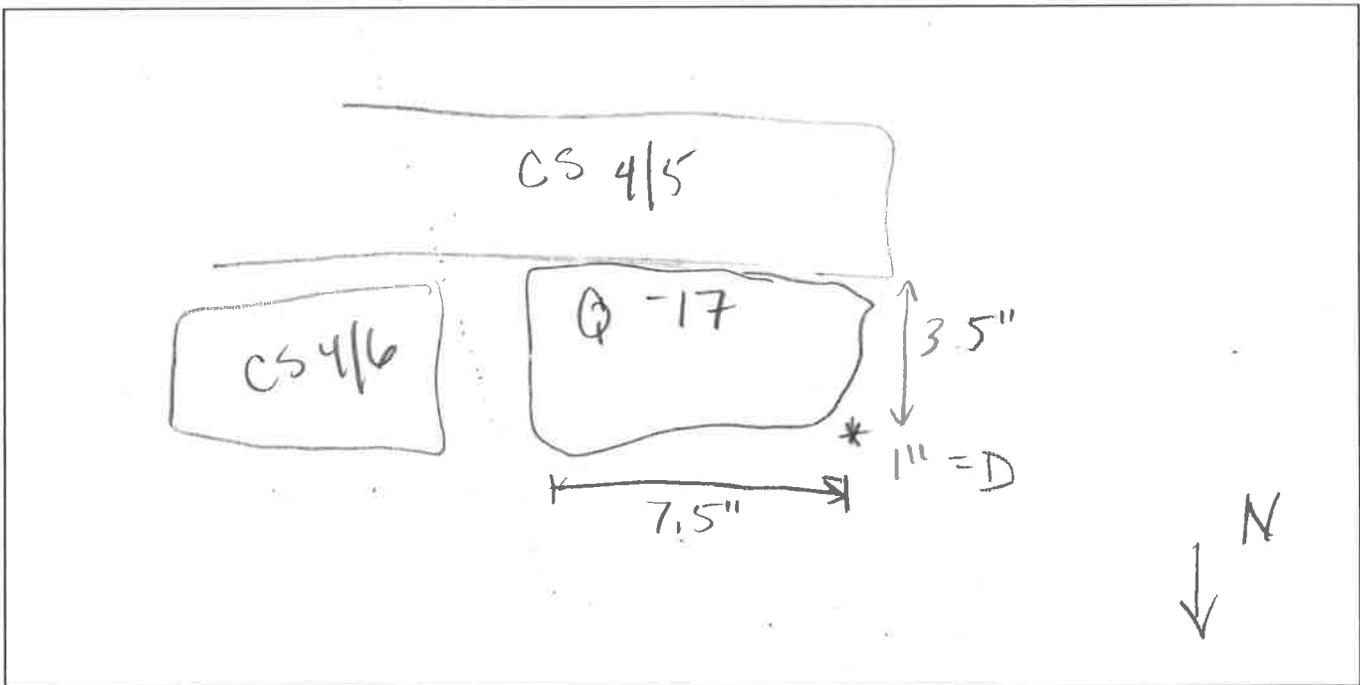
____ Spikes ____ Trunnels ____ Other (Describe: _____)

Photographs: in situ ____ full ____ details

Detailed Illustrations? _____

Associated Timbers: CS4?

Notes unknown - perhaps ouling planking w/ 4



Scale: NB

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ceiling planking

Artifact Number: CS-4/1, 4/2

Material: wood

Condition: OK

Location: _____

Dimensions: L _____ W _____ D _____

(sided)

(molded)

Number and type of fasteners:

_____ Spikes _____ Trunnels _____ Other (Describe: _____)

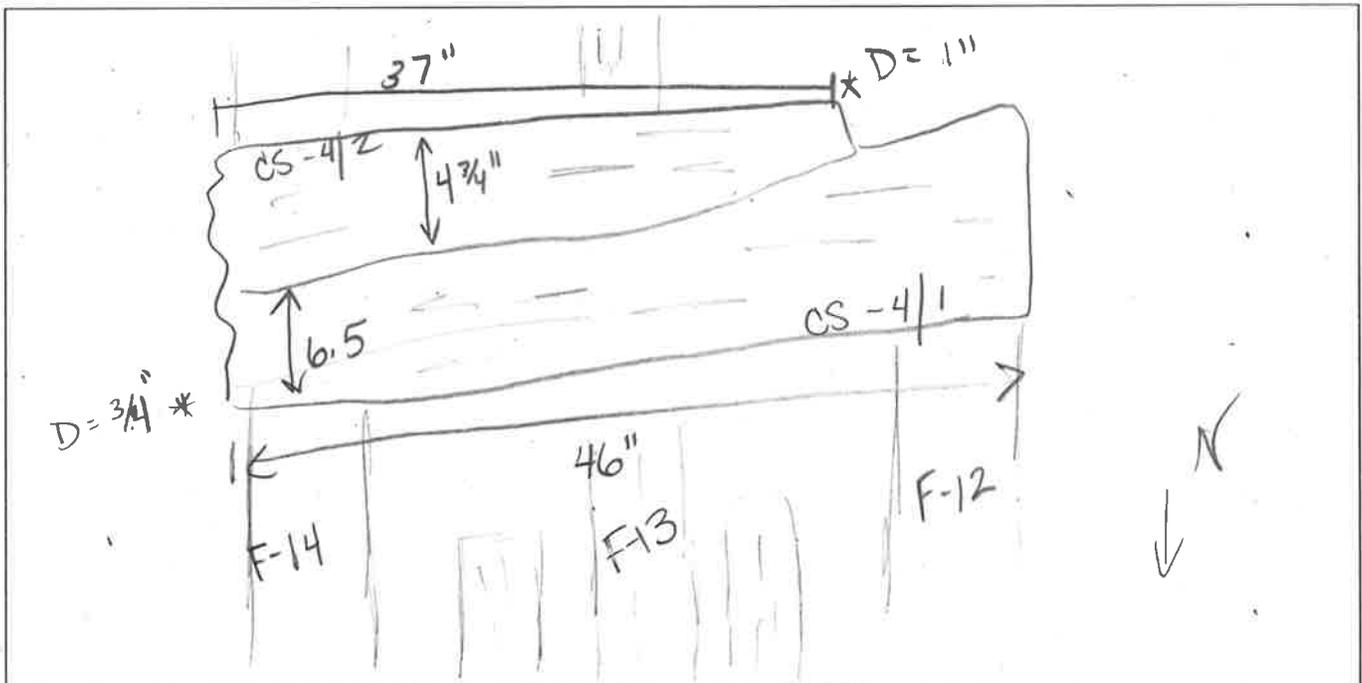
Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: connects w/ CS-4/3

Notes

CS-5/1 above
CS-3/6 below



Scale: ND

Sketch by: C. Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: South ceiling planking Artifact Number: CS-Q/17 + CS-Q/18

Material: wood Condition: _____

Location: South CP

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

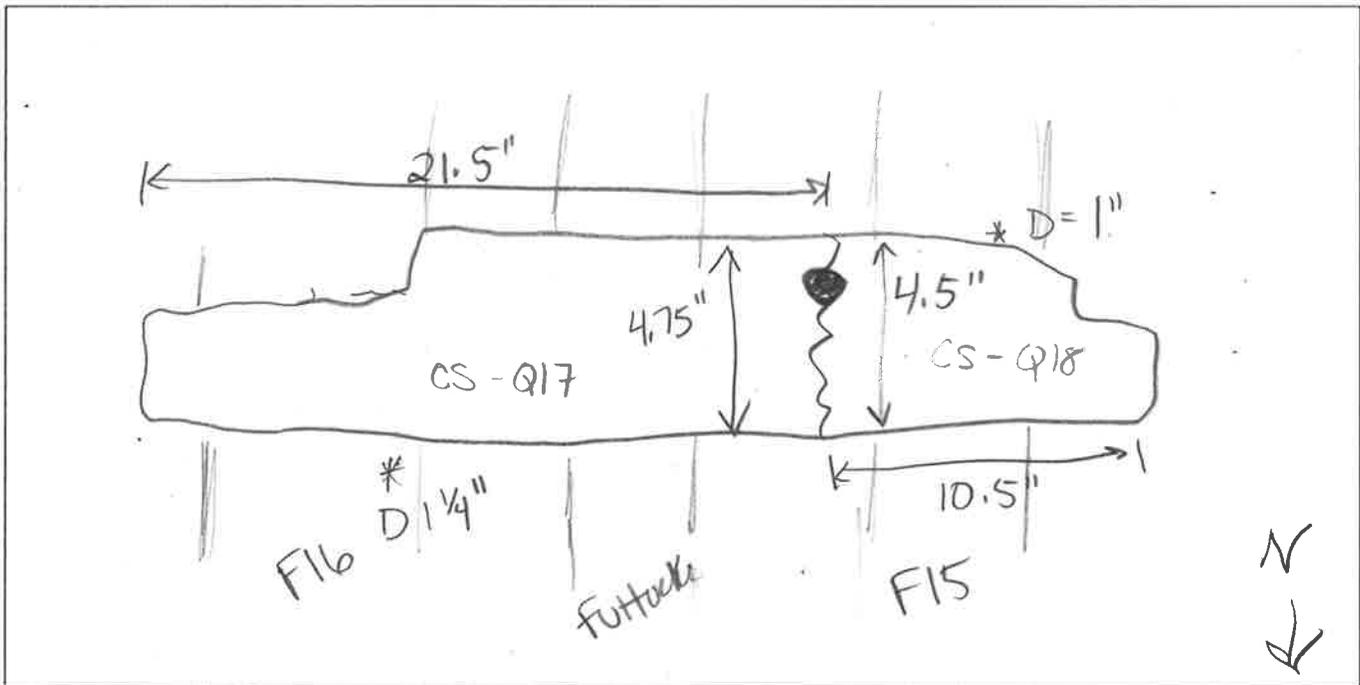
1 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes possibly in line w/ CS 4 - top part



Scale: NO

Sketch by: Carrie Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 27 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ceiling plank Artifact Number: CS-Q16

Material: wood Condition: OK

Location: South

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

_____ Spikes _____ Trunnels _____ Other (Describe: _____)

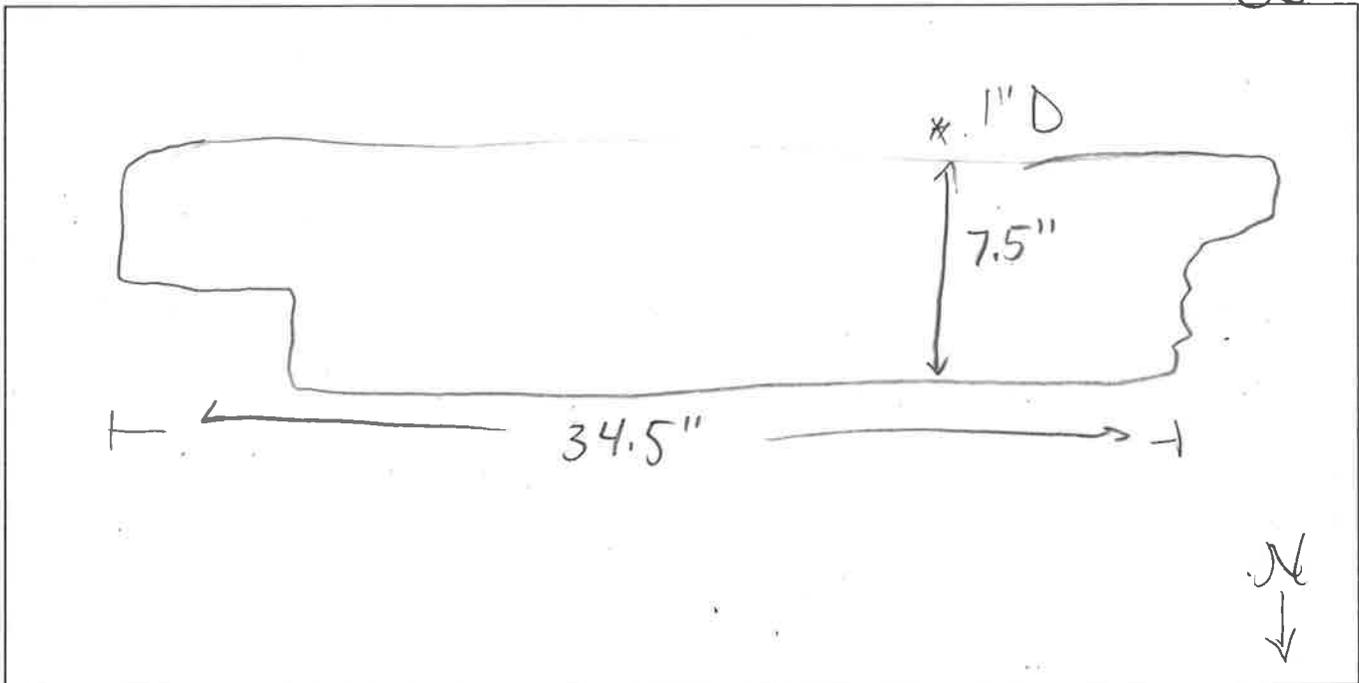
Photographs: in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes spanning F. 15 + 16 - maybe in know / C-4

CS-Q16



Scale: NB

Sketch by: C. Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: / / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ceiling plank Artifact Number: CS-5/1 + 5/2

Material: wood Condition: sk

Location: S

Dimensions: L W D
(sided) (molded)

Number and type of fasteners:

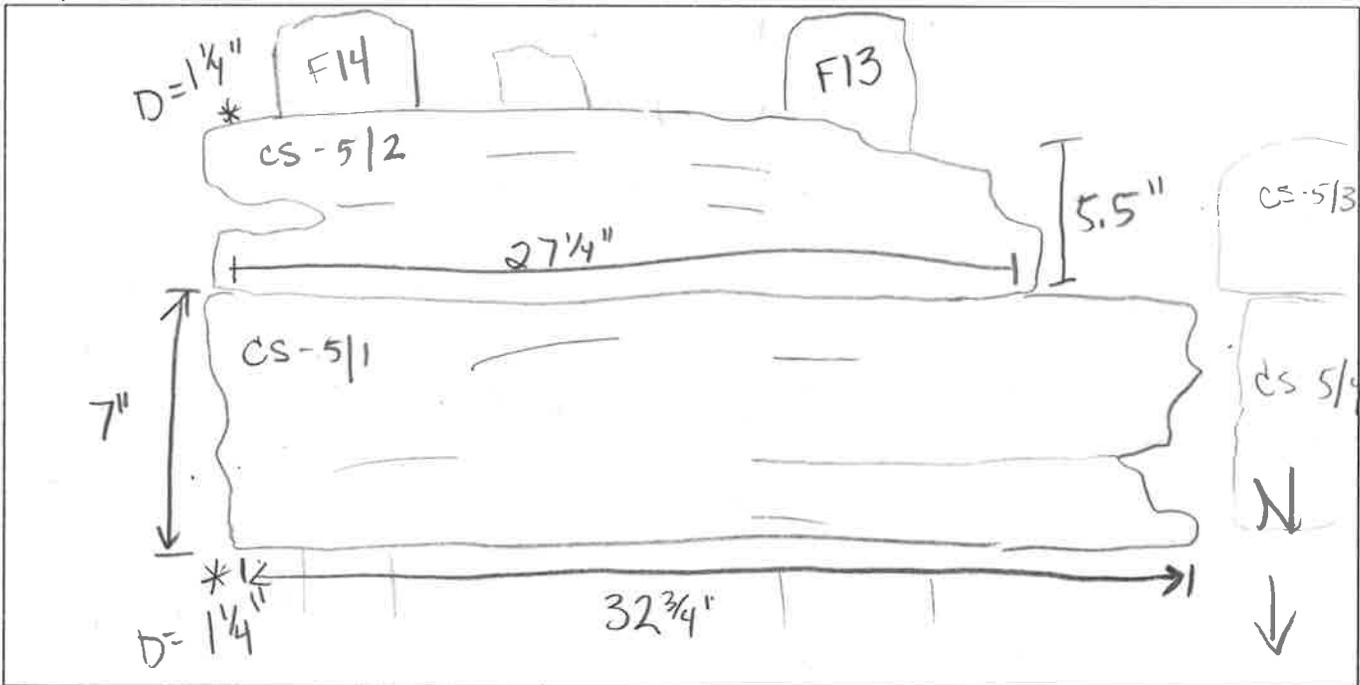
 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers:

Notes 5/3 + 5/4 continue



Scale: NU

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: / / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CS-3/1-2, 6+7

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

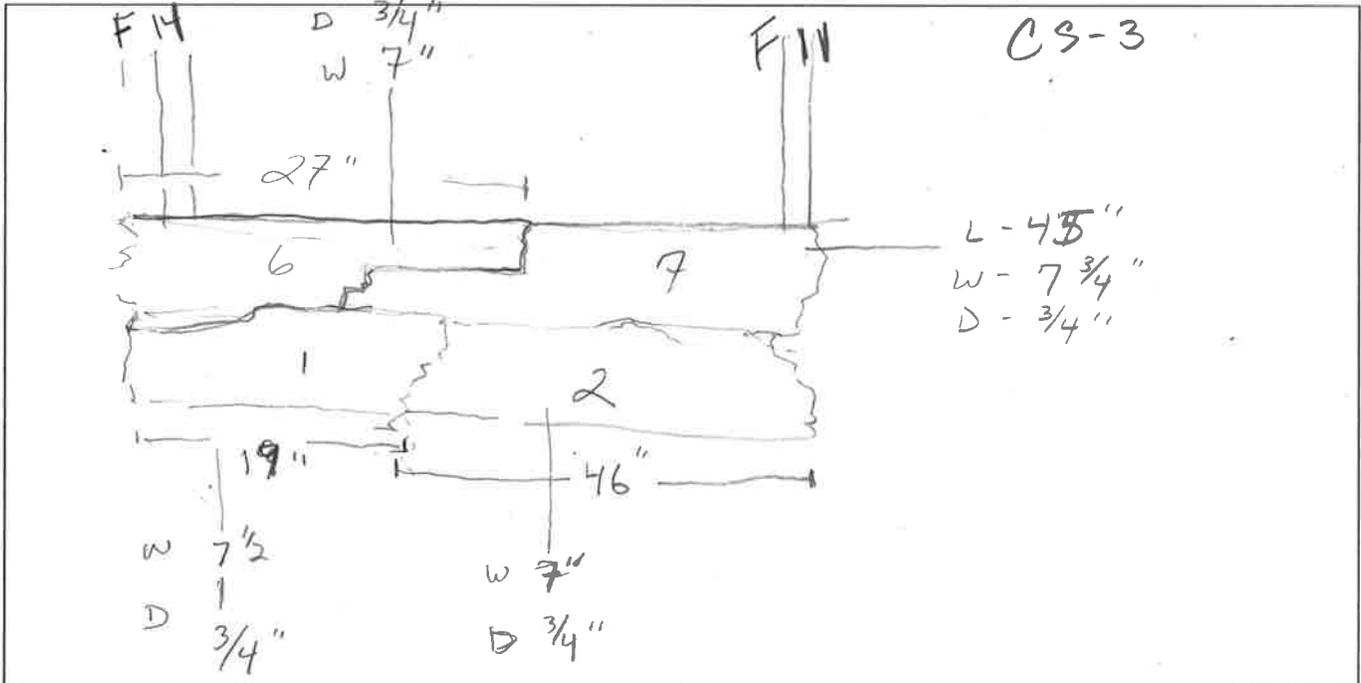
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: W Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CS-3/5 + 9

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D 1" Timbers
(sided) (molded)

Number and type of fasteners:

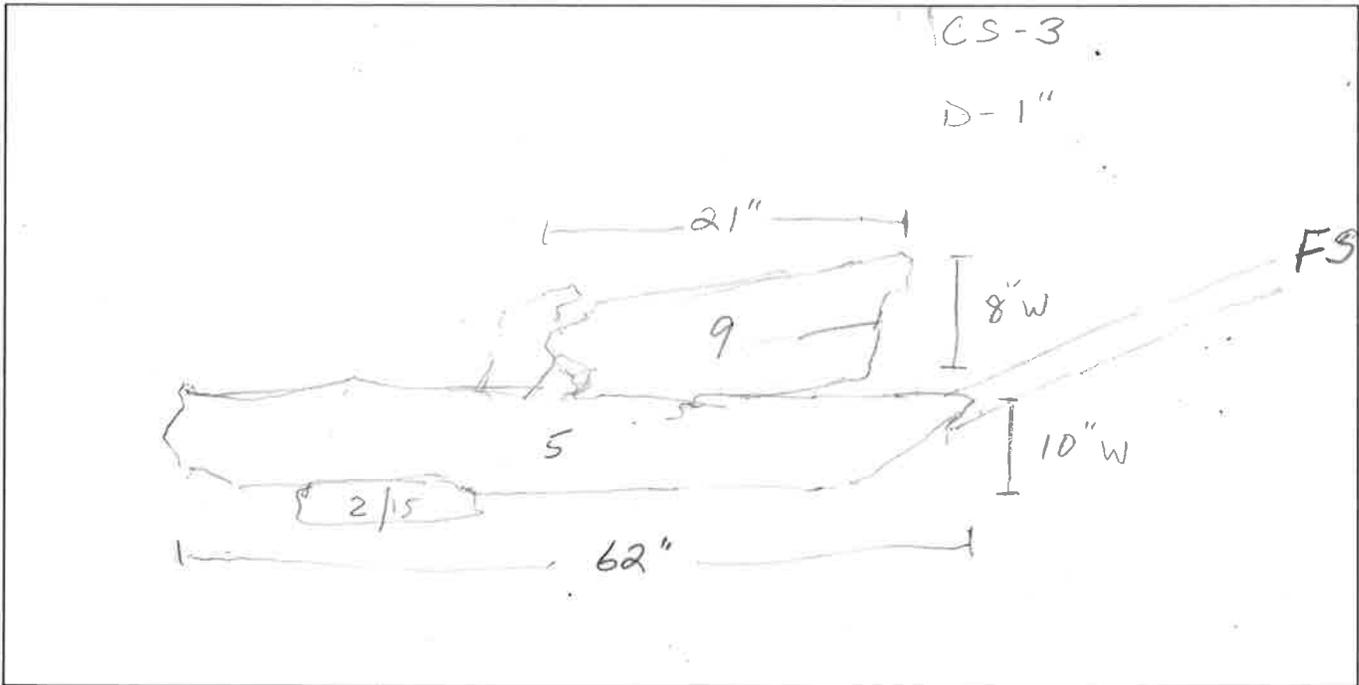
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CS-3/3, 4, 8

Material: _____ Condition: _____

Location: _____

Dimensions: L 63"-9" W _____ D 3/4" all timbers
(sided) (molded)

Number and type of fasteners:

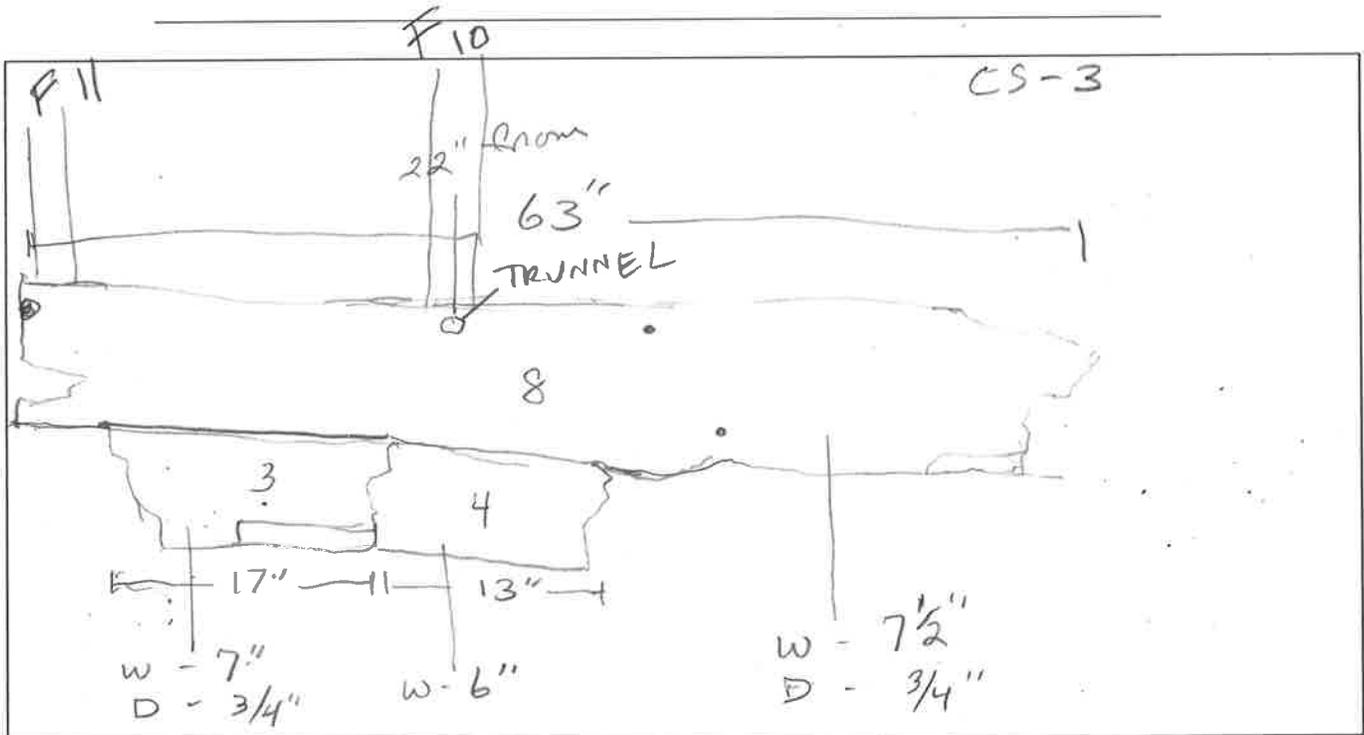
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CØ-1 + 2

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

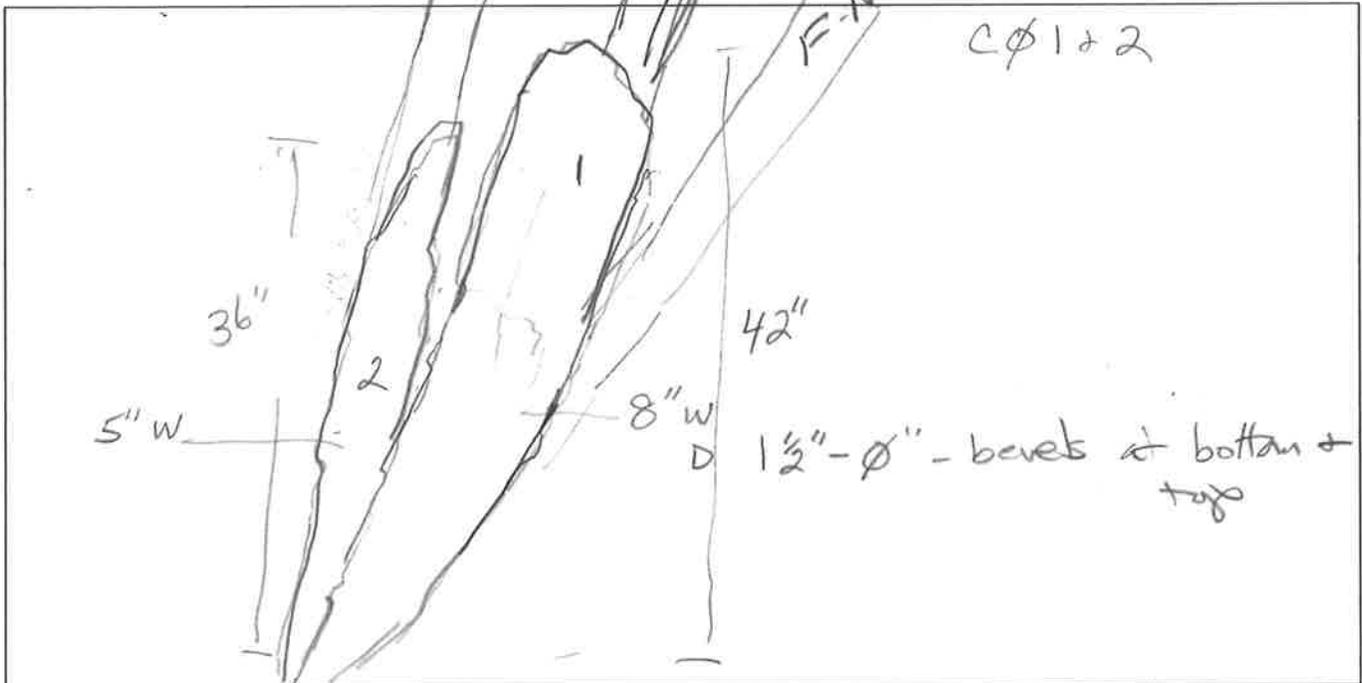
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K MESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ceiling planking Artifact Number: CS 6/1

Material: WOOD Condition: OK

Location: BOW - south

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

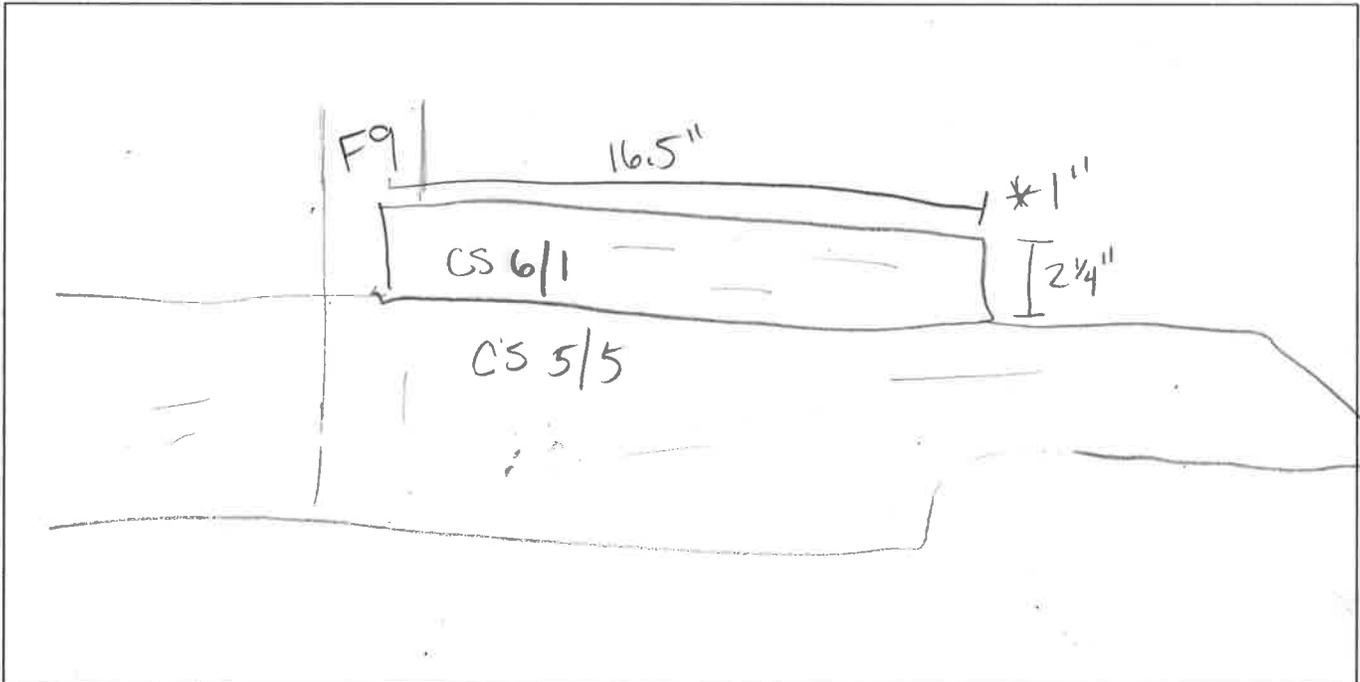
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes last c. plank series on south side



Scale: Not

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ceiling planking Artifact Number: CS 5/3, 5/4, 5/5

Material: wood Condition: OK

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

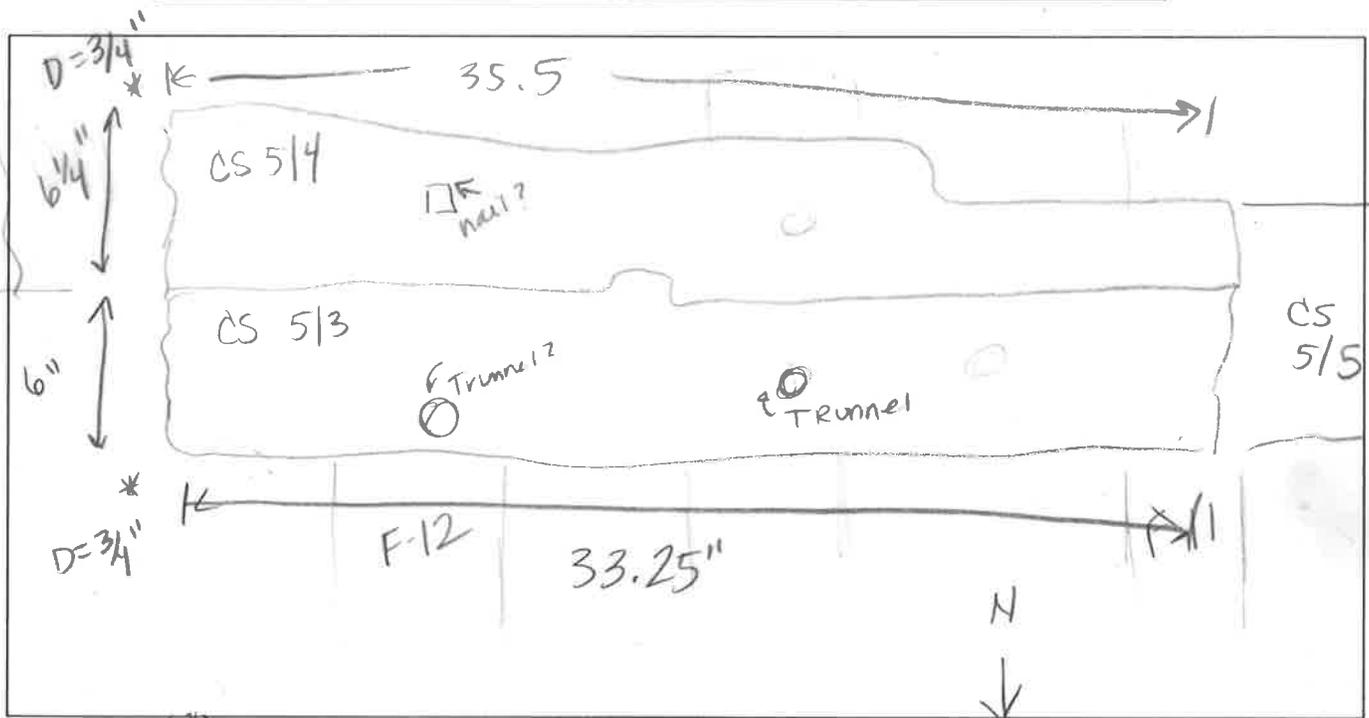
Spikes Trunnels Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? _____

Associated Timbers: ceiling planking CS-5 - followed by

Notes CS 5/4 & 3 preceding



Scale: NO

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: FutHucks Artifact Number: FN-18-1

Material: wood Condition: ok

Location: North - Stern?

Dimensions: L 58" W 4.5" D 5.75"
(sided) (molded)

Number and type of fasteners:

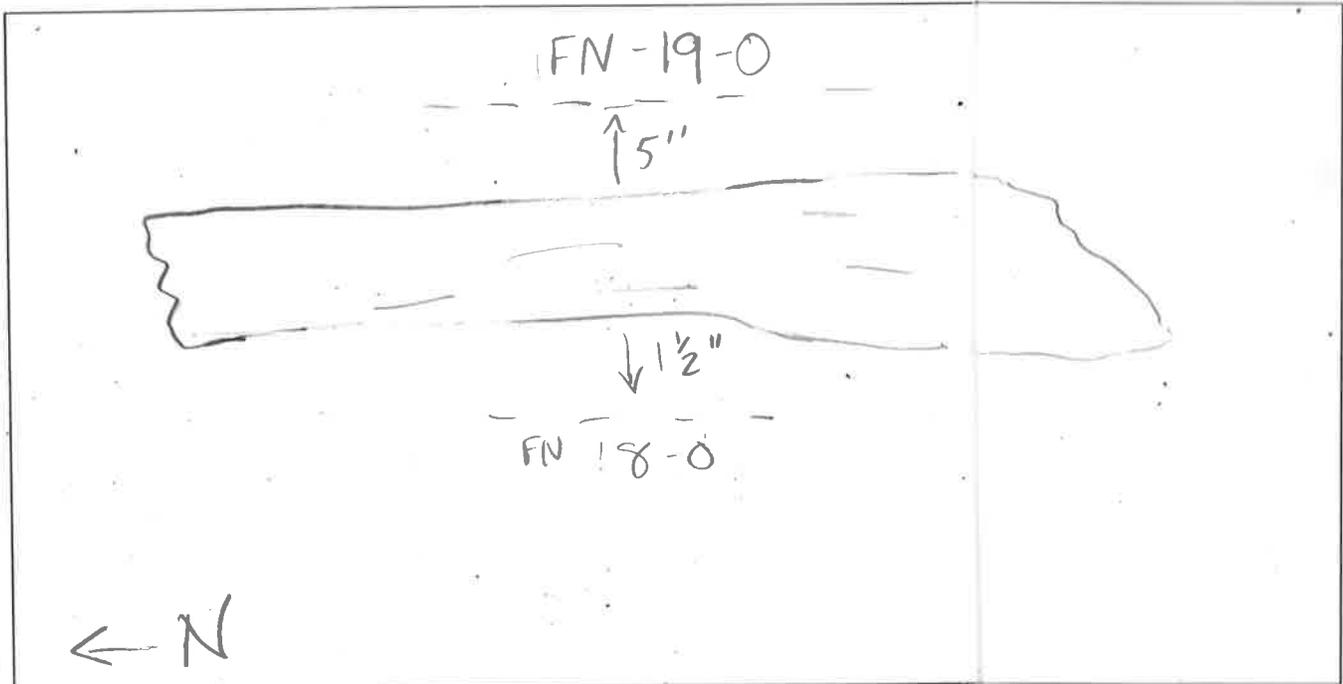
 Spikes. Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers:

Notes broken in N end near FN 18-3?



Scale: no

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 127/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: CQ - 18

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

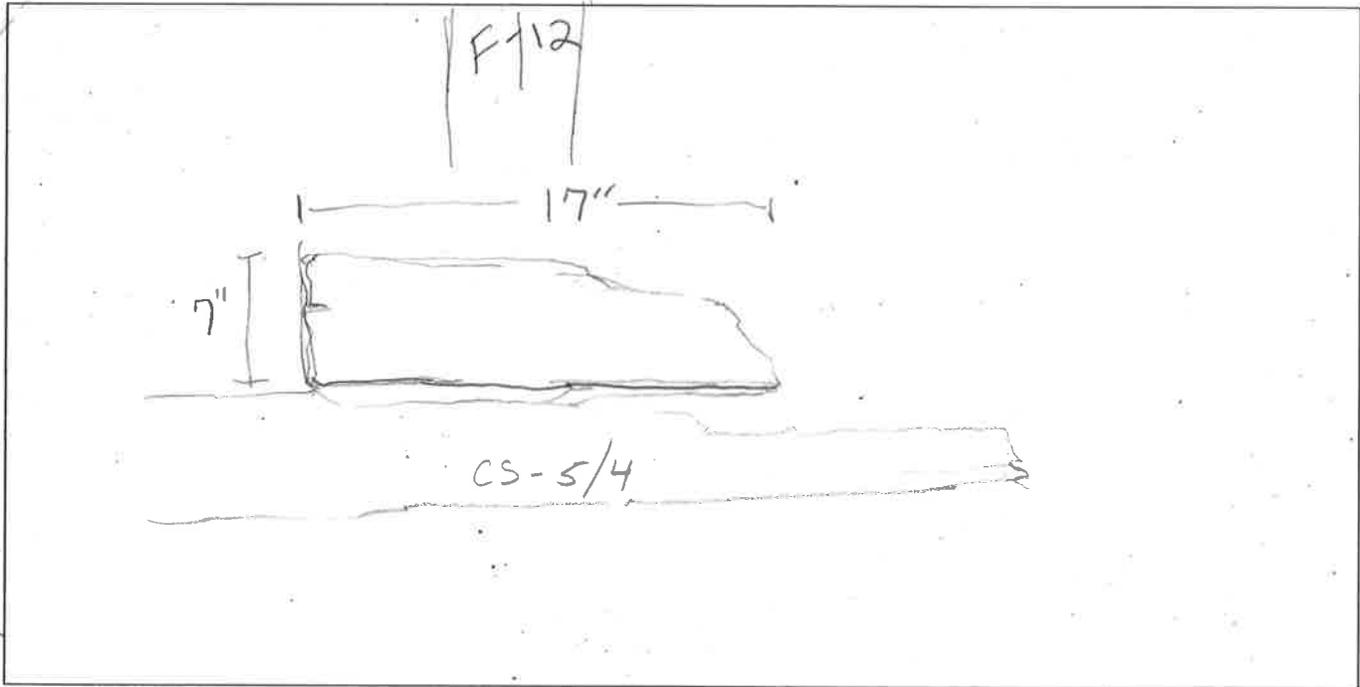
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN-23-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 73' W 5'8" D 5"
(sided) (molded)

Number and type of fasteners:

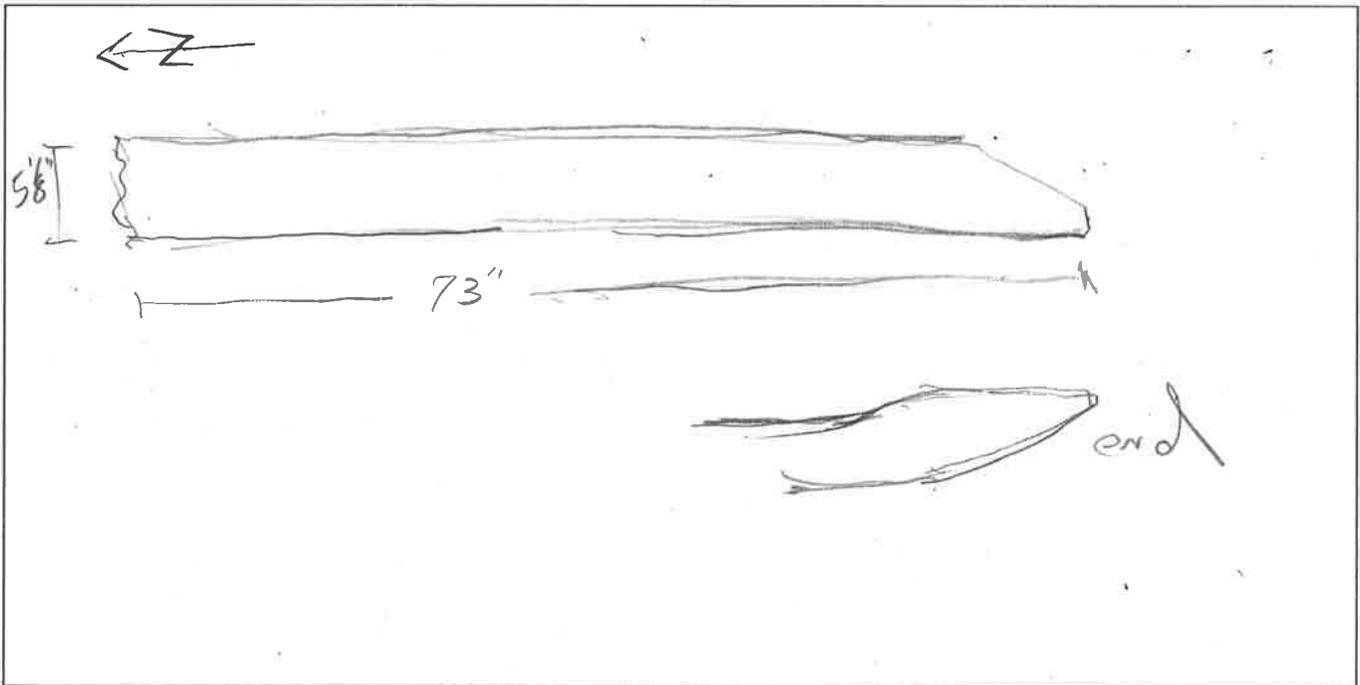
____ Spikes ____ Trunnels ____ Other (Describe: _____)

Photographs: ____ in situ ____ full ____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN-23-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 131" W 5 1/2" D 5 1/2"
(sided) (molded)

Number and type of fasteners:

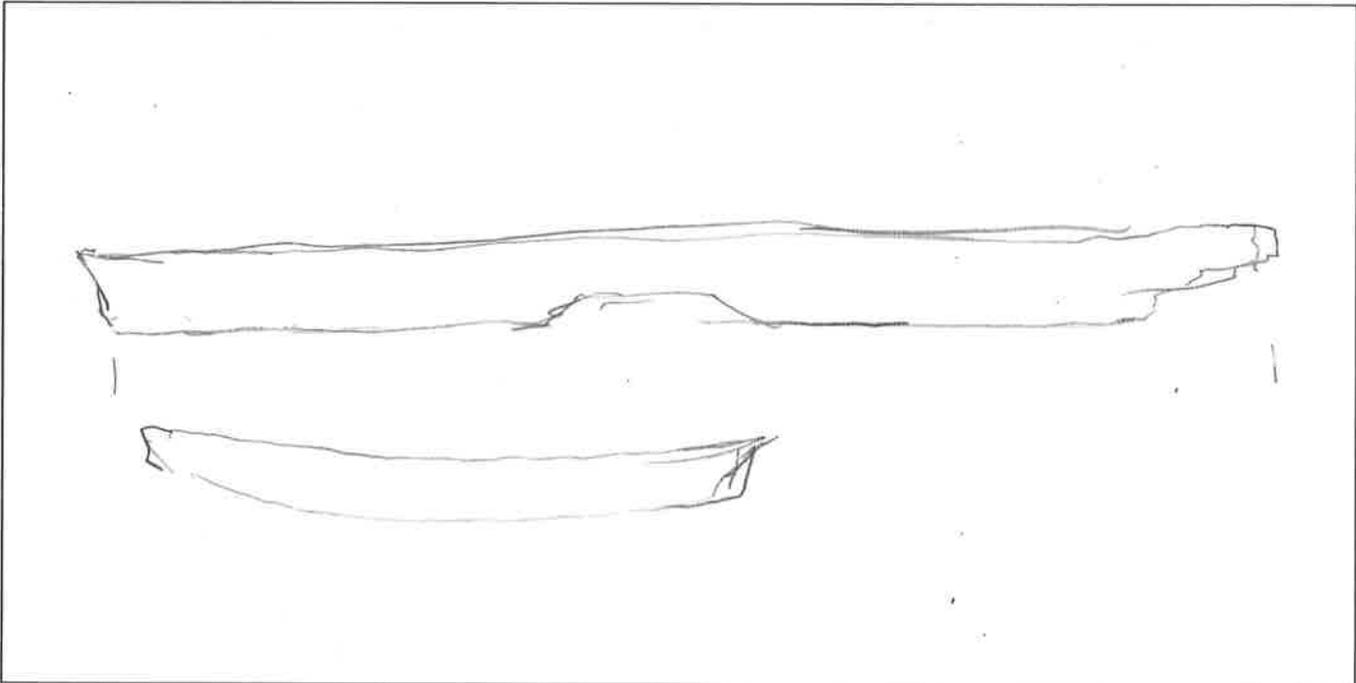
108 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN-22-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 80" W 5 1/4" D 4 1/2"
(sided) (molded)

Number and type of fasteners:

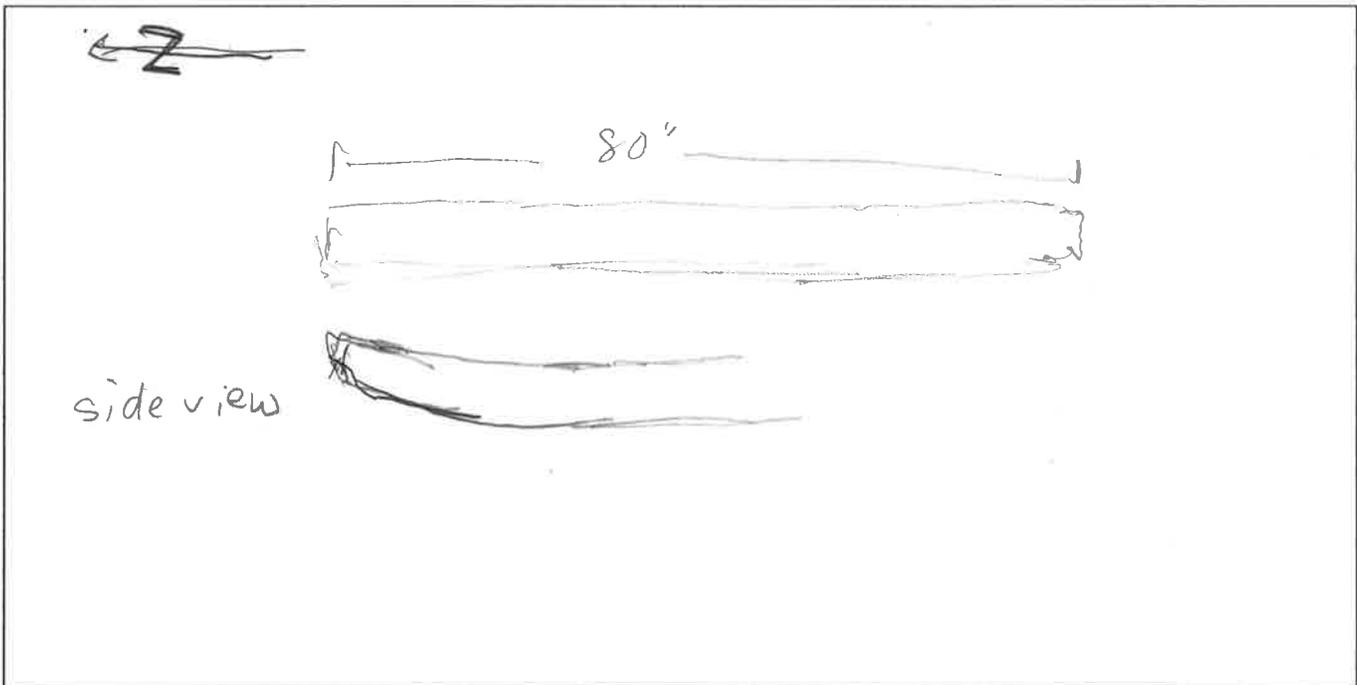
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 27 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FW 22-Ø

Material: _____ Condition: _____

Location: _____

Dimensions: L 143" W 6" D 6 3/8"
(sided) (molded)

Number and type of fasteners:

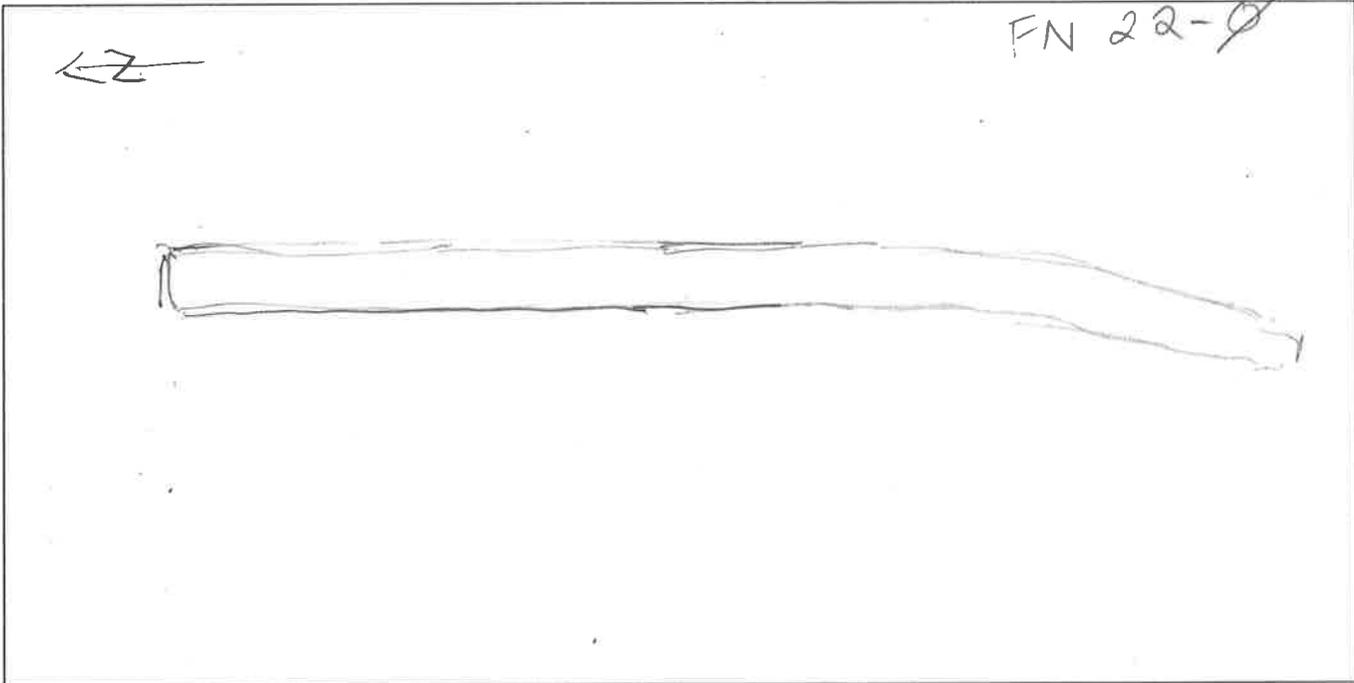
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FS 21-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 32" W 4 1/2" D 6"
(sided) (molded)

Number and type of fasteners:

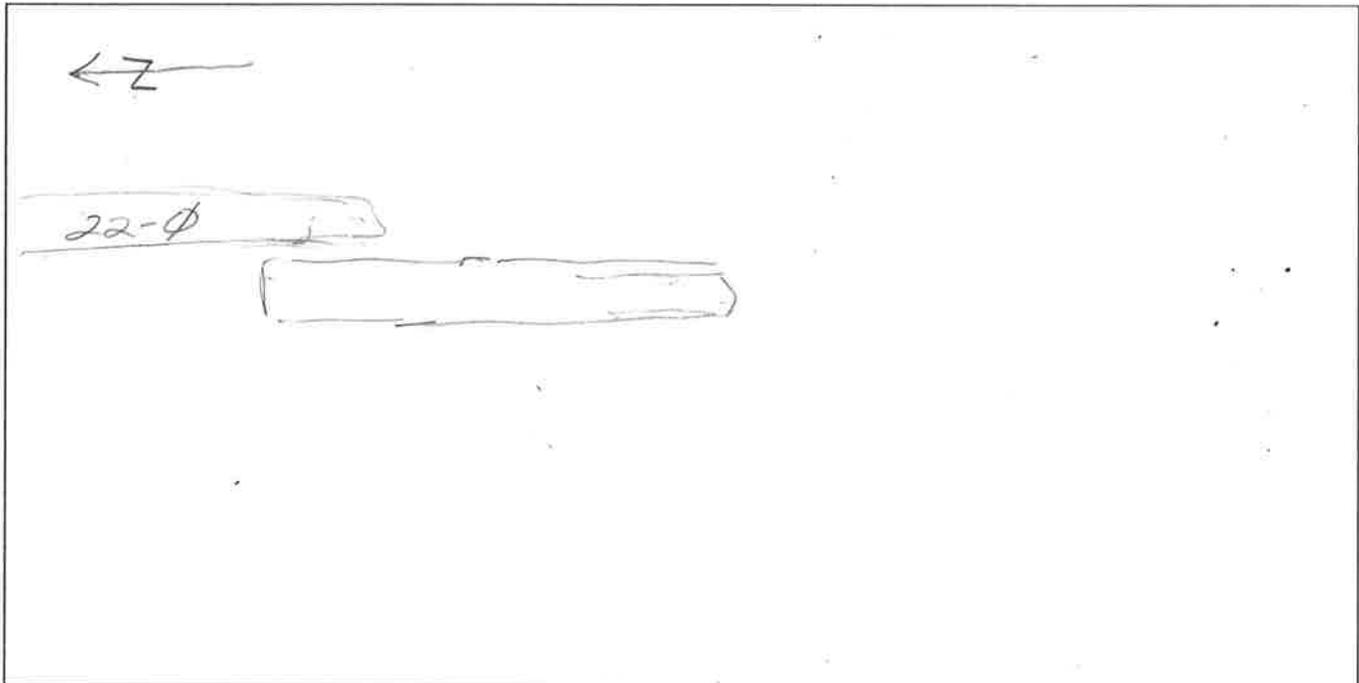
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FS 20-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 70 1/2" W 5 3/4 D 6 1/4"
(sided) (molded)

Number and type of fasteners:

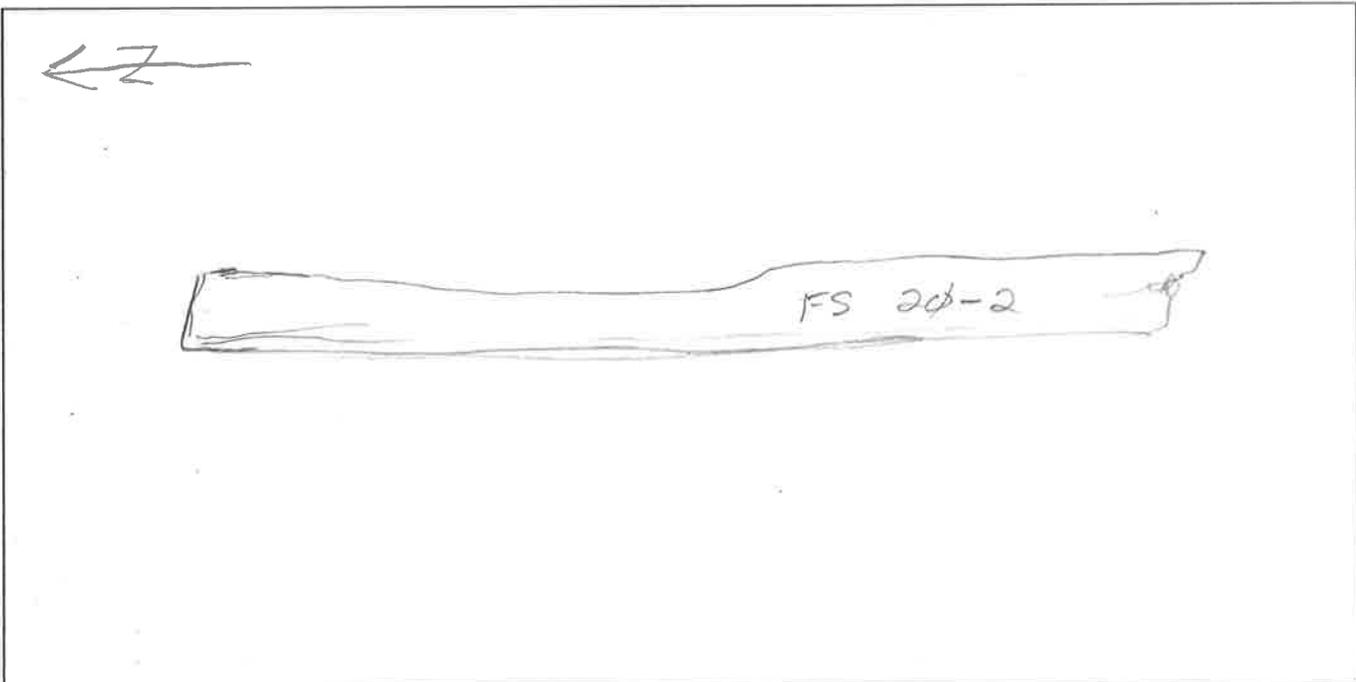
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: nutracks Artifact Number: FS 12-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 3' 5" W 5" D 5"
(sided) (molded)

Number and type of fasteners:

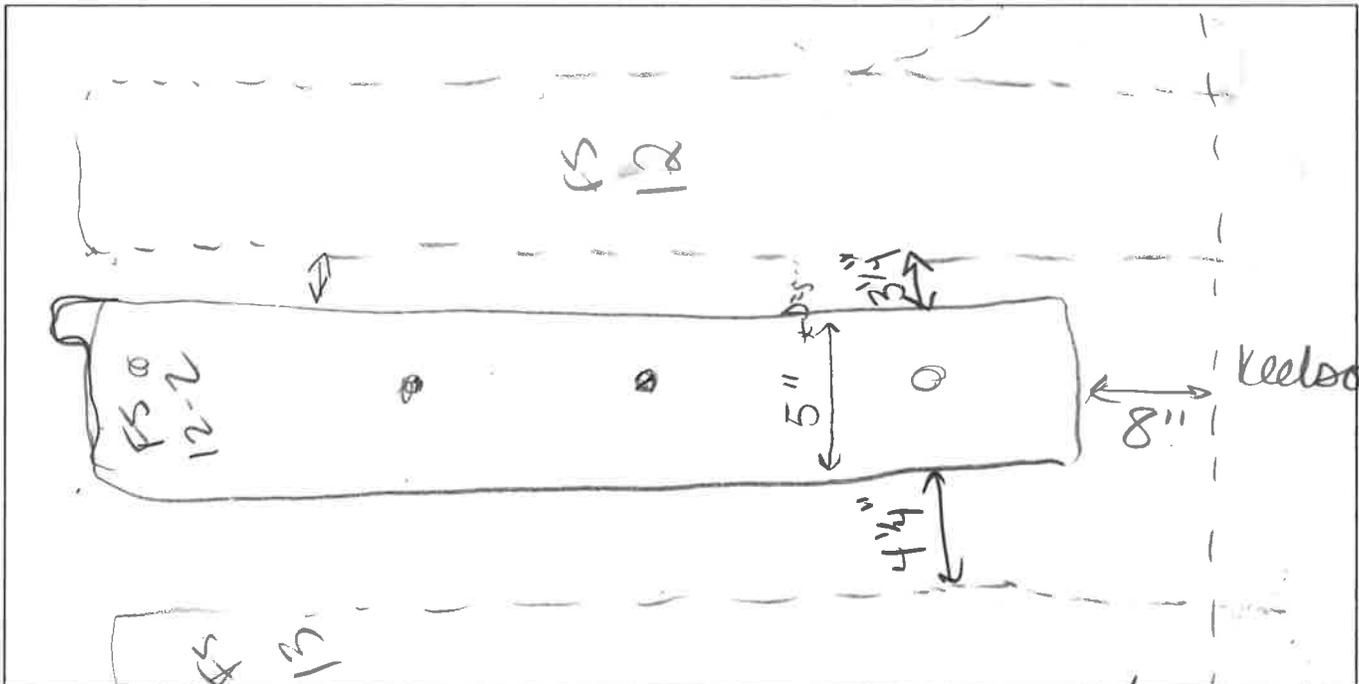
3 4 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: NO

Sketch by: C Fulton



Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fulcrum Artifact Number: FN-145

Material: Wood Condition: deteriorating

Location: North 14-5

Dimensions: L 25" W 4" D 3 1/4"
(sided) (molded)

Number and type of fasteners:

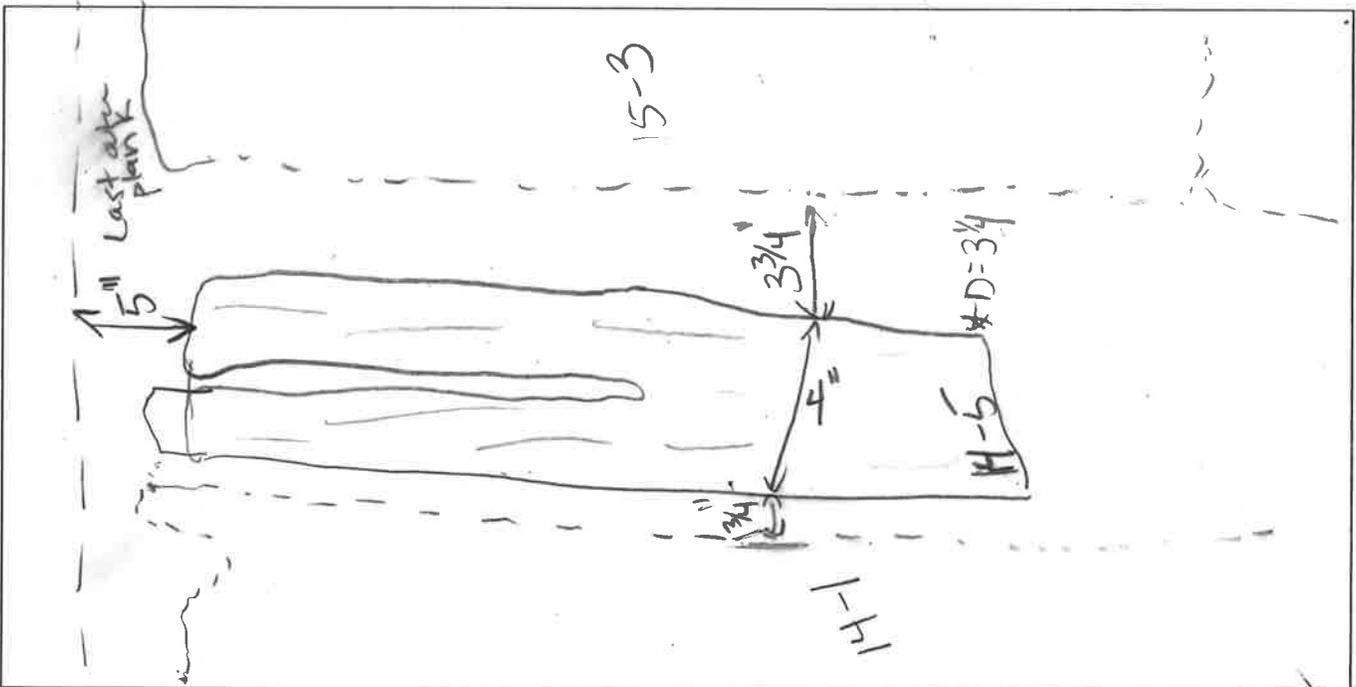
 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers:

Notes to east of H-1



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/25/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FS-14-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 4'3" W 6" D 5 1/4"
(sided) (molded)

Number and type of fasteners:

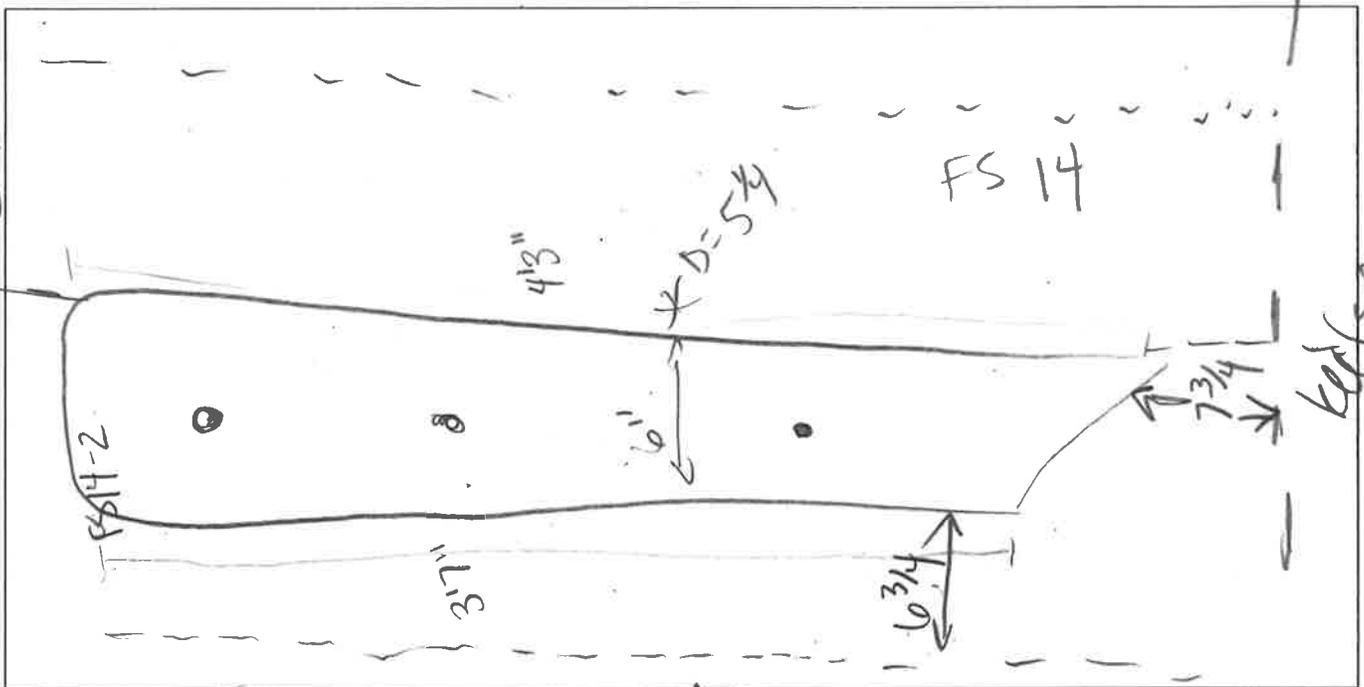
3 ✓ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: ✓ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes abutts 14



Scale: Not

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Futuhus

Artifact Number: FN14-7

Material: wood Condition: good

Location: North

Dimensions: L 47" W 5.5" D 4.5"
overall 67.5" (sided) (molded)

Number and type of fasteners:

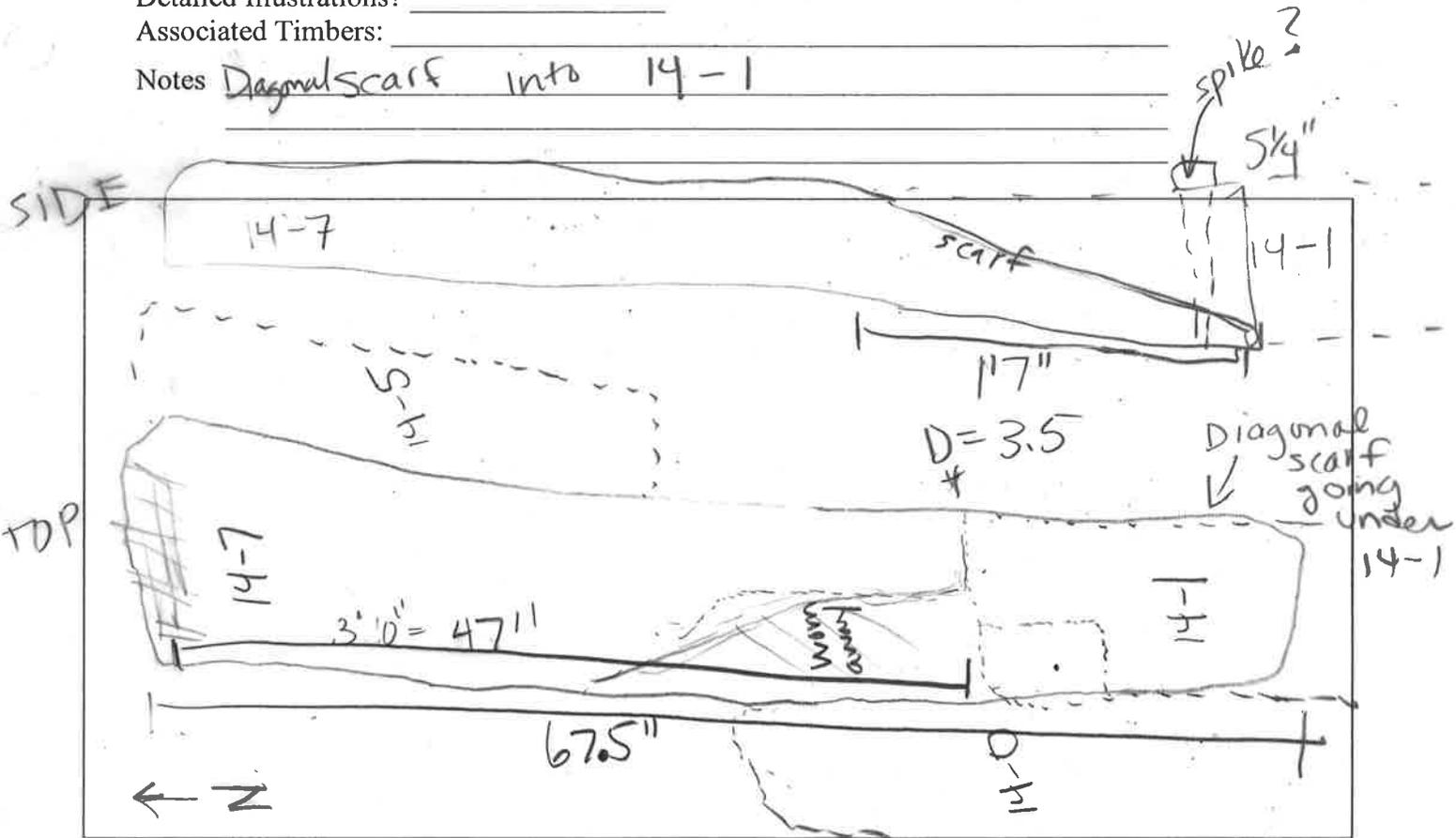
 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers:

Notes Diagonal scarf into 14-1



Scale: NOT

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Floor Frame Artifact Number: FN 19-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 90" W 6 1/4 D 6 1/4
(sided) (molded)

Number and type of fasteners:

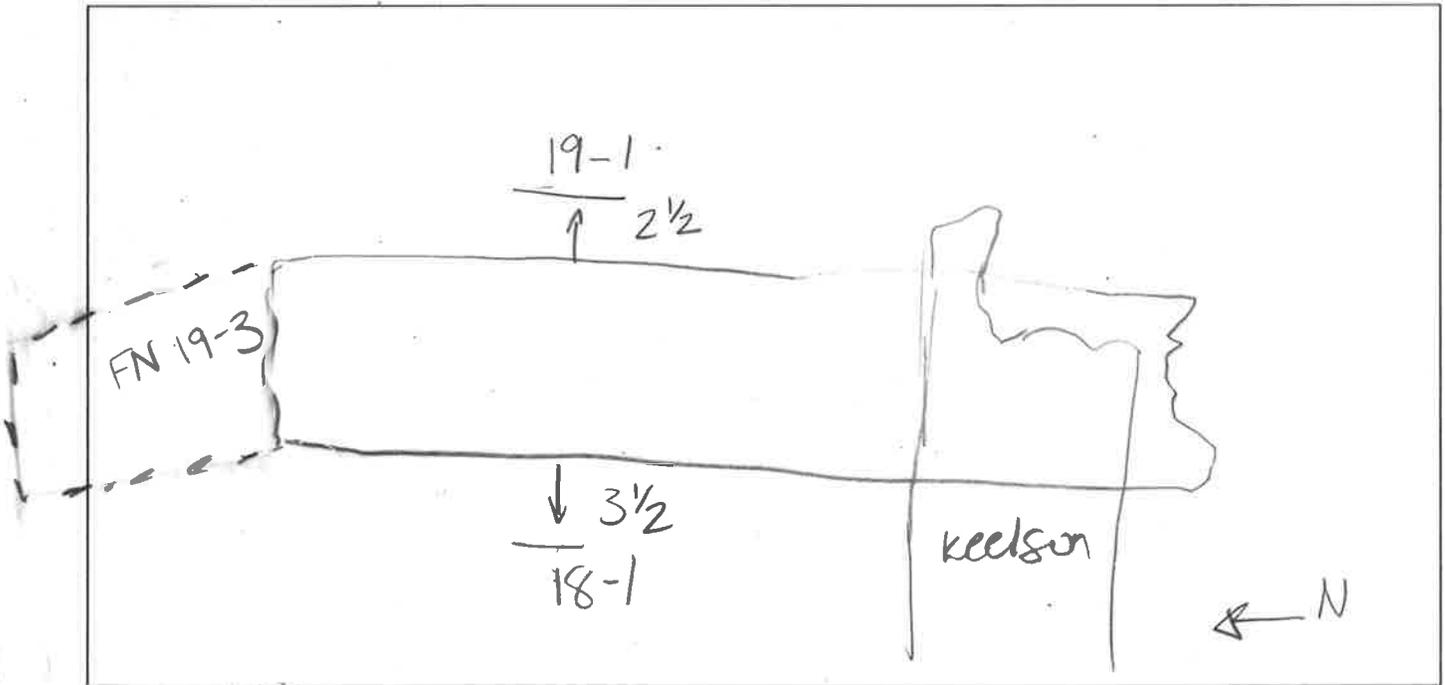
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: NA

Sketch by: C. Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: FUTUCKS Artifact Number: FS-19-2

Material: hard Condition: deteriorating

Location: South

Dimensions: L 65" W 4 3/4" D 5 3/4"
(sided) (molded)

Number and type of fasteners:

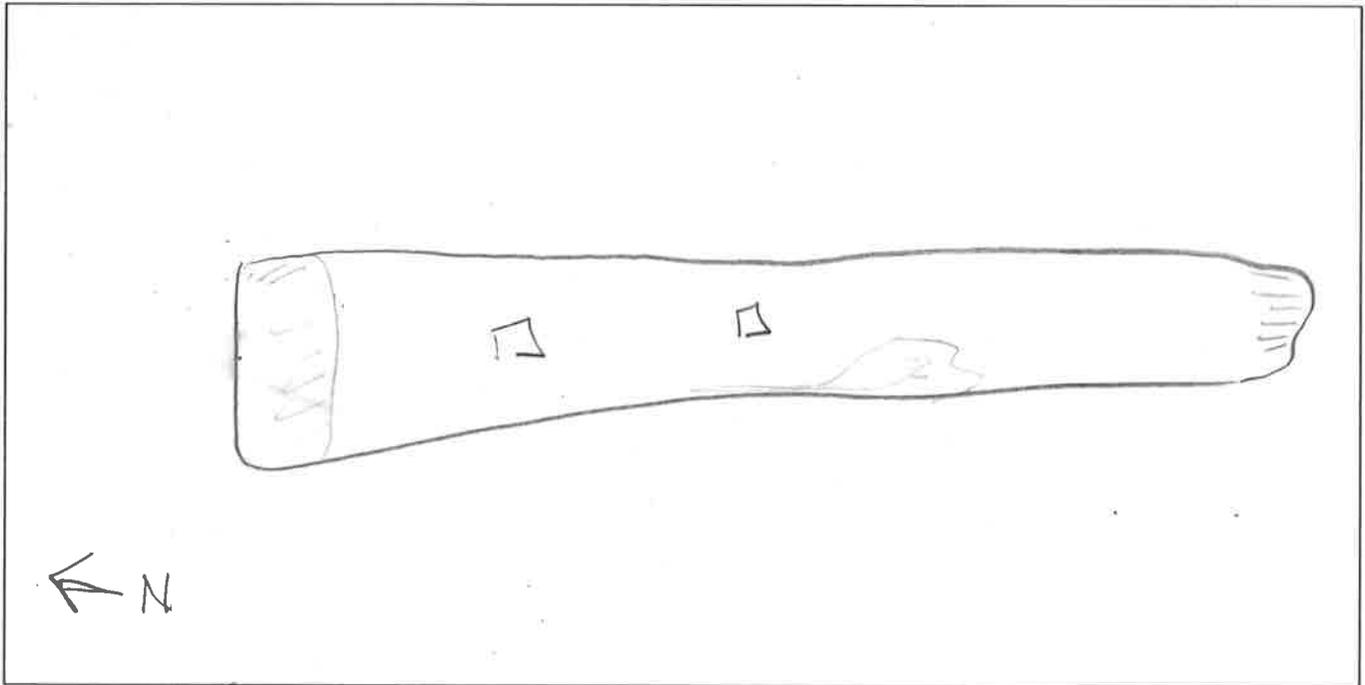
(2) Spikes Trunnels Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? _____

Associated Timbers: Frame 19

Notes _____



Scale: NOT

Sketch by: C. Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN12-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 27" W 5" D 3"
(sided) (molded)

Number and type of fasteners:

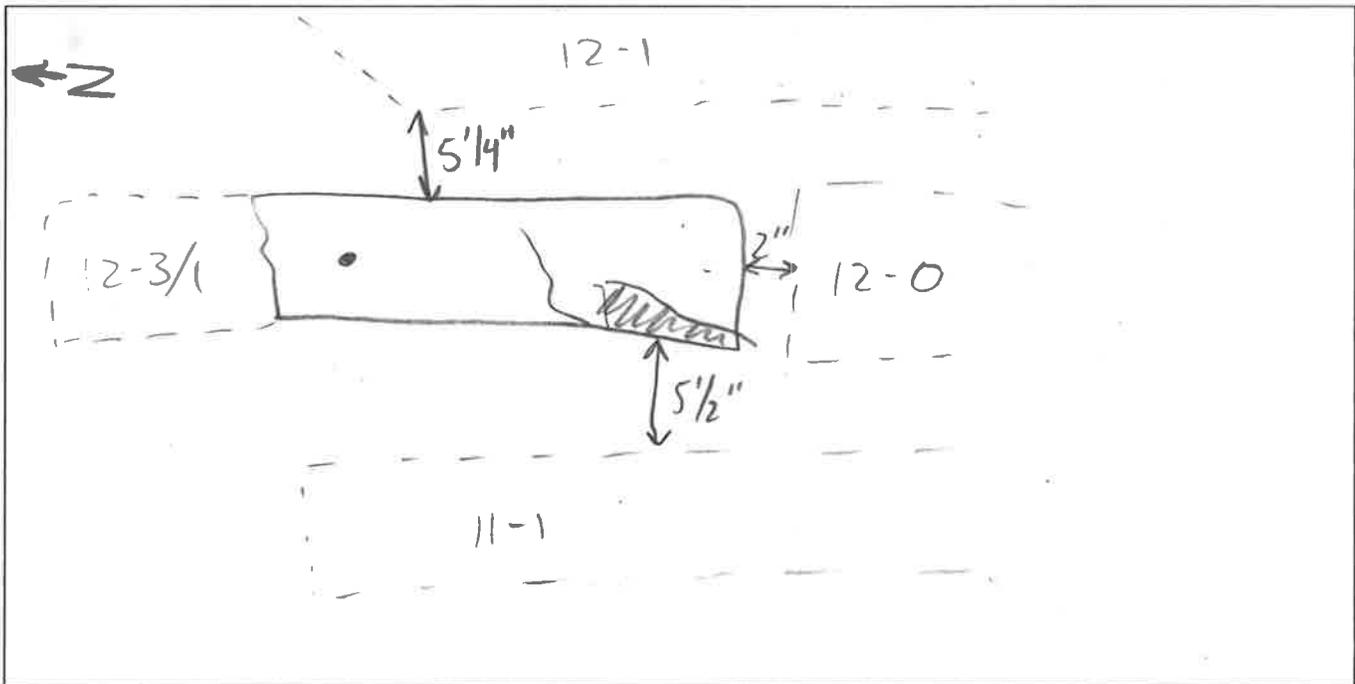
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN12-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 75" W 4 3/4" D 5"
(sided) (molded)

Number and type of fasteners:

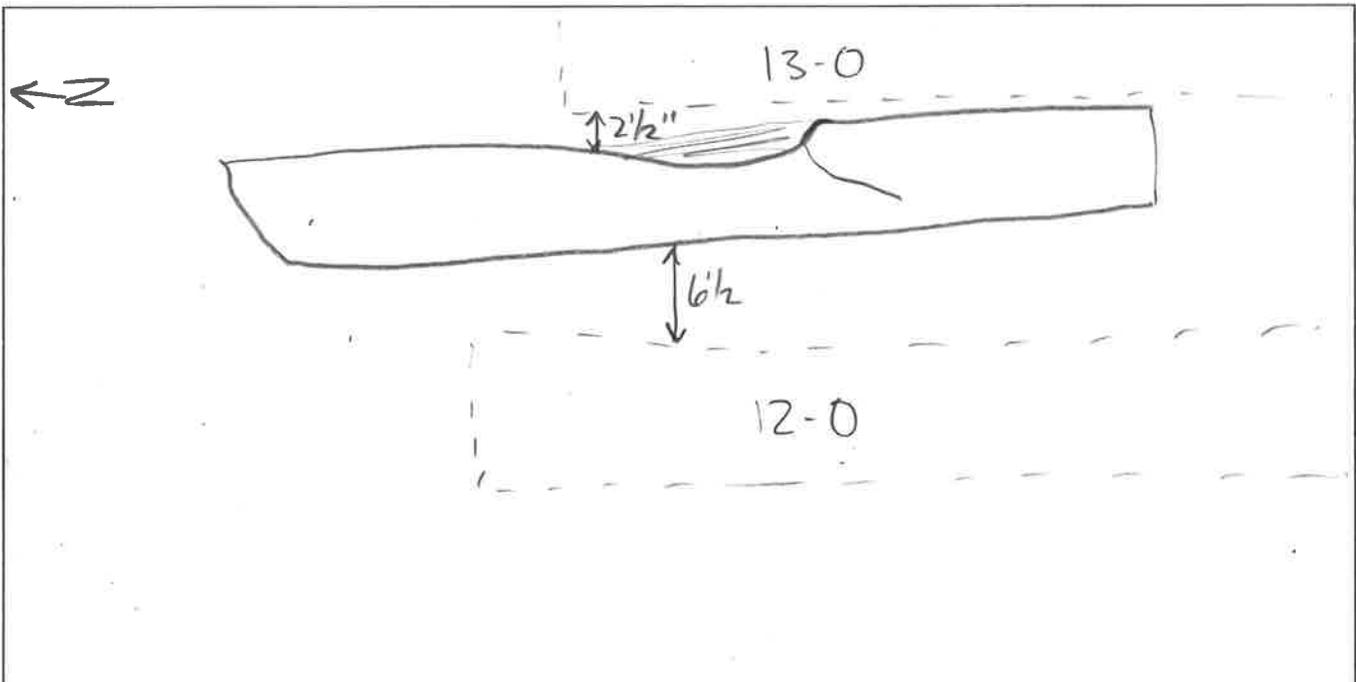
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christina Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN12-5

Material: _____ Condition: _____

Location: _____

Dimensions: L 16" W 4" D 4"
(sided) (molded)

Number and type of fasteners:

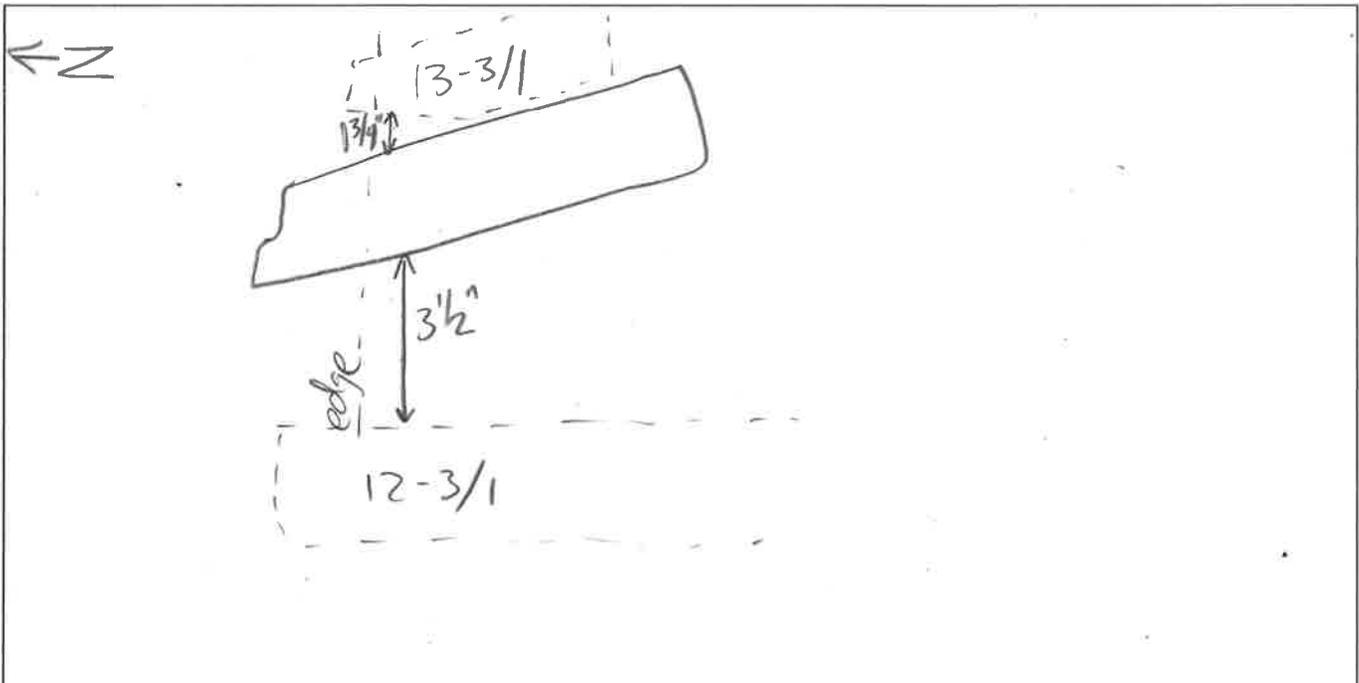
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 13-3/1

Material: _____ Condition: _____

Location: _____

Dimensions: L 10" W 3 1/4" D 4"
(sided) (molded)

Number and type of fasteners:

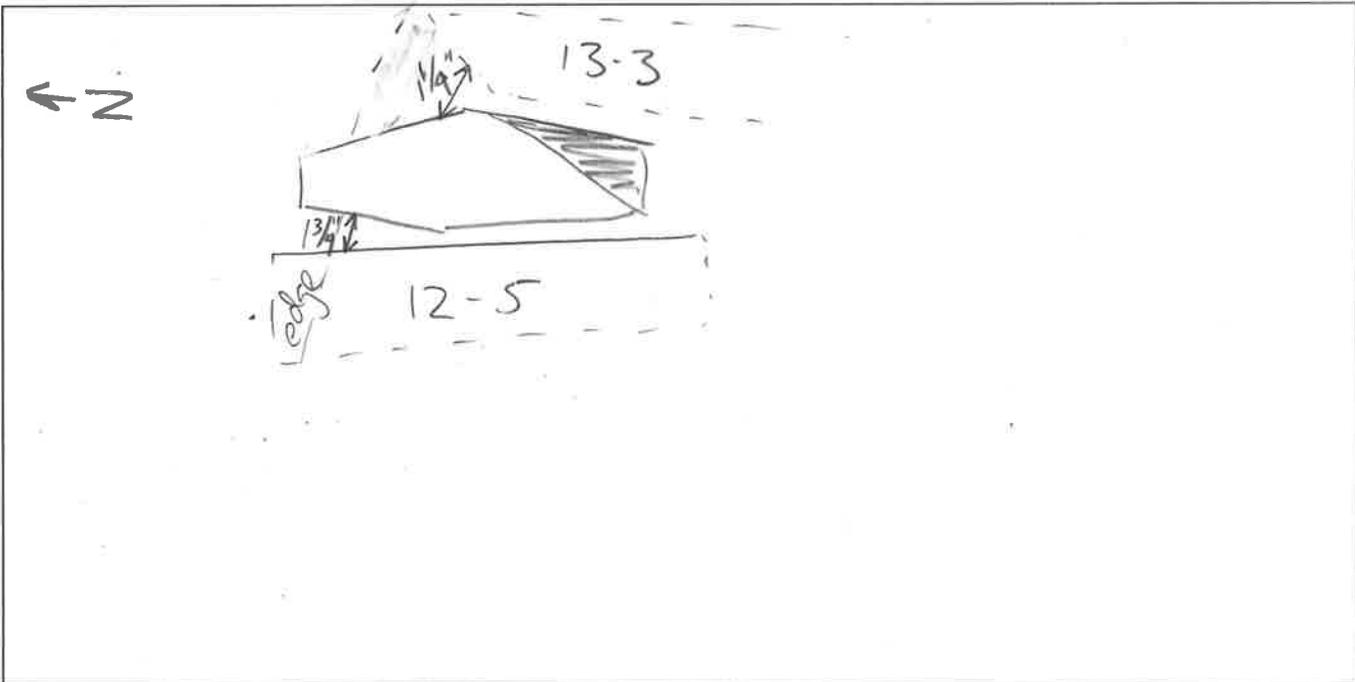
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN#FS 13-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 110 1/2" W 4 3/4" D 5 1/2"
(sided) (molded)

Number and type of fasteners:

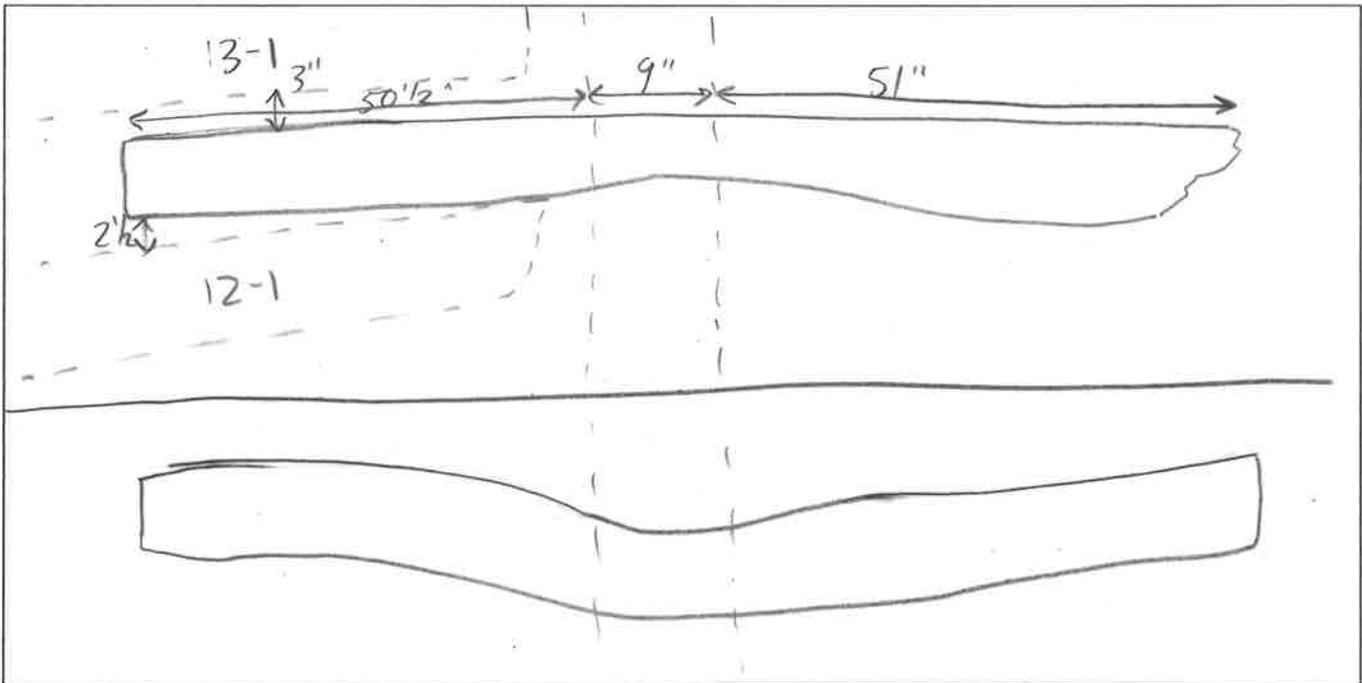
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 13-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 78 3/4' W 5 1/2" D 5 1/2"
(sided) (molded)

Number and type of fasteners:

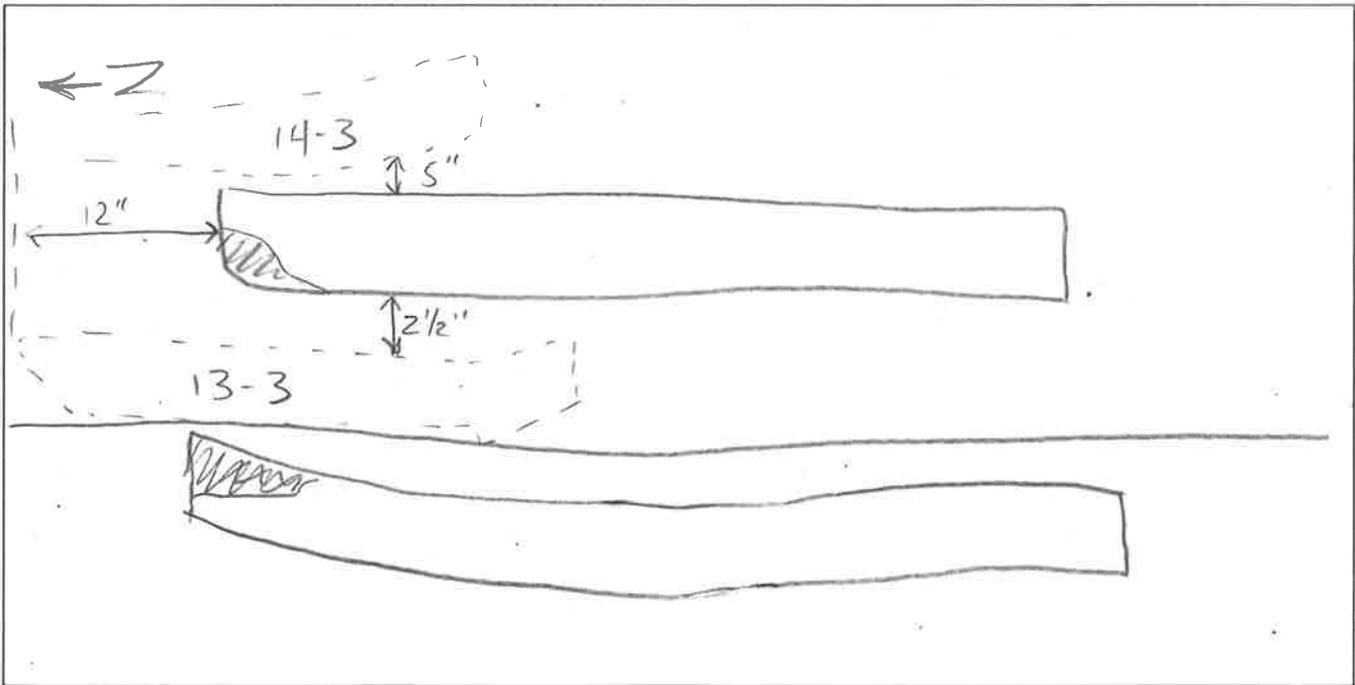
____ Spikes ____ Trunnels ____ Other (Describe: _____)

Photographs: ____ in situ ____ full ____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: Christan Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN#FS 14.0

Material: _____ Condition: _____

Location: _____

Dimensions: L 127" W 5" D 4 3/4"
(sided) (molded)

Number and type of fasteners:

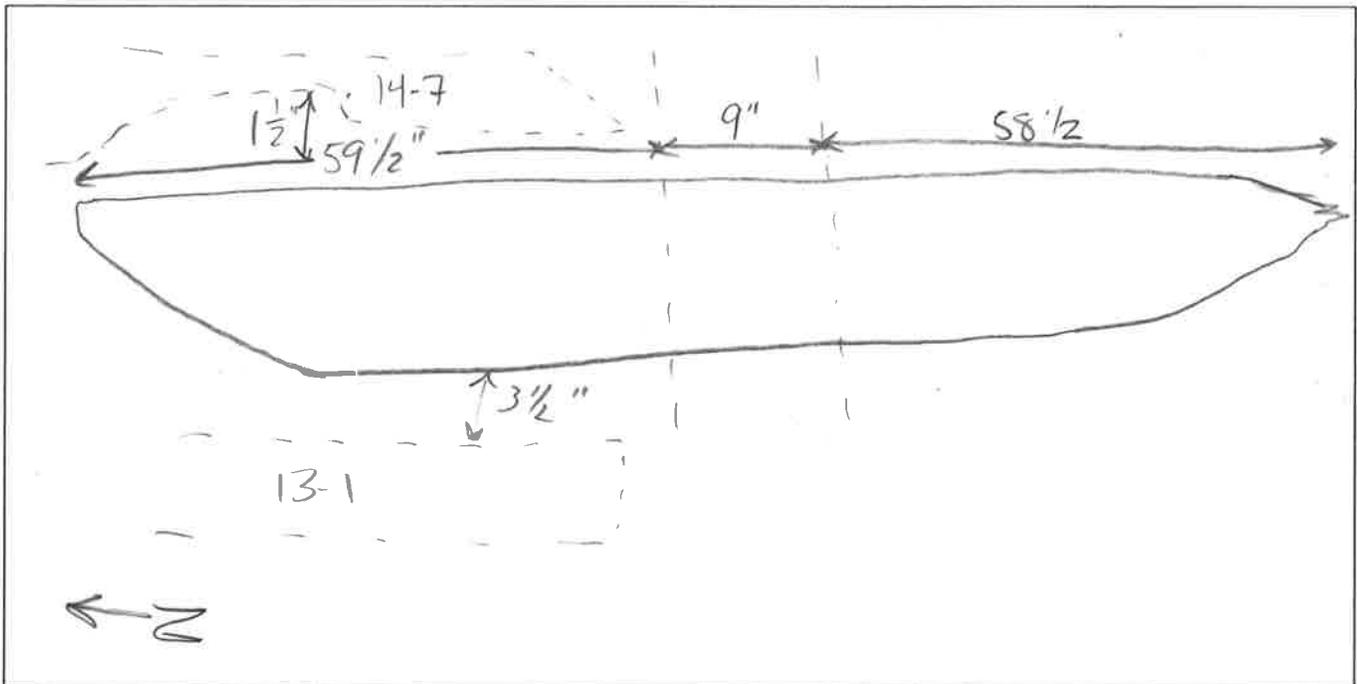
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 14-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 25 3/4" W 4 1/2" D 3 1/4"
(sided) (molded)

Number and type of fasteners:

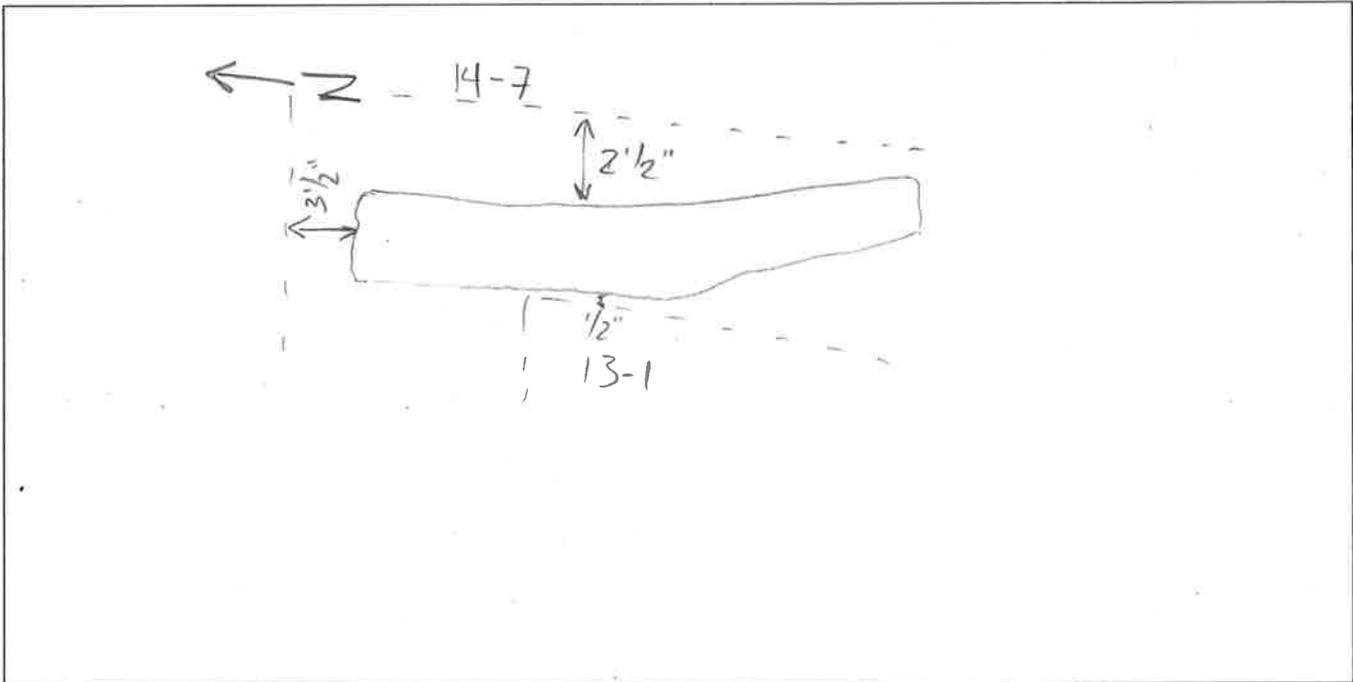
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRE, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: KIELSEN

Material: _____ Condition: _____

Location: _____

Dimensions: L 13' 3" W 10 1/2 D 6"
(sided) (molded)

Number and type of fasteners:

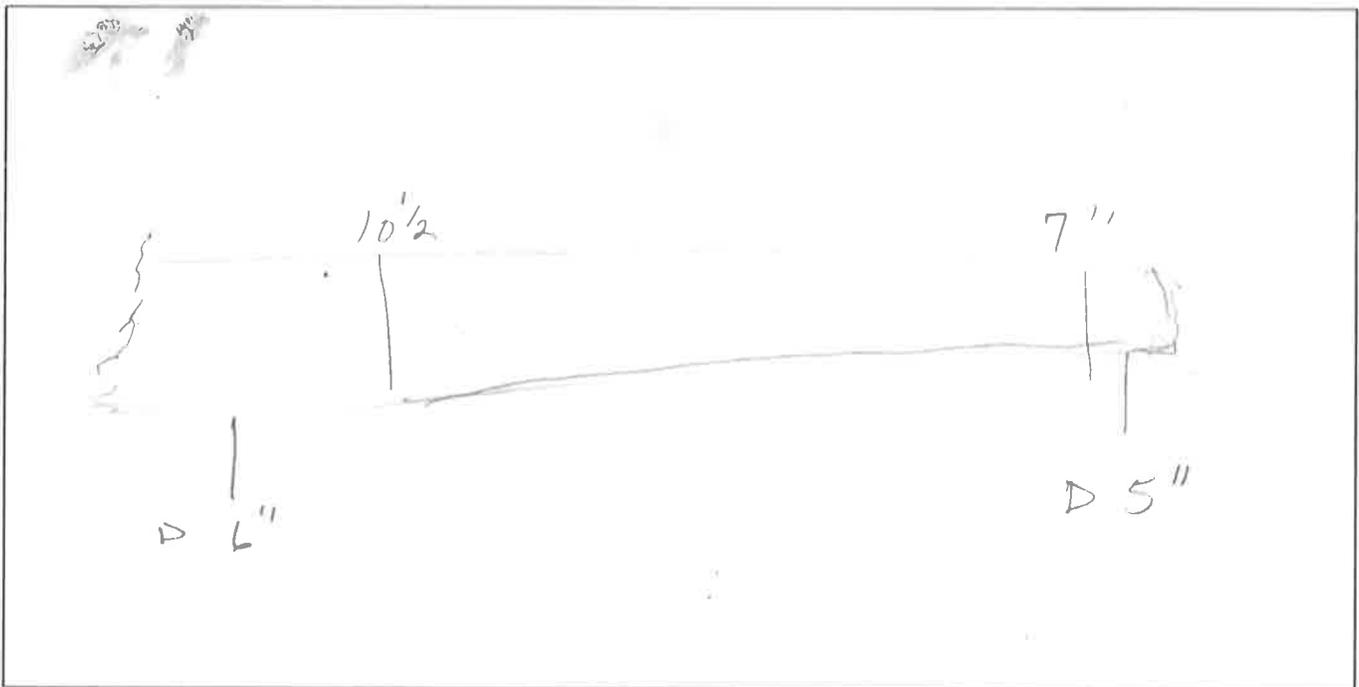
____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN1FS12-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 110 1/2" W 4 1/2" D 5 1/4"
(sided) (molded)

Number and type of fasteners:

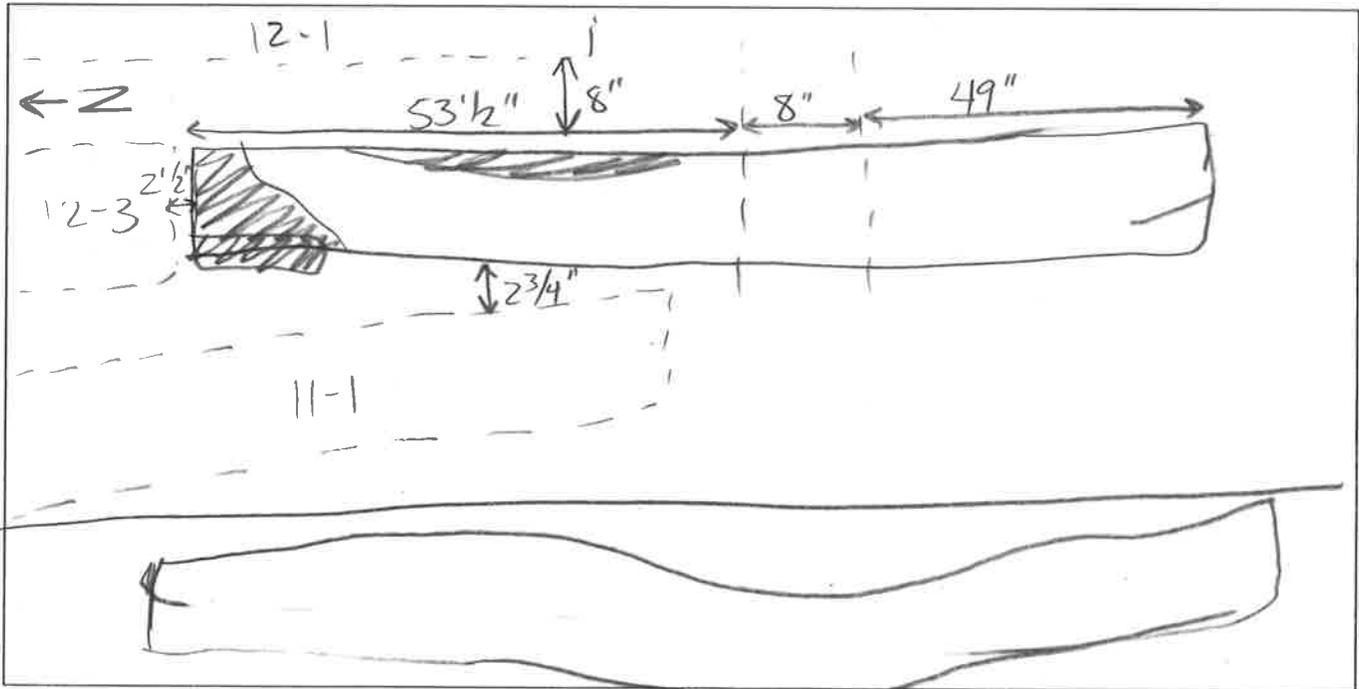
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 11-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 76 1/2" W 6 1/2" D 4 3/4"
(sided) (molded)

Number and type of fasteners:

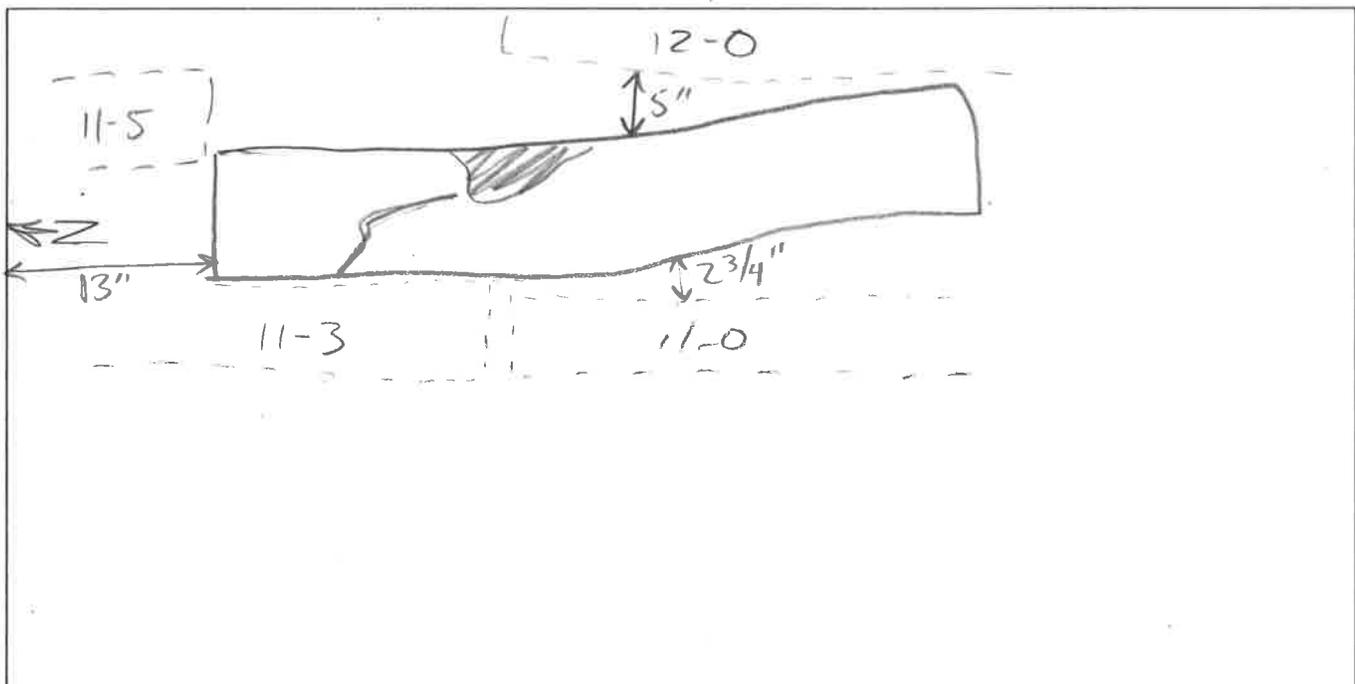
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN12-3/1

Material: _____ Condition: _____

Location: _____

Dimensions: L 13" W 5 3/4" D 3 1/2"
(sided) (molded)

Number and type of fasteners:

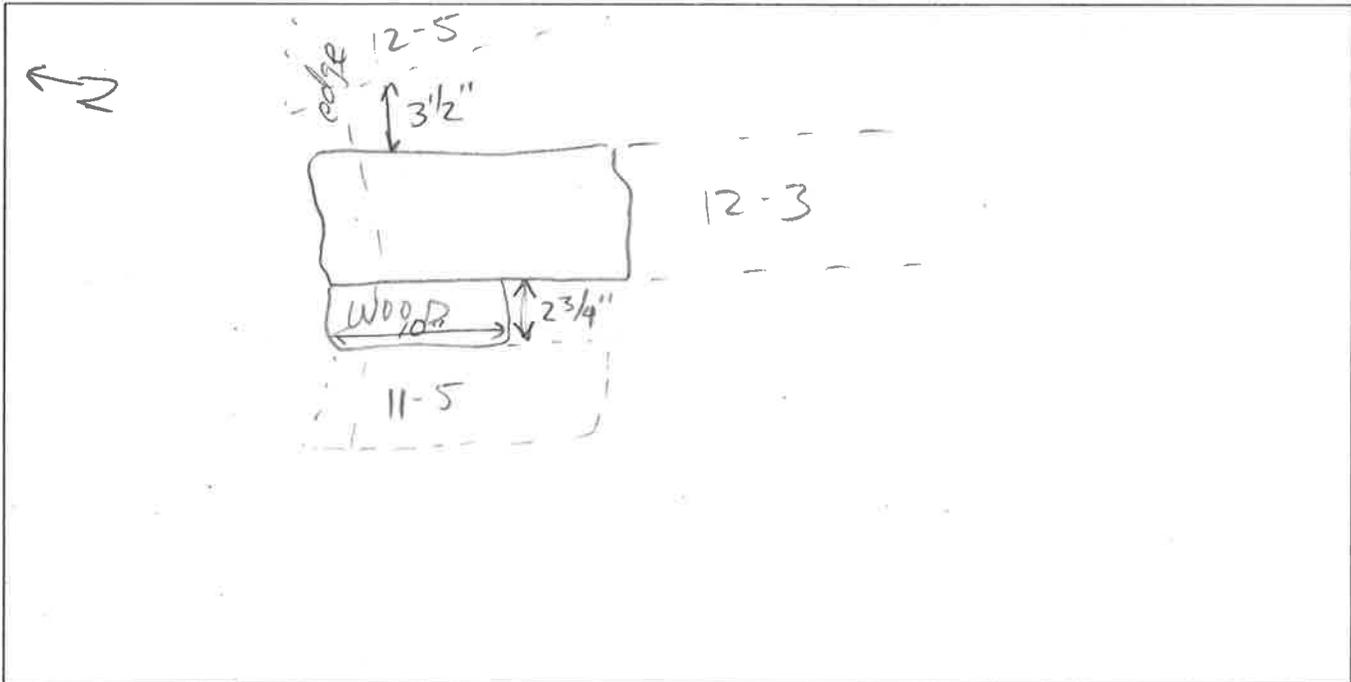
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 11-5

Material: _____ Condition: _____

Location: _____

Dimensions: L 14 1/2 W 4" D 2 3/4"
(sided) (molded)

Number and type of fasteners:

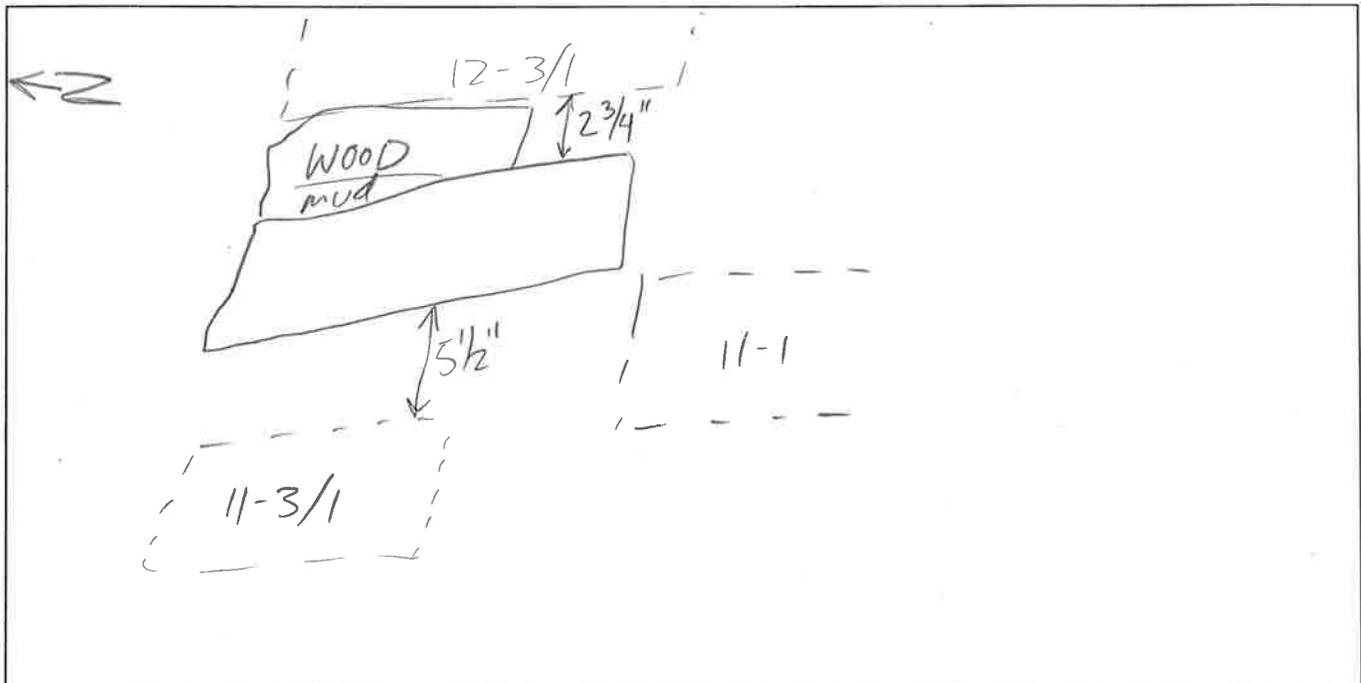
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 11-3/1

Material: _____ Condition: _____

Location: _____

Dimensions: L 10" W 4 1/2" D 4"
(sided) (molded)

Number and type of fasteners:

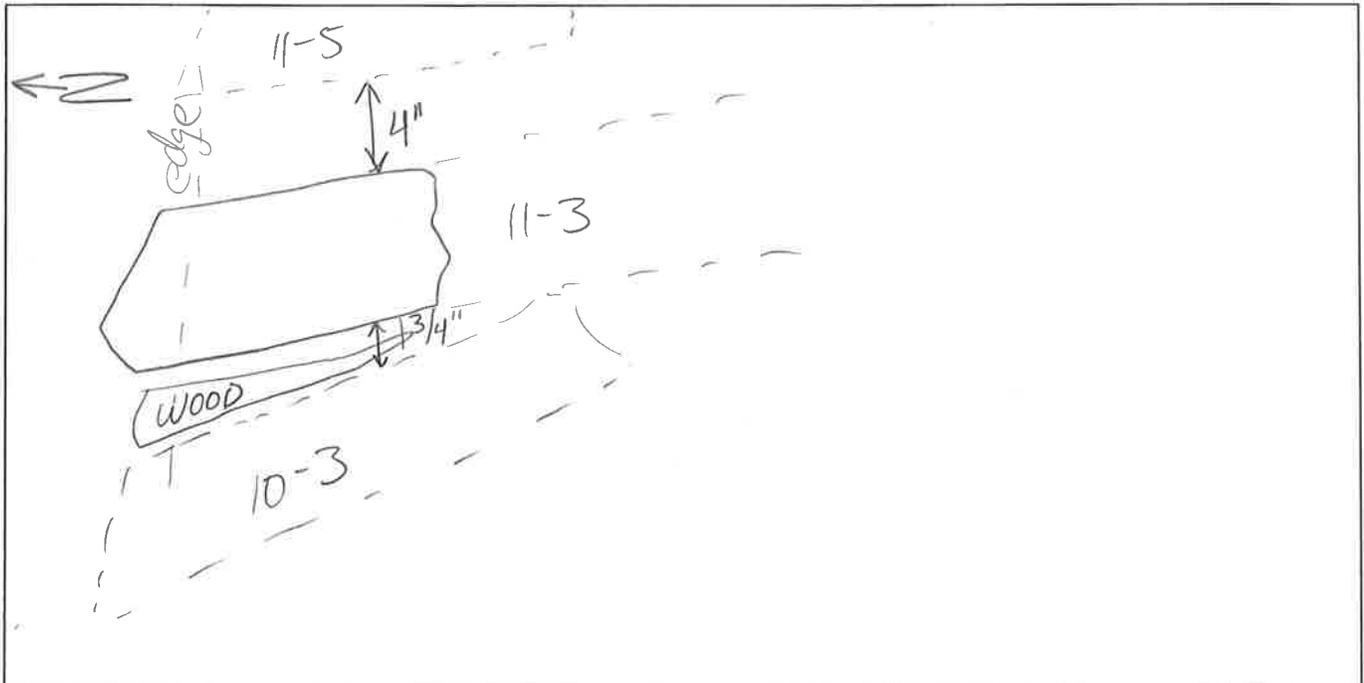
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: can't frame in Bow? Artifact Number: FS 6

Material: wood Condition: is deteriorating @ south

Location: near Bow

Dimensions: L 3'6.5" W 6 1/4" D 5 3/4"
longest (sided) (molded)

Number and type of fasteners:

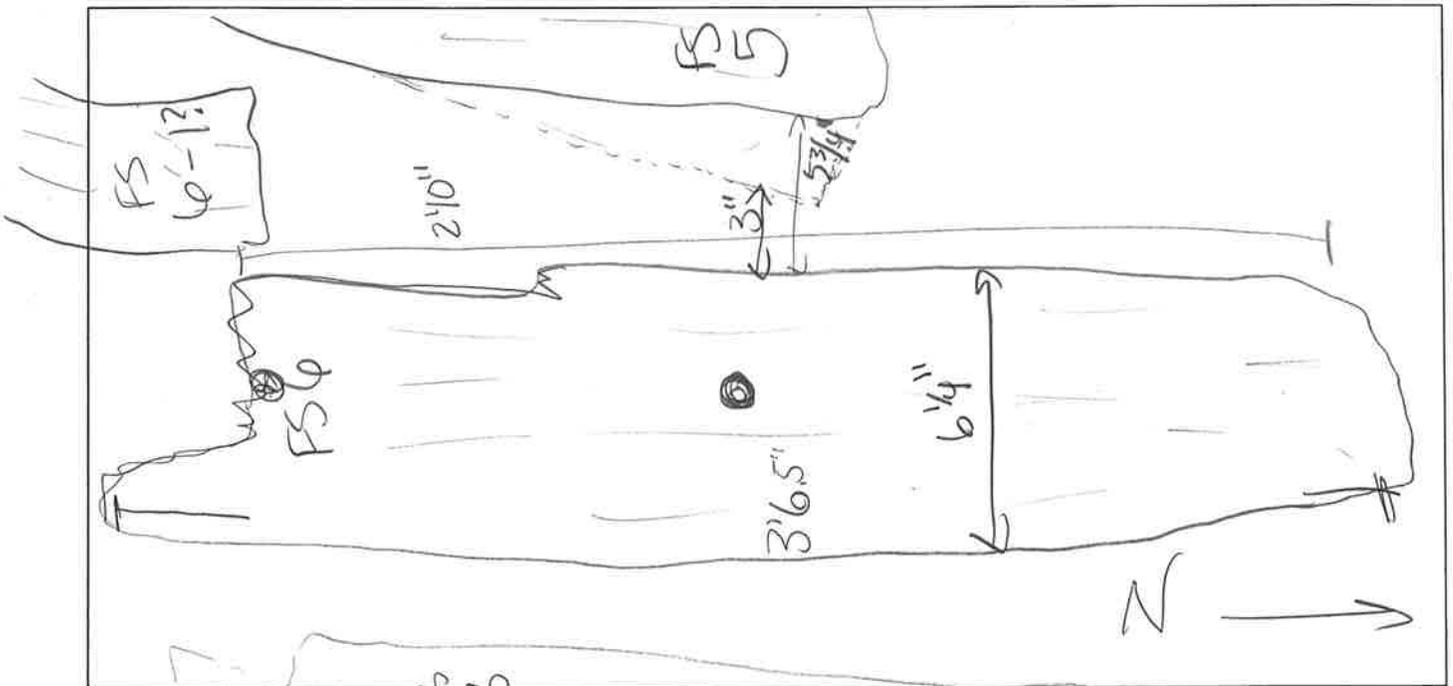
2² Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes NO frame S7 - likely not there in construction



Scale: _____

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/18/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Carved bow? Frame Artifact Number: FS 8

Material: wood Condition: good

Location: Bow? south

Dimensions: L 3'9" W 3 3/4" (sided) D 5 1/4" (molded)

Number and type of fasteners:

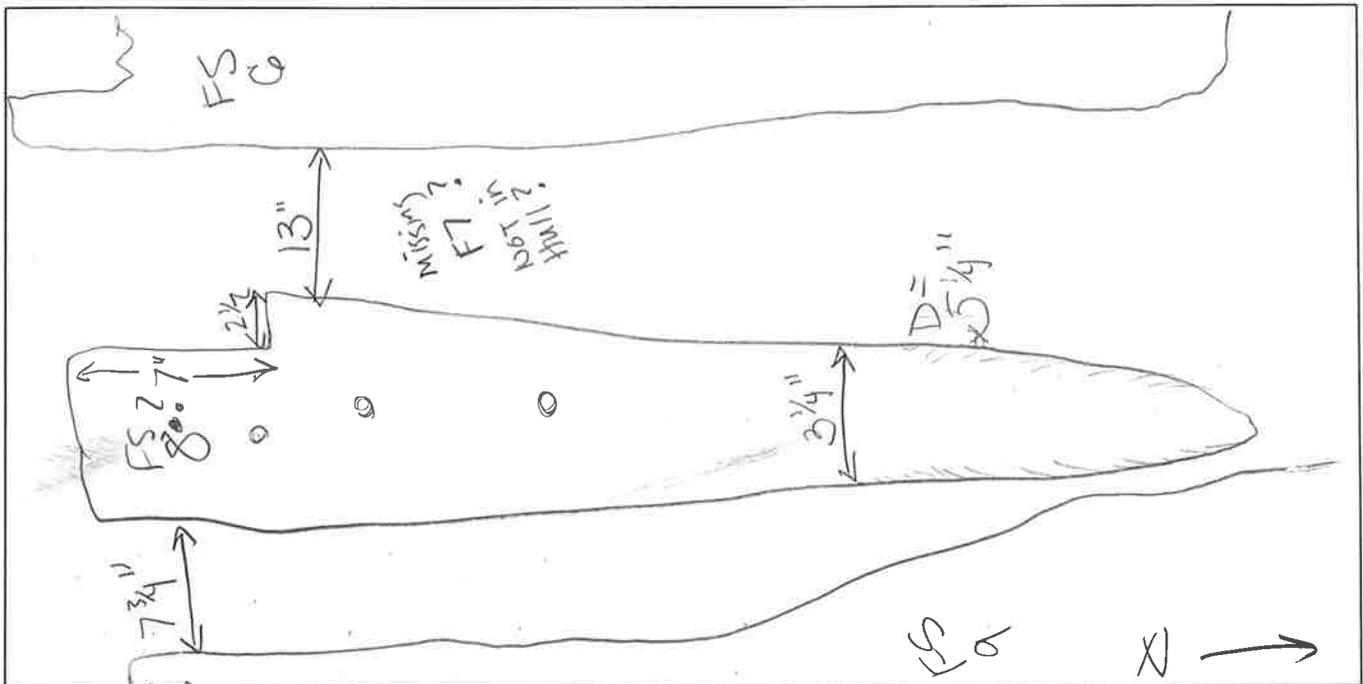
3 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers:

Notes similar shape at top
tapers to point @ N end.



Scale: NO

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fulcrums Artifact Number: FS-9/1

Material: _____ Condition: _____

Location: _____

Dimensions: L 10" W 5" D 4"
(sided) (molded)

Number and type of fasteners:

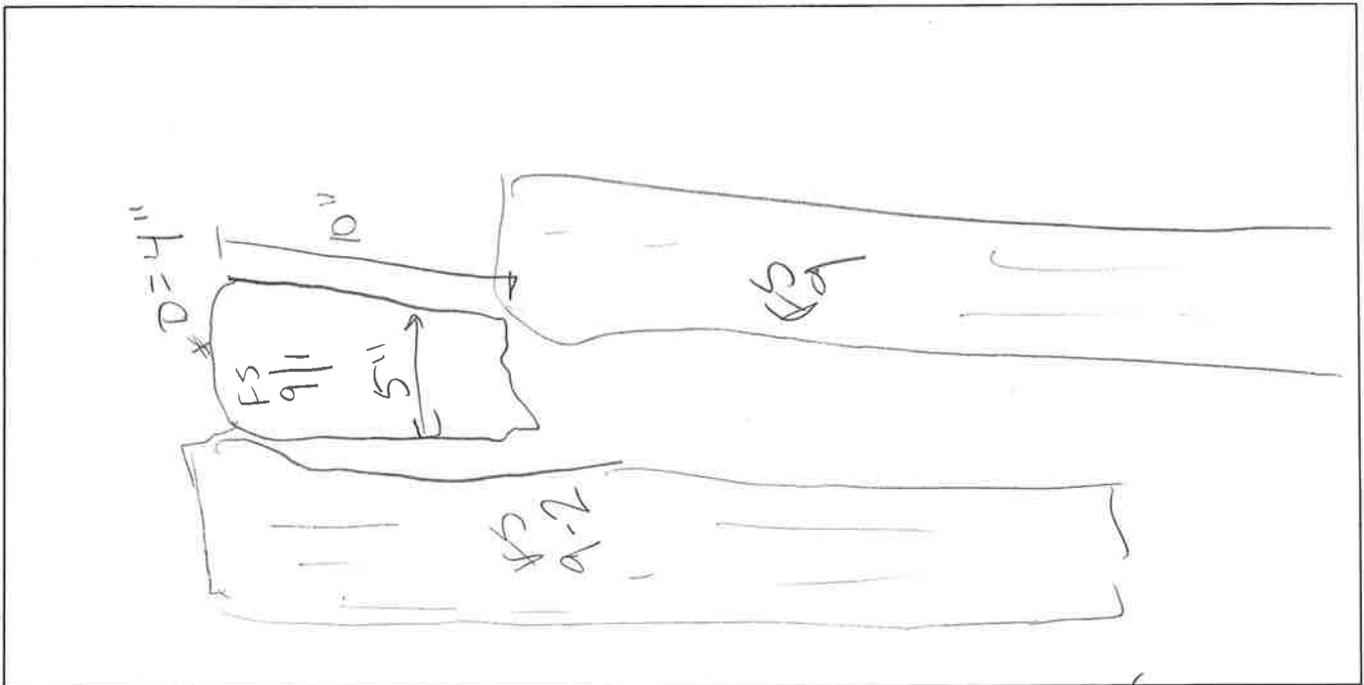
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations?

Associated Timbers: W/ FS9-0/1

Notes appears to have broken off the top of FS-9



Scale: N^o

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Entrucks Artifact Number: FS 10-2

Material: wood Condition: good

Location: _____

Dimensions: L 3'10.5" W _____ D 5/4
longest (sided) (molded)

Number and type of fasteners:

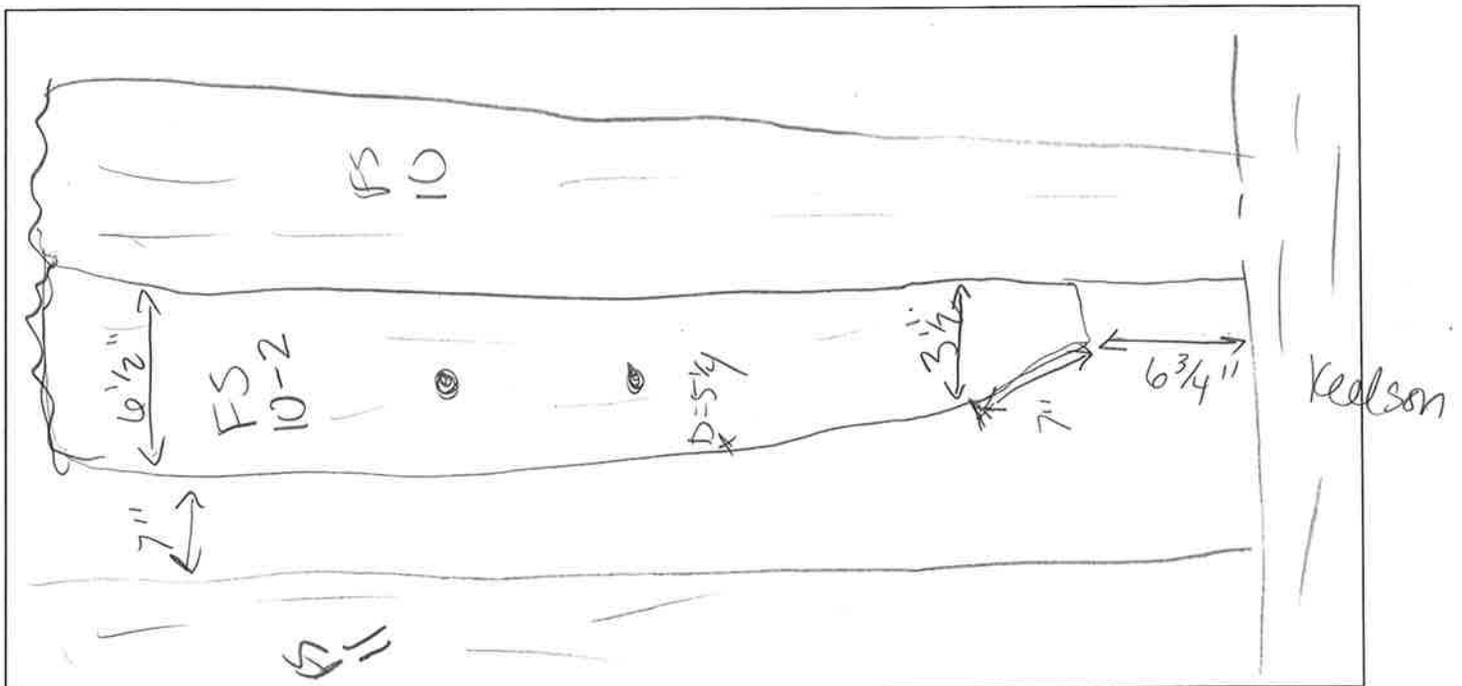
2 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: NO

Sketch by: L. Fulton



Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FS-12-4?

Material: _____ Condition: _____

Location: _____

Dimensions: L 1'2 1/2" W 5" D 4"
(sided) (molded)

Number and type of fasteners:

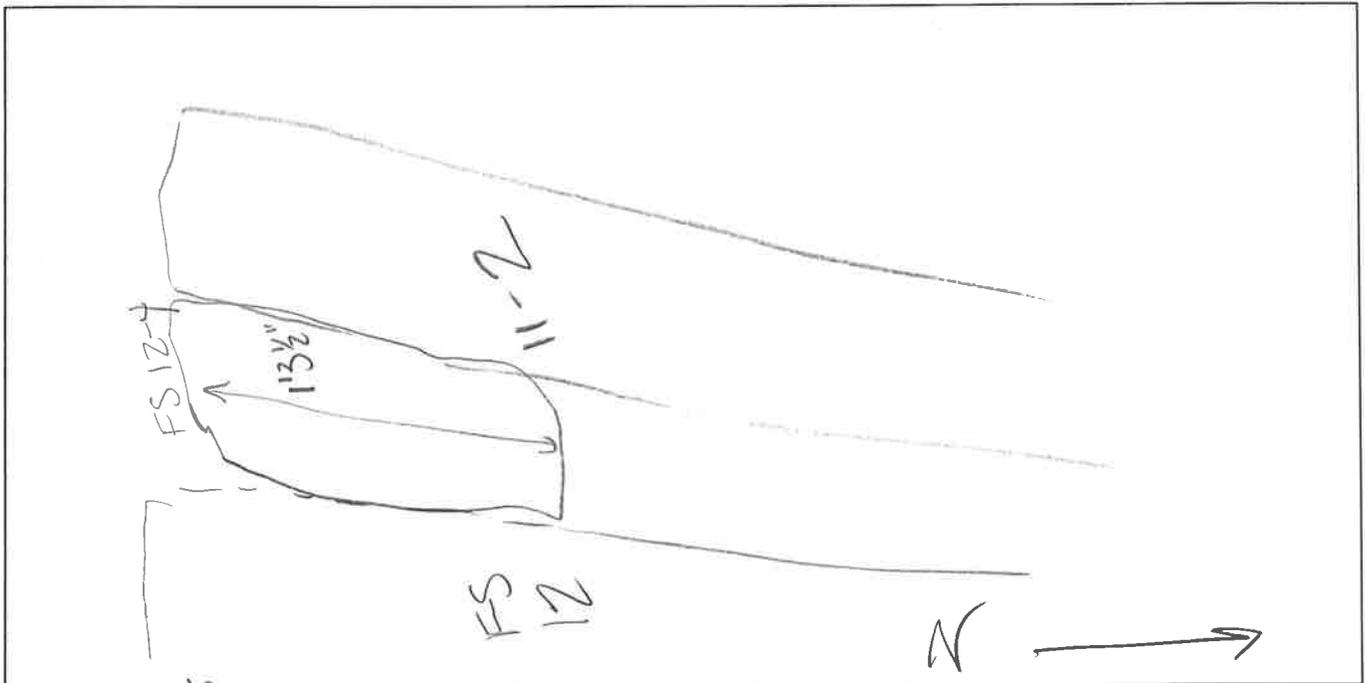
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes Near top of 11-2 + 12 on south side



Scale: no

Sketch by: C. Ful.

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fulcrums Artifact Number: FS 11-2

Material: wood Condition: good

Location: south mid

Dimensions: L 3'5" W 5.5" D 5.5"
(sided) (molded)

Number and type of fasteners:

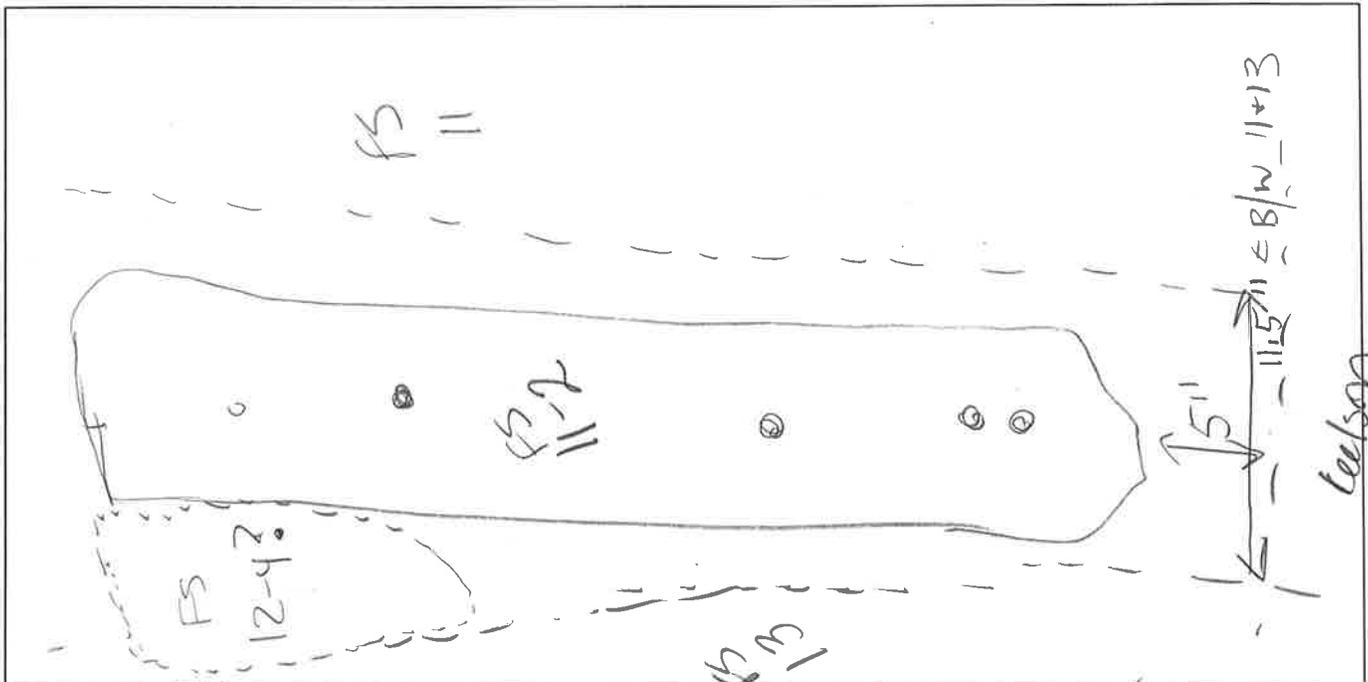
5? Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: 1:1

Sketch by: C. Fulton



Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 28 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN & FS 11-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 113 3/4" W 5 3/4" D 6"
(sided) (molded)

Number and type of fasteners:

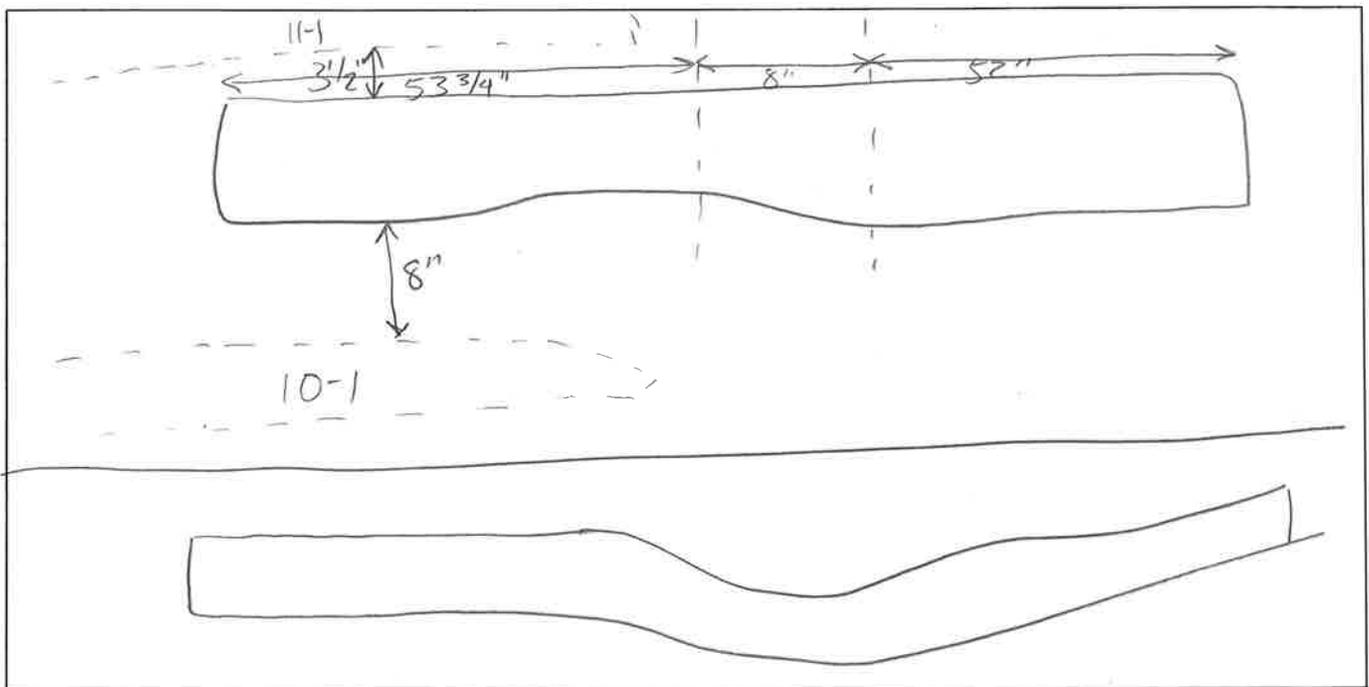
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: Christian Thompson

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN 11-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 31" W 4 1/4" D 4 1/4"
(sided) (molded)

Number and type of fasteners:

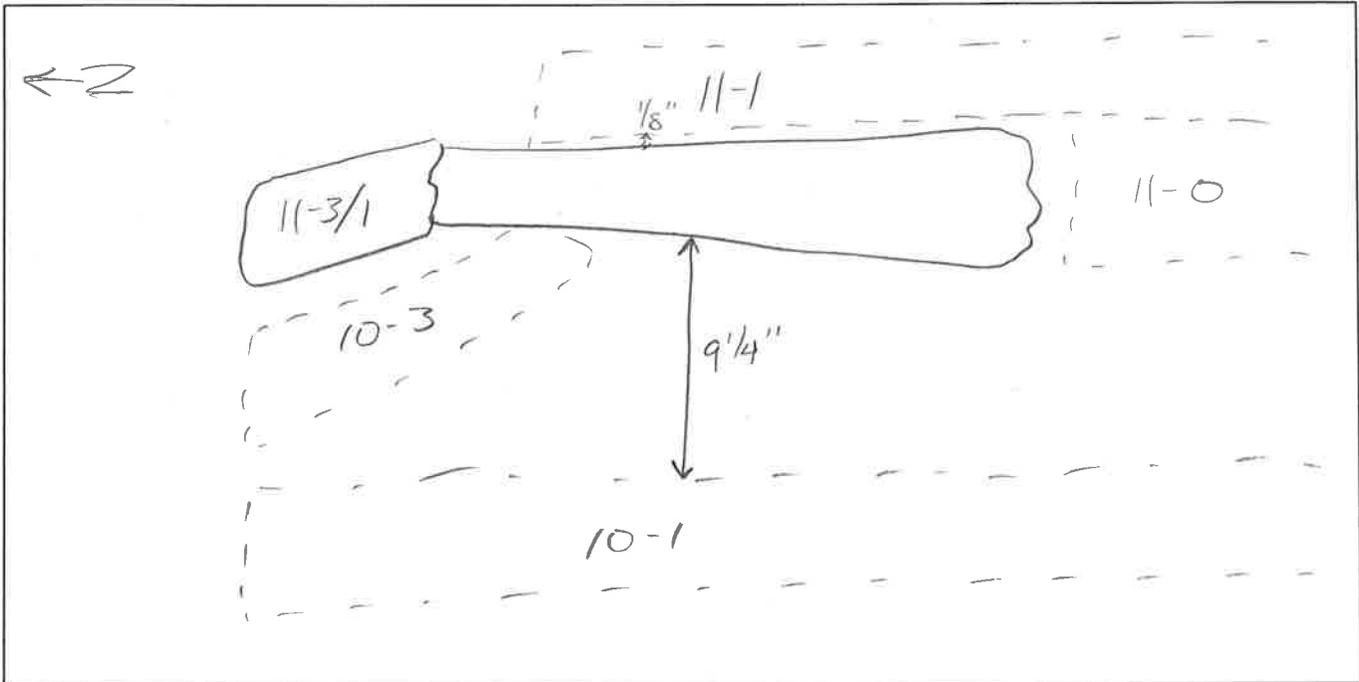
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: Christian Thompson

FN 14-3/1
Below
14-3
*Scan into
14-1

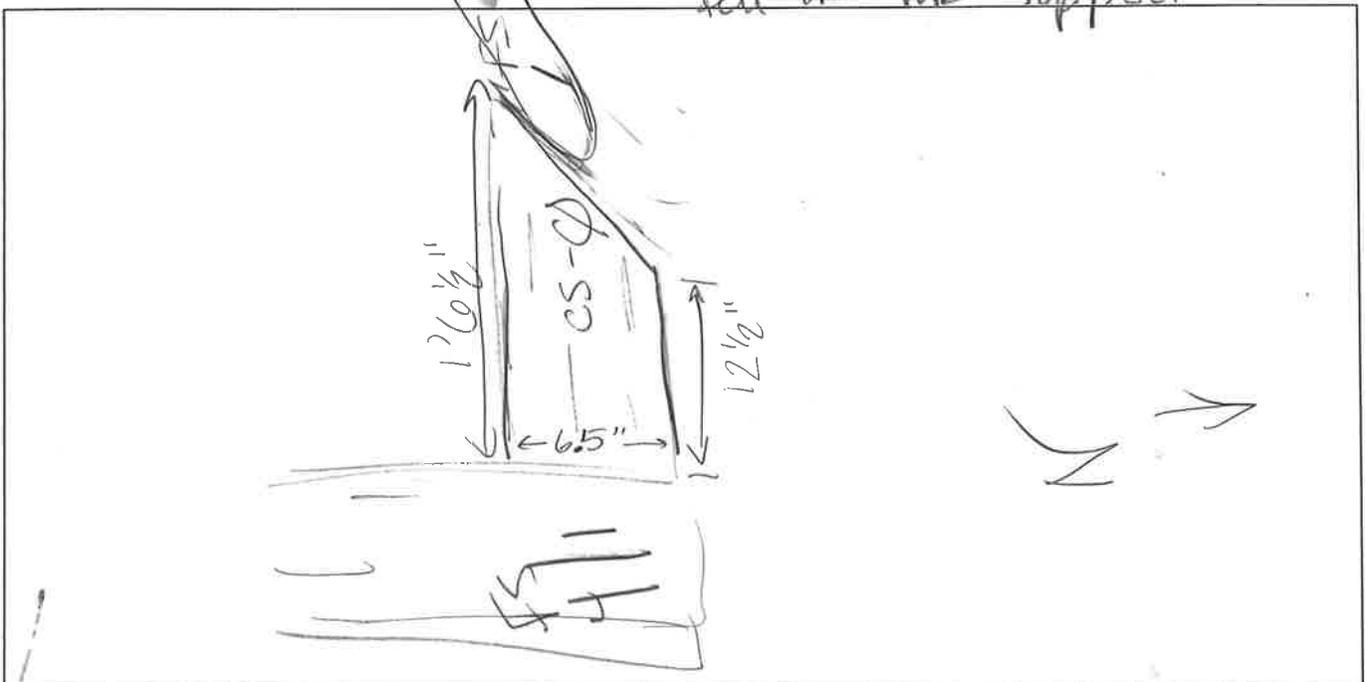
Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000 Date: 7/28/2010
OPRHP Project Review Number: 05PR04753
Site Name: Vehicular Security Center at World Trade Center
Principal Investigator: Warren Riess and Carrie Atkins Fulton
Affiliation: AKRF, Inc. and Pemaquid Art & Science
Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY
Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian
Artifact Name: plank? ceiling Artifact Number: CS-φ
Material: _____ Condition: _____
Location: _____
Dimensions: L _____ W 6.5" D 1 1/2" D
(sided) (molded)

Number and type of fasteners:
_____ Spikes _____ Trunnels _____ Other (Describe: _____)
Photographs: _____ in situ _____ full _____ details
Detailed Illustrations? _____
Associated Timbers: _____

Notes _____
_____ Between FS 4/1 +
_____ FS 1
_____ wedged B/w?
_____ fell or for support?



Scale: NO
Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/18/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: cant frame b/w ?

Artifact Number: FS 4/1 + FS 4/2

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

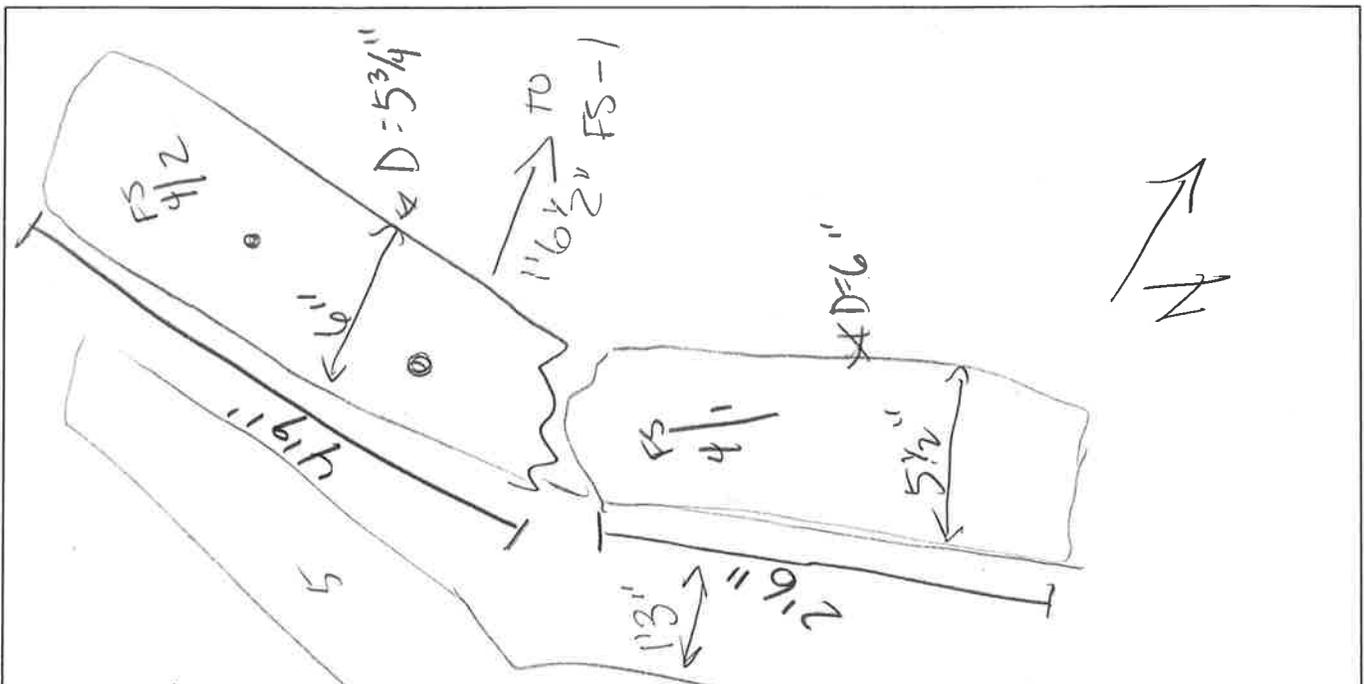
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes turned on side + broken.
looks like missing 3 frames so
next is FS-1.



Scale: None

Sketch by: C Fulton

FN
15-0//
North
of
FN 15-0

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fasteners Artifact Number: FN-4

Material: _____ Condition: _____

Location: Bow

Dimensions: L 4' W 3 3/4" D 4"
(sided) (molded)

Number and type of fasteners:

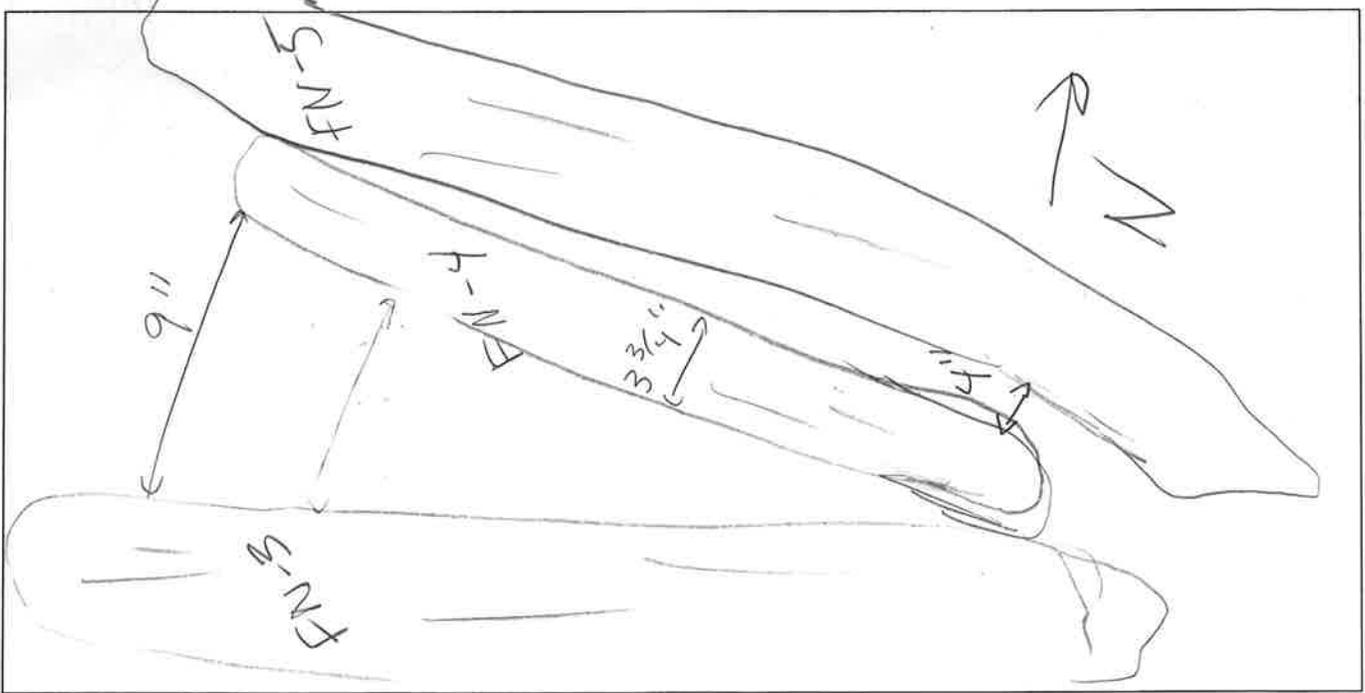
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes seems to be out of place b/c
diagonally placed



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

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Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: outer plank Artifact Number: PN-11-1

Material: wood Condition: good

Location: North - last plank to E

Dimensions: L 8' 3/2" W 9 1/4" D 1 3/4"
(sided) (molded)

Number and type of fasteners:

yes Spikes _____ Trunnels _____ Other (Describe: _____)

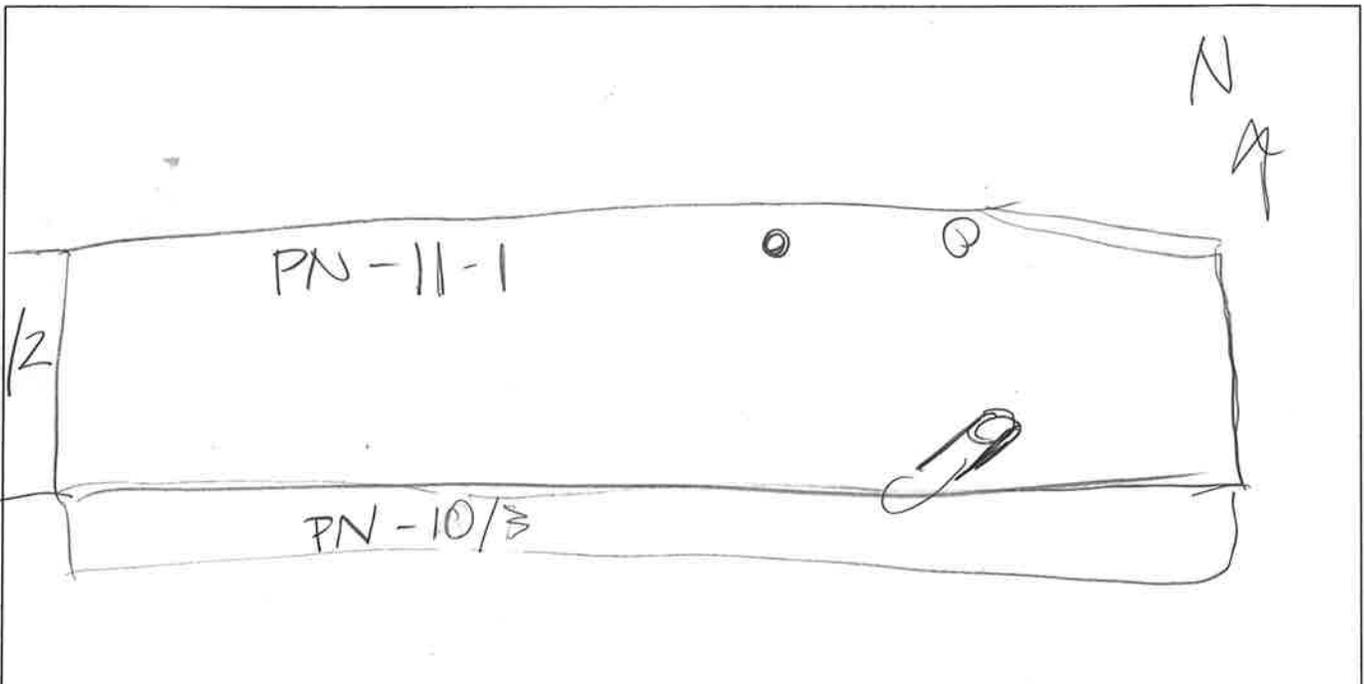
Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes: ends near FN-14
last plank to east

FN-2
below



Scale: NO

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: cant beam Artifact Number: FN-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 6'3" W _____ D 5 1/2"
(sided) (molded)

Number and type of fasteners:

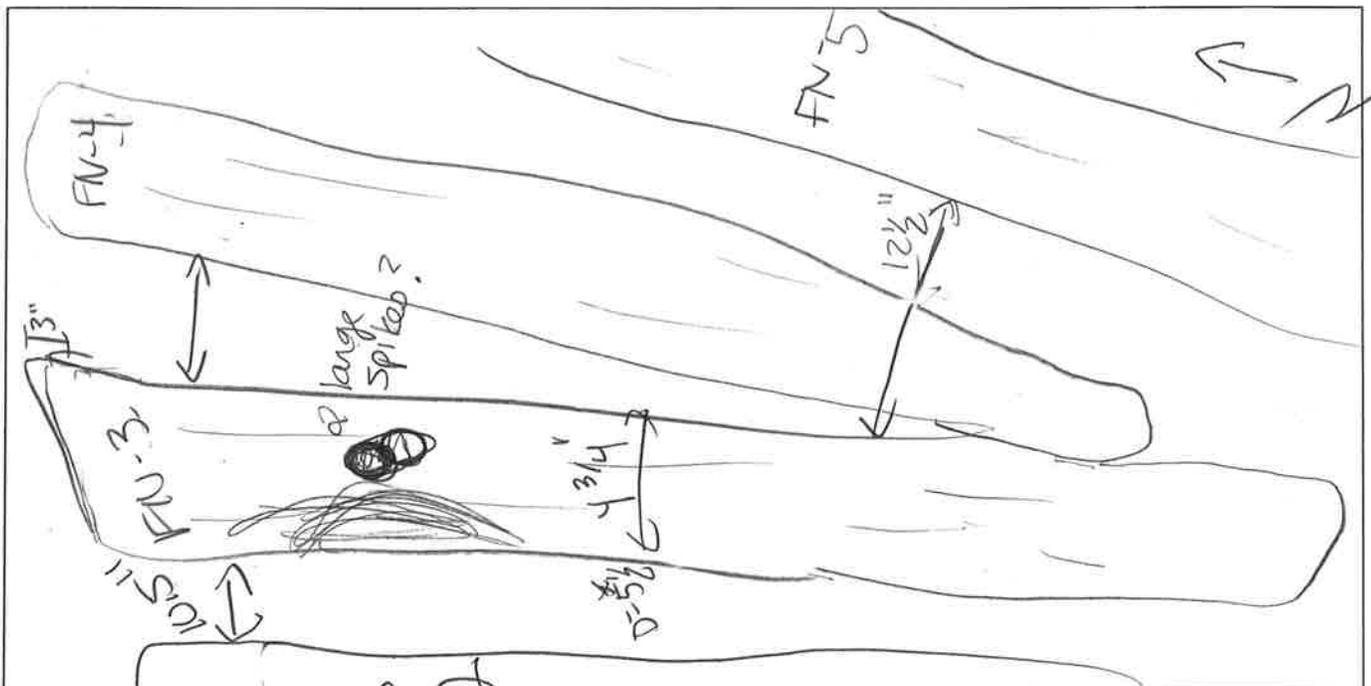
2 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes: end towards outside is worn down
large nail - maybe 2 together



Scale: 1:10

Sketch by: C. Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: cont frame in Dow Artifact Number: FN-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 5'5" W 5 1/4 D 6"
(sided) (molded)

Number and type of fasteners:

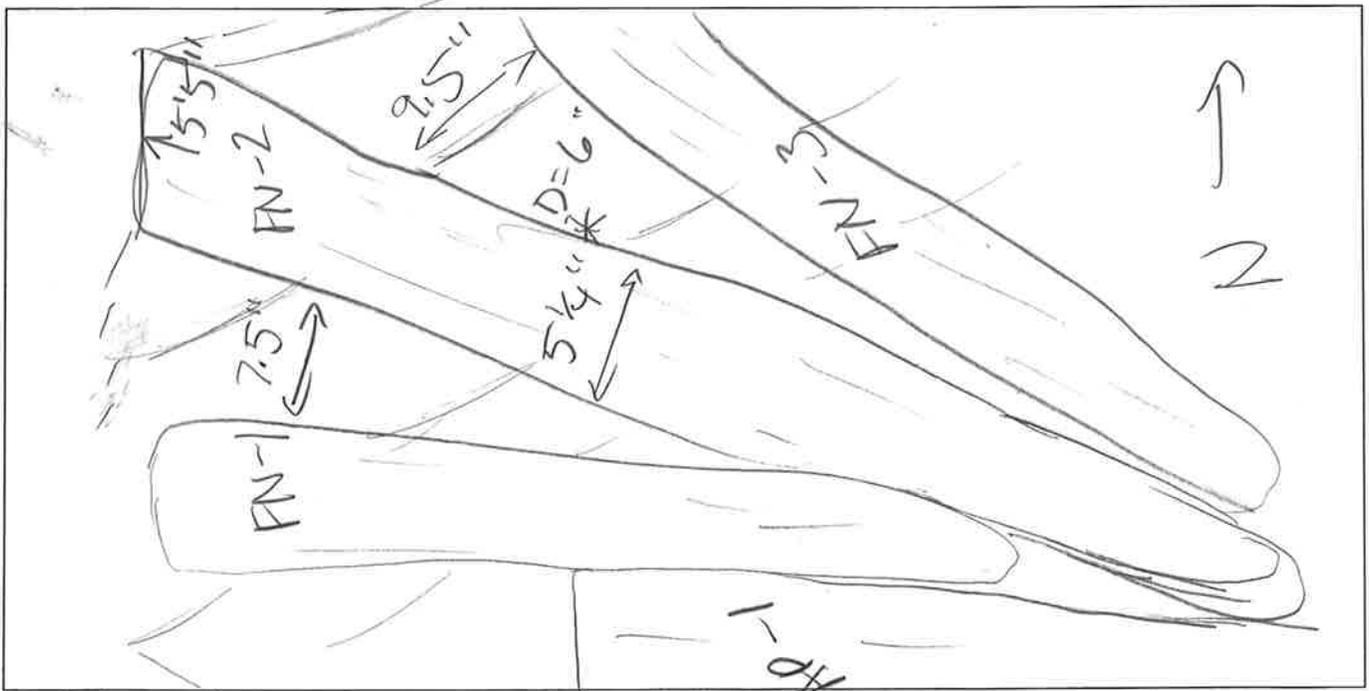
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes Fits in tightly w/ AP-1, FN-1 at E end.



Scale: no

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: ~~Frame~~ in Brw Artifact Number: FN-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 4'2 1/2" W tapers D 5"
(sided) (molded)

Number and type of fasteners:

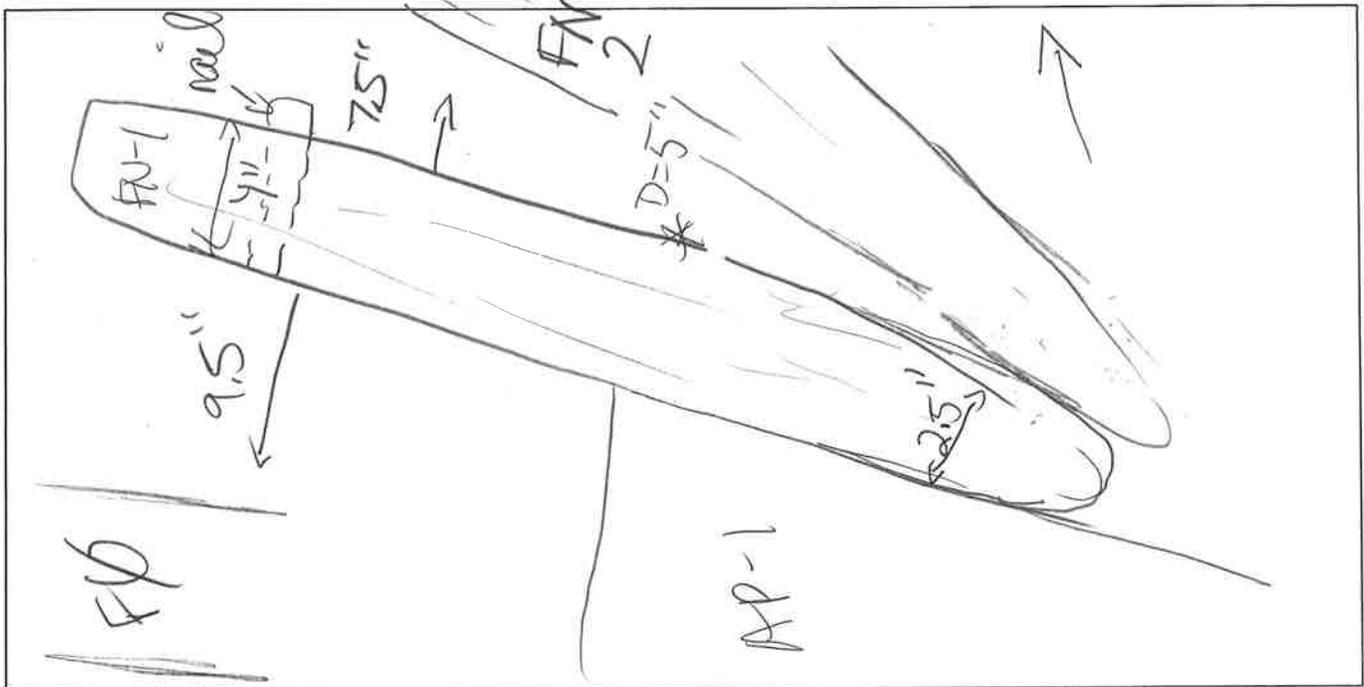
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes nailed in side at top - fits against API



Scale: 1:1

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Bow cant frame? top? Artifact Number: FS 6/1?

Material: wood Condition: broken

Location: Bow

Dimensions: L 1'7 1/2" W 4" D 3 1/2"
(sided) (molded)

Number and type of fasteners:

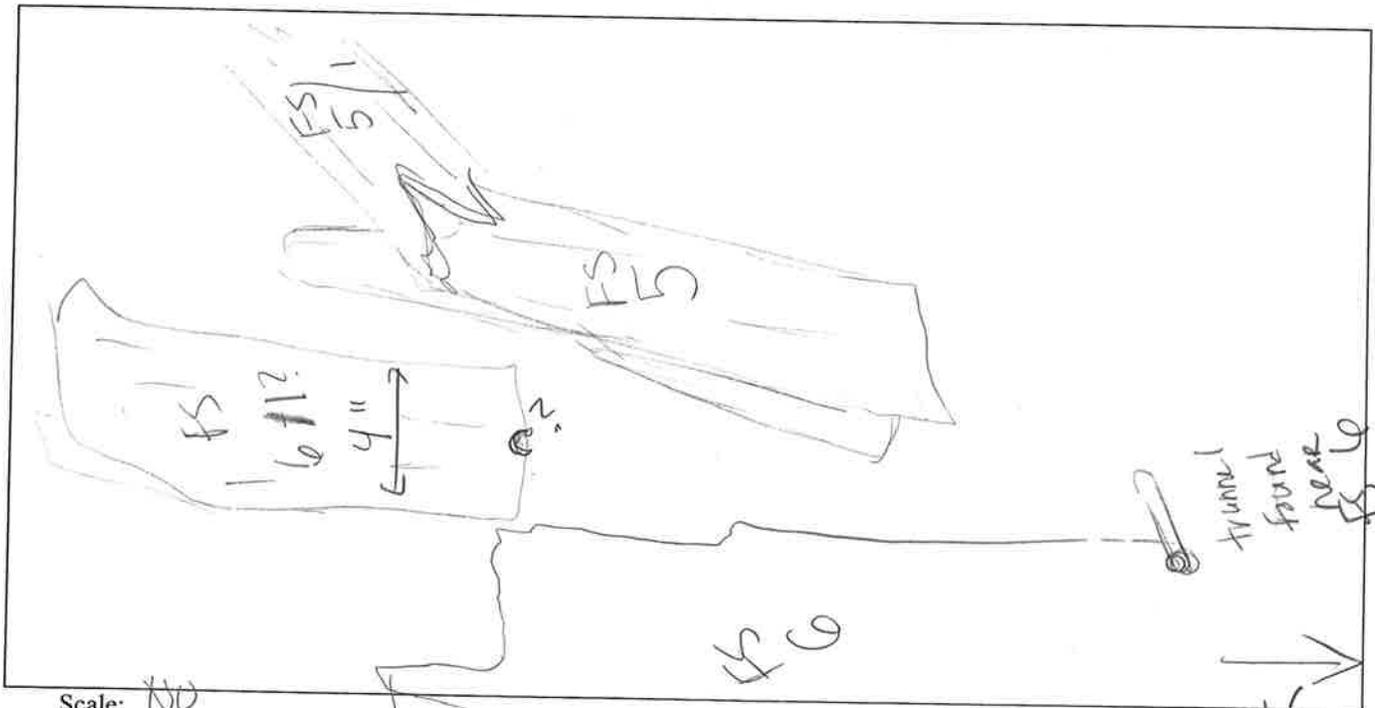
1? Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes Broken from FS 6



Scale: 1:50

Sketch by: C Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: cart frame Artifact Number: FN 7-0

Material: wood Condition: good

Location: _____
Dimensions: L 7' W 6.5" (sided) D 5'4" (molded)

Number and type of fasteners:

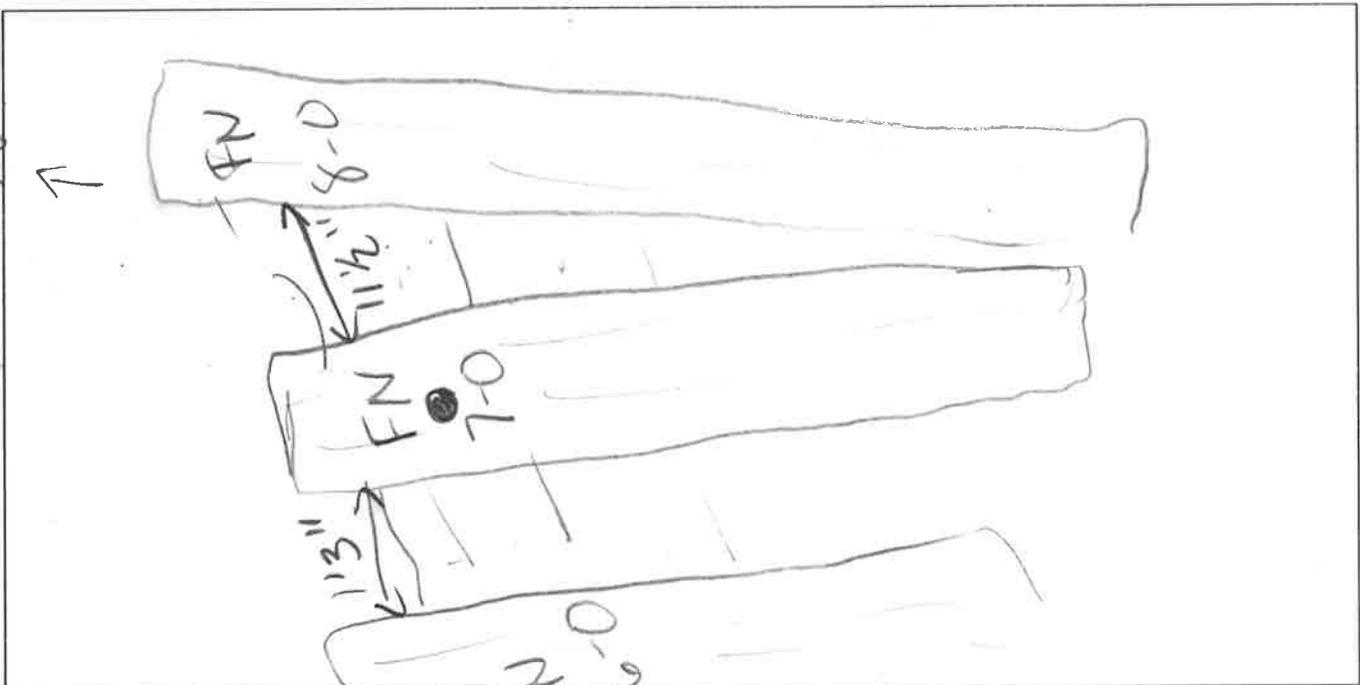
1 Spikes 0 Trunnels 0 Other (Describe: _____)

Photographs: in situ full details

Detailed Illustrations? _____

Associated Timbers: _____

Notes 1st cart frame in BSW?



Scale: N0

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: FuTucks Artifact Number: FN-8-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 7'3" W 5 1/4" D 5 1/4"
(sided) (molded)

Number and type of fasteners:

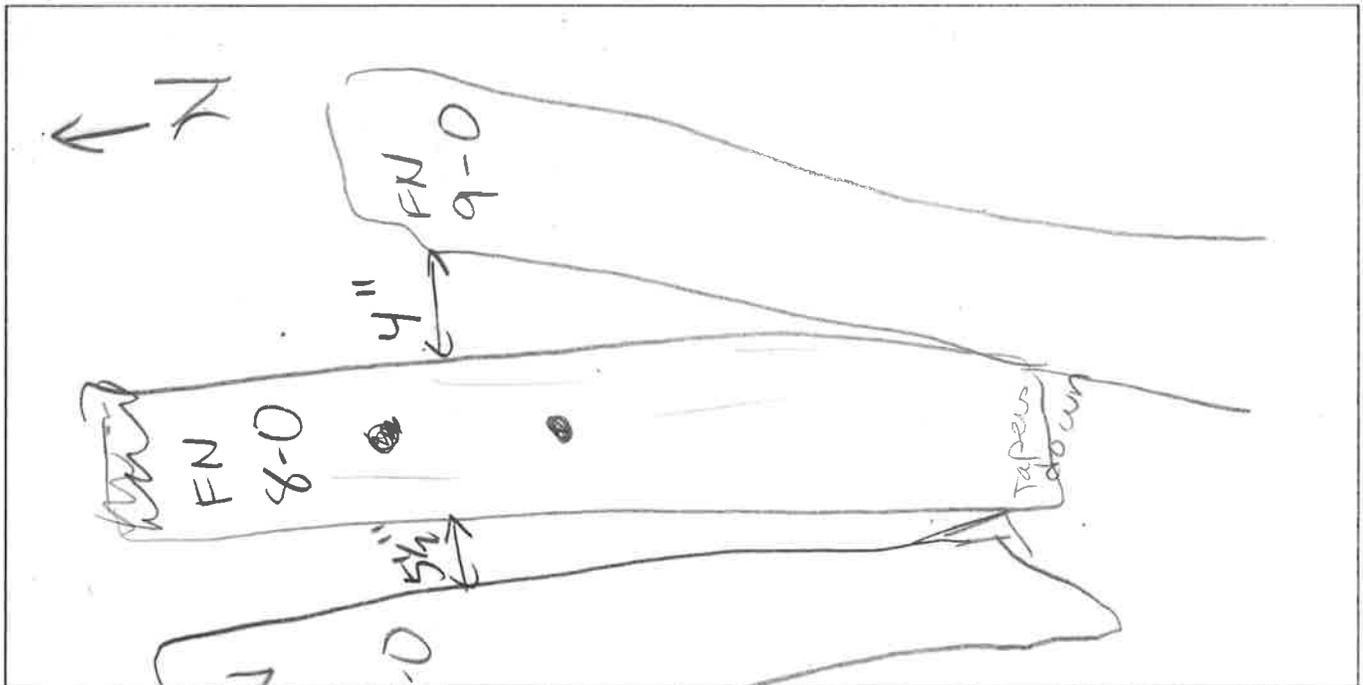
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes last square frame 2
all come together in center



Scale: 1/4" = 1'

Sketch by: _____

CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Furniture Artifact Number: FN-9-3 + FN 9-5

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

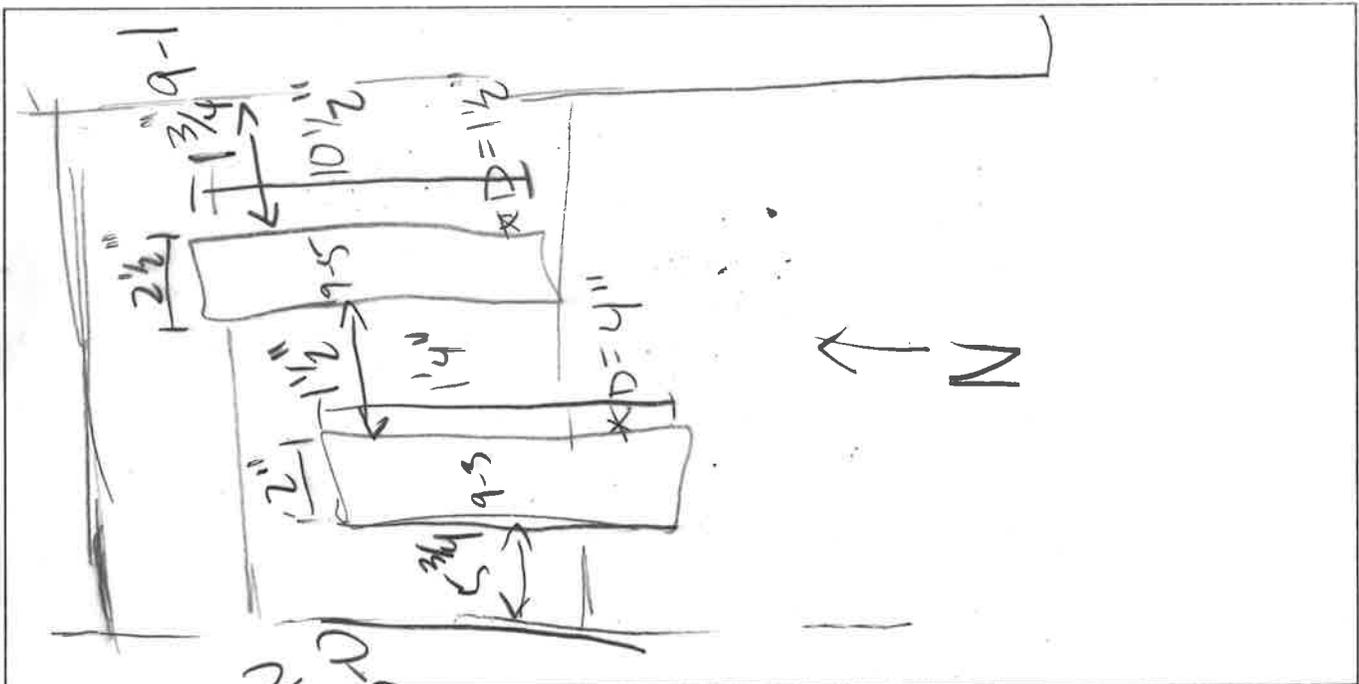
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes 2 small pieces



Scale:

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Fulcrum Artifact Number: FN 9-1

Material: wob Condition: _____

Location: _____

Dimensions: L 7' 1/2" W 5 1/4" D 5 1/4"
(sided) (molded)

Number and type of fasteners:

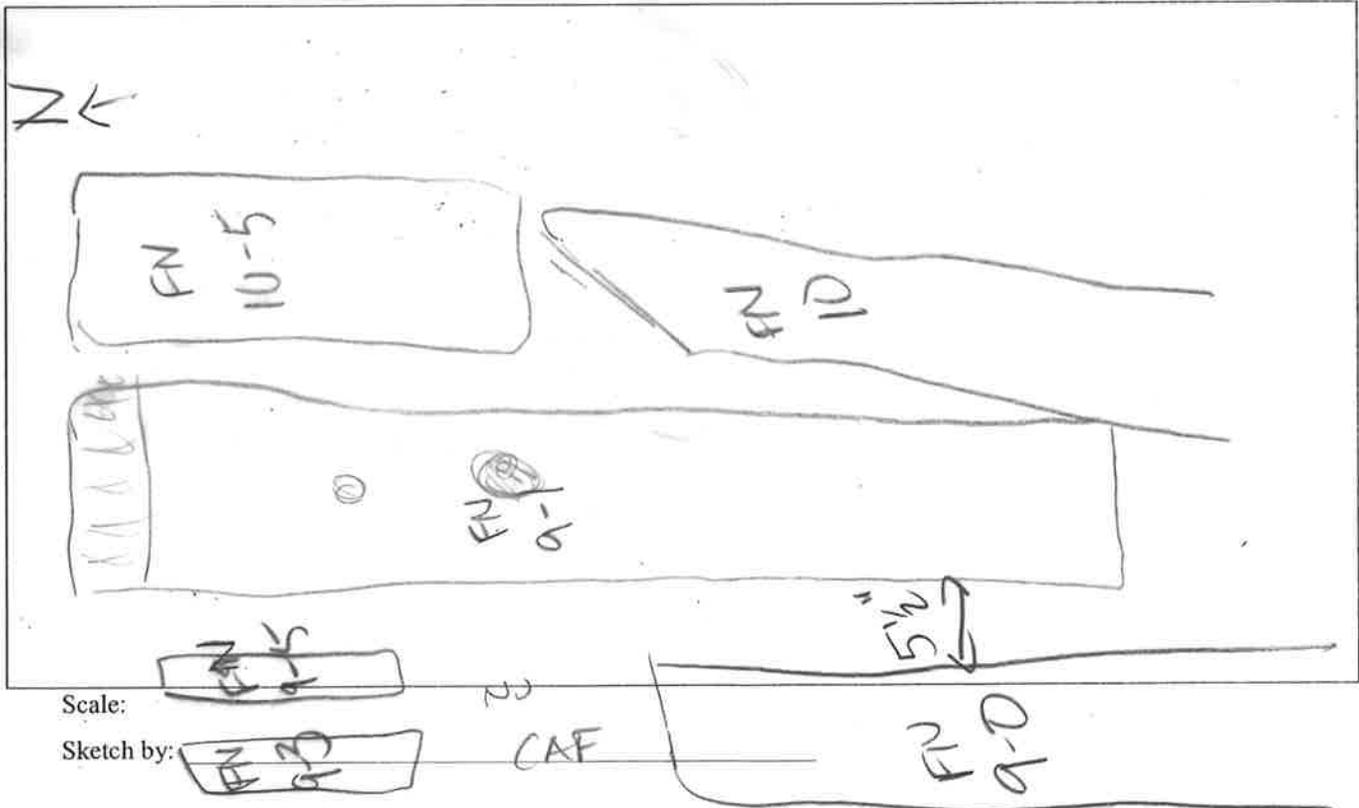
Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 128/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: FN-10 FS-10

Material: _____ Condition: _____

Location: _____

Dimensions: L 103.5" W 5 3/4" D 5 1/2"
longest (sided) (molded)

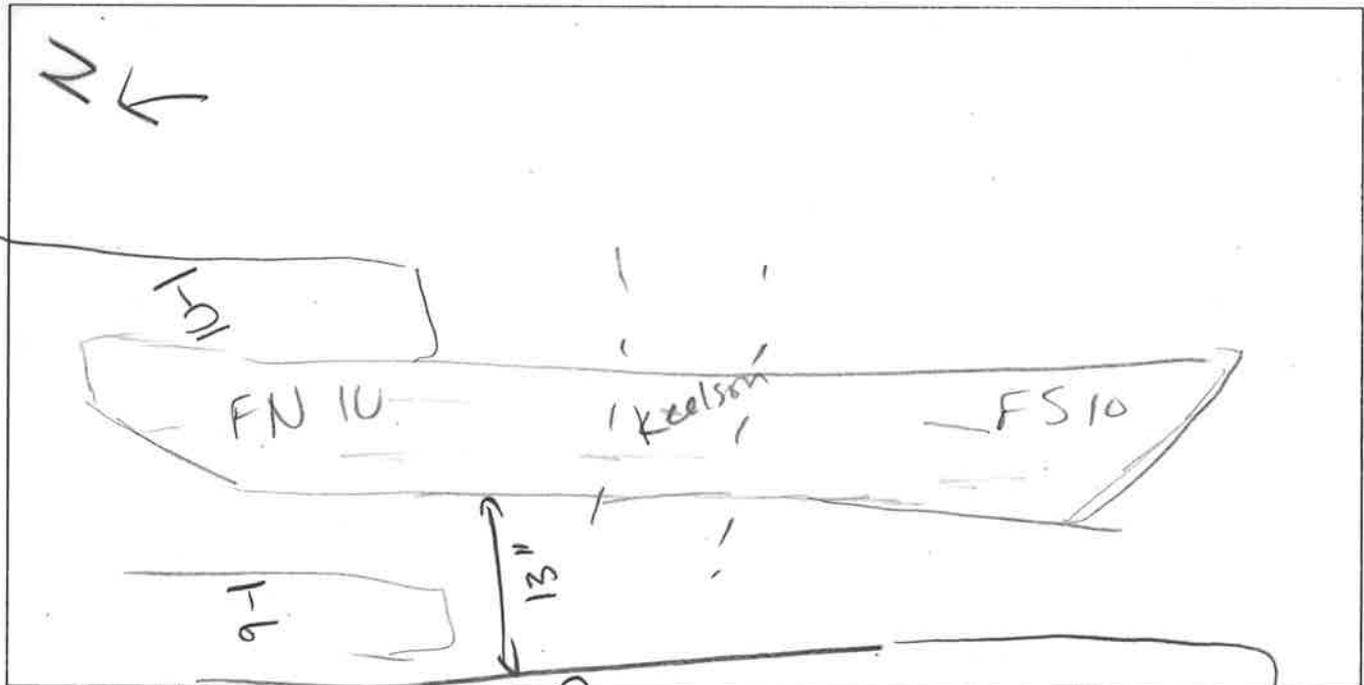
Number and type of fasteners:
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: NU

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Full Nodes Artifact Number: FN 10-1 + FN 10-1/1

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D 4 1/4"
(sided) (molded)

Number and type of fasteners:

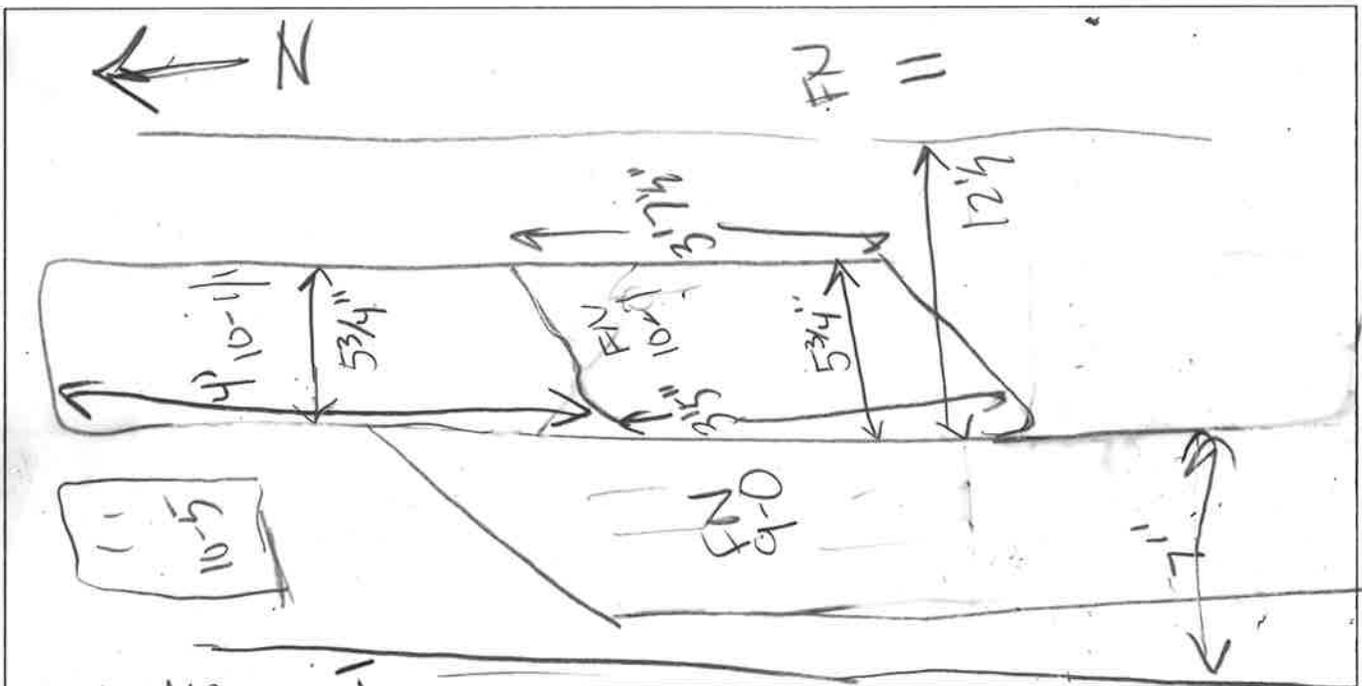
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes FN 10-1/1 Broken
+ FN 10-1



Scale: NO

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: FLOOR timber

Artifact Number: FN-11-0

Material: WOOD Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

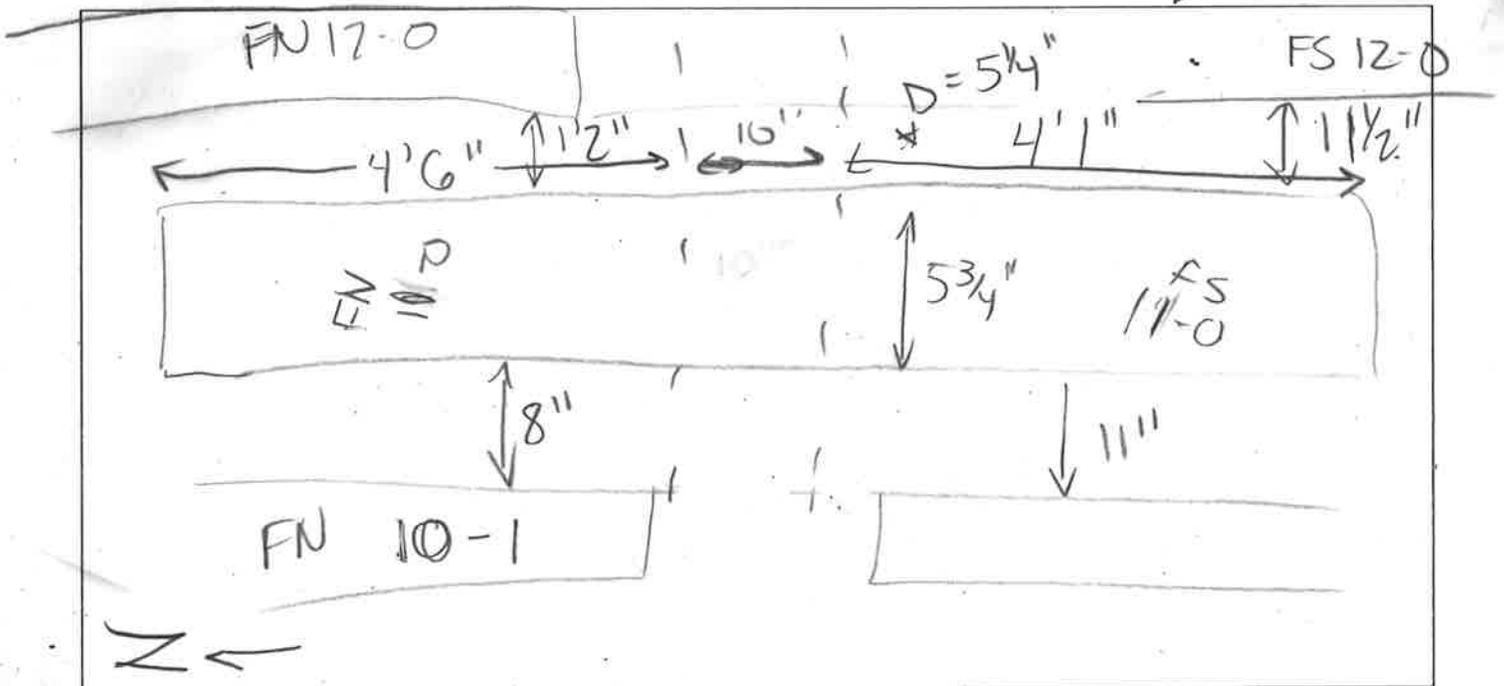
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: 1" = 1'

Sketch by: C. Fulton

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: cant frame Artifact Number: FN6-0

Material: wood Condition: gn!

Location: 30W

Dimensions: L 86" W 5.5-6.5" D 5.5"
(sided) (molded)

Number and type of fasteners:

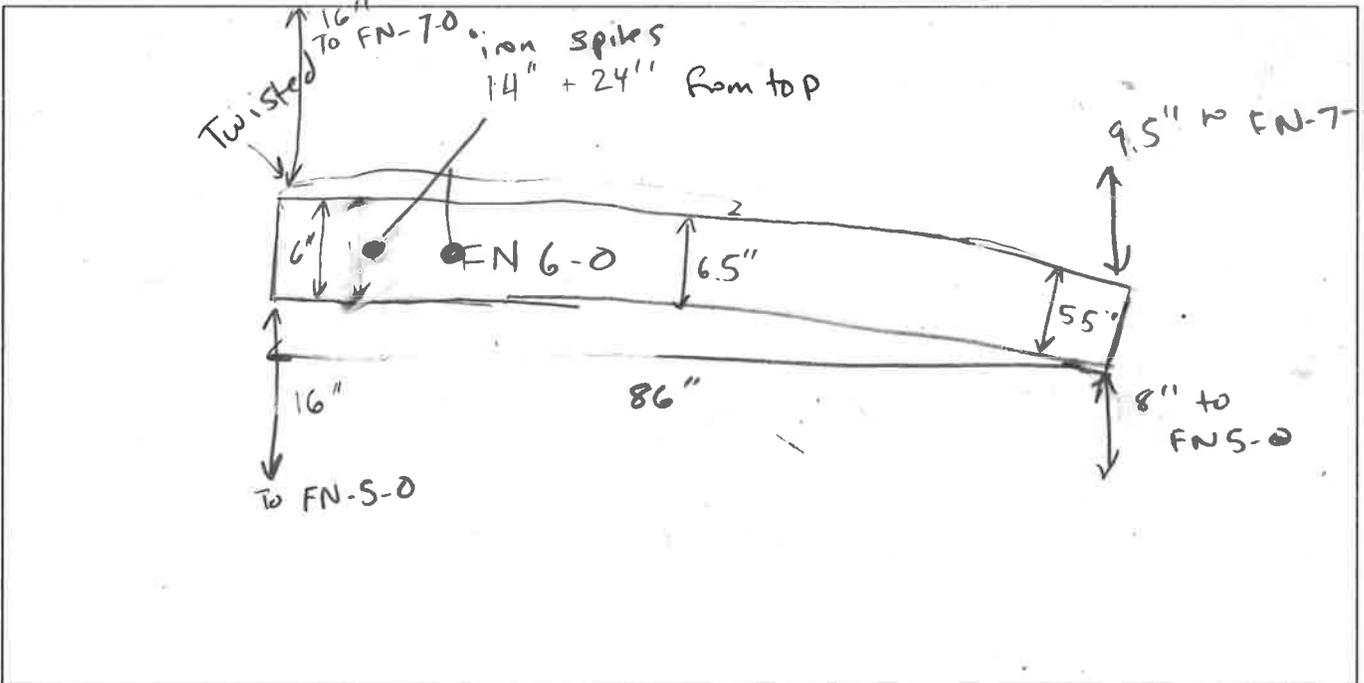
2 Spikes Trunnels Other (Describe:)

Photographs: in situ full details

Detailed Illustrations?

Associated Timbers:

Notes



Scale:

Sketch by: E Meade

Vehicle Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/28/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicle Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: unknown pieces in Bow Artifact Number: BP Pieces

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

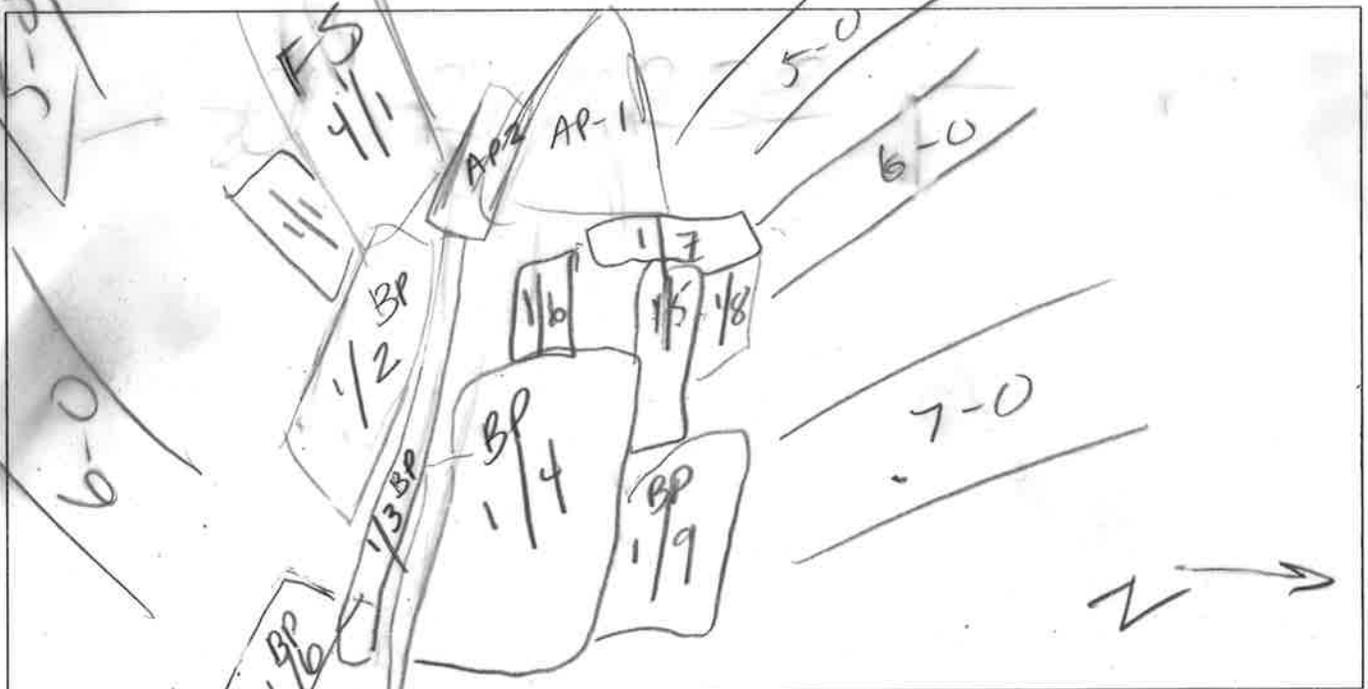
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes Rough sketch of Bow pieces
jumbled -> pictures taken on Molly's camera



Scale: _____

Sketch by: BP 1/10

CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/30/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: LOG S

Material: _____ Condition: _____

Location: _____

Dimensions: L 3'6" W 6" dia D _____
(sided) (molded)

Number and type of fasteners:

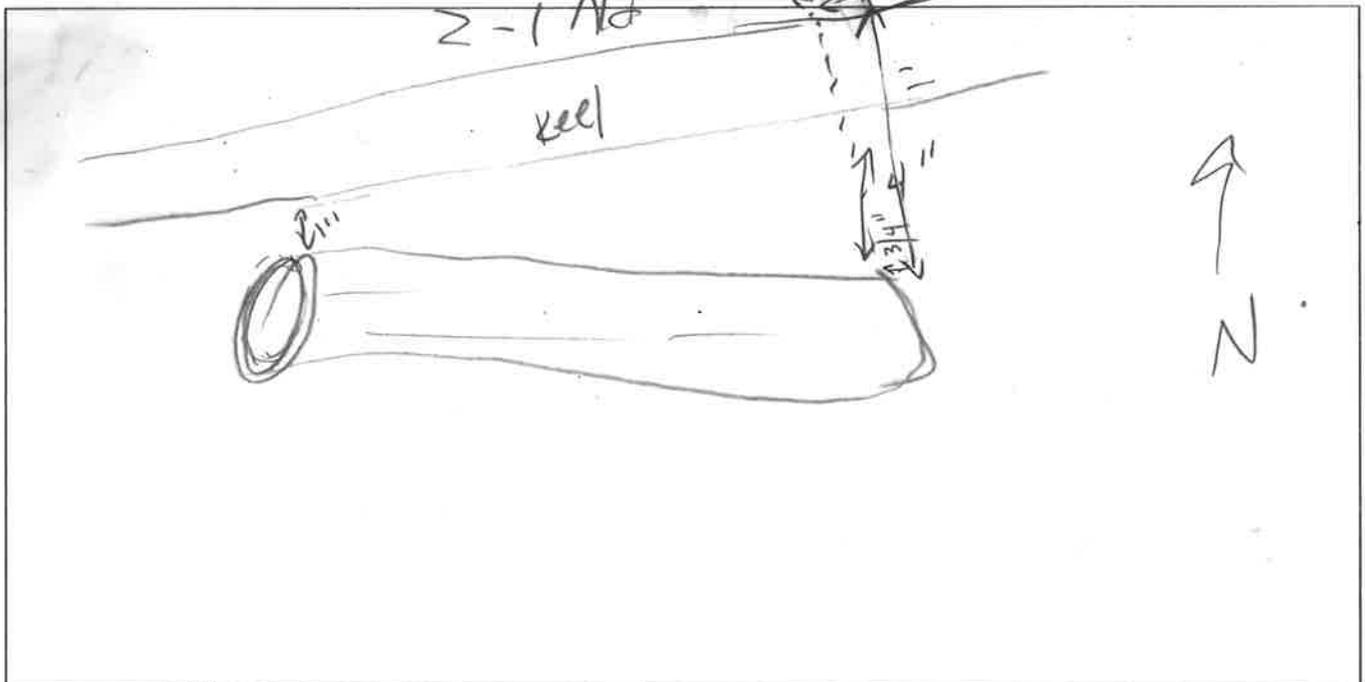
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: ND

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: Apron + Bow planks DORT Artifact Number: _____

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ. _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes station lines going out from apron. vertical + horizontal measurements kept in plane



Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 29 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 10-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 50.25" W 9.25" D _____
(sided) (molded)

Number and type of fasteners:

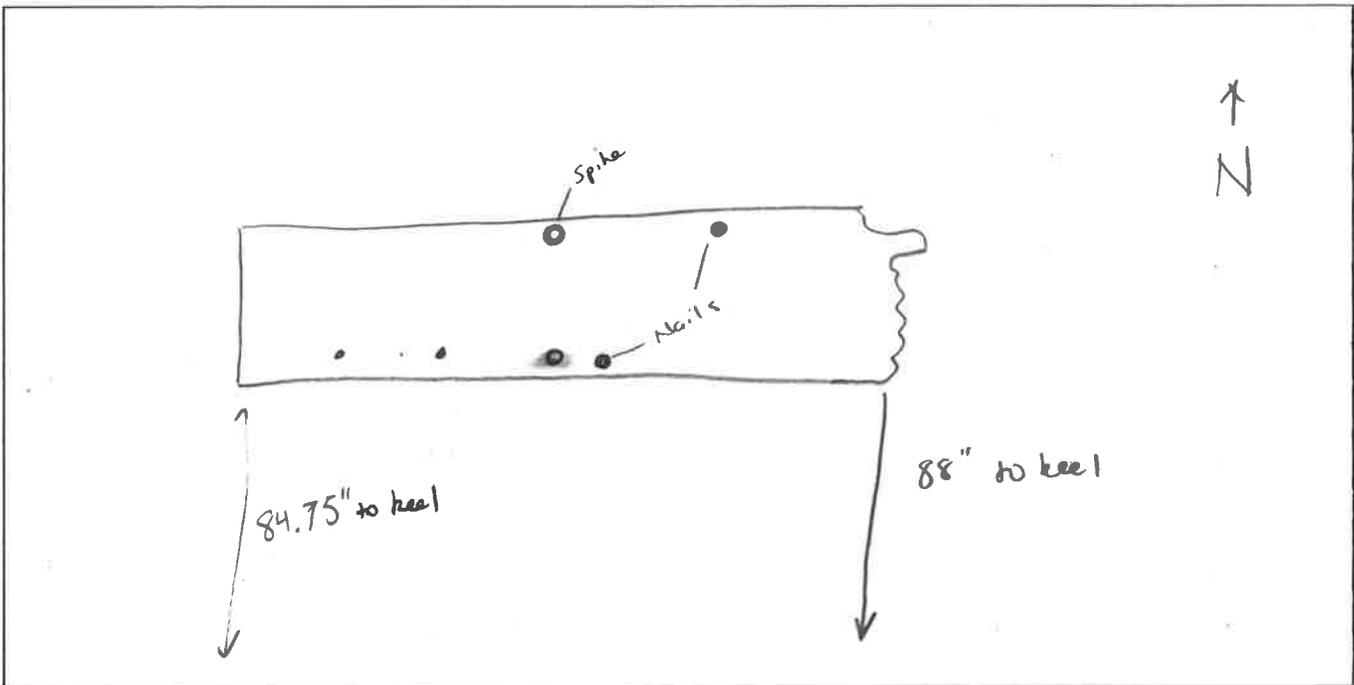
2 Spikes _____ Trunnels x Other (Describe: several nails)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: W. of 10-1, N. of 9-1, E. of 10-3

Notes _____



Scale: _____

Sketch by: E. Neude

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 29 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 10-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 46' W 4.5" ~~E~~ _____ 82' to keel @ East End
(sided) (molded) 89" " " " West "

Number and type of fasteners:

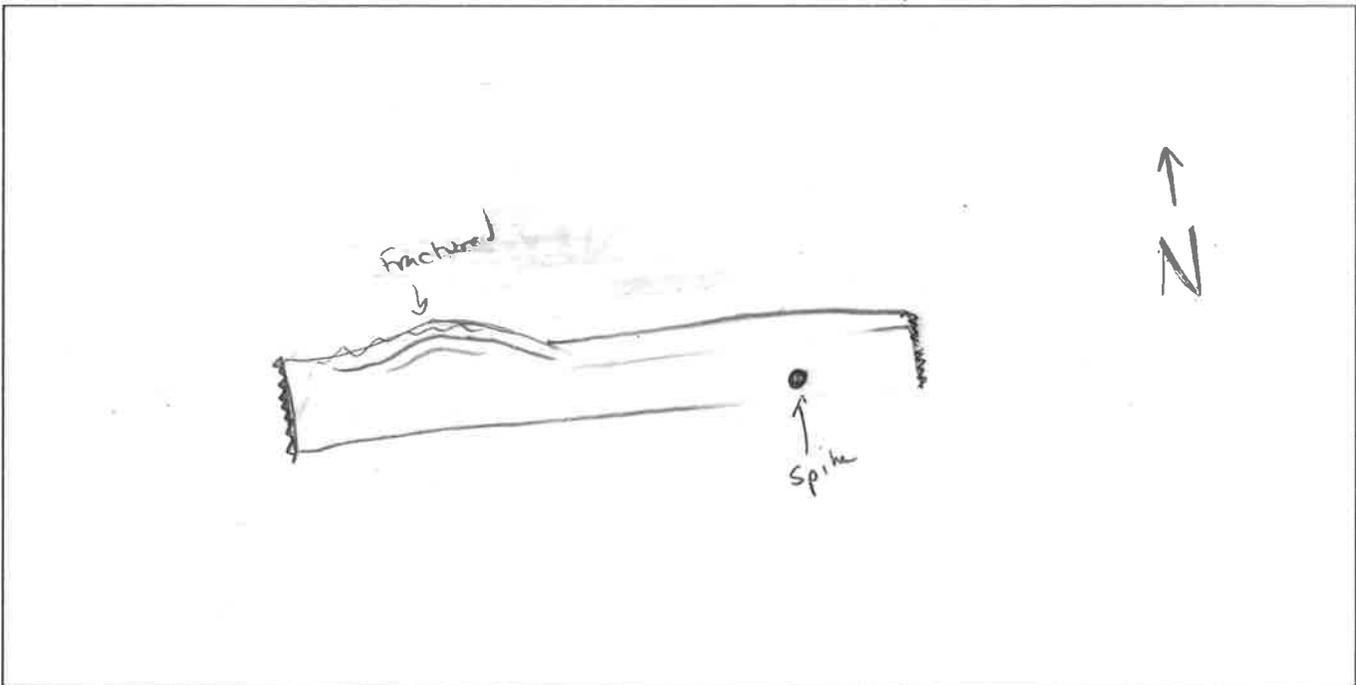
_____ Spikes | _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: E. of PN 10-2, N. of PN 9-1

Notes _____



Scale: _____

Sketch by: E. Meade

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 10-3 + PN 10-4 + PN 10-5

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

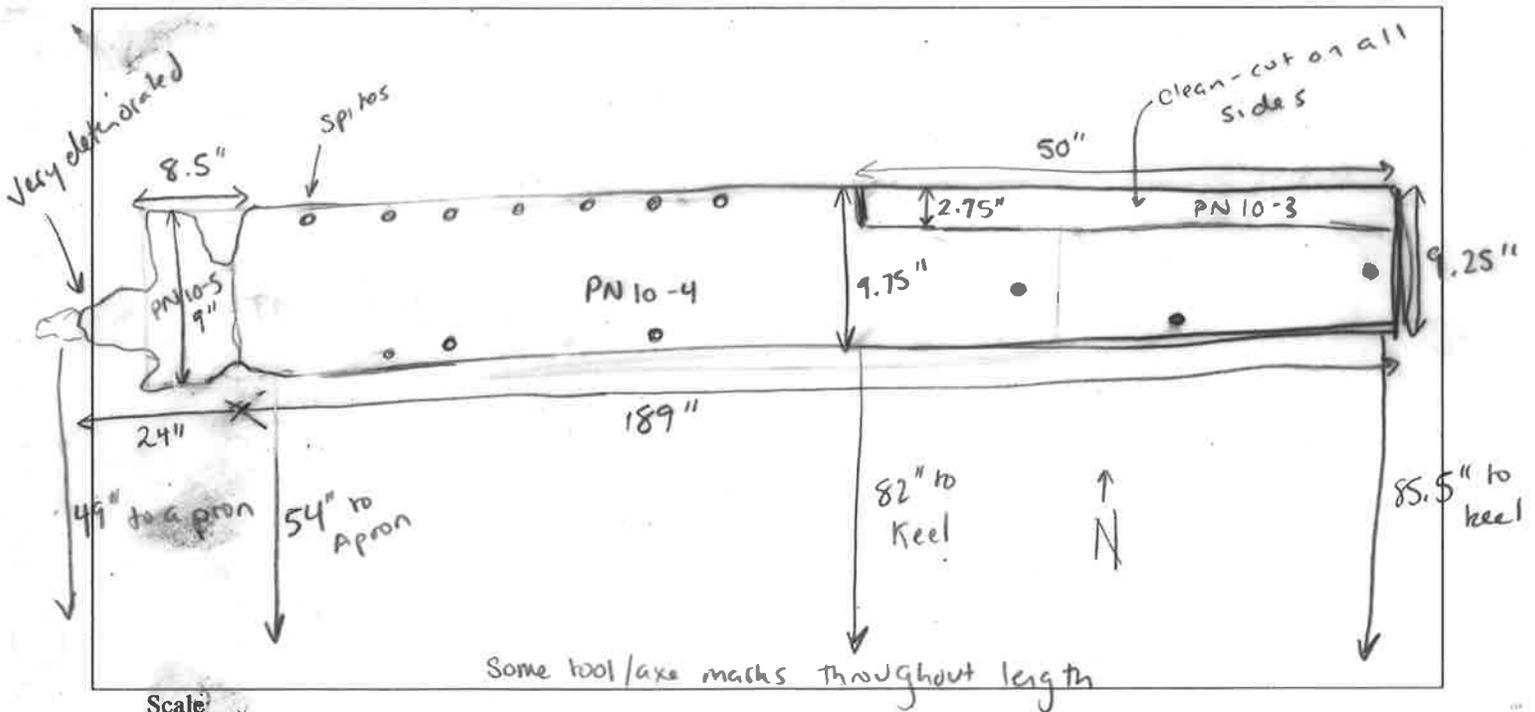
Many Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: S. of PN 11-1 + 11-2 + 11-2A, E of PN 10-2, W of PN 10-5, N of PN 9-2 + 9-1

Notes _____



Scale: _____

Sketch by: EDM

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 29 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: 10-6 + 11-4

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

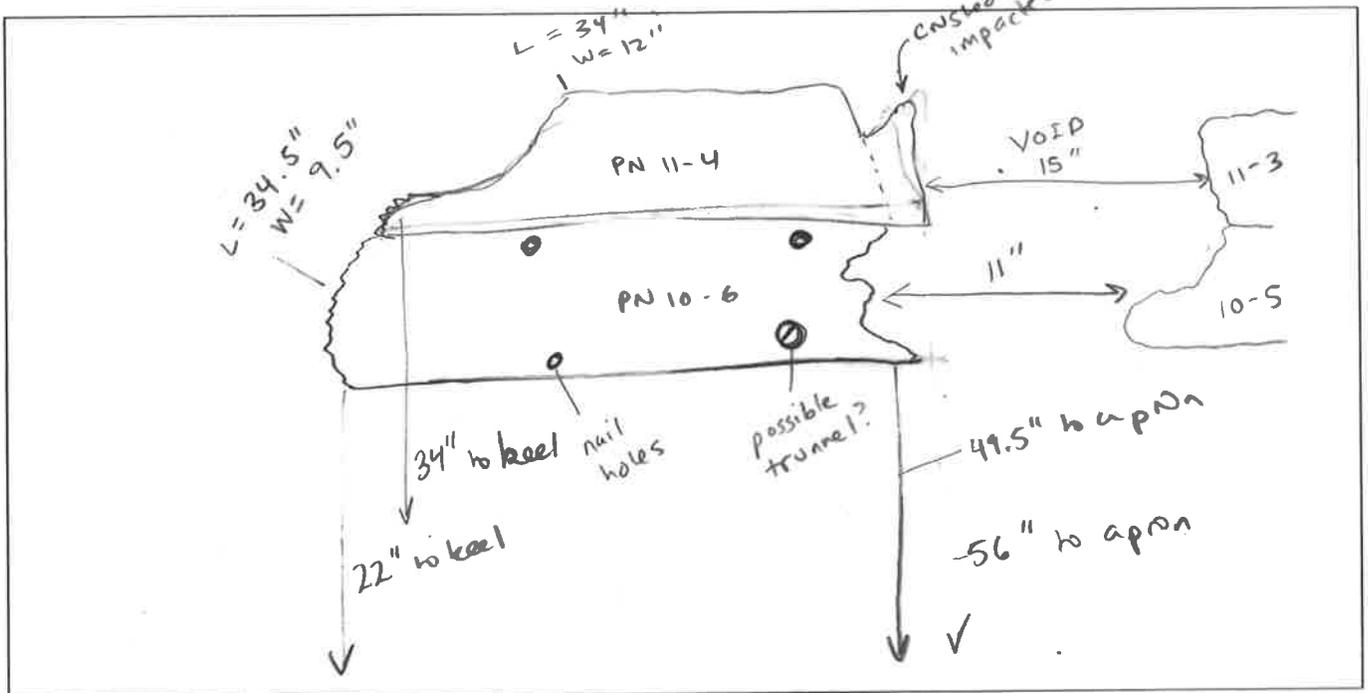
_____ Spikes 1? Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: EDM

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 29 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

PN

Artifact Name: _____ Artifact Number: 12-1, 12-2, 12-3

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____

(sided) (molded)

Number and type of fasteners:

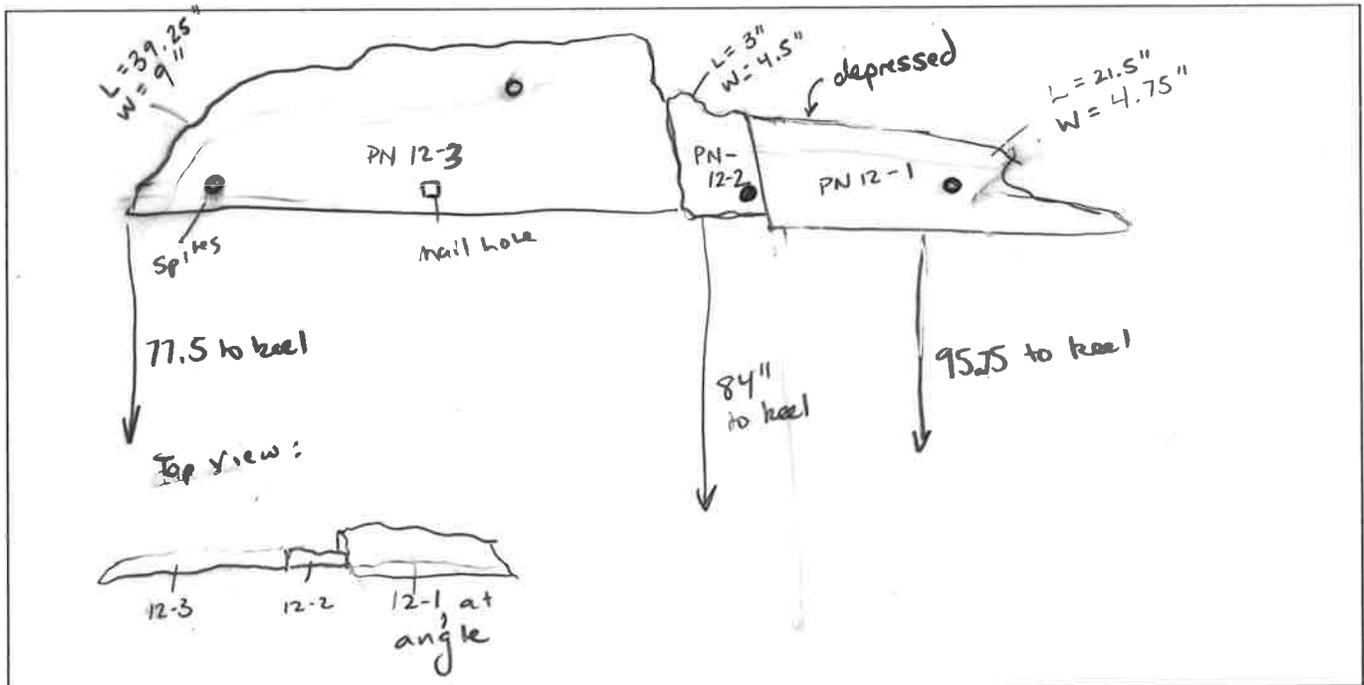
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: N of 11-2A + 11-2

Notes _____



Scale:

Sketch by: EDM

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 42 & 42A

Material: _____ Condition: _____

Location: _____

Dimensions: L 191" W _____ D _____
(sided) (molded)

Number and type of fasteners:

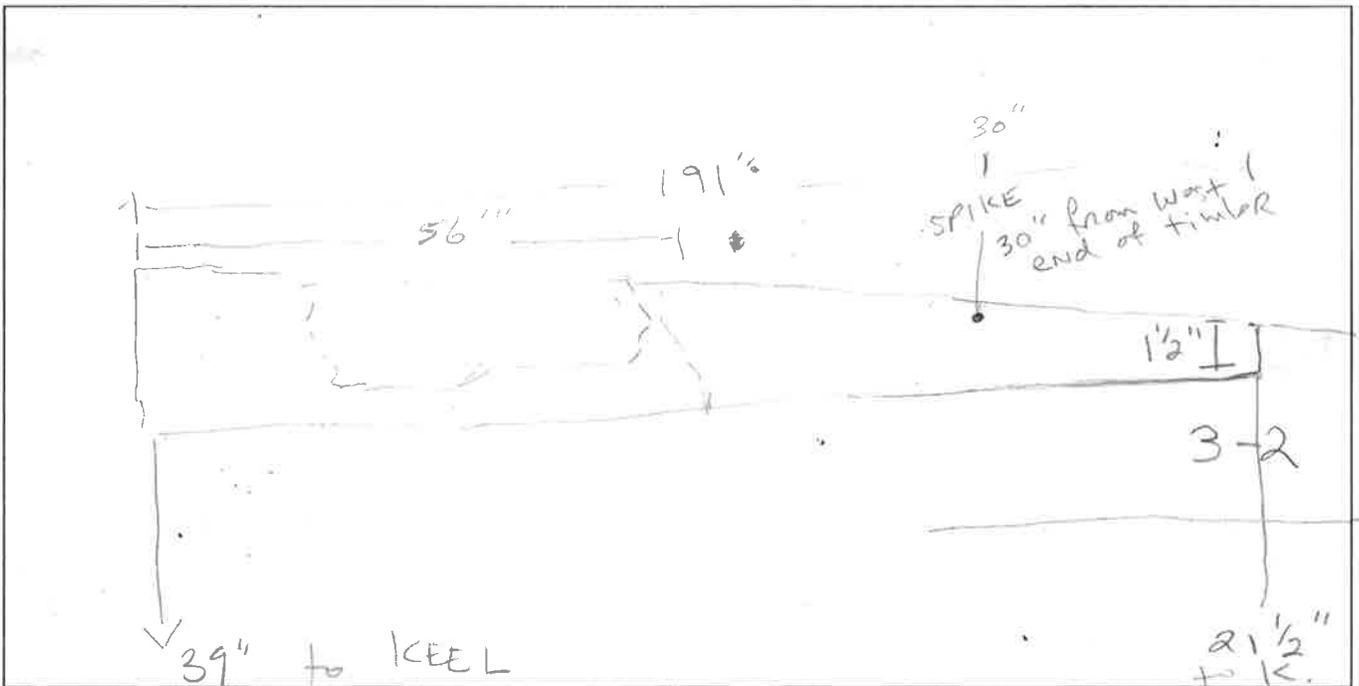
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations?

Associated Timbers: 2-1 + 3-2 (N); 5-1 E (S), 4-1 to E, 3-2 also to W

Notes _____



Scale:

Sketch by: LR RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: P52-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 195" W 12 3/4" D _____
(sided) (molded)

Number and type of fasteners:

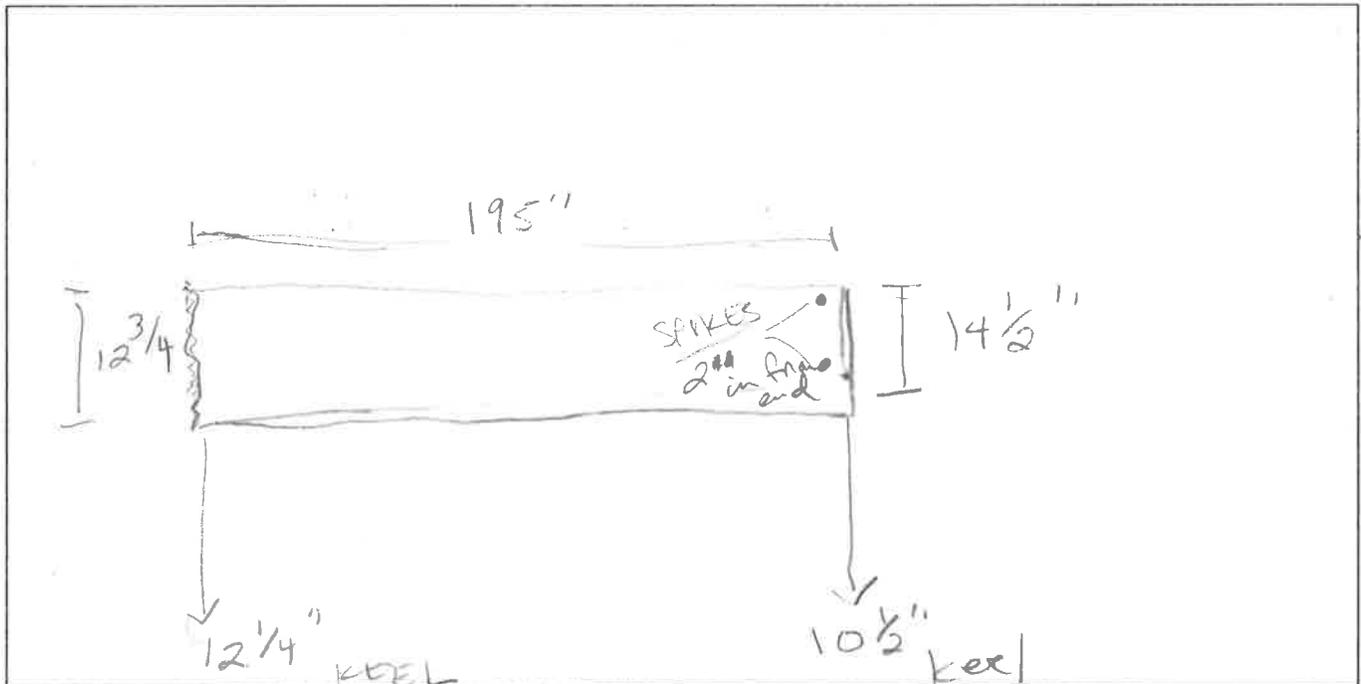
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 1-1 # N ; 3-1 # 3-2, S

Notes _____



Scale: _____

Sketch by: K Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS-3-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 226 1/2 W _____ D _____
(sided) (molded)

Number and type of fasteners:

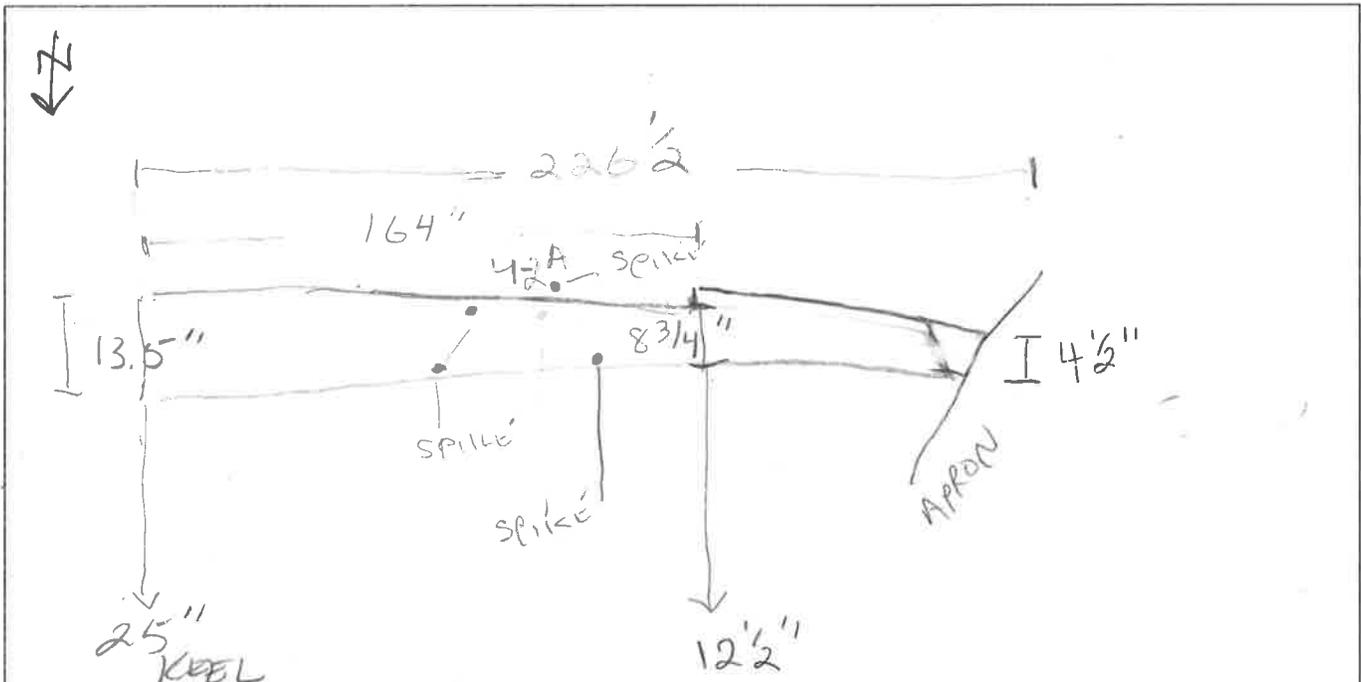
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 4-2A, 5-3 to S; 2-2, 2-1 to N

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 3-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 99.5 W 13^{3/4} D _____
(sided) (molded)

Number and type of fasteners:

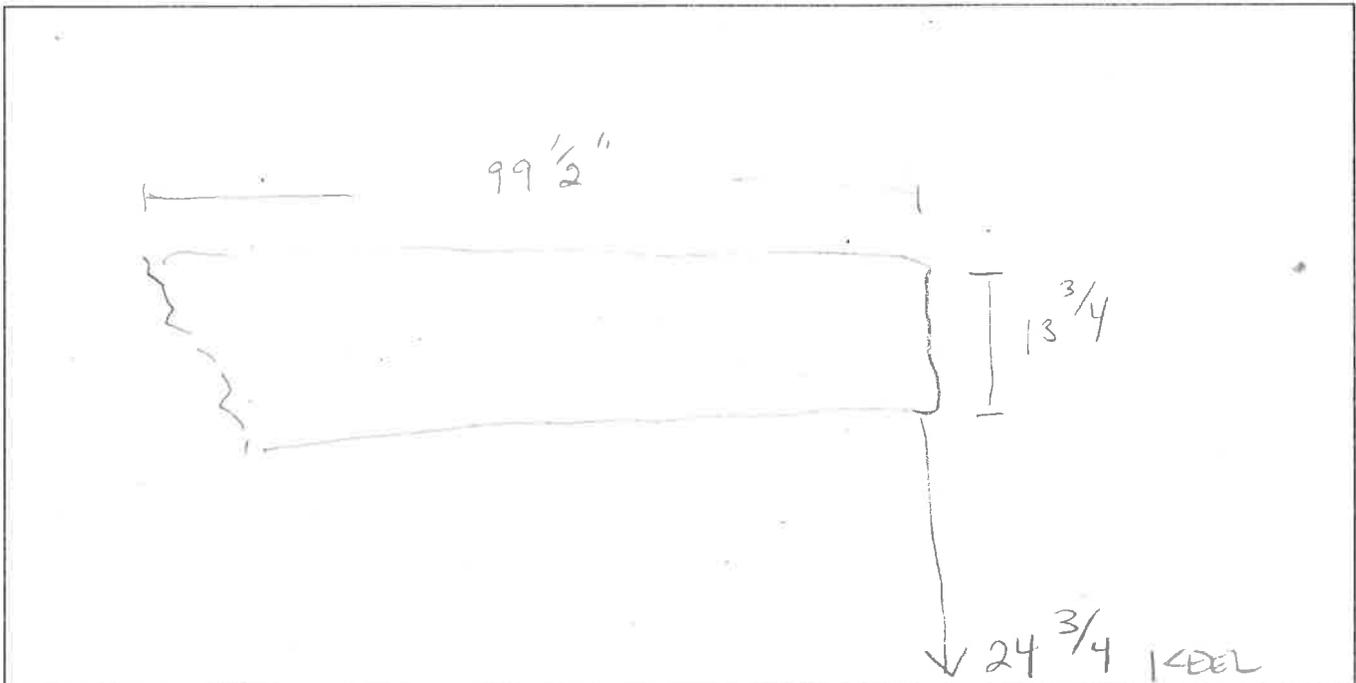
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 2-1, N 4-1 & 2, S; 3-2 W

Notes _____



Scale: _____

Sketch by: K Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 1-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 314" W _____ D _____
(sided) (molded)

Number and type of fasteners:

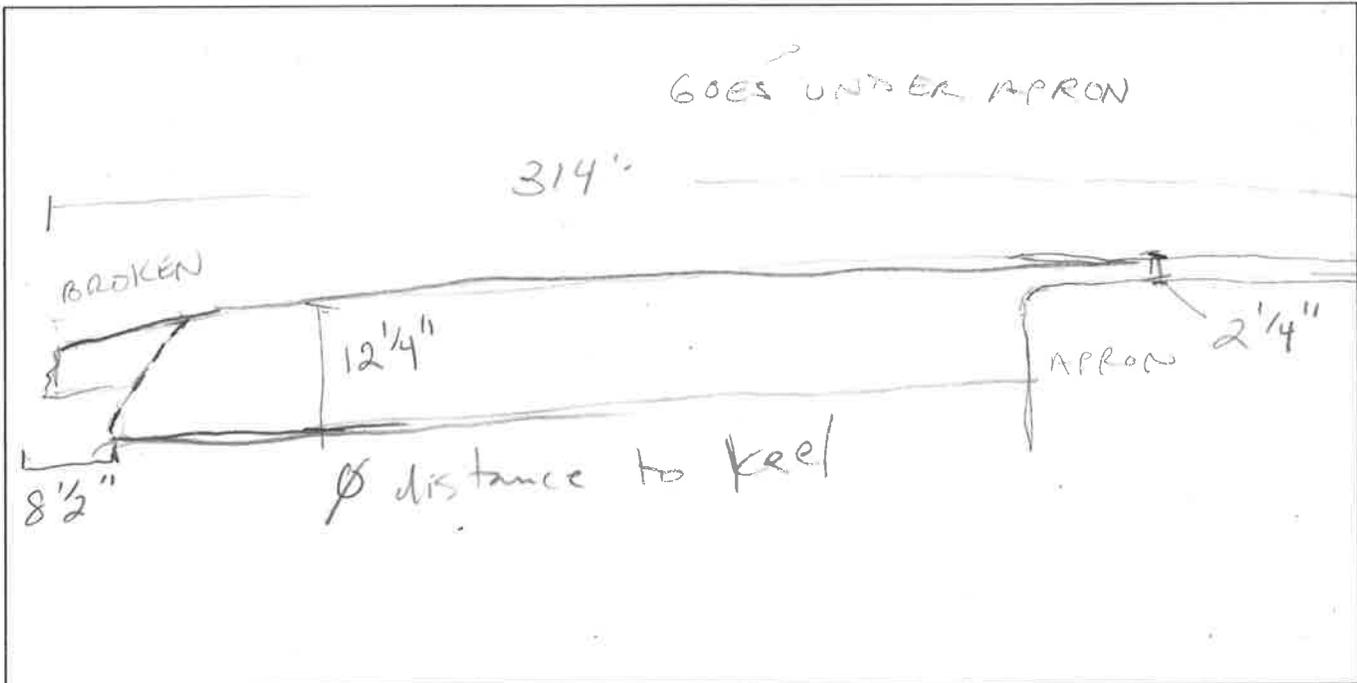
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: KEEL to NORTH

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 6-1

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

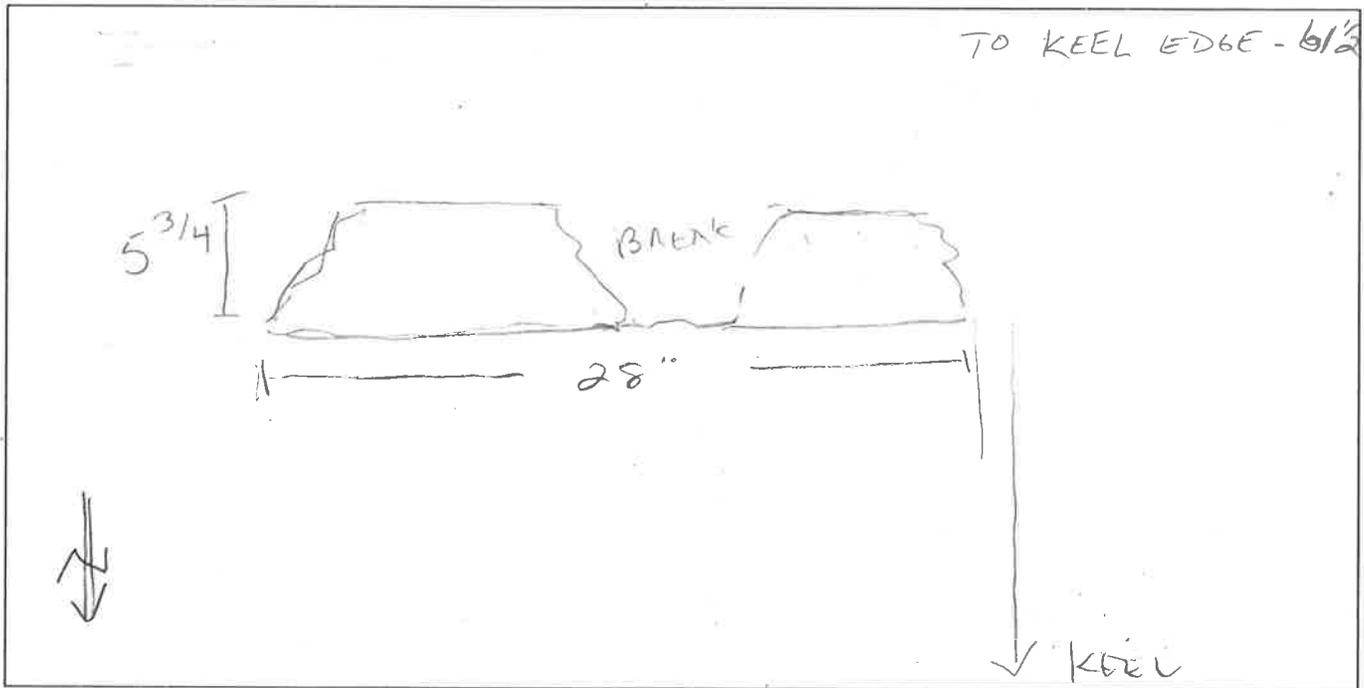
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: ASSOC. TO PS5-1 (TO THE NORTH OF 3-1)

Notes _____



Scale:

Sketch by: LRIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 6-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 75" W 6 1/2" D _____
(sided) (molded)

Number and type of fasteners:

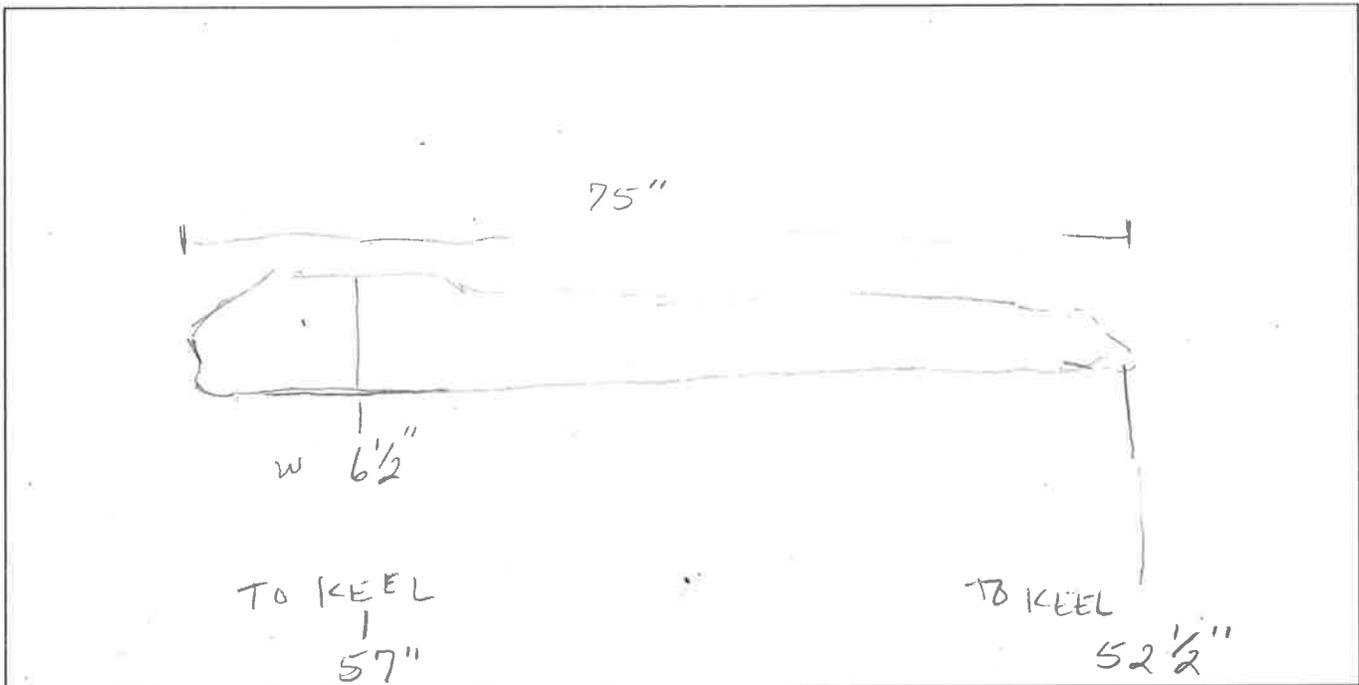
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 5-2 to North

Notes _____



Scale:

Sketch by: RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS-6-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 160" W 10" D _____
(sided) (molded)

Number and type of fasteners:

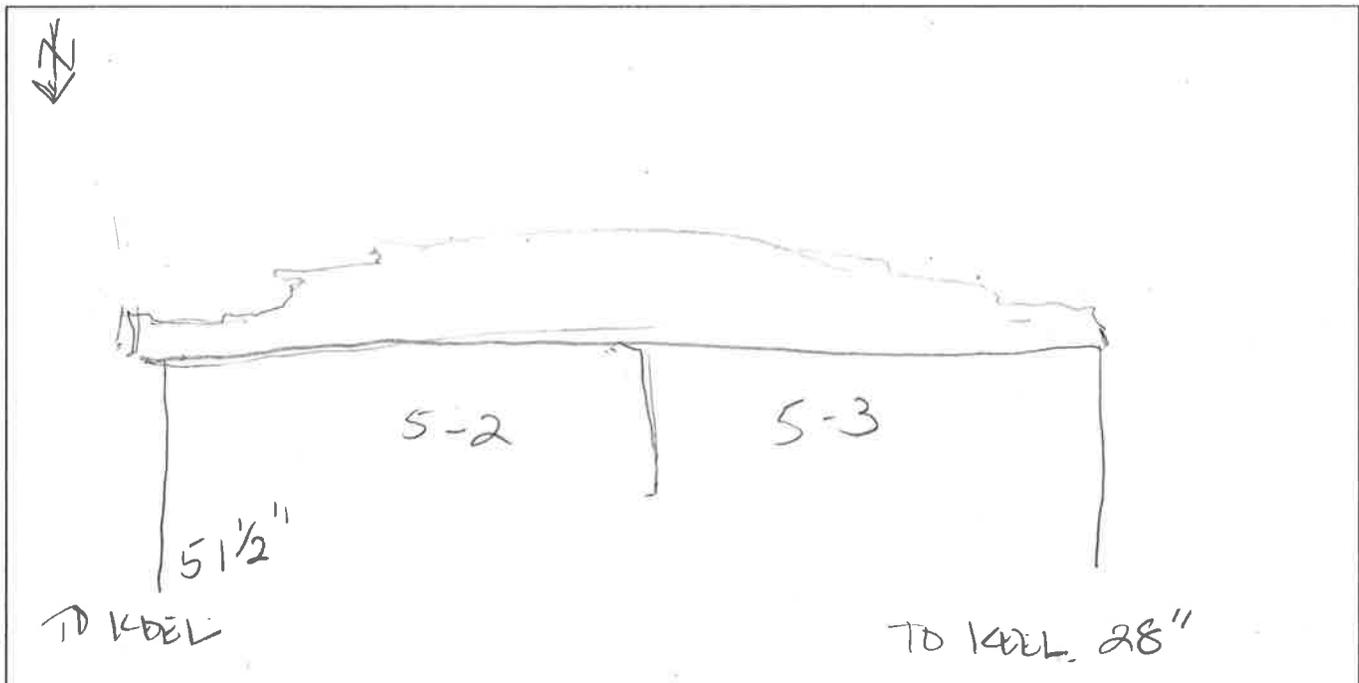
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: S2 + S-3 (to North)

Notes _____



Scale:

Sketch by: RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 9-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 23 3/4 W 4 1/2 D _____
(sided) (molded)

Number and type of fasteners:

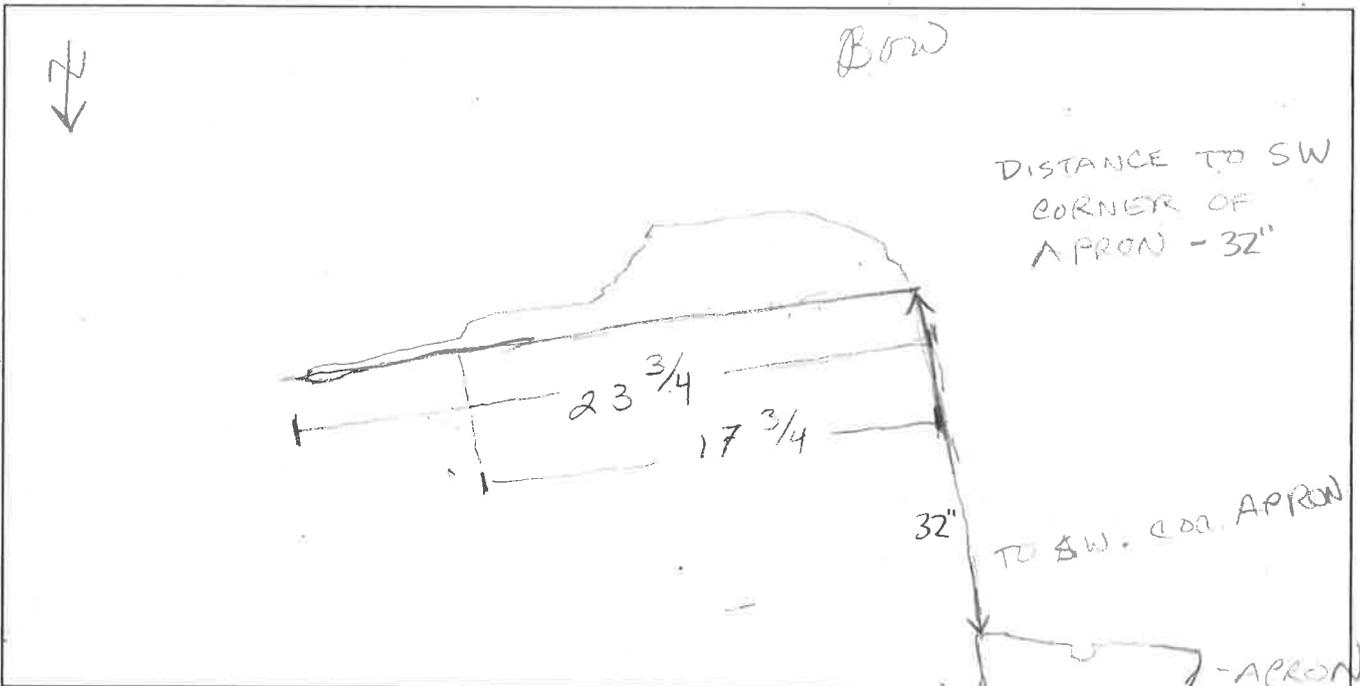
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 8-1 TO ITS NORTH

Notes _____



Scale:

Sketch by: RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS-8-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 50 1/4 W 10 3/4 D _____
(sided) (molded)

Number and type of fasteners:

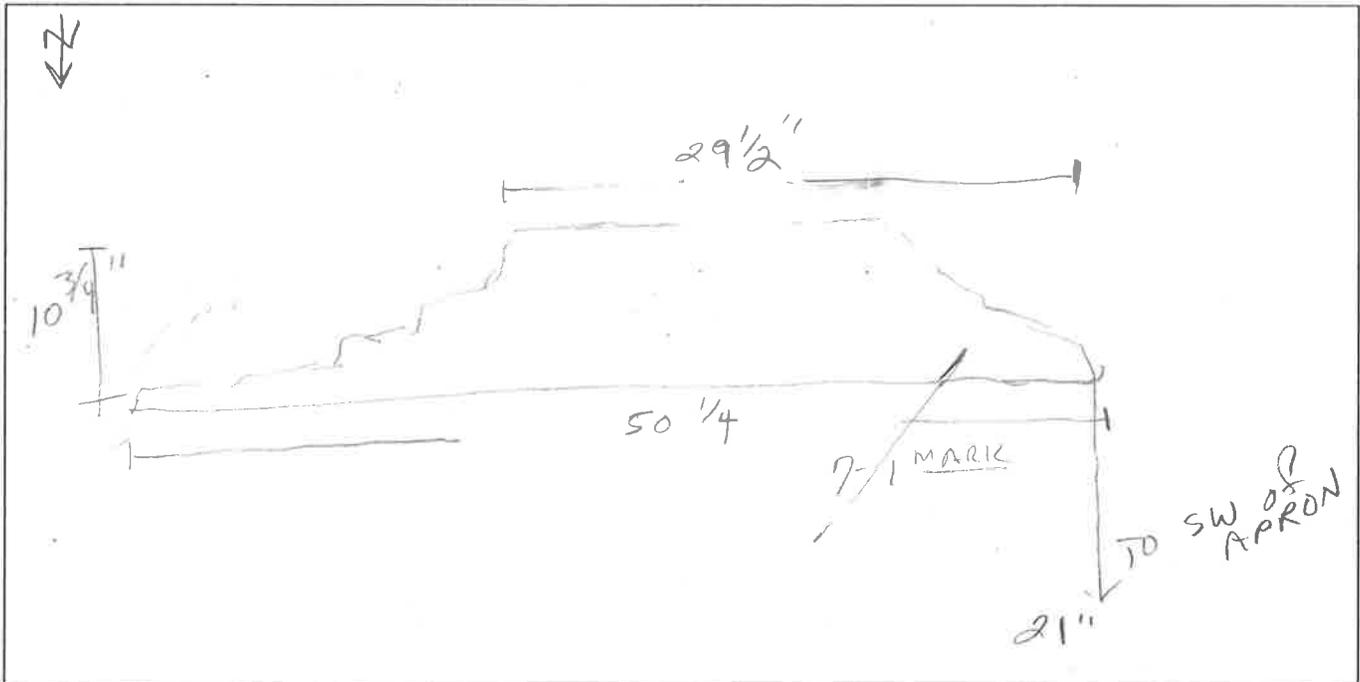
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 7-1 ON NORTH

Notes _____



Scale: _____

Sketch by: LRiess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS-7-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 73 1/2" W 10" D _____
(sided) (molded)

Number and type of fasteners:

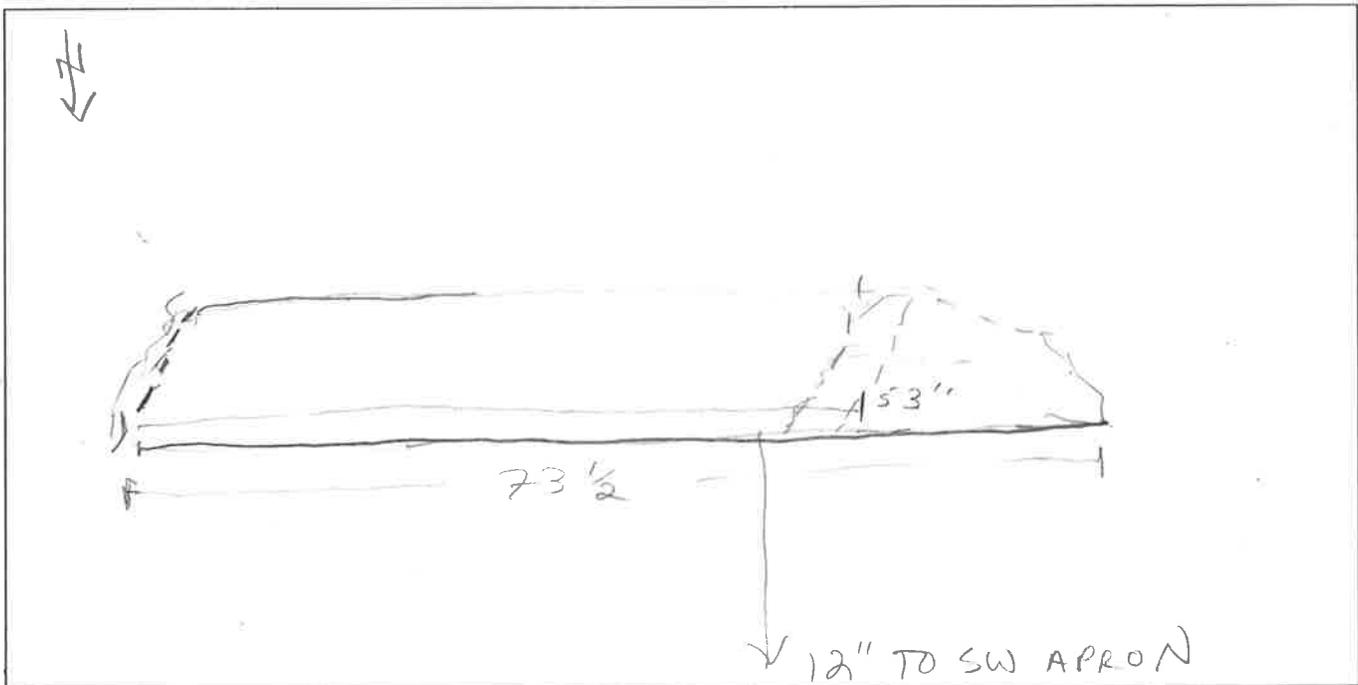
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: PS-4

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS-5-0

Material: _____ Condition: _____

Location: _____

Dimensions: L 24 1/2 W 9" D _____
(sided) (molded)

Number and type of fasteners:

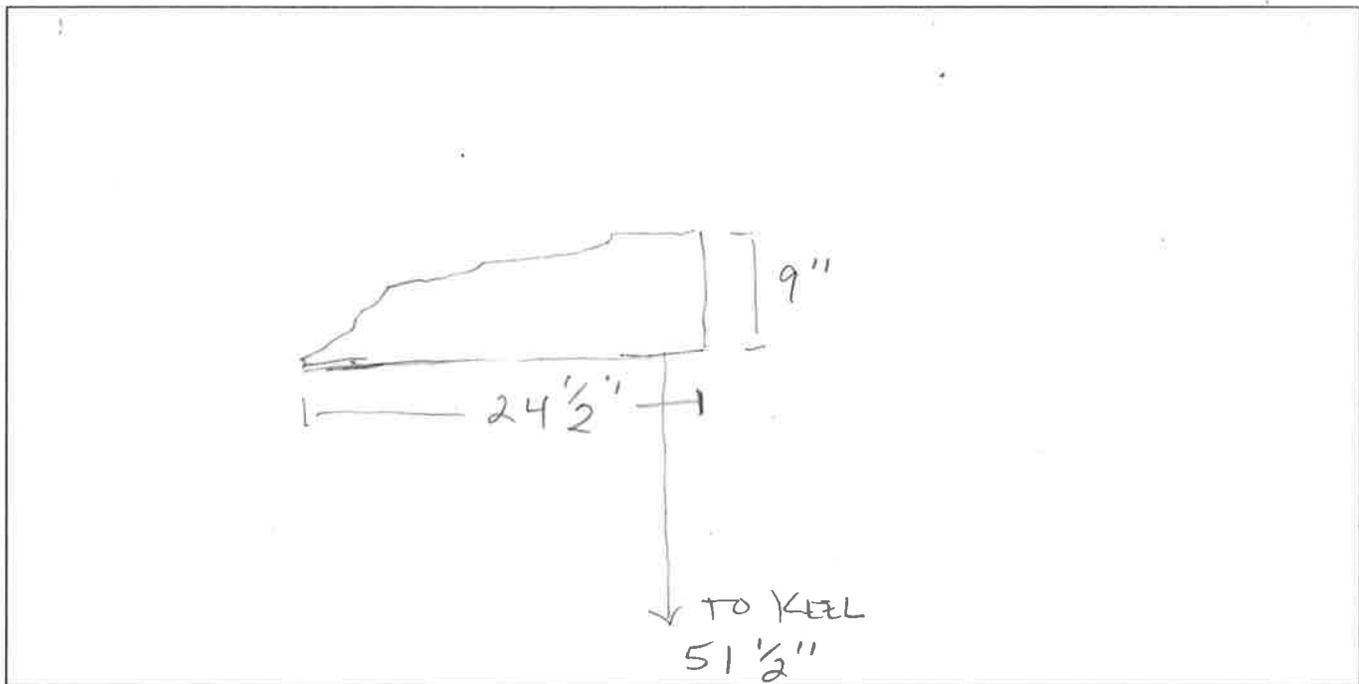
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 4-1

Notes _____



Scale: _____

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 5-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 65" W 1 1/4" D _____
(sided) (molded)

Number and type of fasteners:

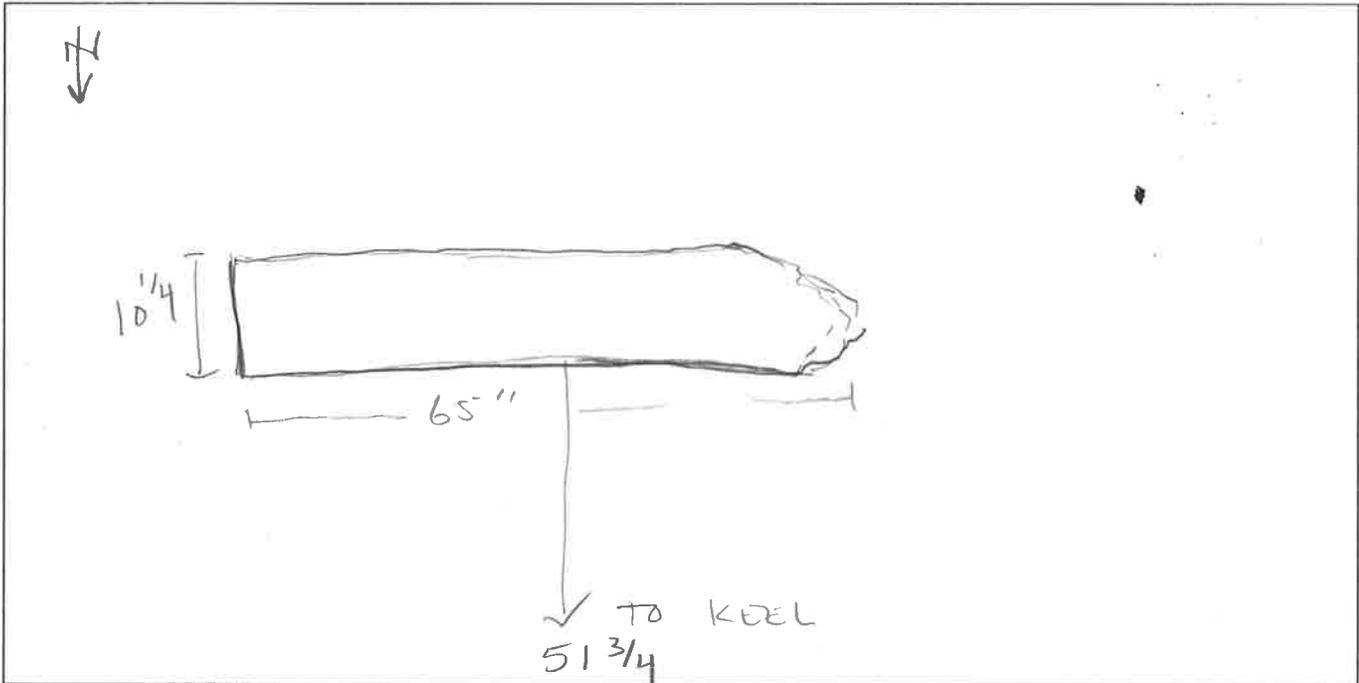
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 4-1 to N. + 6-1 S + 5-Ø E.

Notes _____



Scale: _____

Sketch by: W Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 5-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 128 3/4" W 10" D _____
(sided) (molded)

Number and type of fasteners:

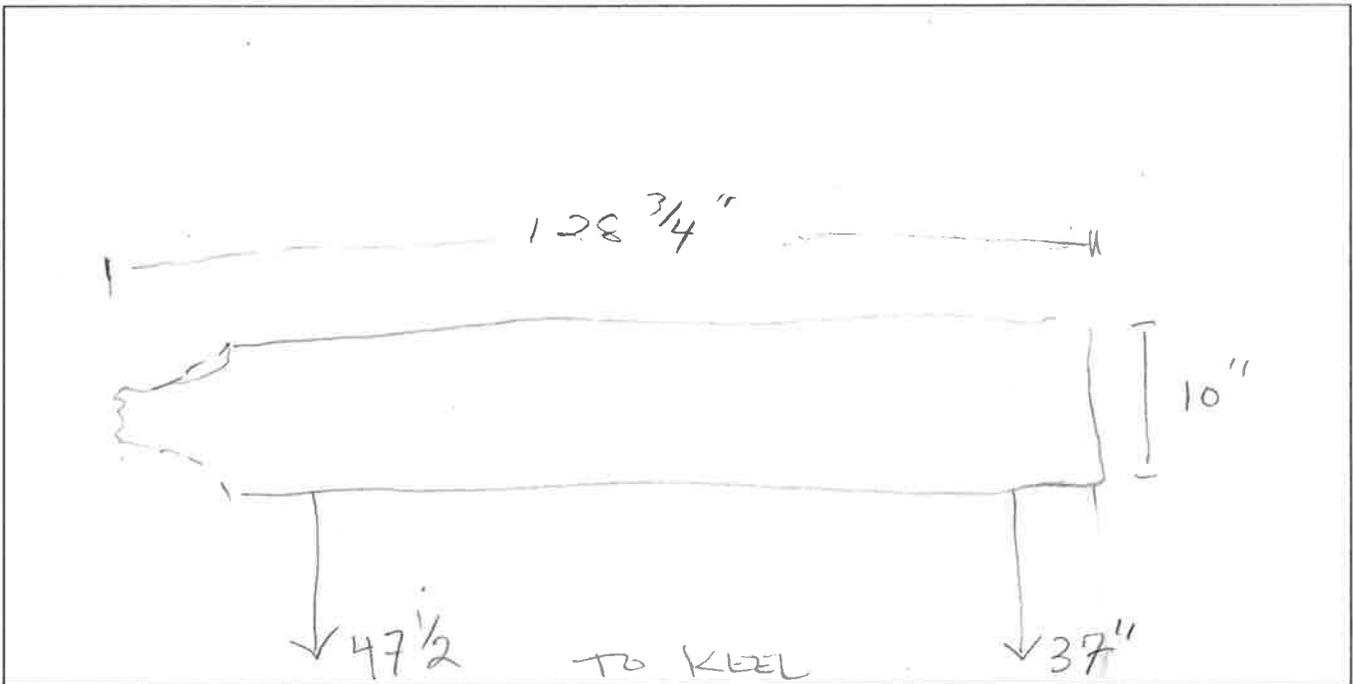
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 4-2A on N, 6-2 on S, 5-3 on W, 5-1 E

Notes _____



Scale: _____

Sketch by: W RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 4-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 74 1/2" W 12 3/4" D _____
(sided) (molded)

Number and type of fasteners:

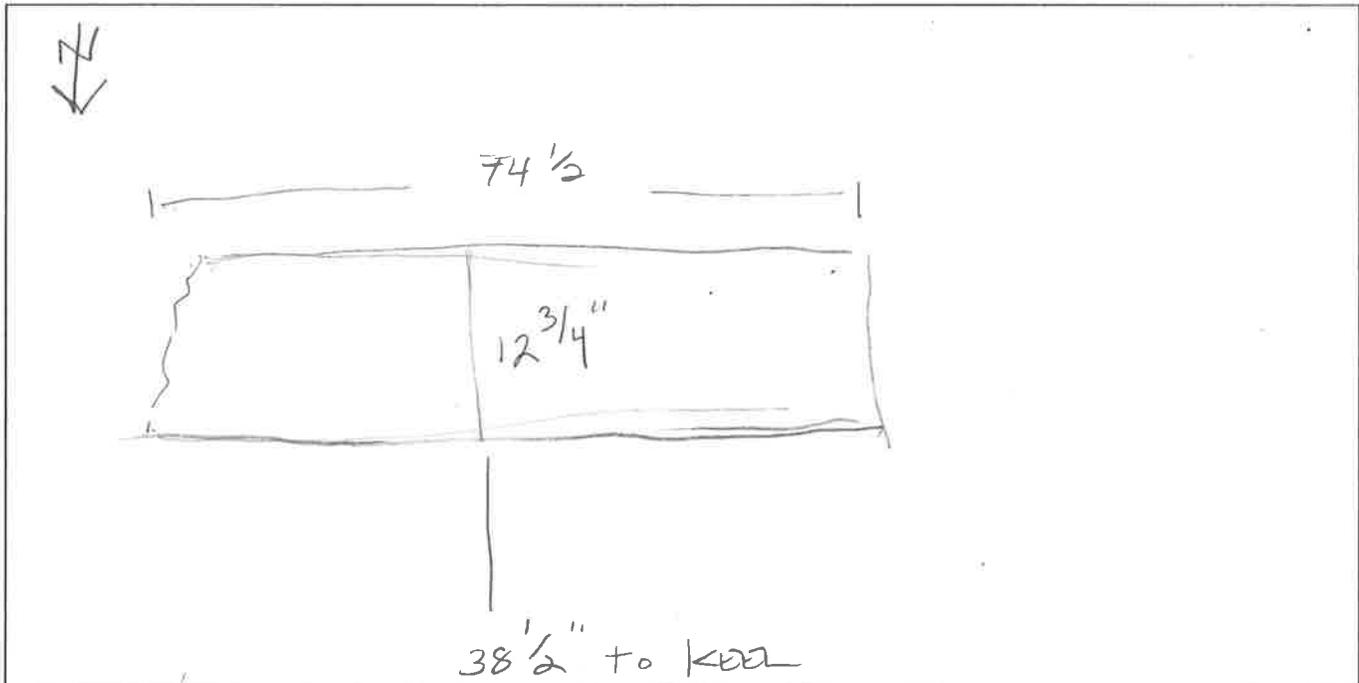
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 3-1 to N, 5-1 & 5-2 to S, 4-2 to W

Notes _____



Scale:

Sketch by: K MESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PS 2-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 108" W _____ D _____
(sided) (molded)

Number and type of fasteners:

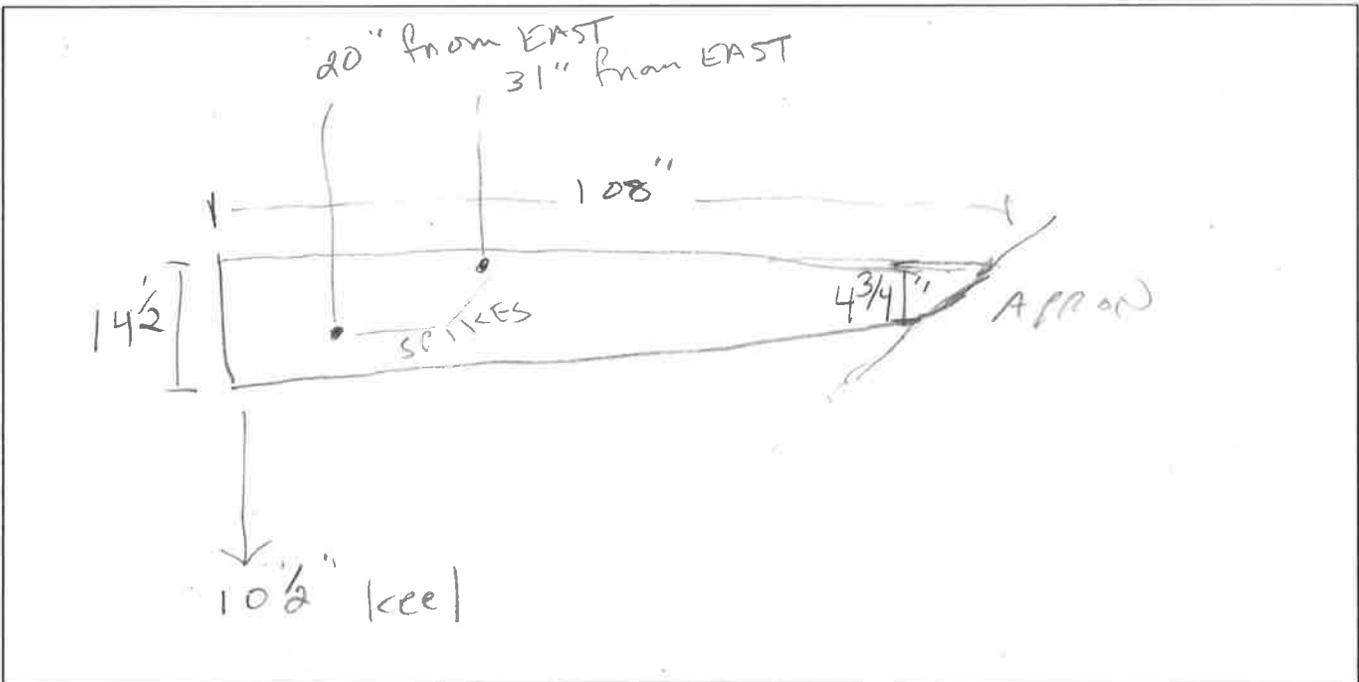
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 6-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 61" W 10" D _____
(sided) (molded)

Number and type of fasteners:

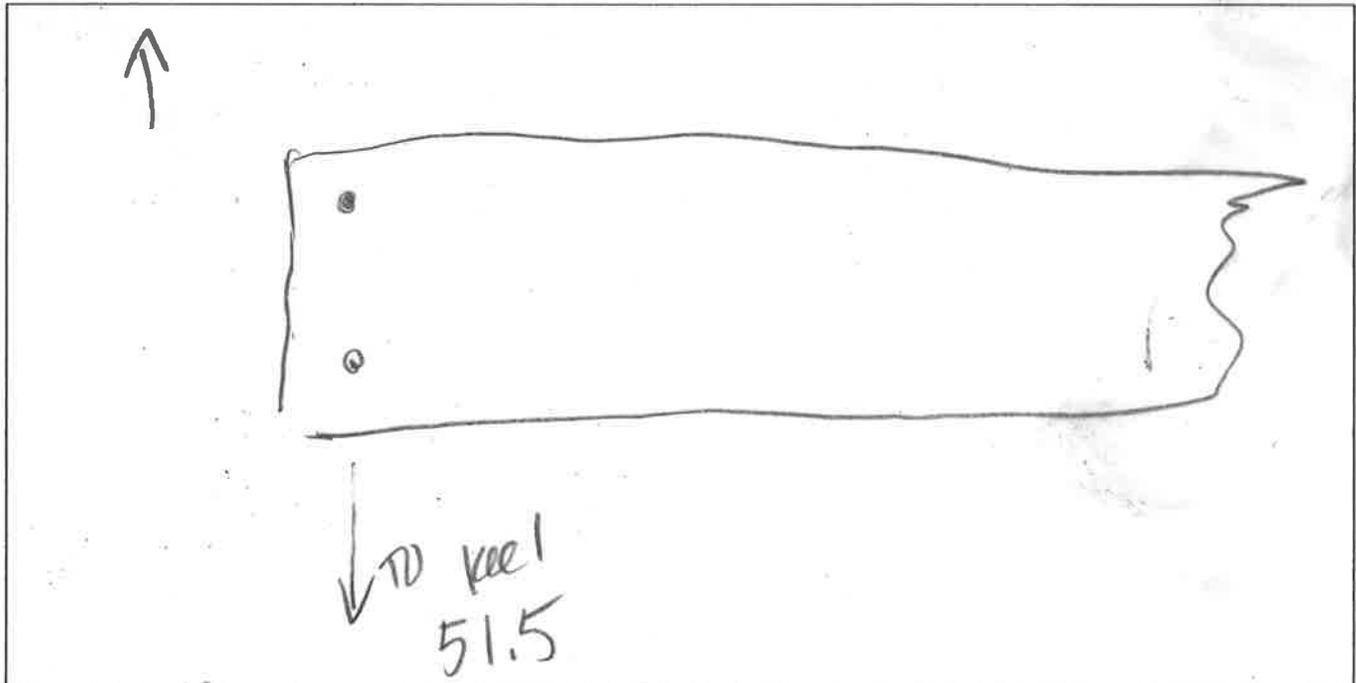
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: NO

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 11/27/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 6-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 220" W _____ D _____
(sided) (molded)

Number and type of fasteners:

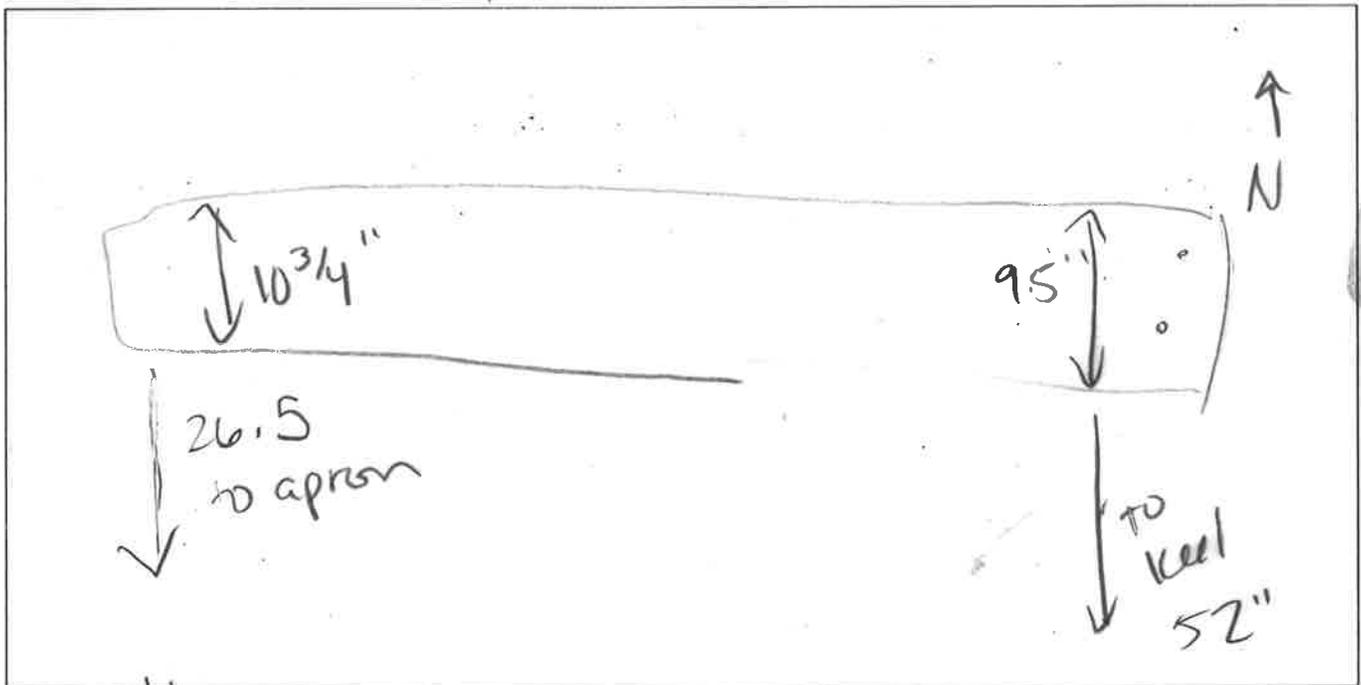
1 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: No

Sketch by: CAY

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 6-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 160" W _____ D _____
(sided) (molded)

Number and type of fasteners:

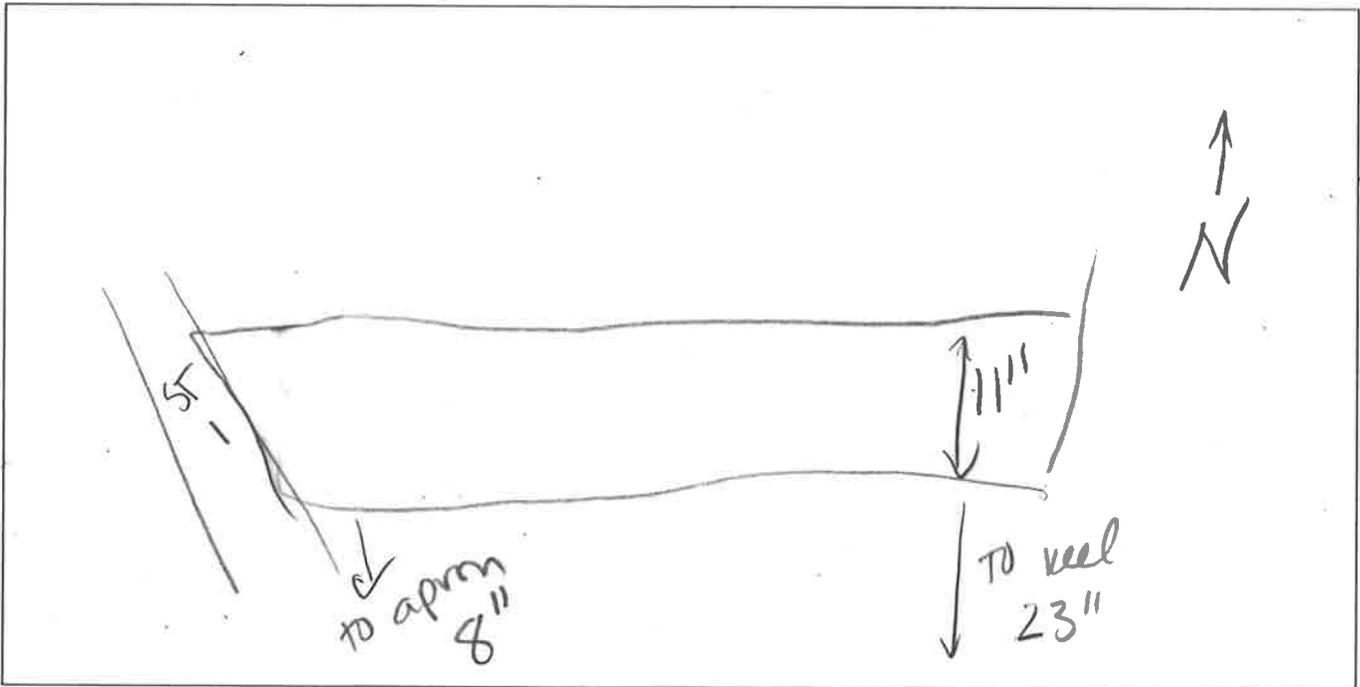
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 3-2

Material: _____ Condition: _____

Location: _____

Dimensions: L _____ W _____ D _____

(sided) (molded)

Number and type of fasteners:

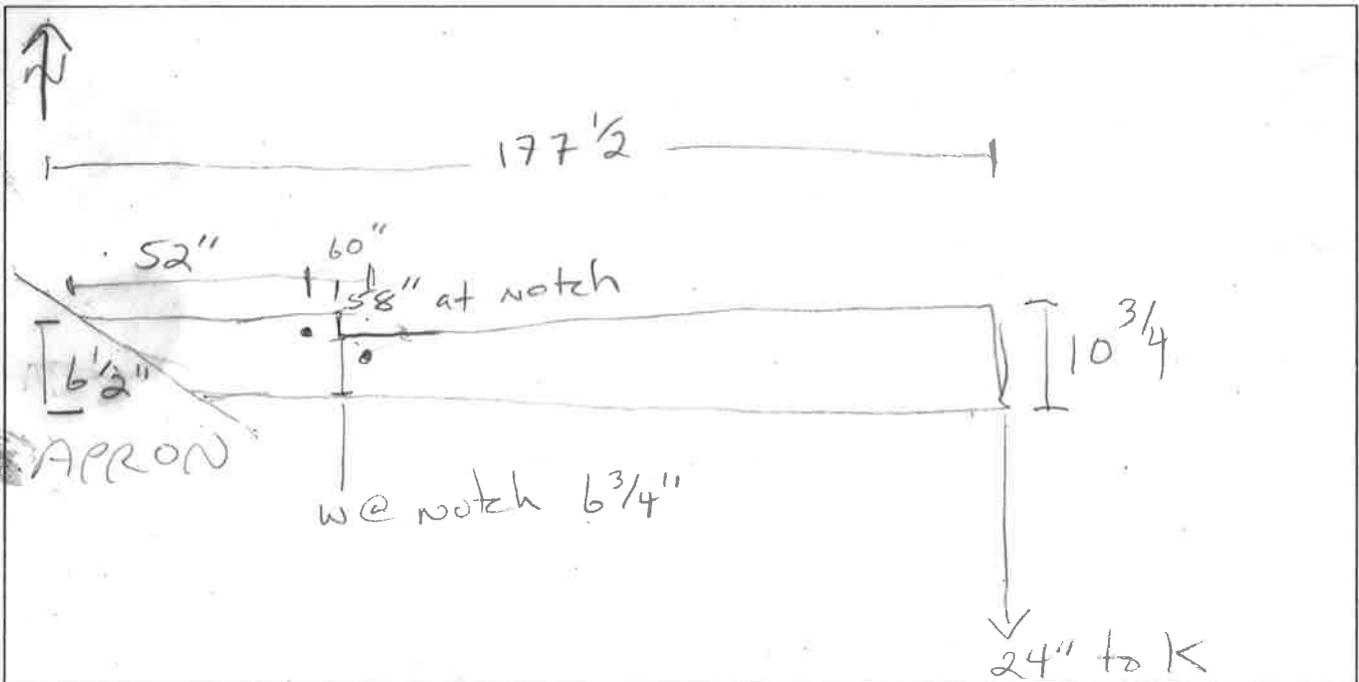
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 4-2 + 6-3 to N ; 2-1 + 2-2 to S

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 3-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 155 1/2" W _____ D _____
(sided) (molded)

Number and type of fasteners:

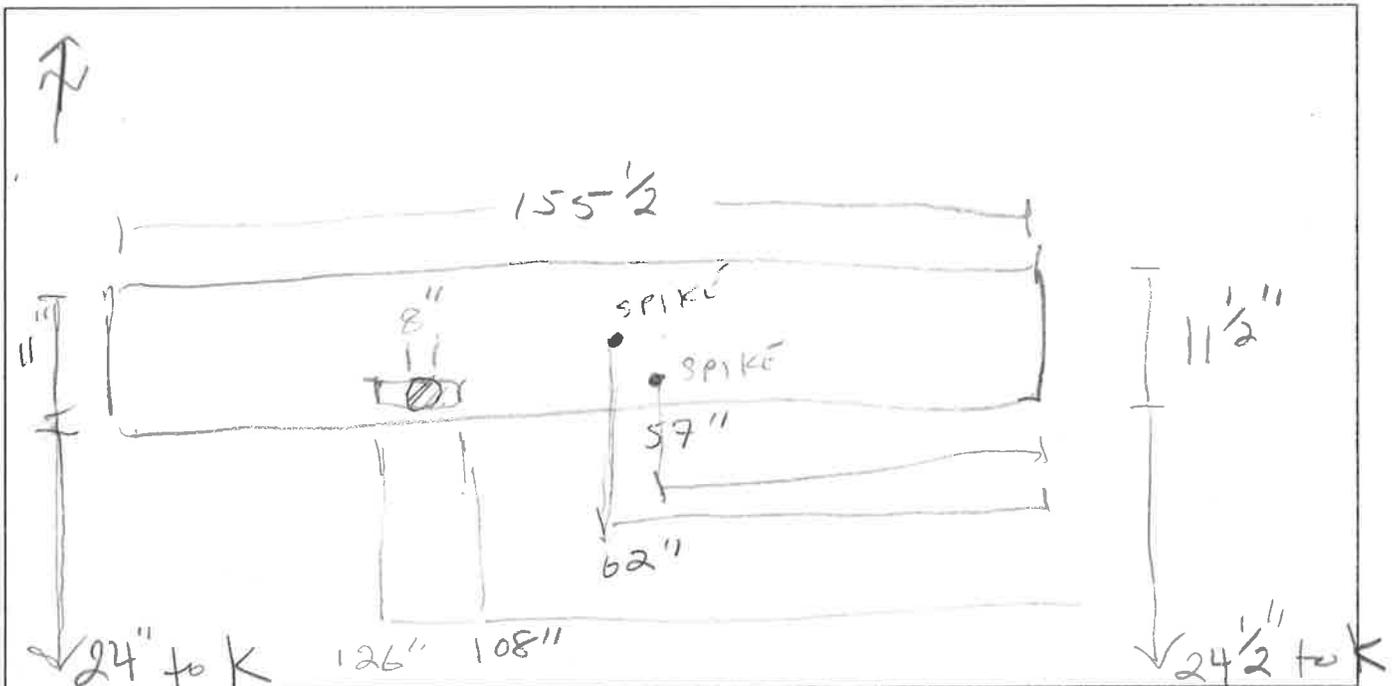
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 3-2 to W; 2-1 to S; 4-1 to N

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 4-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 130 1/2" W 10 3/4" D
(sided) (molded)

Number and type of fasteners:

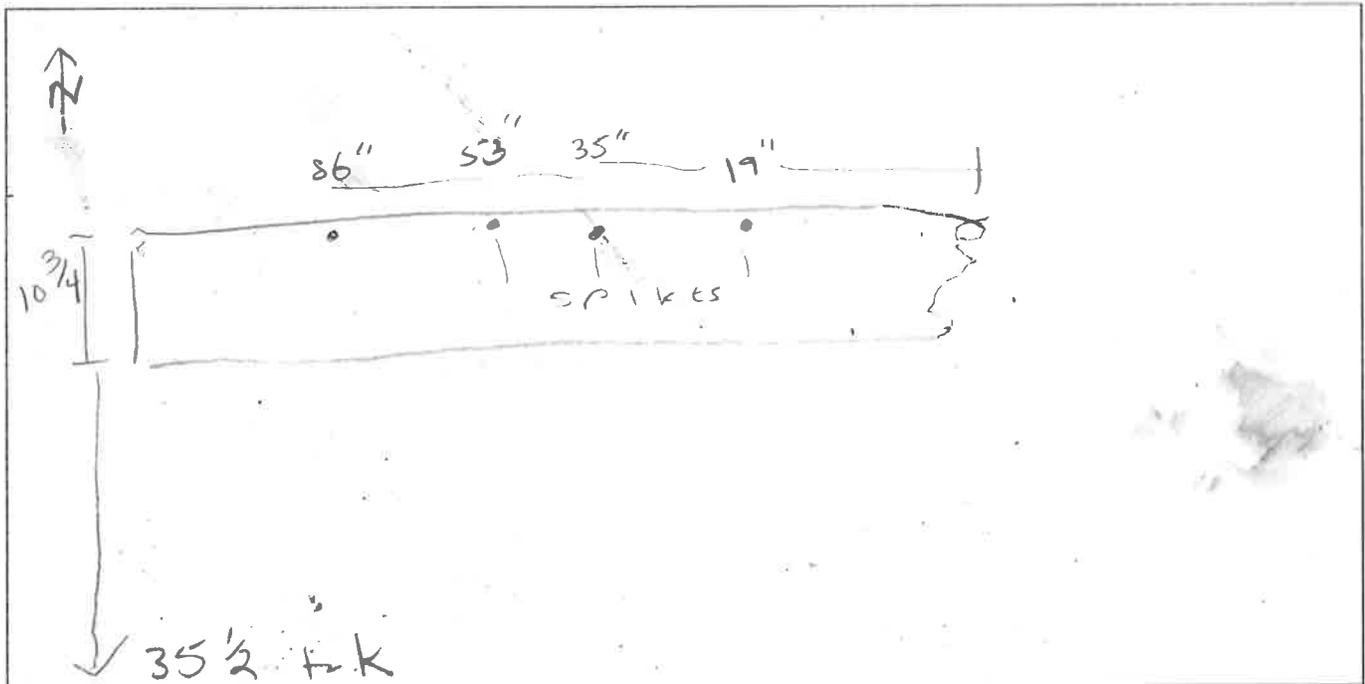
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 5-1 to N; 3-1 to S; 4-2 to W

Notes _____



Scale: _____

Sketch by: W RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 1-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 190 3/4" W _____ D _____
(sided) (molded)

Number and type of fasteners:

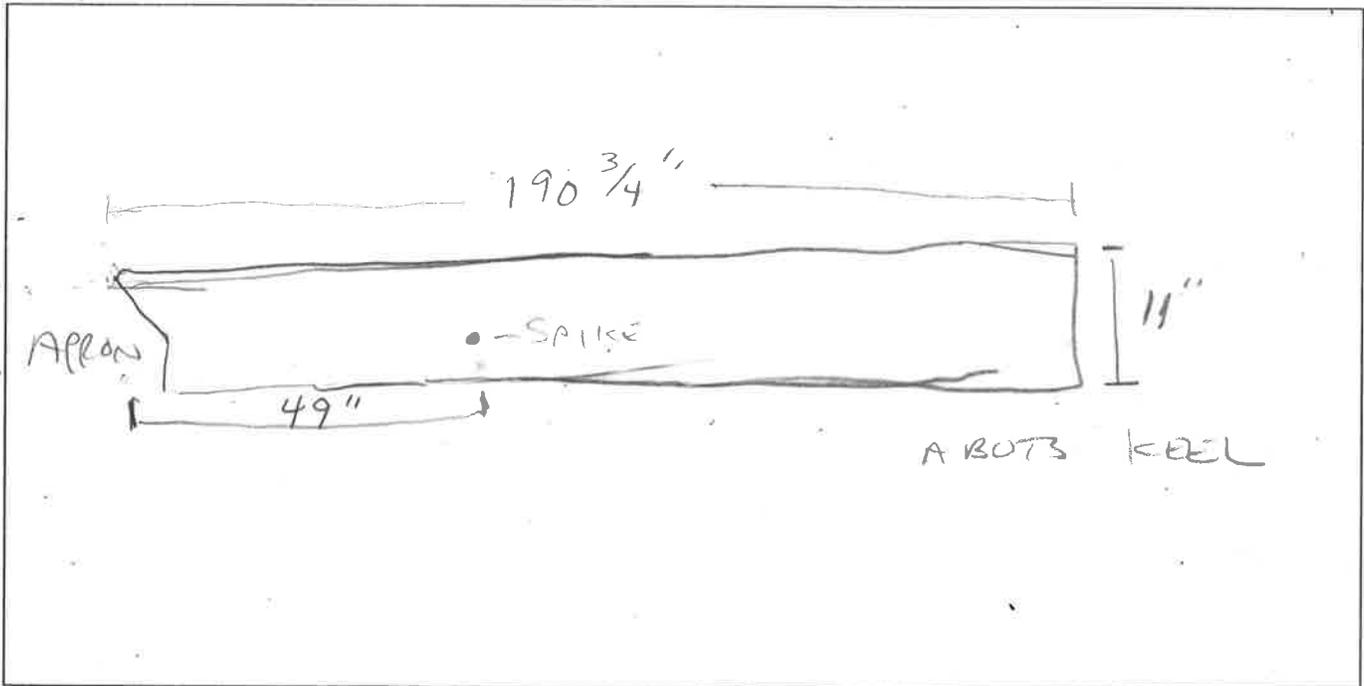
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 2-2 + 2-1 to N

Notes _____



Scale:

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 1-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 54" W 1 1/4" D _____
(sided) (molded)

Number and type of fasteners:

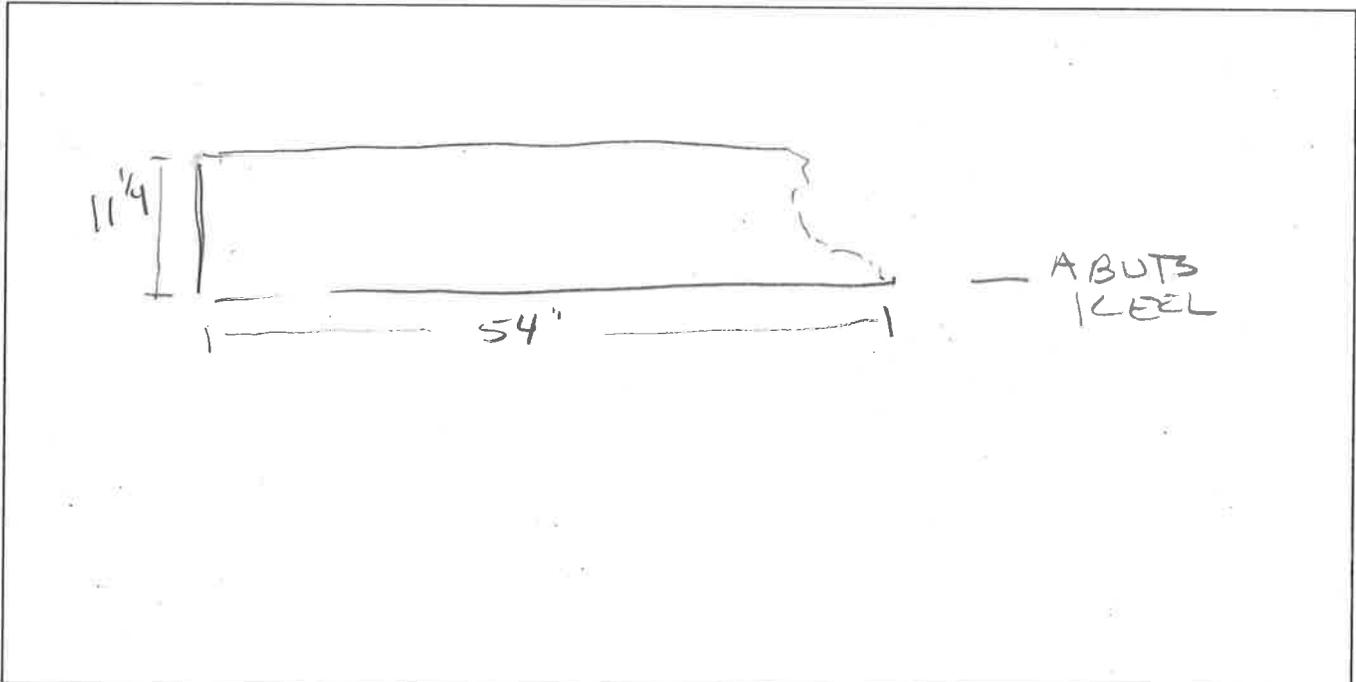
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 2-1 to N. 1-2 to W

Notes _____



Scale: _____
Sketch by: RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 29 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 2-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 223" W 13 1/2" D _____
(sided) (molded)

Number and type of fasteners:

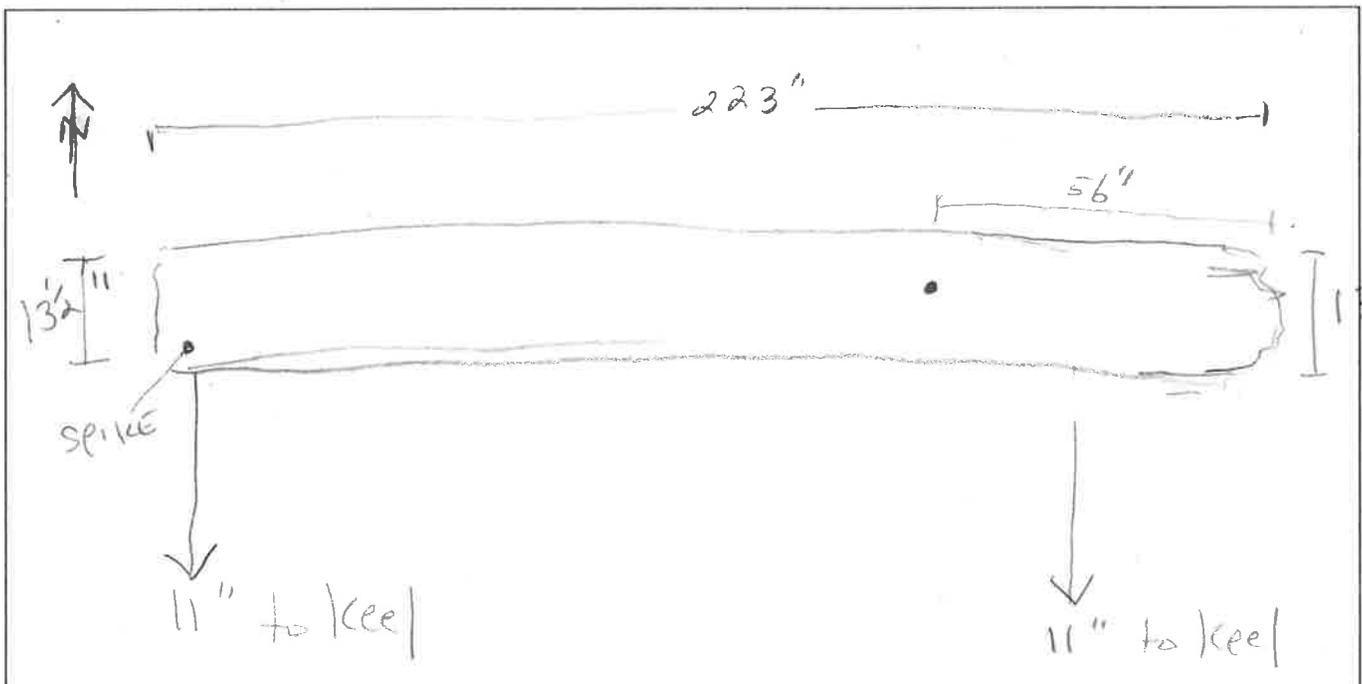
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 1-1 + 1-2 to S ; 3-1 + 3-2 to N

Notes _____



Scale: _____

Sketch by: K RIESS

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 2-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 107 1/4 W _____ D _____
(sided) (molded)

Number and type of fasteners:

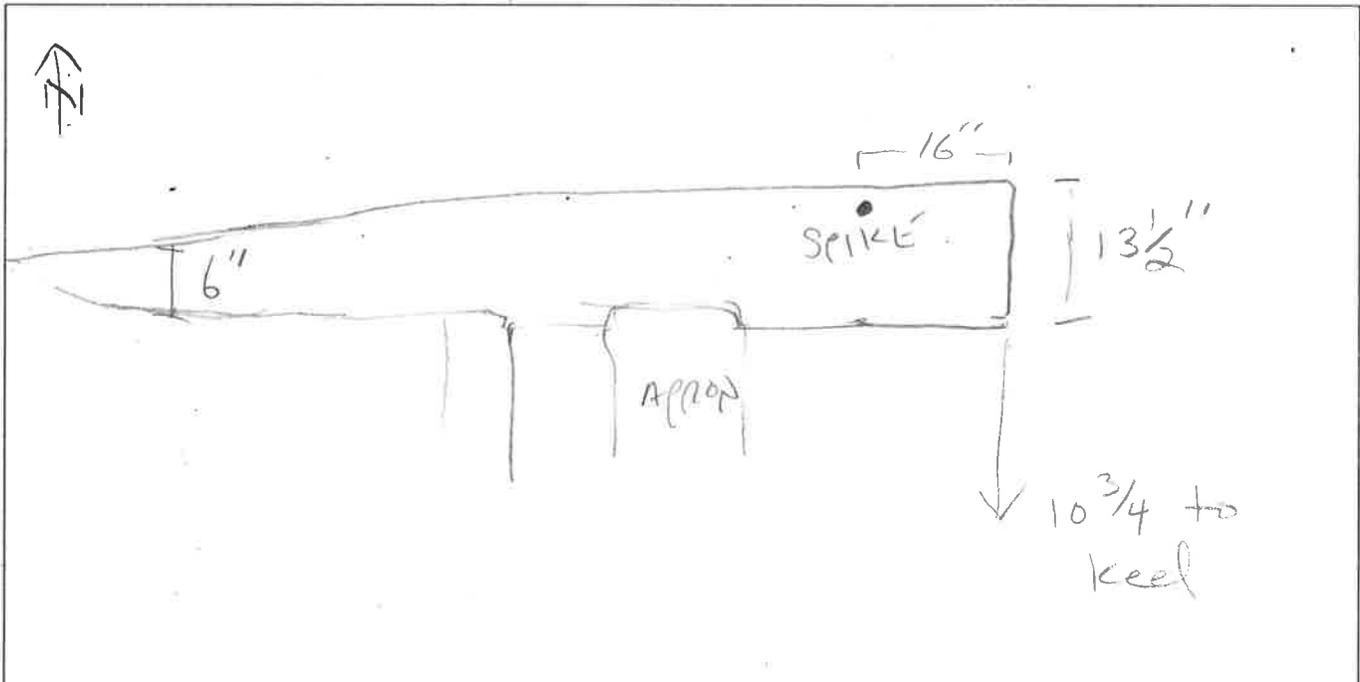
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: 3-2 to N ; 1-2 to S

Notes _____



Scale: _____

Sketch by: K Riess

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: outer planking Artifact Number: PN 8-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 54.5" W 9.5" D _____
(sided) (molded)

Number and type of fasteners:

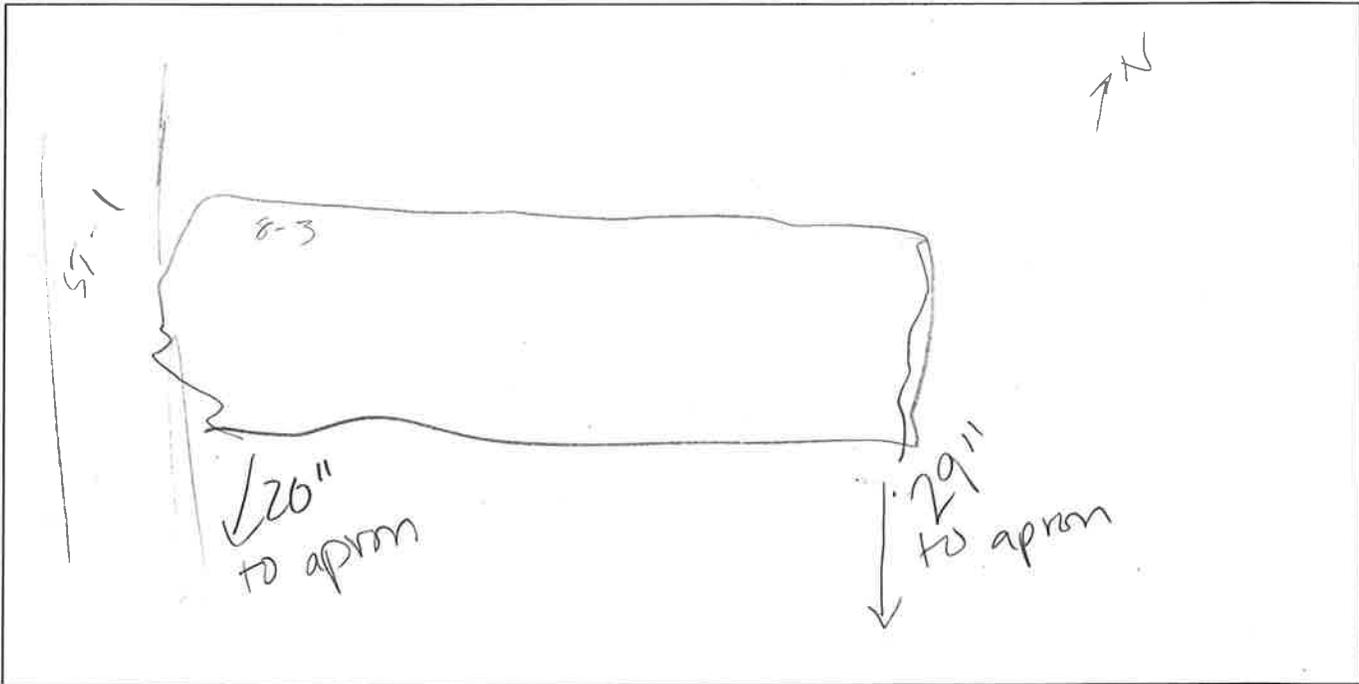
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: _____

Sketch by: _____

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/21/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 7-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 275" W 9 1/4" D _____
(sided) (molded)

Number and type of fasteners:

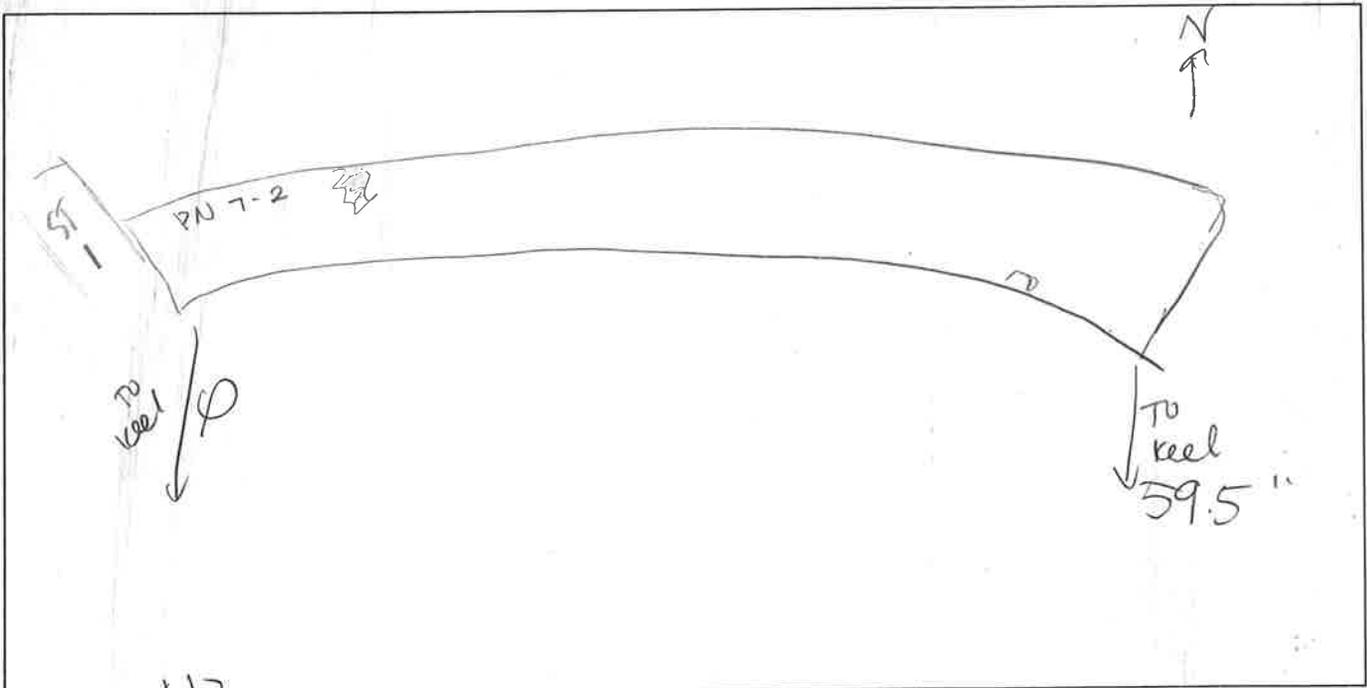
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: ND

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 9-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 151" W See dwg D _____
(sided) (molded)

Number and type of fasteners:

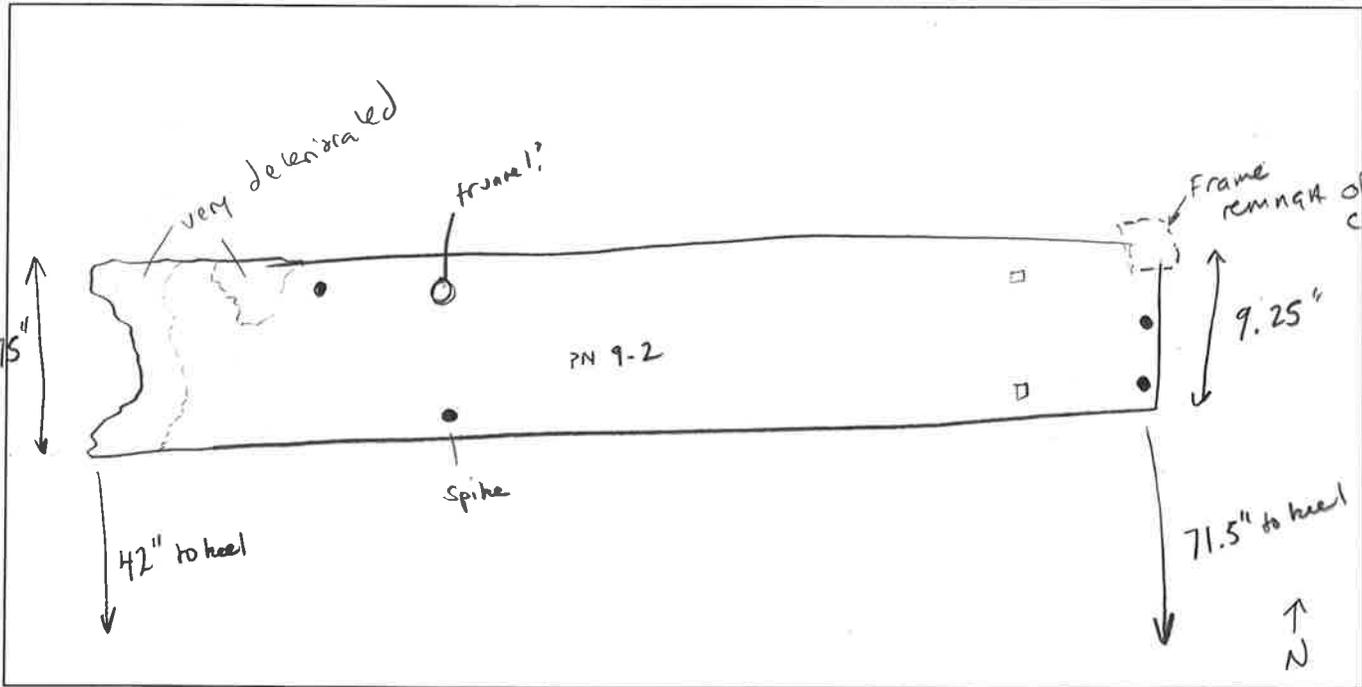
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: wd 9-1, Sol 10-4 + 10-5, NoF 8-2

Notes _____



Scale: _____

Sketch by: EDM

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 9-3

Material: _____ Condition: _____

Location: _____

Dimensions: L 51.5" W 10.5" D _____
(sided) (molded)

Number and type of fasteners:

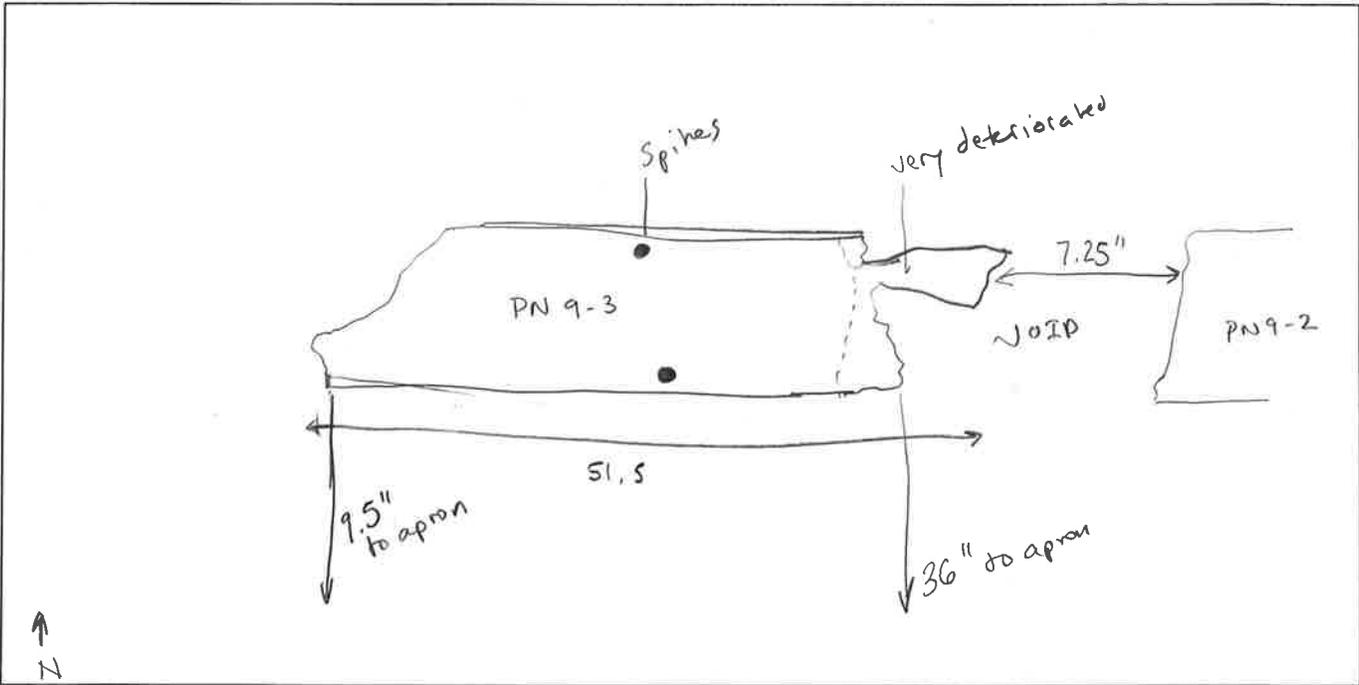
2 Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: Sof 10-3, No f 8-3

Notes _____



Scale: _____

Sketch by: EDM

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7 / 29 / 2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 8-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 146" W 8.25" (w side) 9" (east) D _____
(sided) (molded)

Number and type of fasteners:

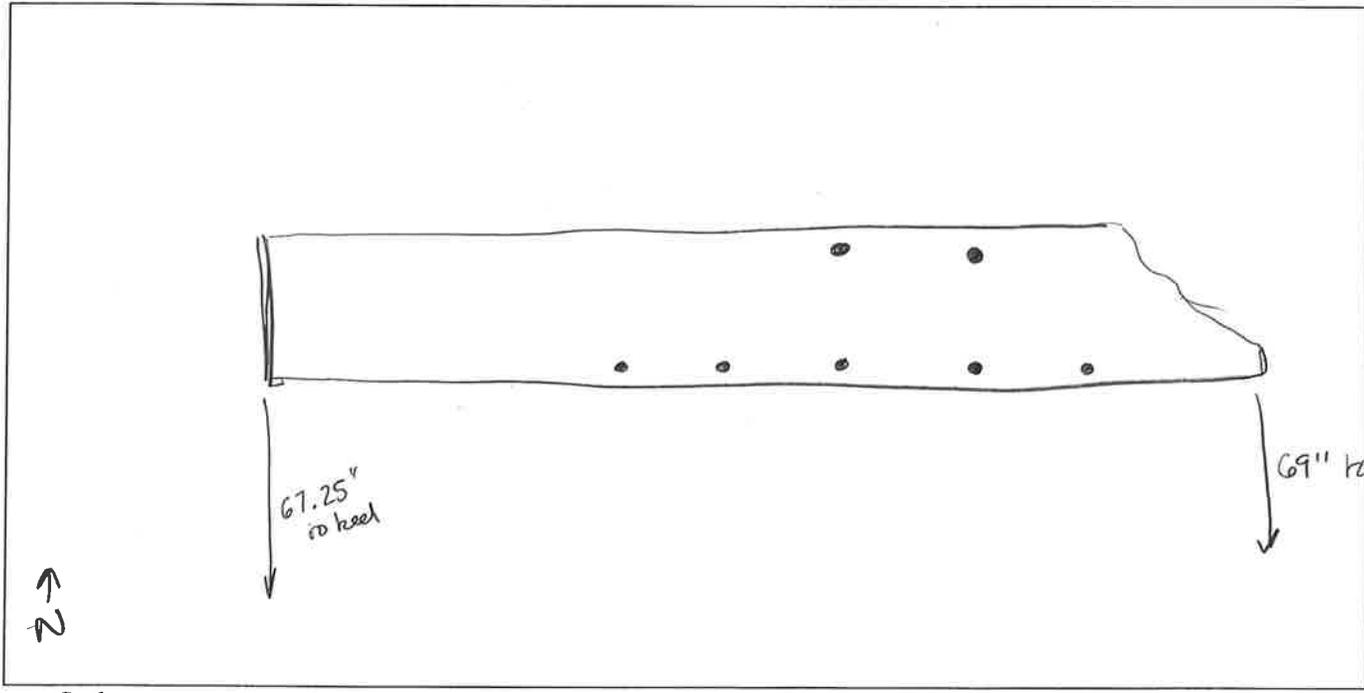
many Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: S of 9-1, E of 8-2, N of 7-1 and 7-2

Notes _____



Scale: _____

Sketch by: EDM

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: outer planks Artifact Number: PN-8-2

Material: _____ Condition: _____

Location: N

Dimensions: L 191.5" W 8 3/4" D _____
(sided) (molded)

Number and type of fasteners:

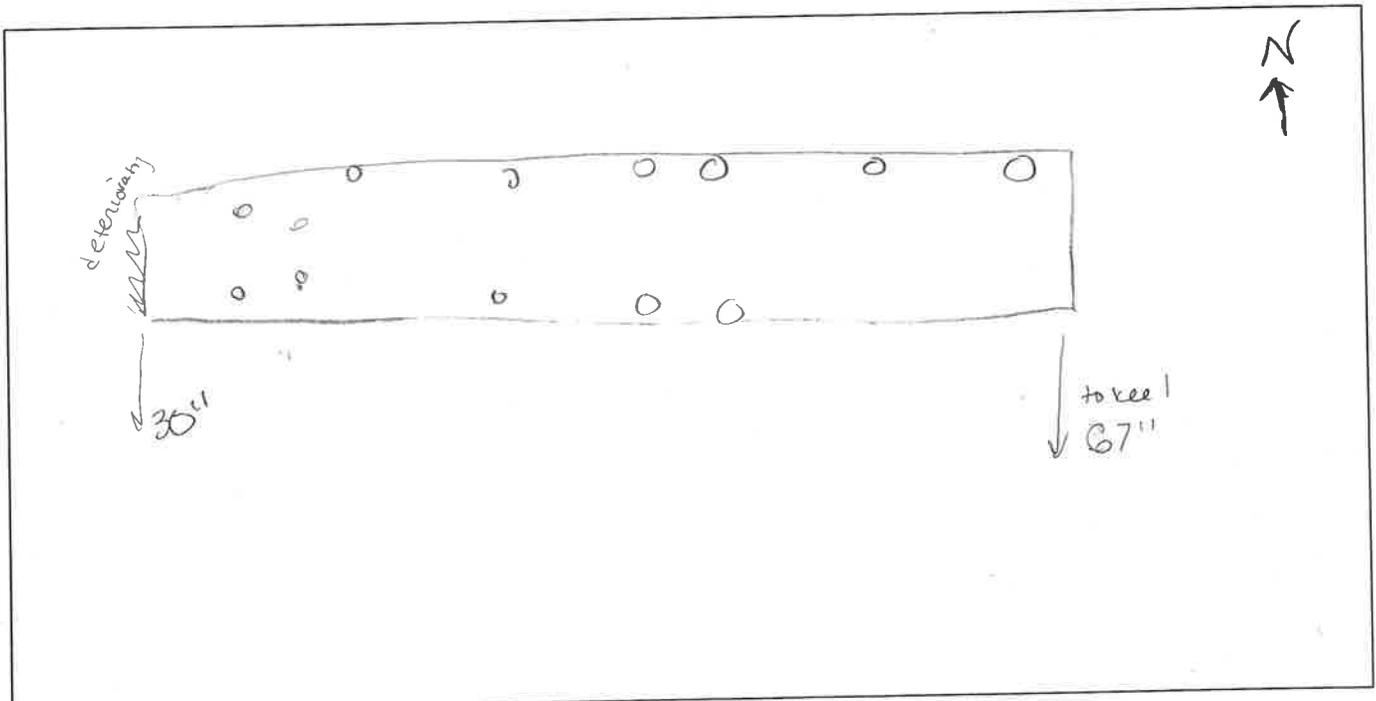
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: 100

Sketch by: CF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: outer planking Artifact Number: PN 7-1

Material: _____ Condition: _____

Location: _____

Dimensions: L 116 W 9 1/4" D _____
(sided) (molded)

Number and type of fasteners:

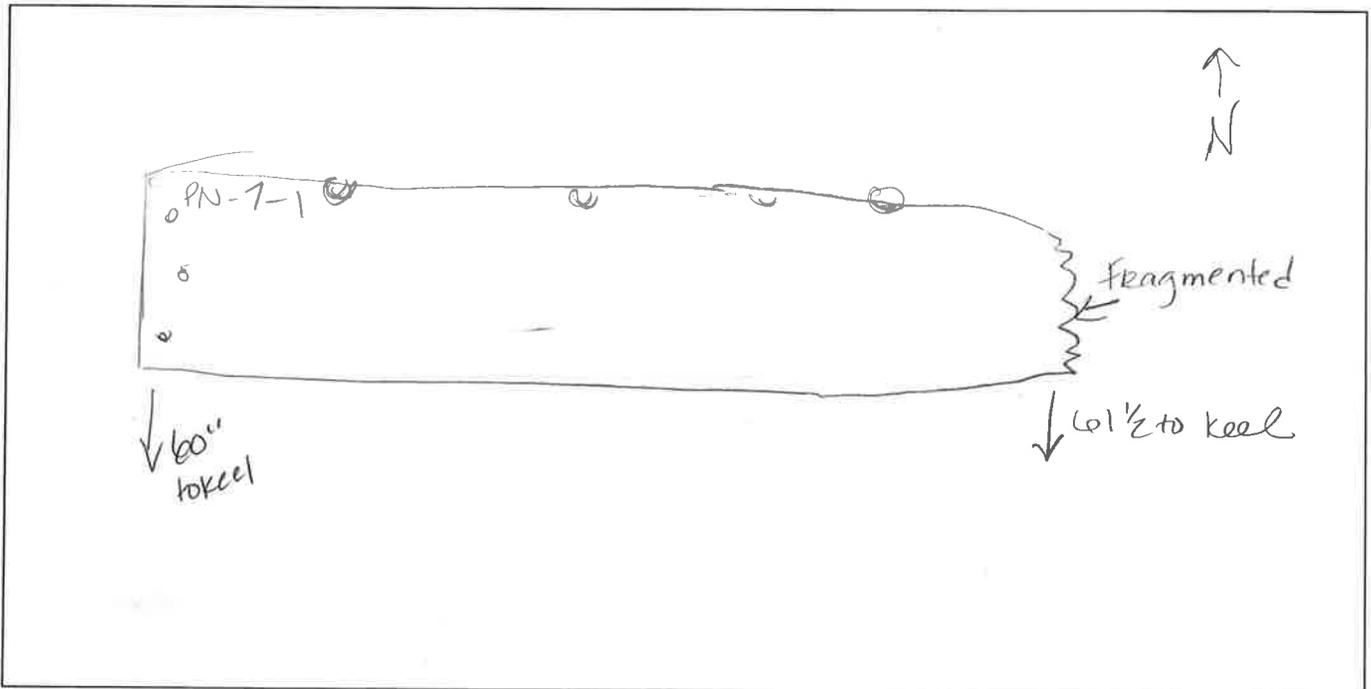
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: N₀

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/21/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: Keel

Material: _____ Condition: _____

Location: _____

Dimensions: L 128' W 6 1/2" - 7" D _____
(sided) (molded)

Number and type of fasteners:

_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes Keel sticks up 1/2 - 3/4" above planking



Scale: NO

Sketch by: CAF

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: PN 4-2

Material: _____ Condition: _____

Location: _____

Dimensions: L 185? W _____ D _____
(sided) (molded)

Number and type of fasteners:

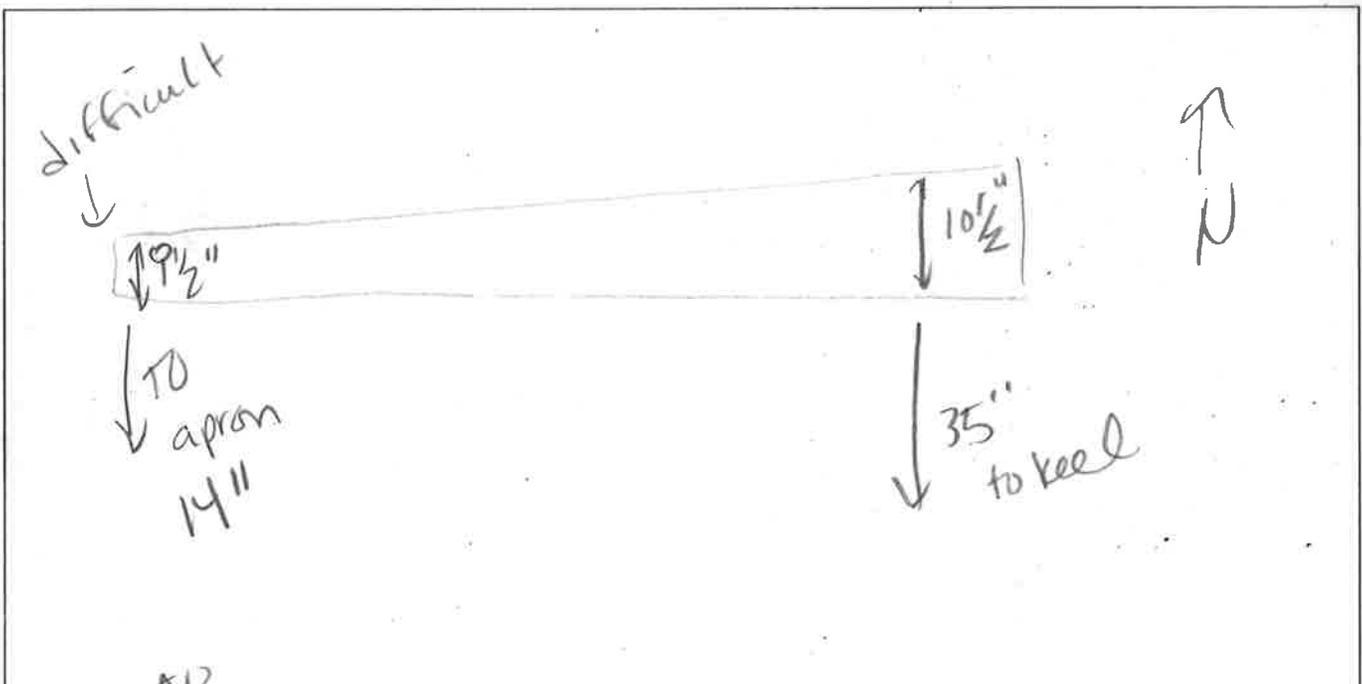
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale: AW

Sketch by: CAT

Vehicular Security Center at World Trade Center: Vessel Inventory Form

Site Number: A06101.018000

Date: 7/29/2010

OPRHP Project Review Number: 05PR04753

Site Name: Vehicular Security Center at World Trade Center

Principal Investigator: Warren Riess and Carrie Atkins Fulton

Affiliation: AKRF, Inc. and Pemaquid Art & Science

Address of Site: Liberty, Cedar, Washington, and West Streets, New York, NY

Block and Lot: Block 56, Lot 15 GPS Coordinates: 74°0'49.248"W 40°42'37.27"N

Client: LMDC Name of Feature: Adrian

Artifact Name: _____ Artifact Number: ST-241 APRON

Material: _____ Condition: _____ + PSI-1

Location: _____

Dimensions: L _____ W _____ D _____
(sided) (molded)

Number and type of fasteners:

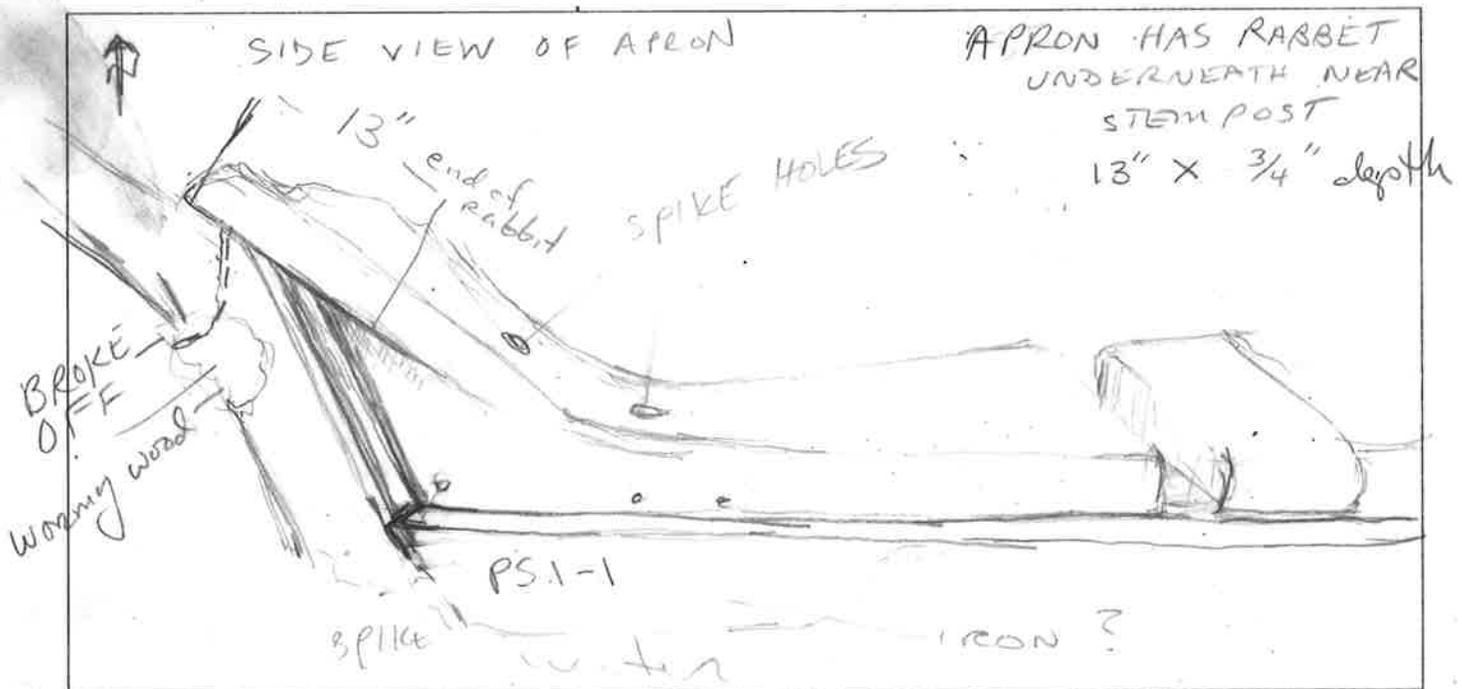
_____ Spikes _____ Trunnels _____ Other (Describe: _____)

Photographs: _____ in situ _____ full _____ details

Detailed Illustrations? _____

Associated Timbers: _____

Notes _____



Scale:

Sketch by: LC RIESS

Artifact Name BP C/O # 1A

Date Photographed: 08/___/11

Length 7"

Sided (Width) 2 1/2

Molded (Thickness) 1 3/4"

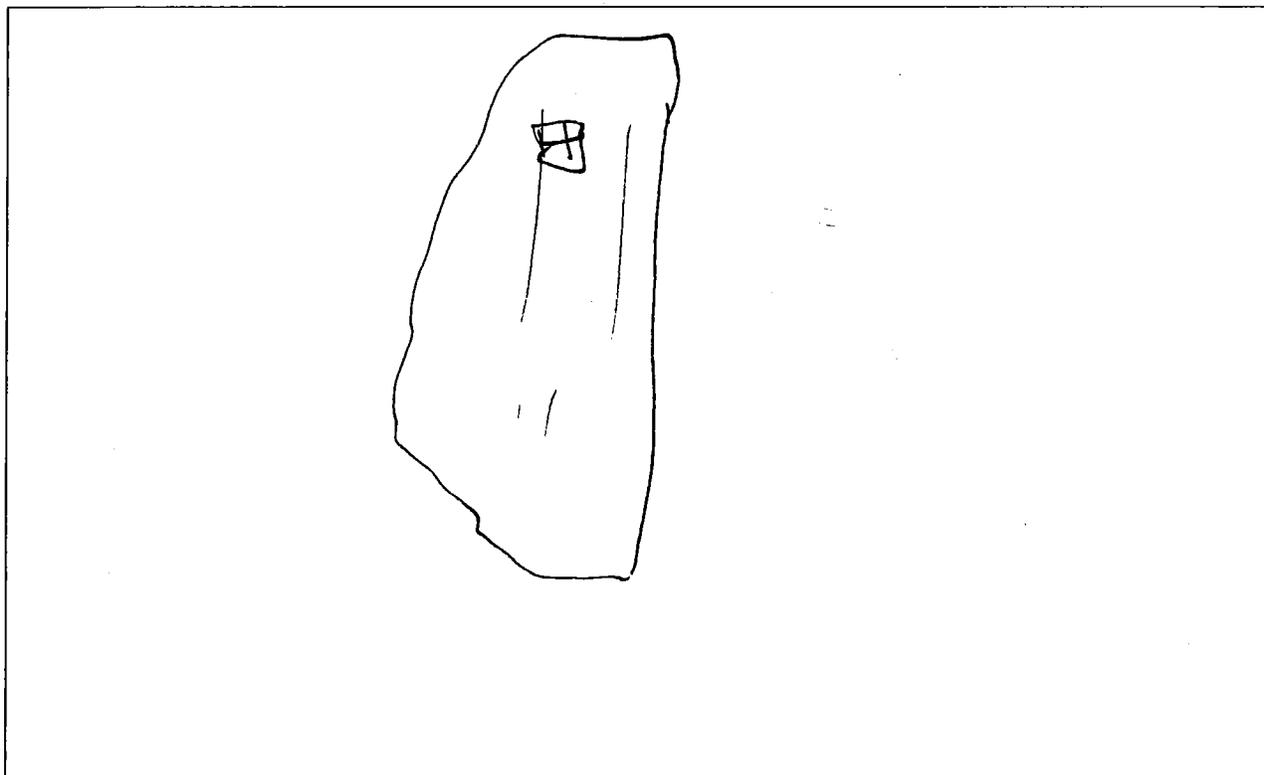
Fragment Number 1

Nails (number and purpose)

1

Marine Growth _____

Notes



Artifact Name BP c/o IB

Date Photographed: 08/___/11

Length 8^{3/4}

Sided (Width) 3"

Molded (Thickness) 2"

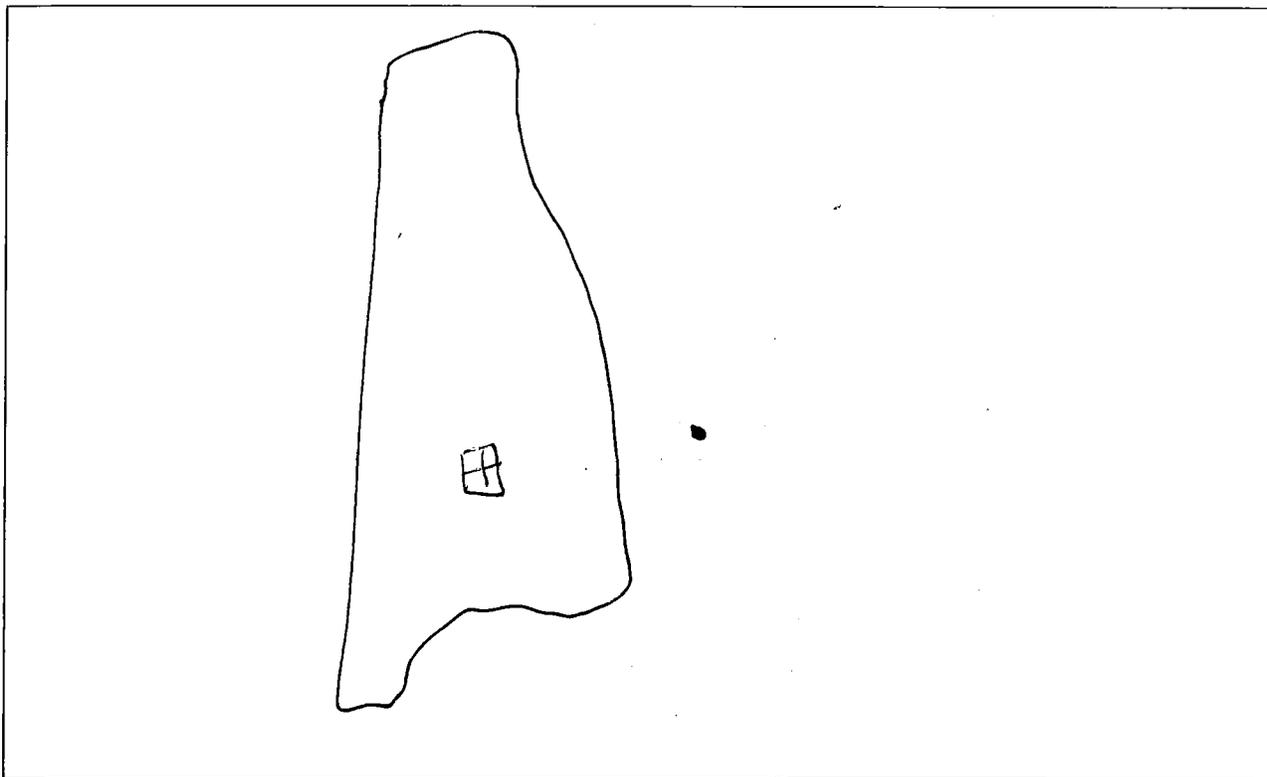
Fragment Number 1

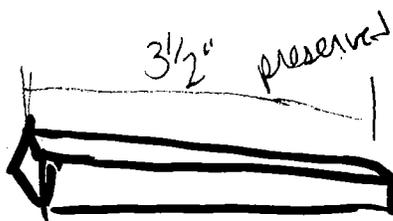
Nails (number and purpose)

1

Marine Growth SW

Notes



Spike from BF 2  $3\frac{1}{2}$ " preserved
 $\frac{1}{2}$ " square tapers to $\frac{1}{4}$ " at bottom

Artifact Name BC 1

Date Photographed: 08/___/11

Length 6" Sided (Width) 3 3/4" Molded (Thickness) 3/4"

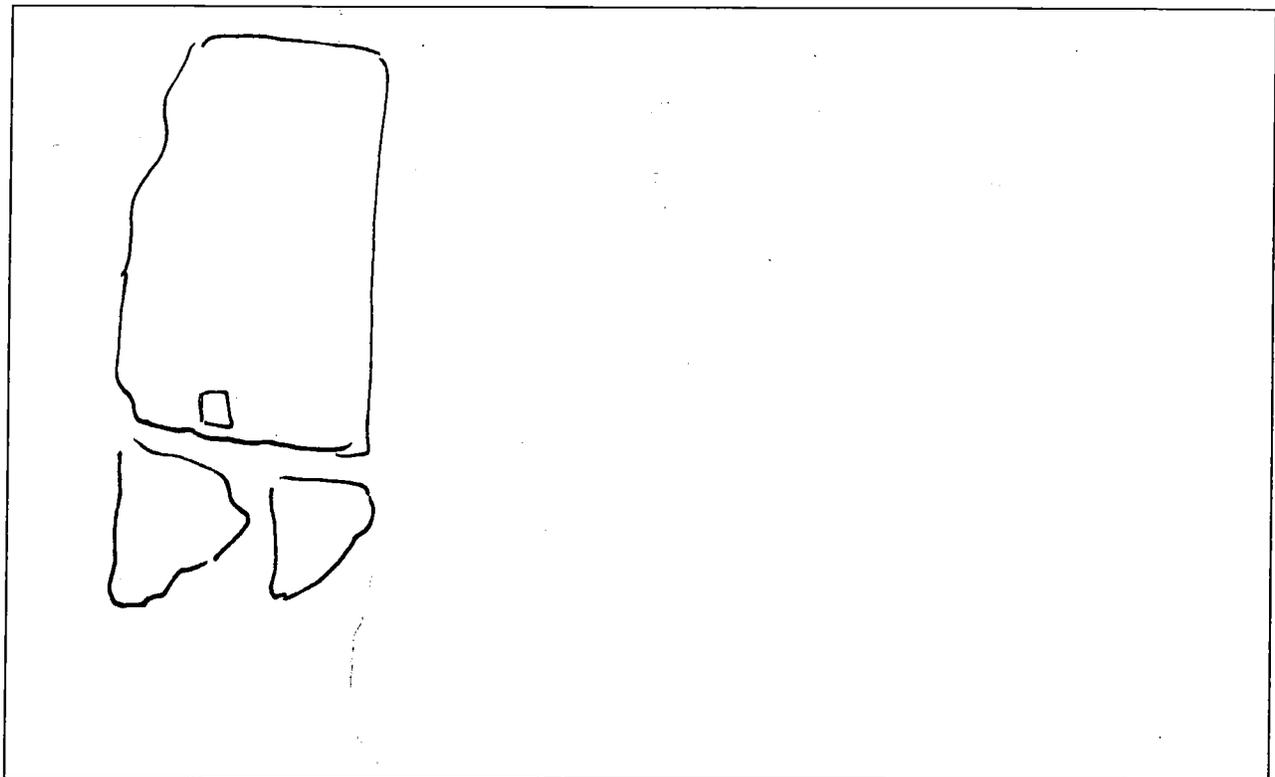
Fragment Number 3

Nails (number and purpose)

1

Marine Growth SW

Notes



Artifact Name BC-2

Date Photographed: 08/___/11

Length 18.25 Sided (Width) 6" Molded (Thickness) 7/8" max to 3/8" min

Fragment Number 3 large ~~8~~ small 5 tiny - 16 total

Nails (number and purpose)

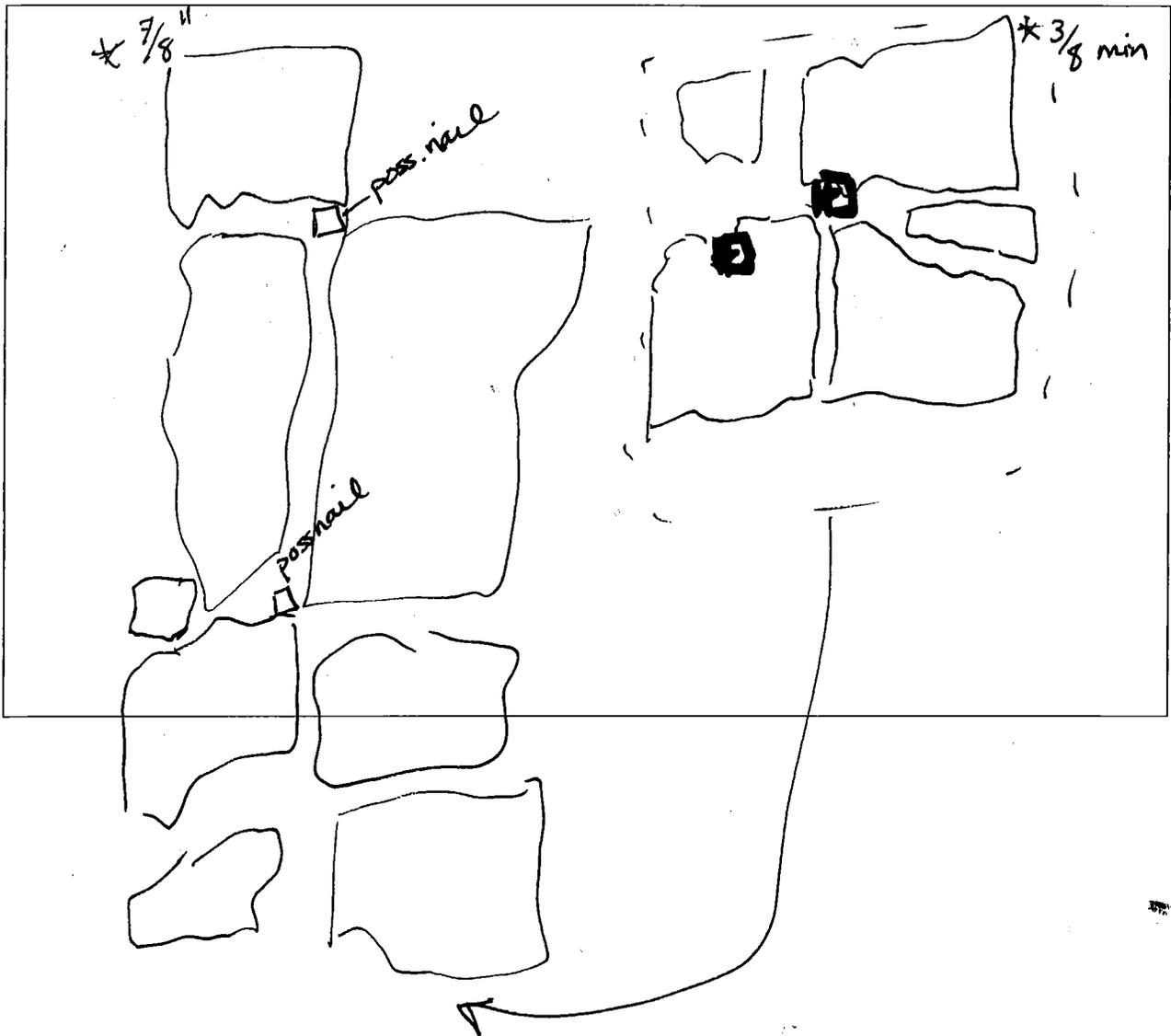
2 pos. nails in one group; 2 pos. nails in other group

Marine Growth unknown WORM

Notes

unknown How fit together - likely bottom goes together

8/18 1 large + 3 small surviving
WORM growth



Artifact Name BC 3

Date Photographed: 08/___/11

Length 18" Sided (Width) 5.75 Molded (Thickness) 7/8"

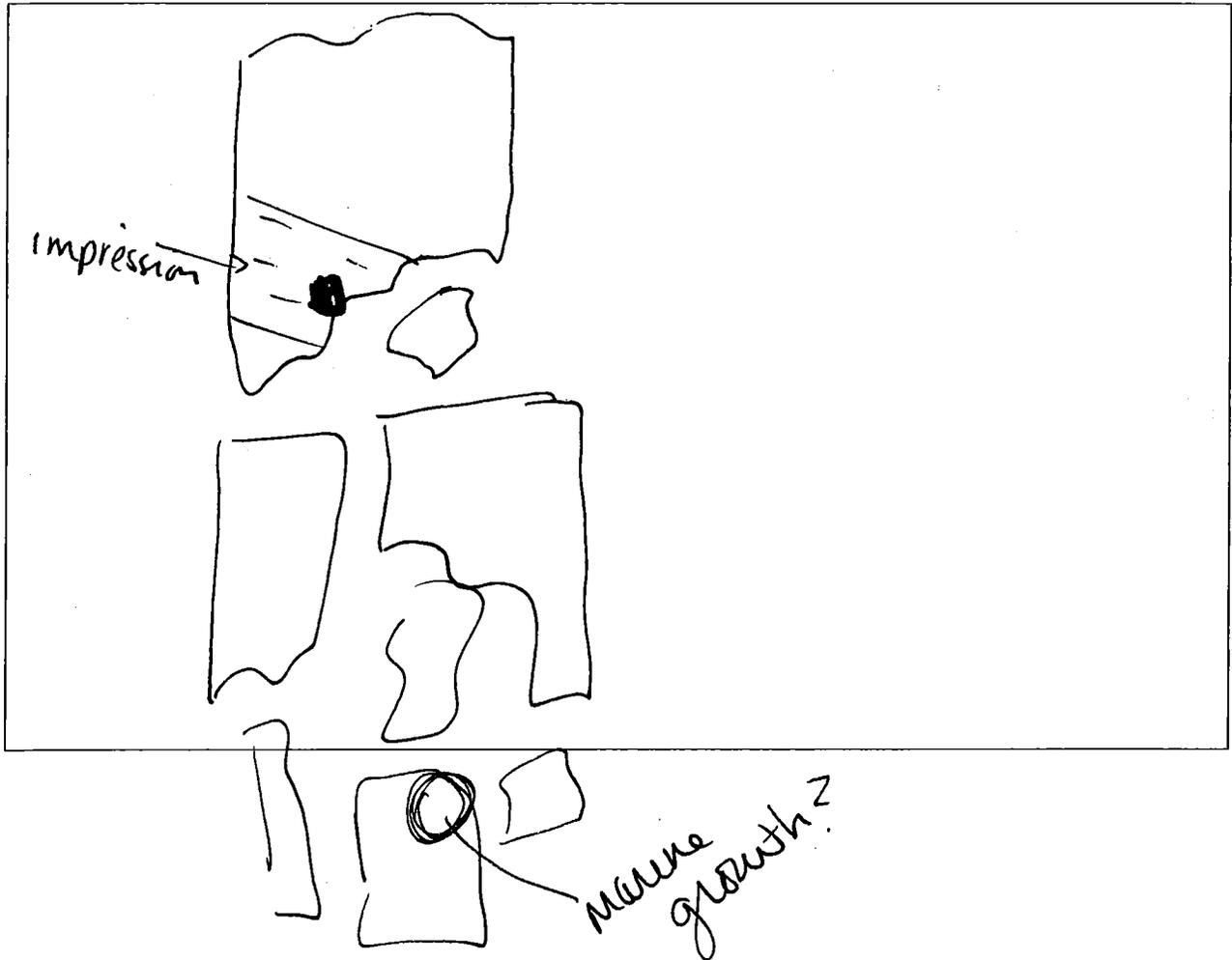
Fragment Number 3 large 5 small = 8 ; 8/19 → now 7

Nails (number and purpose)

Marine Growth oyster, Bryozoa on frame side

Notes

1 nail



Artifact Name BC 4 Date Photographed: 08/___/11

Length 12" Sided (Width) 6 1/2" Molded (Thickness) 1 1/4"

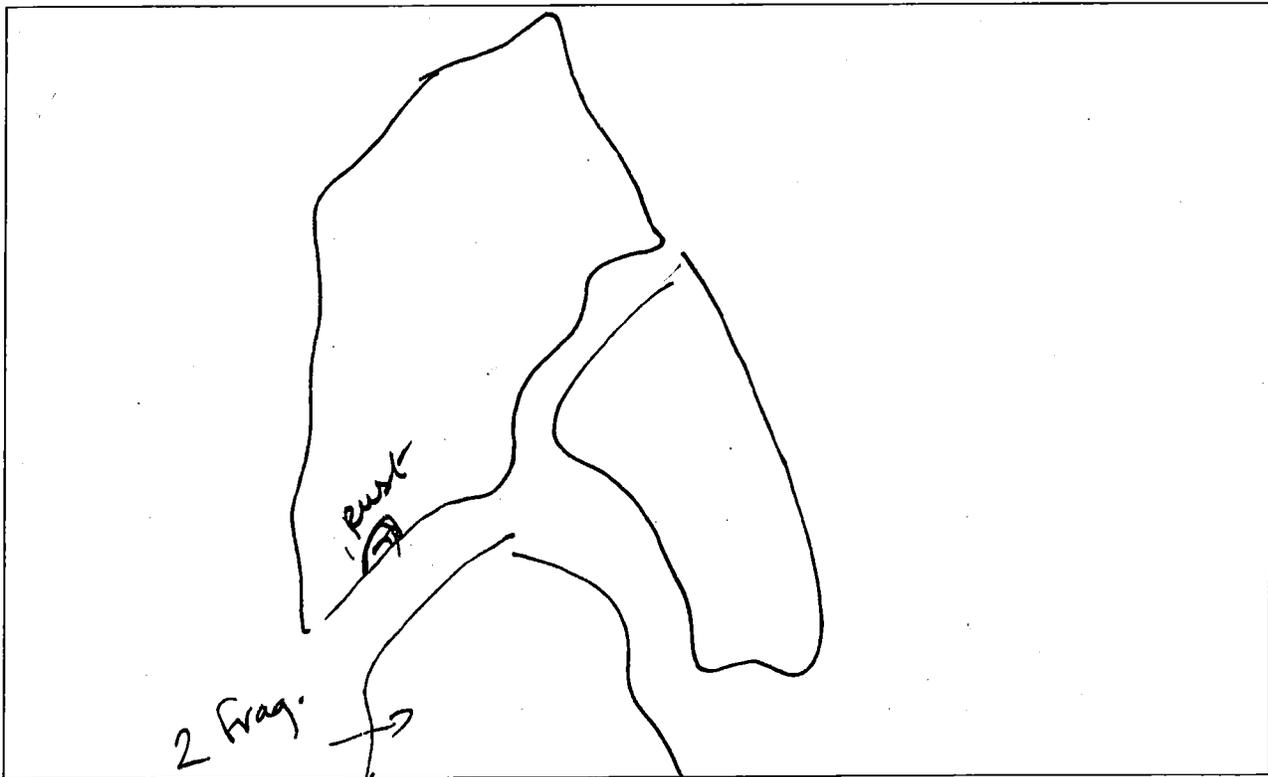
Fragment Number 4 → 6 as of 8/19

Nails (number and purpose)

0 → rust stain

Marine Growth SW

Notes



Artifact Name BC 5

Date Photographed: 08/___/11

Length 10 1/4 Sided (Width) 4 1/2 Molded (Thickness) 3/4"

Fragment Number 3 large 1 small = 4

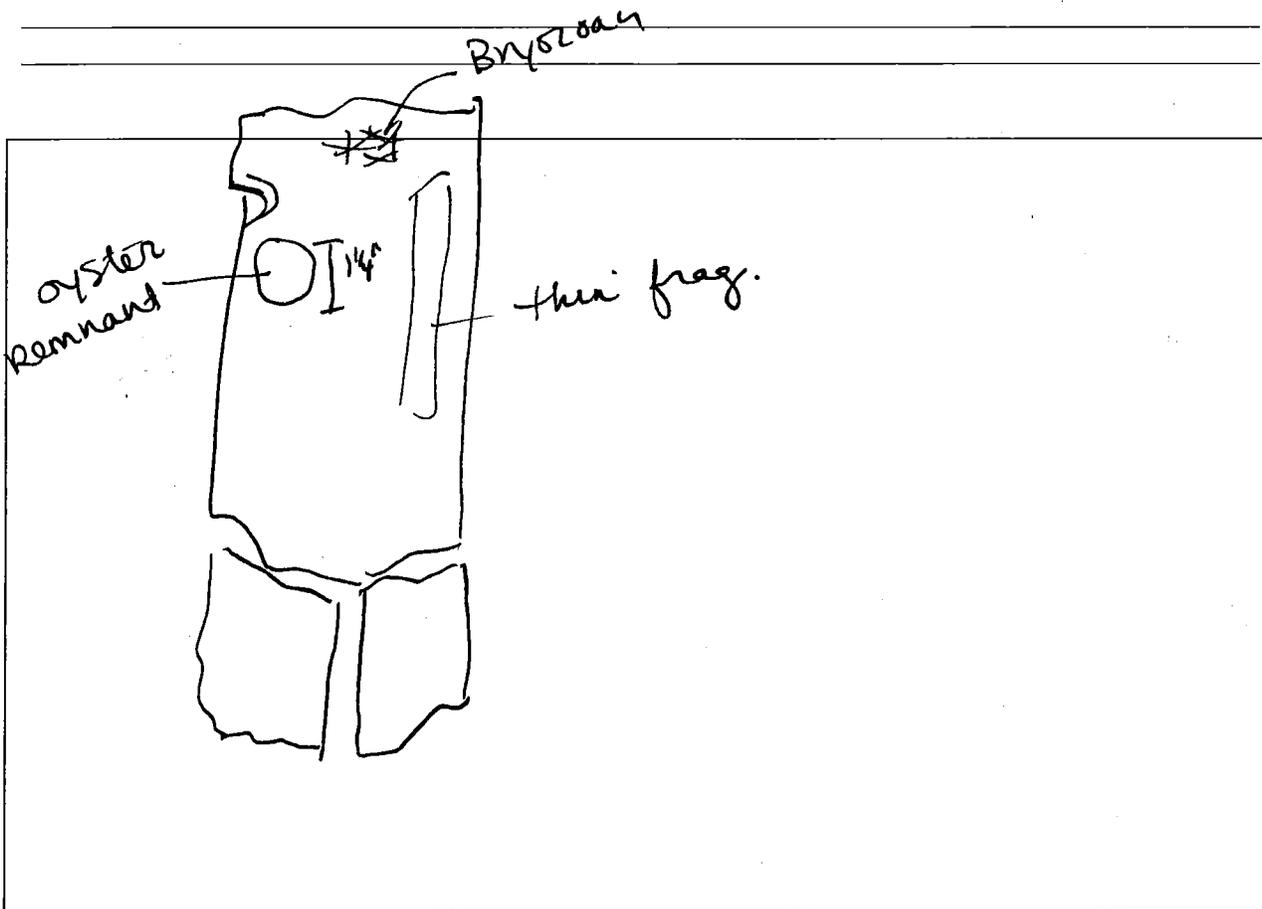
Nails (number and purpose)

0

Marine Growth SW

Notes

Bryozoan + oyster growth on underside
Bry on top too



Artifact Name BC6

Date Photographed: 08/___/11

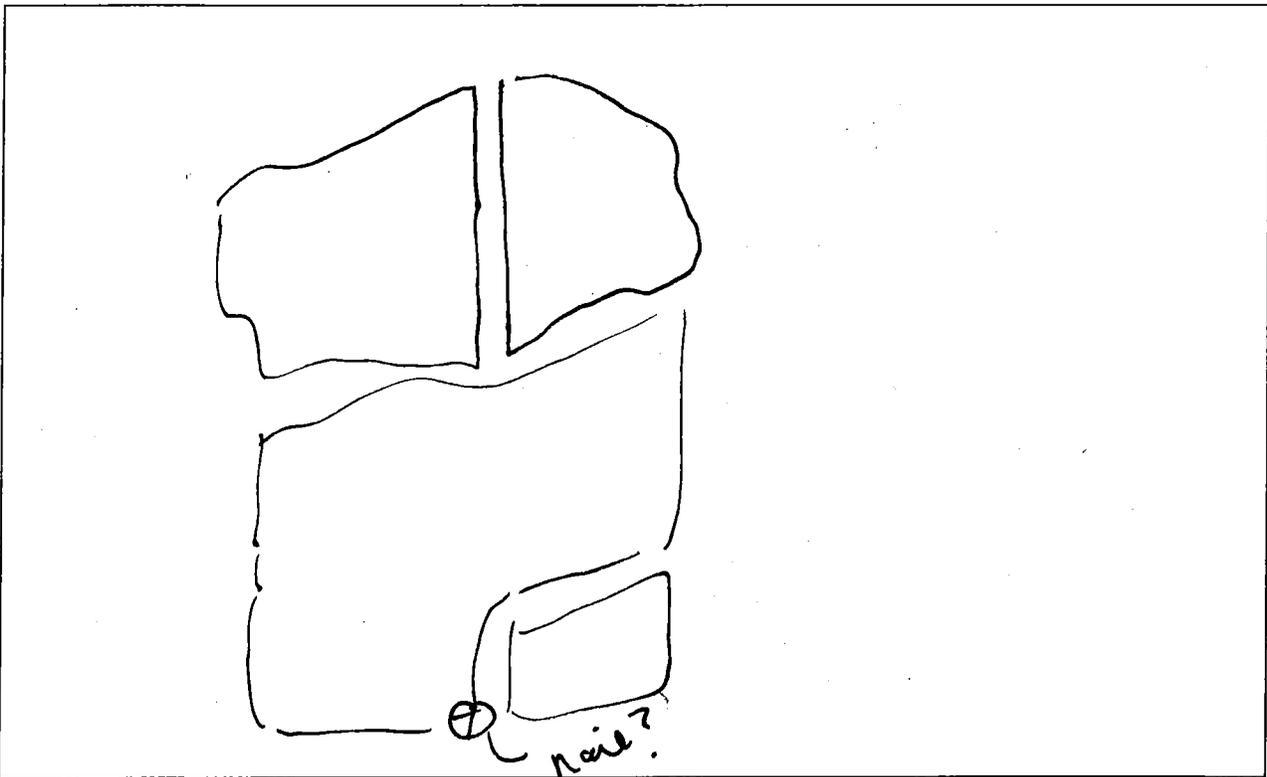
Length 9" Sided (Width) 5" Molded (Thickness) 7/8"

Fragment Number 4 → 8/19 w/6

Nails (number and purpose)
1 - 1/4" square

Marine Growth SW, small oyster, bryozoan

Notes



Artifact Name BC 7

Date Photographed: 08/___/11

Length 8 1/2 Sided (Width) 4" Molded (Thickness) 7/8"

Fragment Number 4

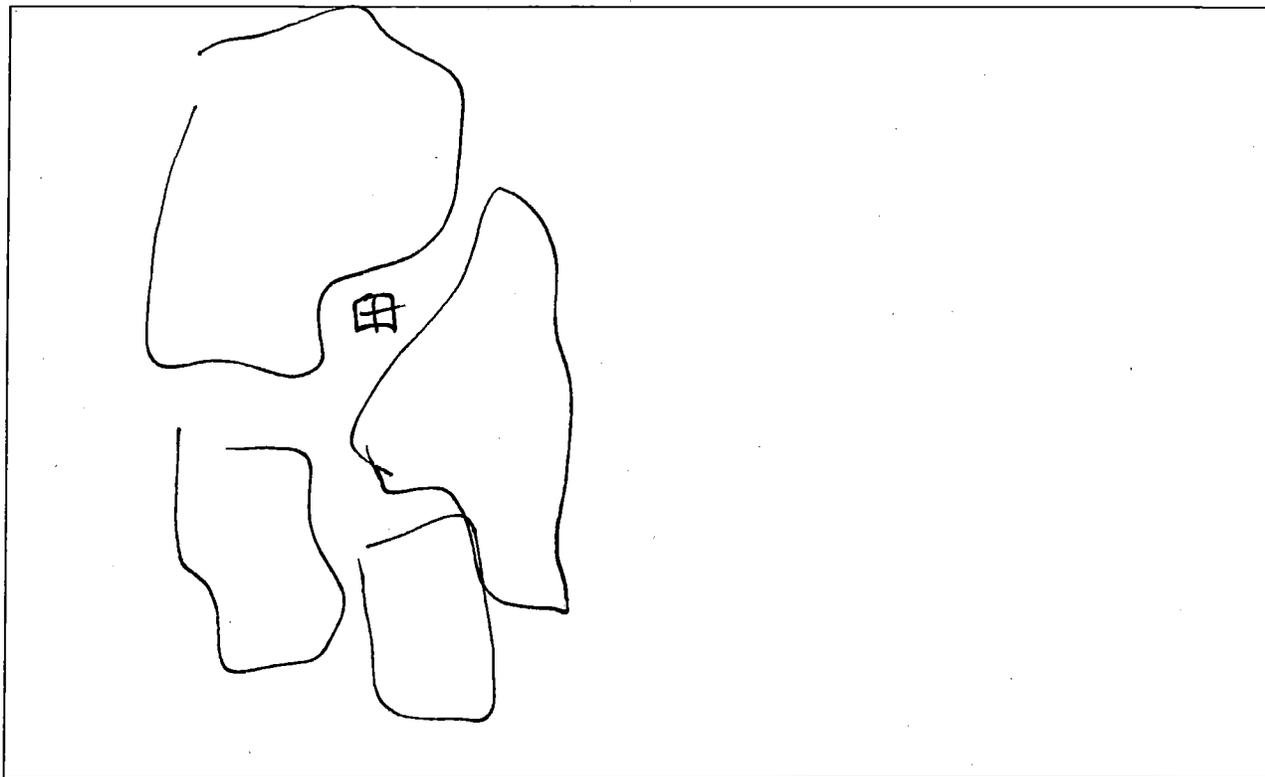
Nails (number and purpose)

1 pos.

Marine Growth SW

Notes

very fragmentary



Artifact Name BF Ø (B 2.2)

Date Photographed: 08/___/11

Length 8"

Sided (Width) 3"

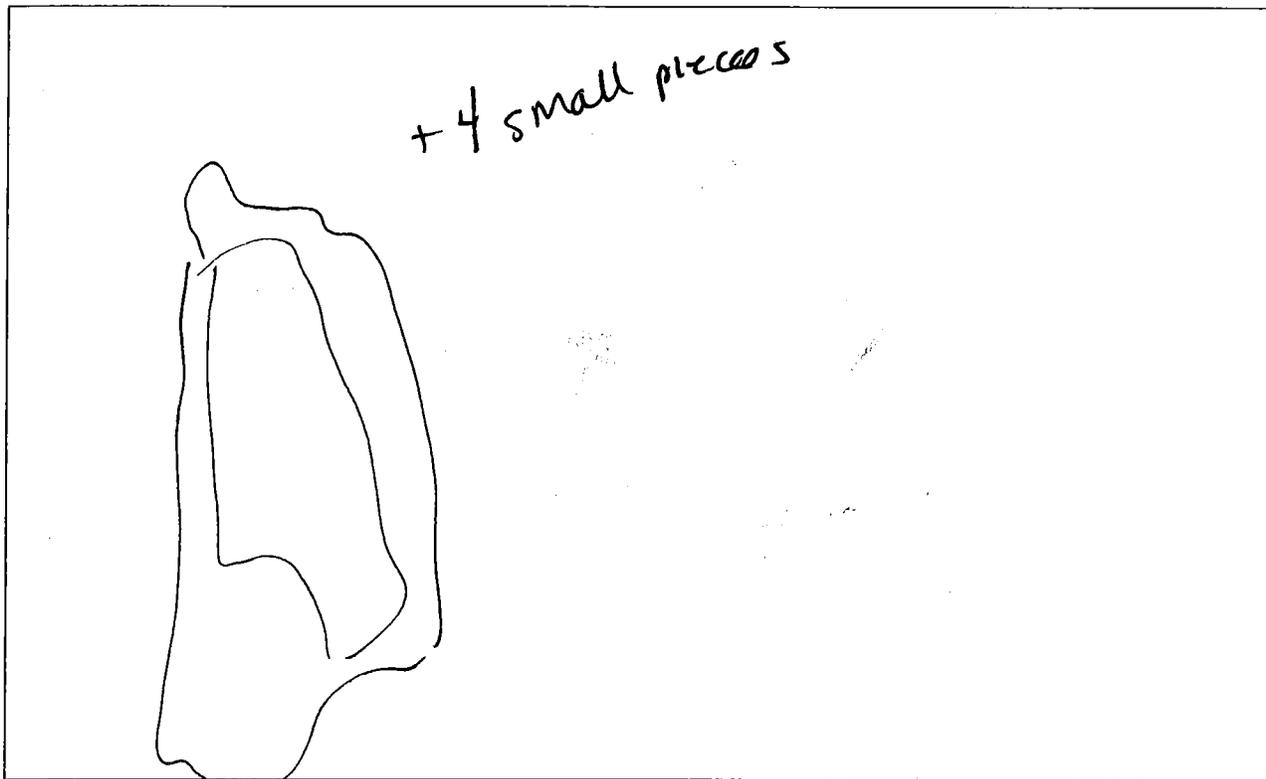
Molded (Thickness) 2 1/2"

Fragment Number 1 large 5 small = 6 total

Nails (number and purpose)

Marine Growth _____

Notes



Artifact Name BF1

Date Photographed: 08/___/11

Length 29 1/2 Sided (Width) 4 1/2 Molded (Thickness) 5"

Fragment Number 3 (large 2 small) → only 2 frag. survived

Nails (number and purpose)

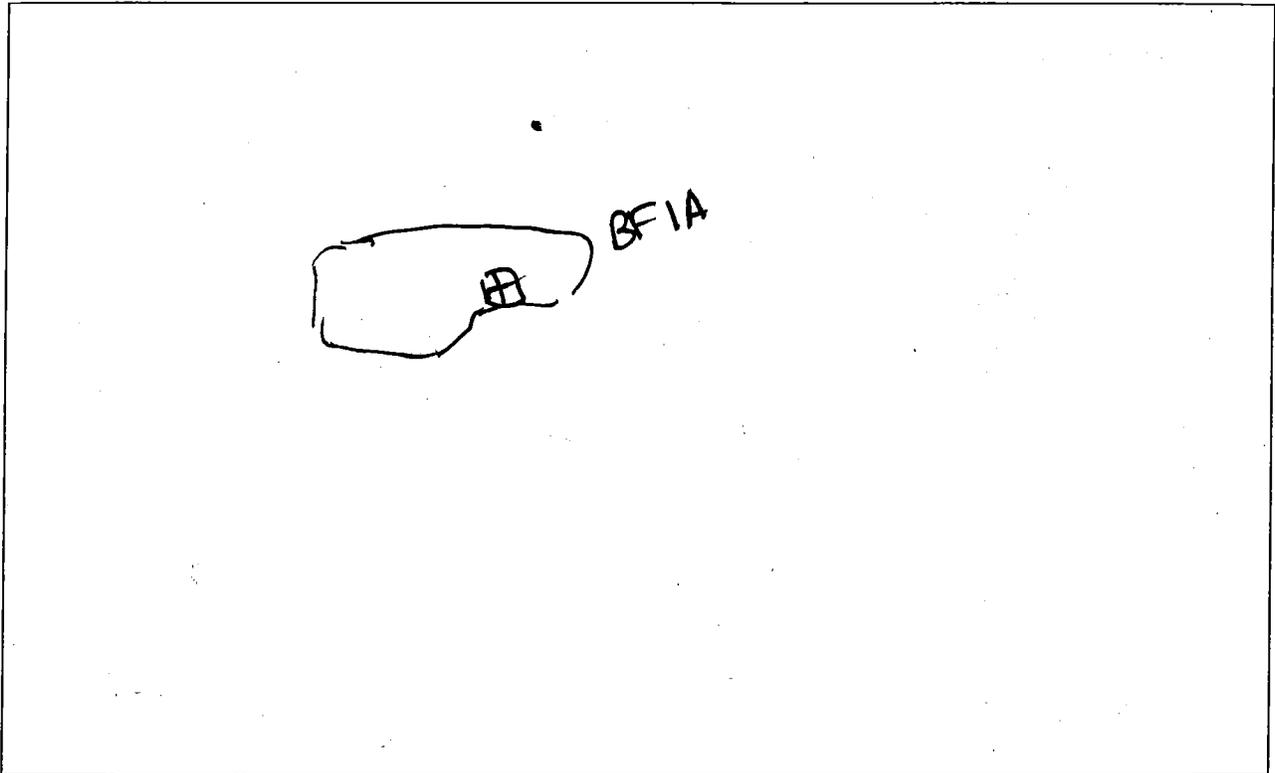
4 - ceiling + 1

7 - outer planking

Marine Growth SW; Bryozoan growth on side

Notes

includes BF 1A - 1 nail to ceiling



Artifact Name BFI

Date Photographed: 08/___/11

Length 6" Sided (Width) 4 1/2" Molded (Thickness) 1 3/4"

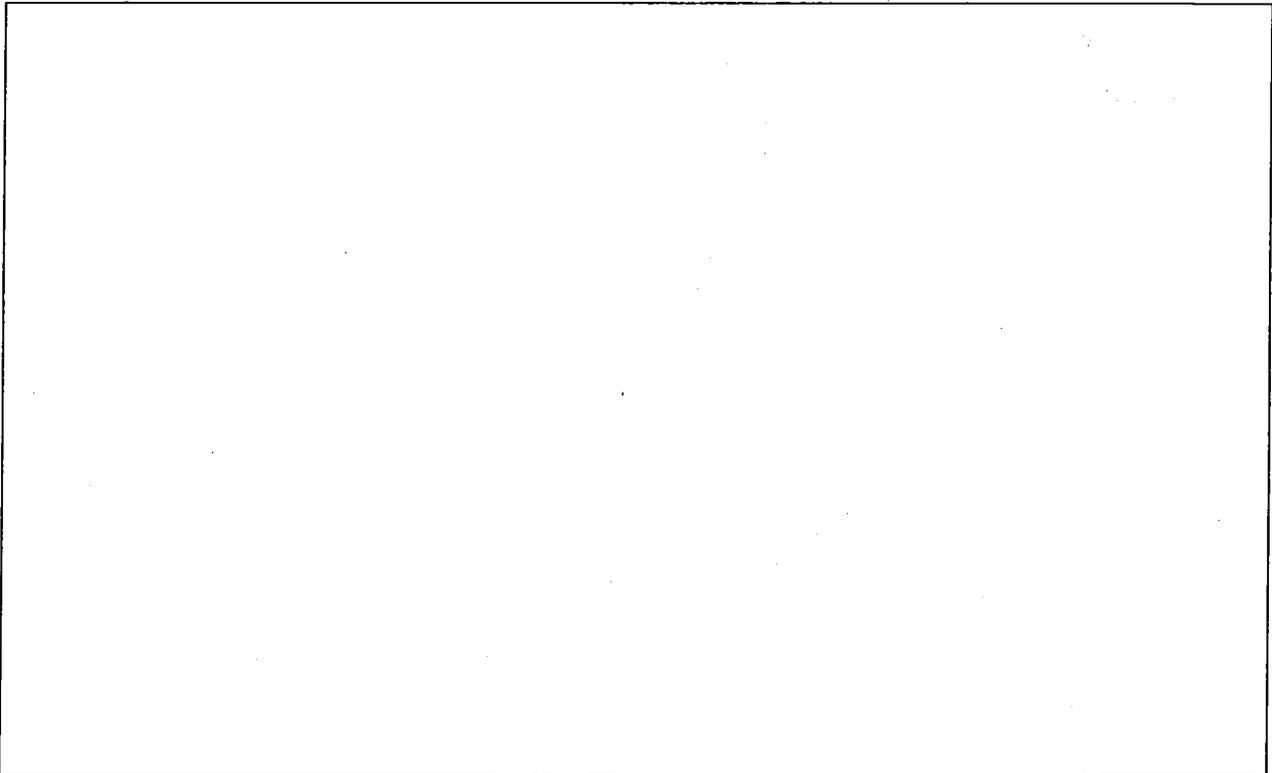
Fragment Number 3

Nails (number and purpose)

0 - BUT RUST

Marine Growth SW

Notes



Artifact Name BF 2

Date Photographed: 08/___/11

Length 31 5/8 Sided (Width) 5 1/8 Molded (Thickness) 6"

Fragment Number 1

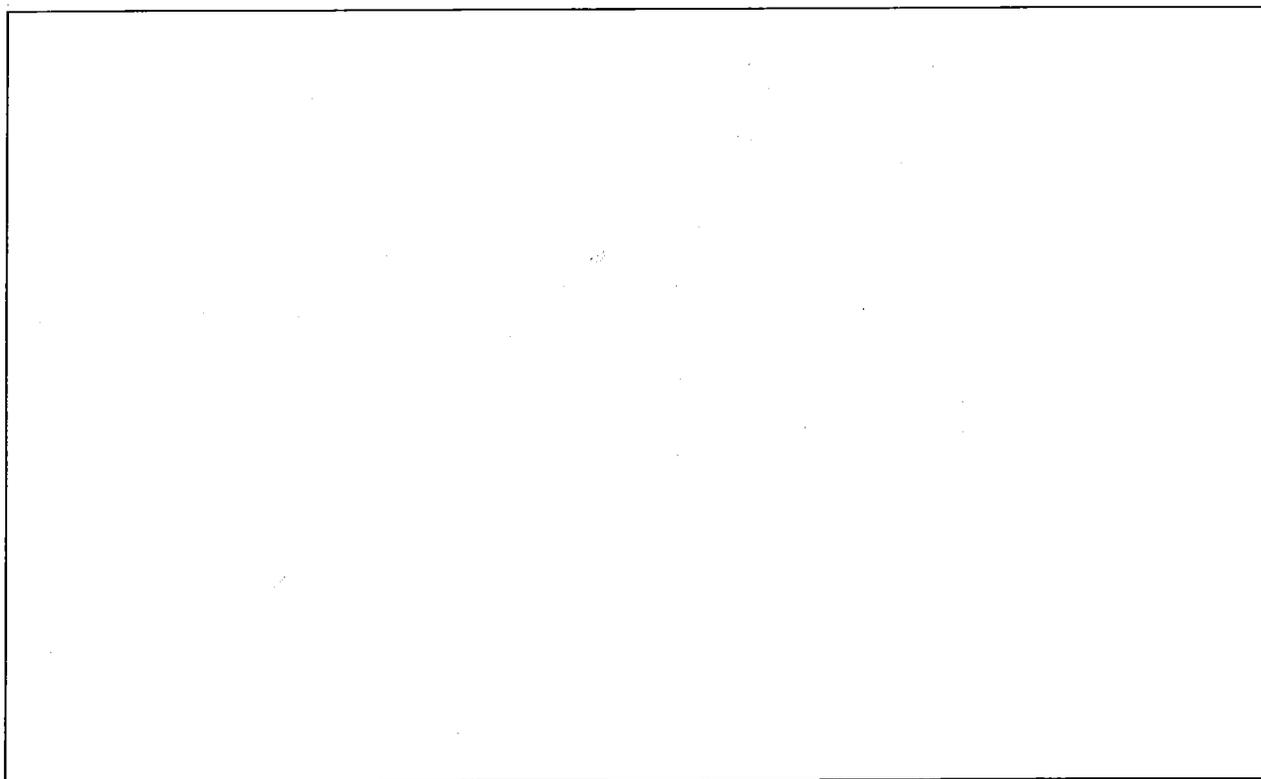
Nails (number and purpose)

2 - ceiling
5 - outer planking

Marine Growth SN - not many

Notes

part of ~~outer~~ outer planking attached - 1 1/4" thick. to 1 1/2"



Artifact Name BF F

Date Photographed: 08/___/11

Length 2 1/2 Sided (Width) 4"

Molded (Thickness) 3/4 - 1 1/4"

Fragment Number 2

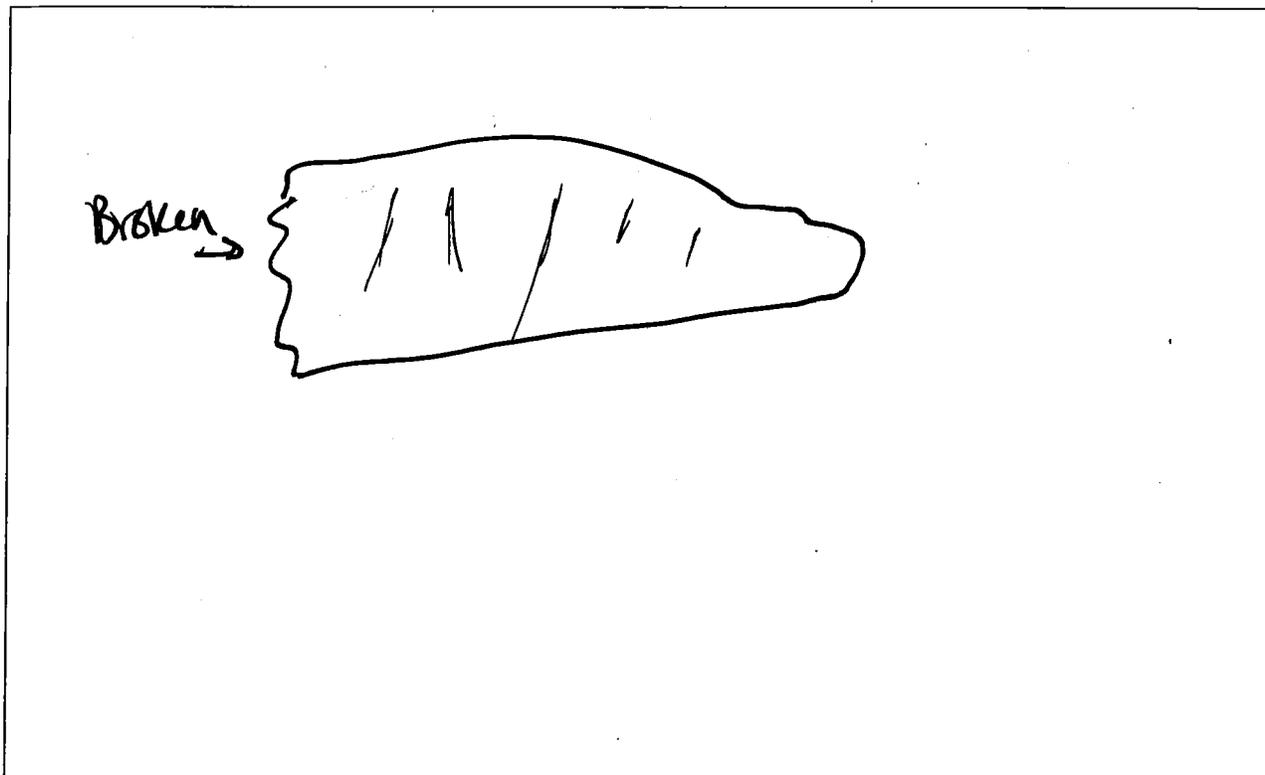
Nails (number and purpose)

None but rust on underside 3

Marine Growth None

Notes

Between BF1 + BF2
underside also broken away
top w/ tool marks



Artifact Name BF 3

Date Photographed: 08/___/11

Length 30 Sided (Width) 5 1/2 Molded (Thickness) 5"

Fragment Number 1

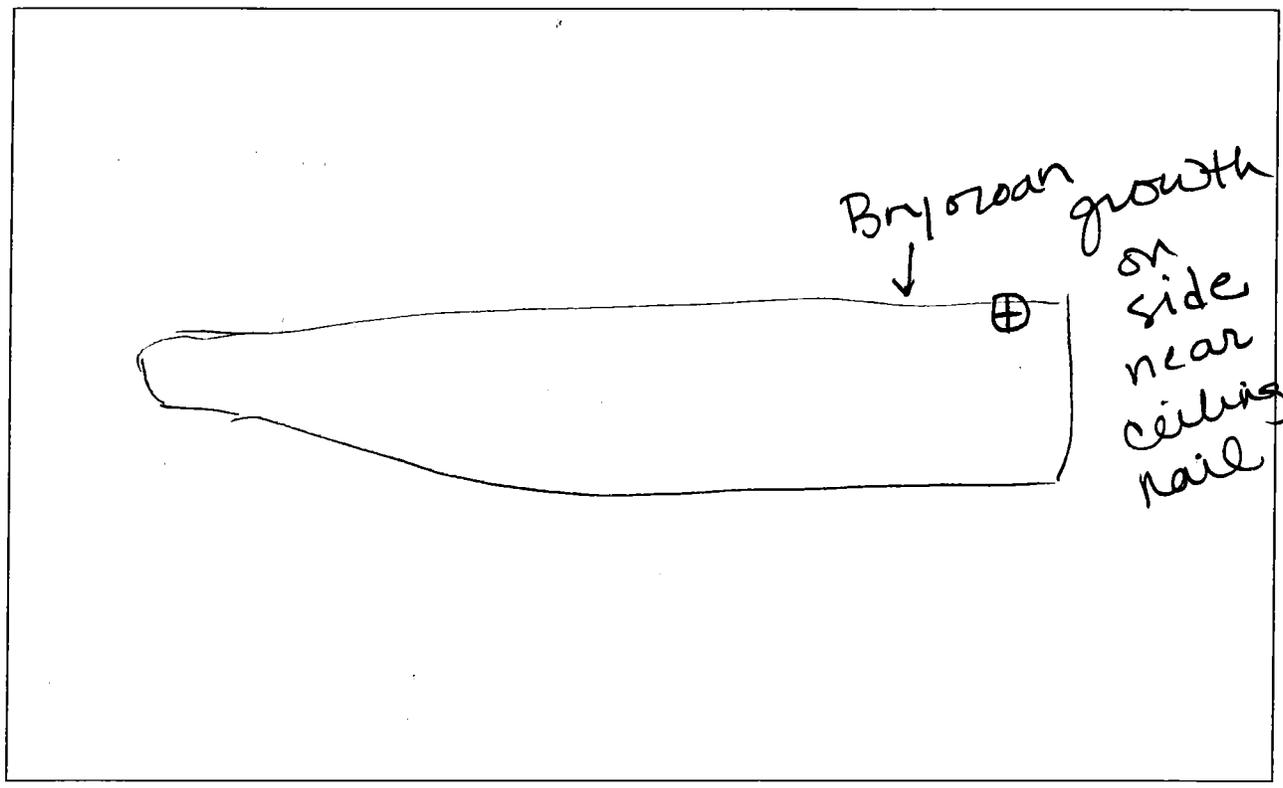
Nails (number and purpose)

3-ceiling → one sticks thru to outer planking side
3 outer planking

Marine Growth Bryozoan

Notes

tapers to point
many rings visible



Artifact Name BF4

Date Photographed: 08/___/11

Length 17 1/2

Sided (Width) 4 1/4
max

Molded (Thickness) 4 1/2 max

Fragment Number 1

tracing of 4 sides

Nails (number and purpose)

Nails on all 4 sides

Bottom - 2

TOP - 1 pos. tack

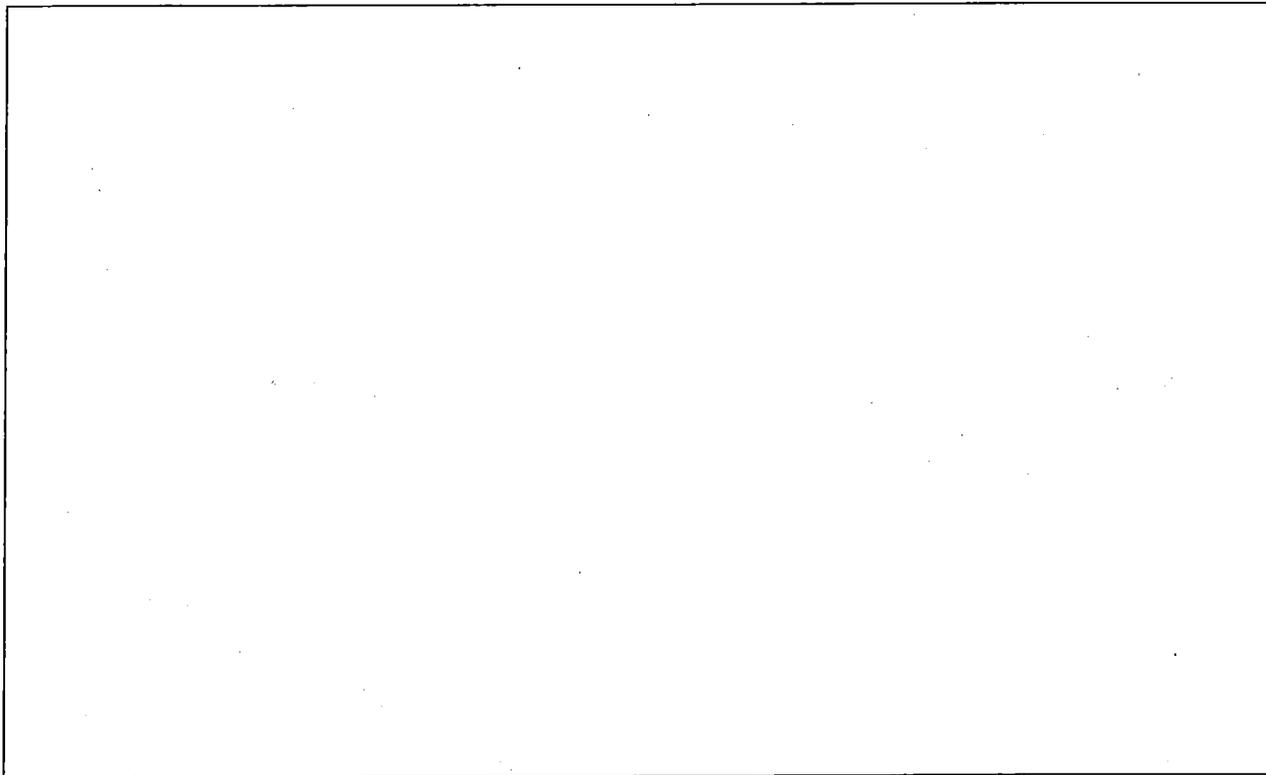
SIDE 2 - 3 (no @ 60°)

SIDE 1 - 2

Marine Growth None

Notes

Tapers drastically



Artifact Name BF5

Date Photographed: 08/___/11

Length 15³/₄ Sided (Width) 7¹/₄" Molded (Thickness) 4"

Fragment Number 4

Nails (number and purpose)

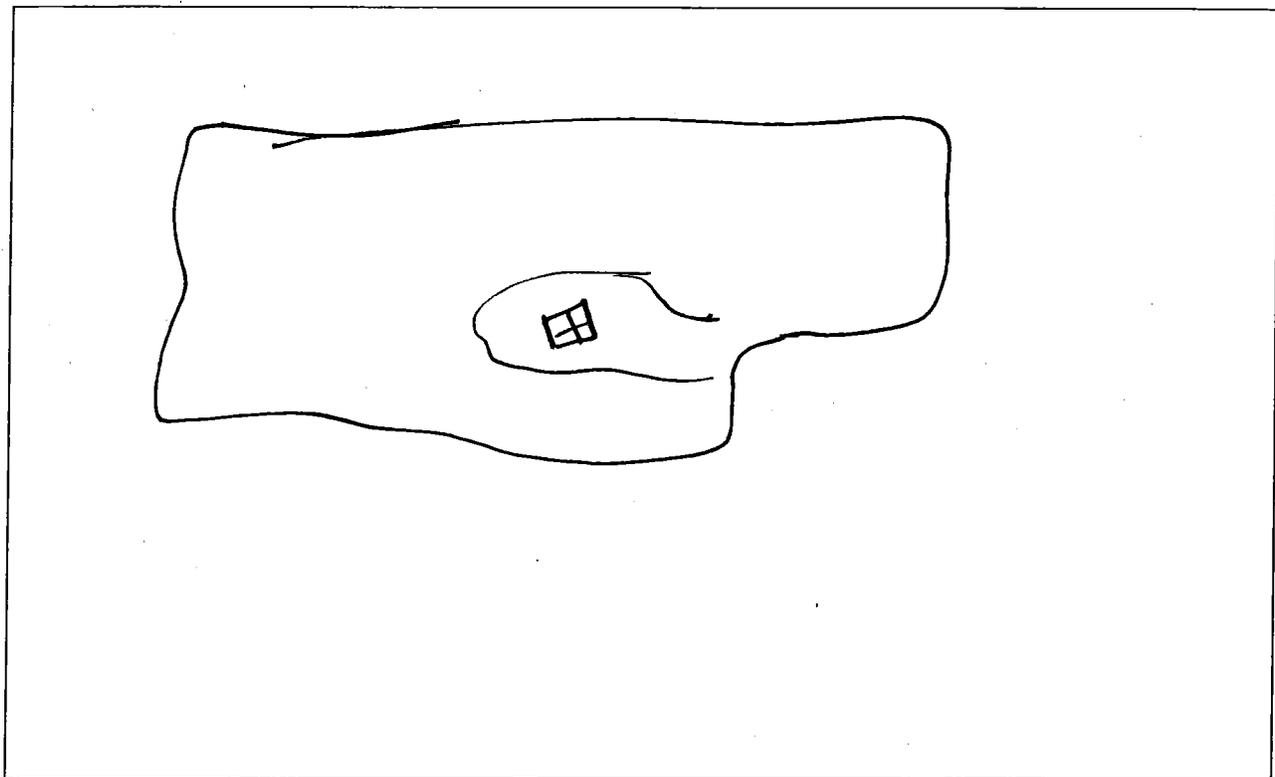
1 - 3/8" square (ceiling?)

Marine Growth SW

Notes

BCP 7 attached - Broken since

NOT photographed in NY



Artifact Name BF 11A

Date Photographed: 08/___/11

Length 4 1/4" Sided (Width) 8 1/2" Molded (Thickness) 3 3/4"

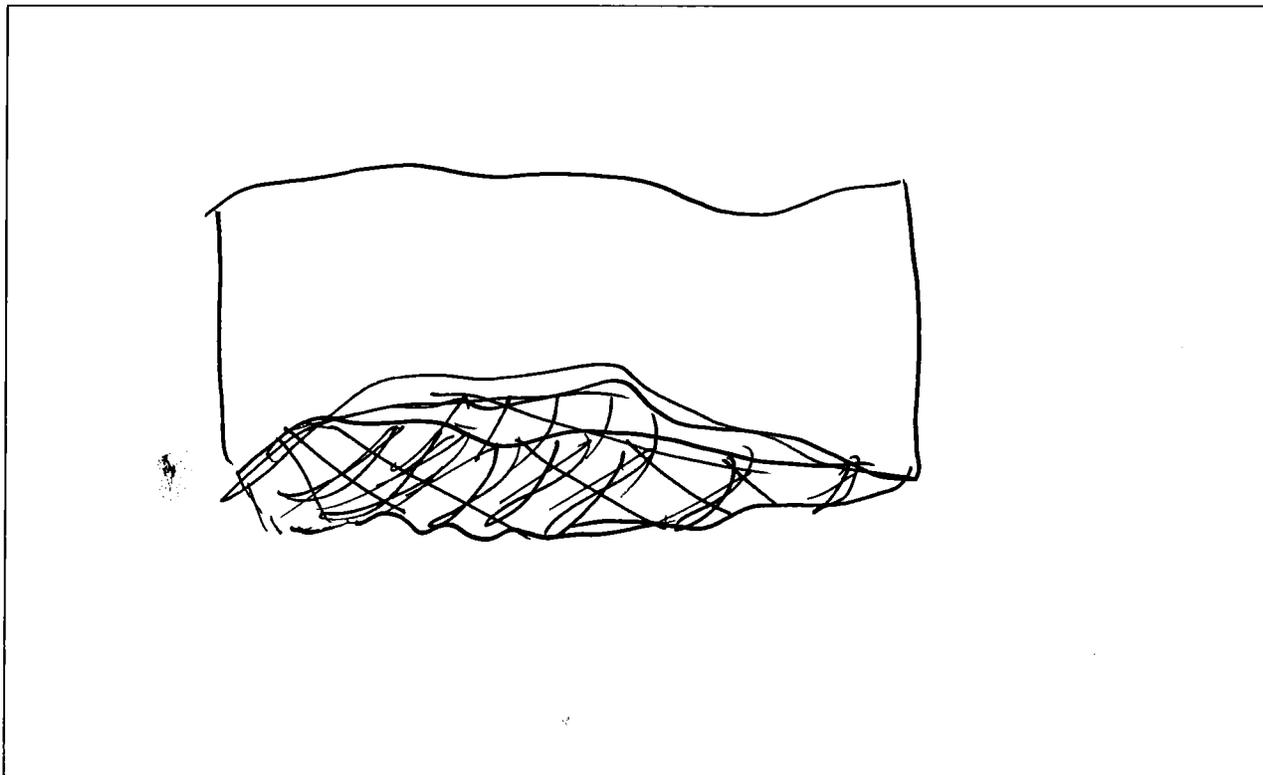
Fragment Number 1

Nails (number and purpose)

0

Marine Growth SW

Notes



Artifact Name BF 11A

Date Photographed: 08/___/11

Length 7³/₄

Sided (Width) 8¹/₄"

Molded (Thickness) 3"

Fragment Number 4

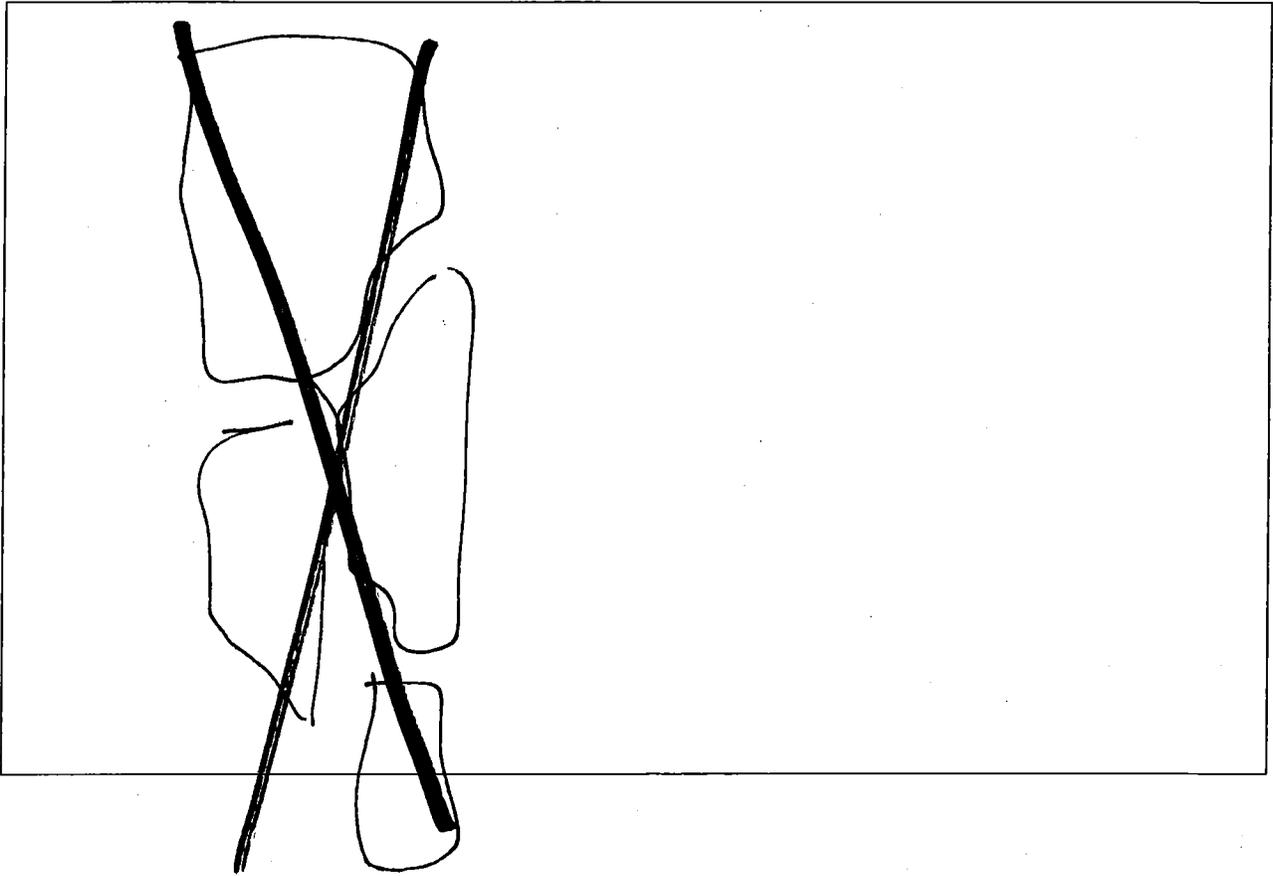
Nails (number and purpose)

0

Marine Growth SW

Notes

joins w/ BF 11B



Artifact Name BF 118

Date Photographed: 08/___/11

Length 4" Sided (Width) 4 1/4" Molded (Thickness) 2"

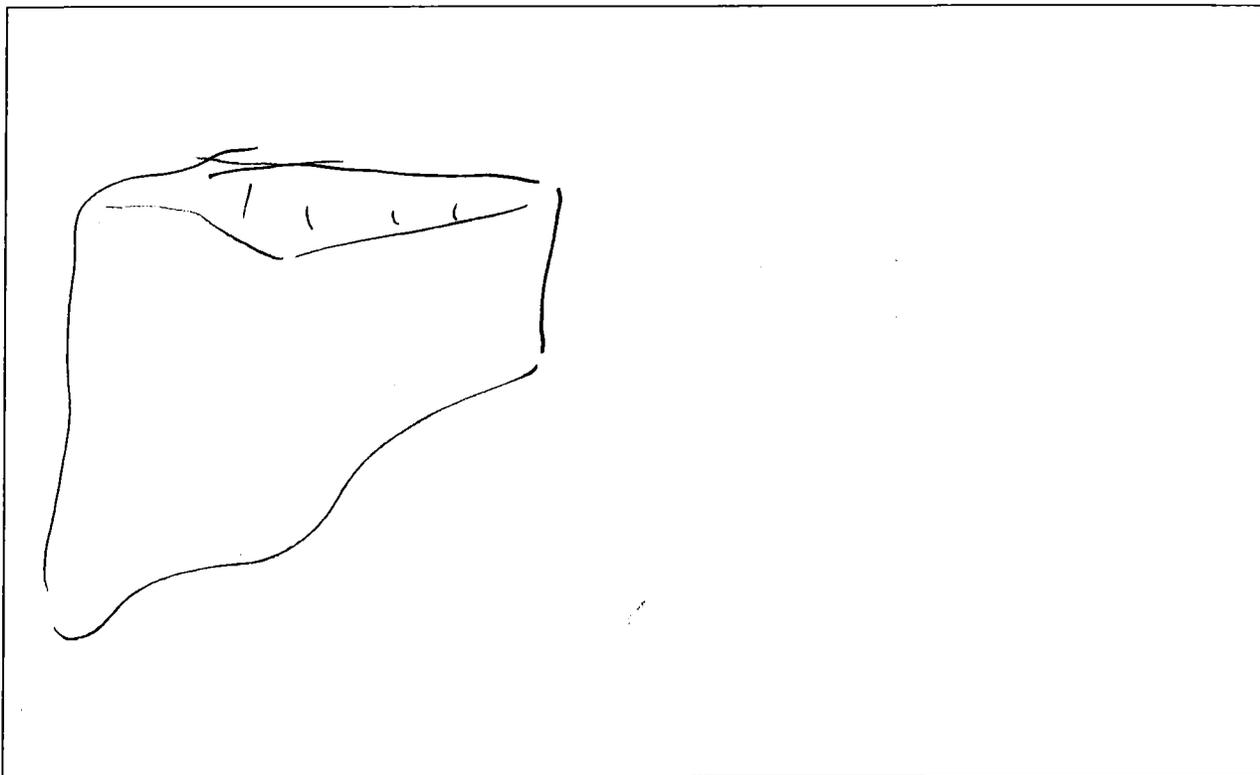
Fragment Number 1

Nails (number and purpose)

0

Marine Growth SW

Notes



Artifact Name BF 12

Date Photographed: 08/___/11

Length 12" Sided (Width) 9 3/4" Molded (Thickness) 4"

Fragment Number 1

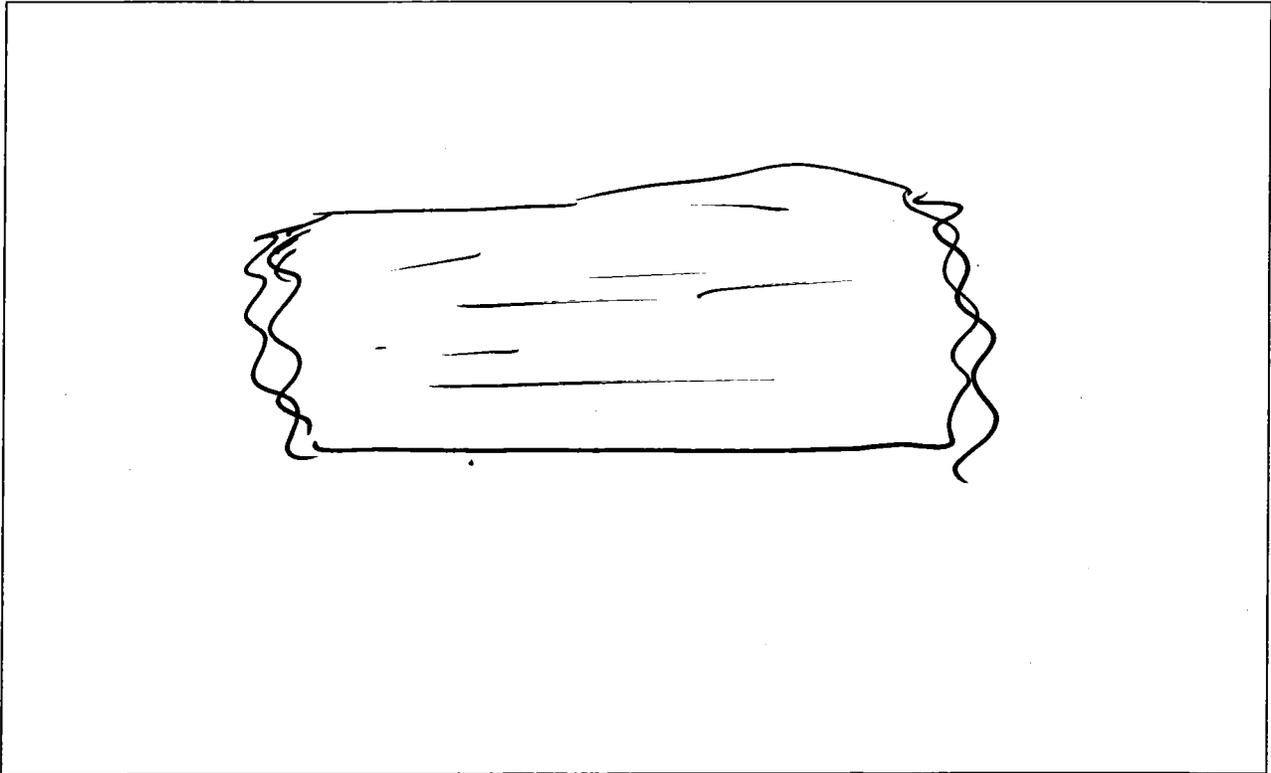
Nails (number and purpose)

None

Marine Growth SW

Notes

only original surface is top; Rest is splintered



Artifact Name Bow Port Garboard ^{Mush} Date Photographed: 08/___/11
Length 6" Sided (Width) 3 1/4" Molded (Thickness) 2"

Fragment Number 3

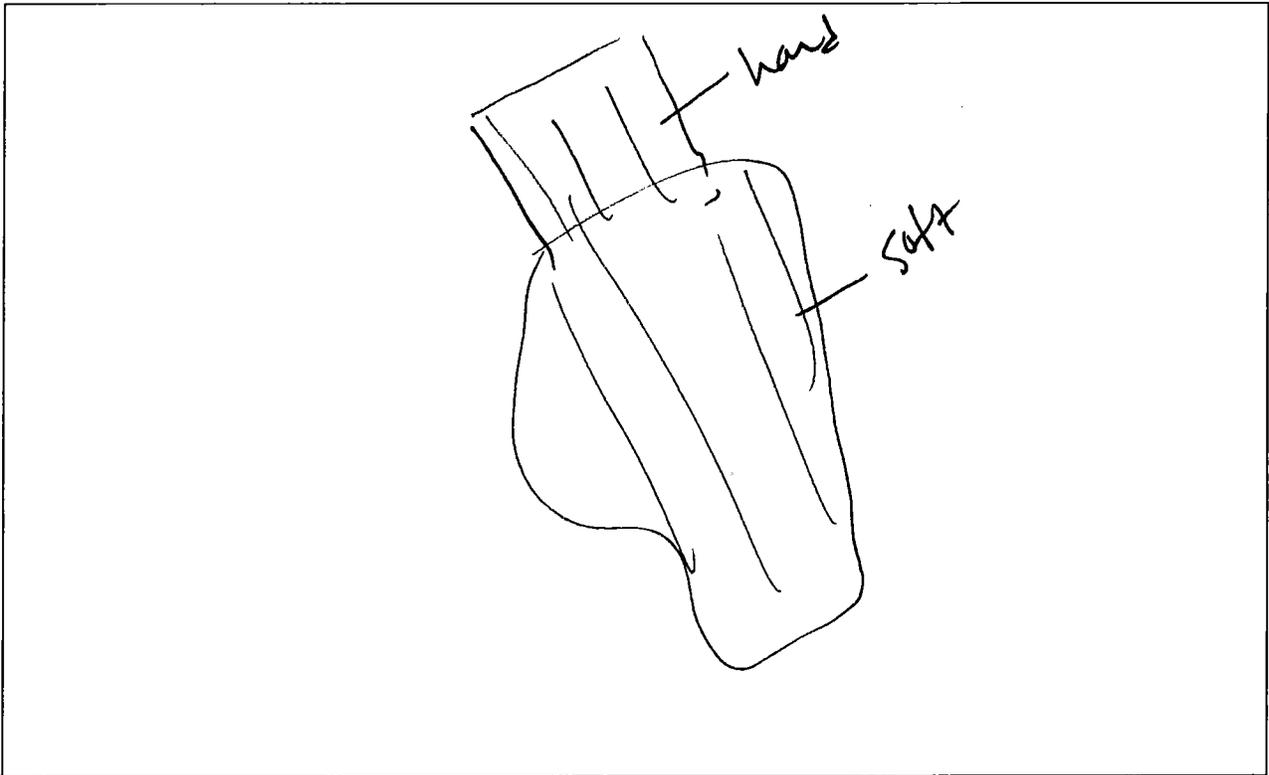
Nails (number and purpose)

0

Marine Growth SW

Notes

8/19 - completely disintegrated; no photomodeler



Artifact Name BOP garboard stake Date Photographed: 08/___/11

Length 10 1/4 Sided (Width) 4 1/4" Molded (Thickness) 1 3/4

Fragment Number 2 → 4 as of 8/19

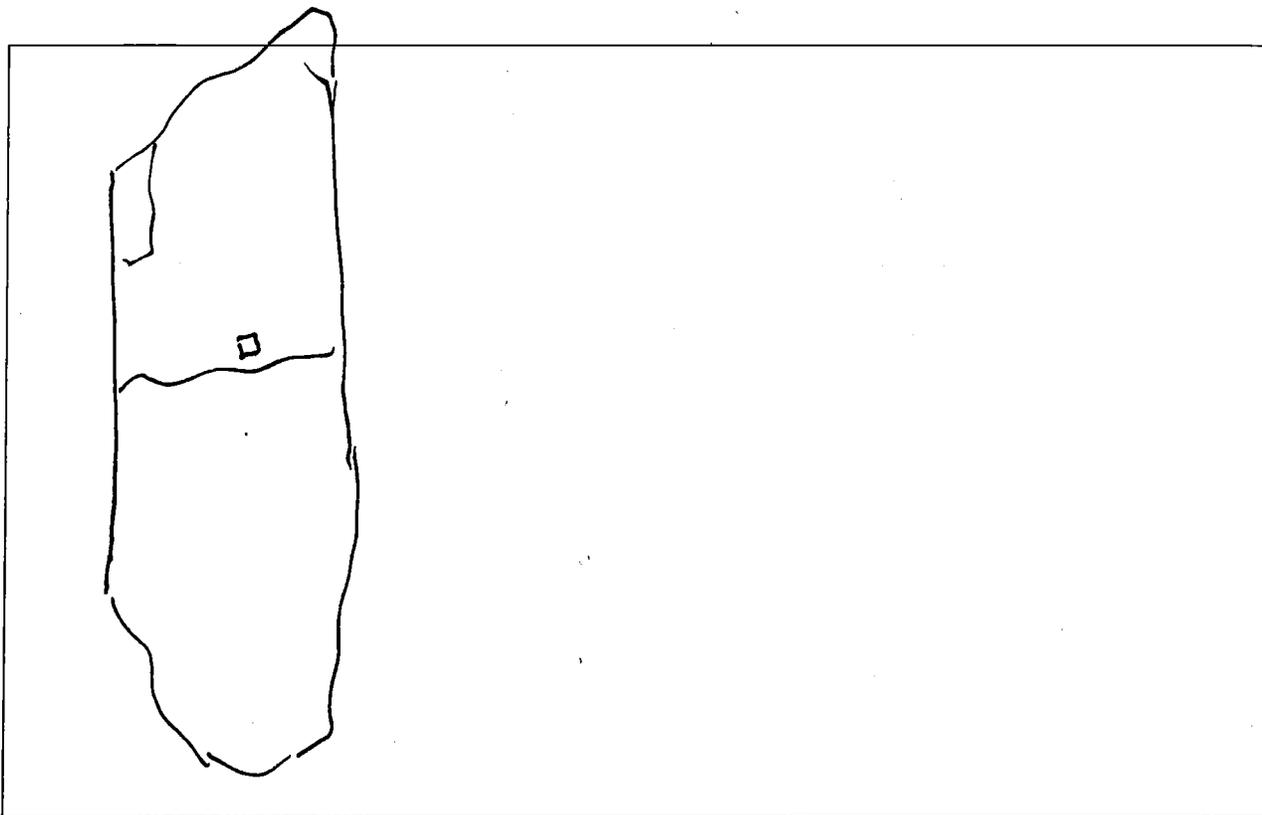
Nails (number and purpose)

0 → 1 pos. tack

Marine Growth SW

Notes

very fragmented



Artifact Name BOP 1 Date Photographed: 08/___/11

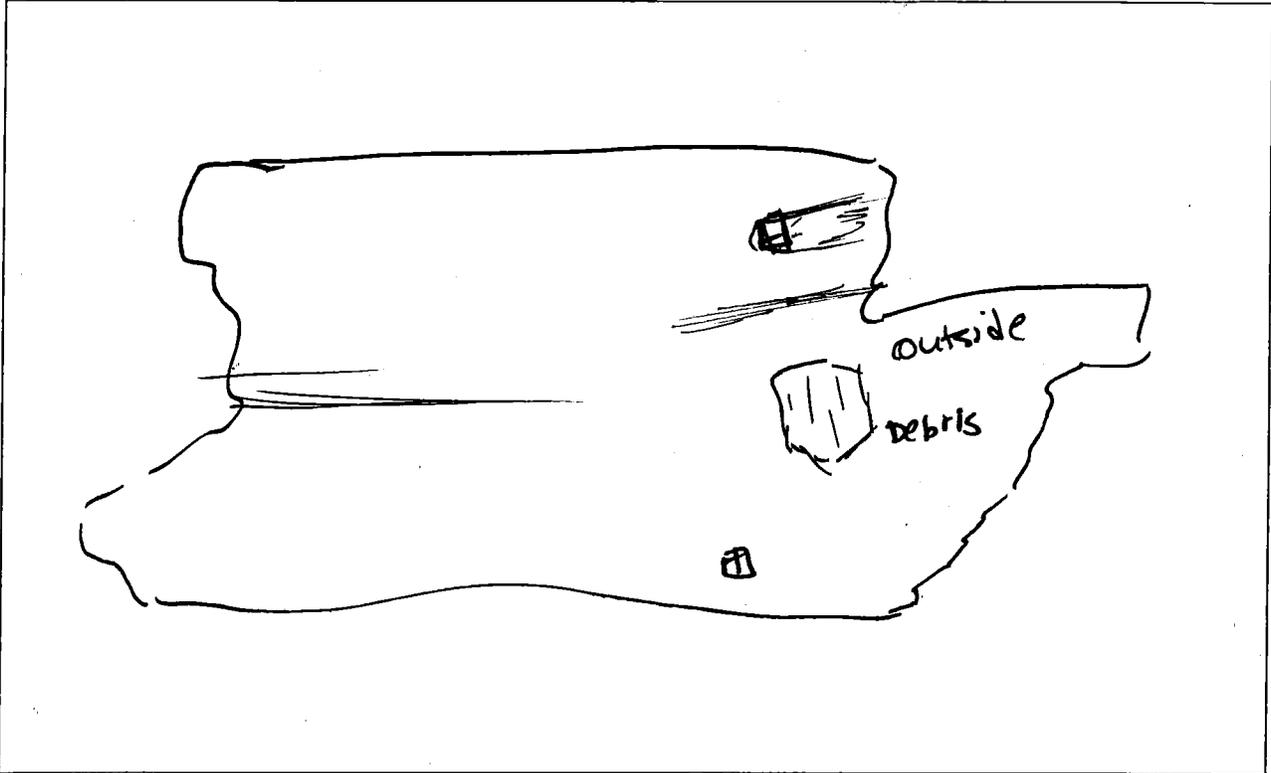
Length 2 1/2 Sided (Width) 8 1/4 Molded (Thickness) 1 3/4

Fragment Number 1

Nails (number and purpose)

Marine Growth oyster on outside

Notes South - most outer plank



Artifact Name BOP 2

Date Photographed: 08/___/11

Length 14" Sided (Width) 5" Molded (Thickness) 1 3/4"

Fragment Number 2 large + 1 small + 2 tiny = 5

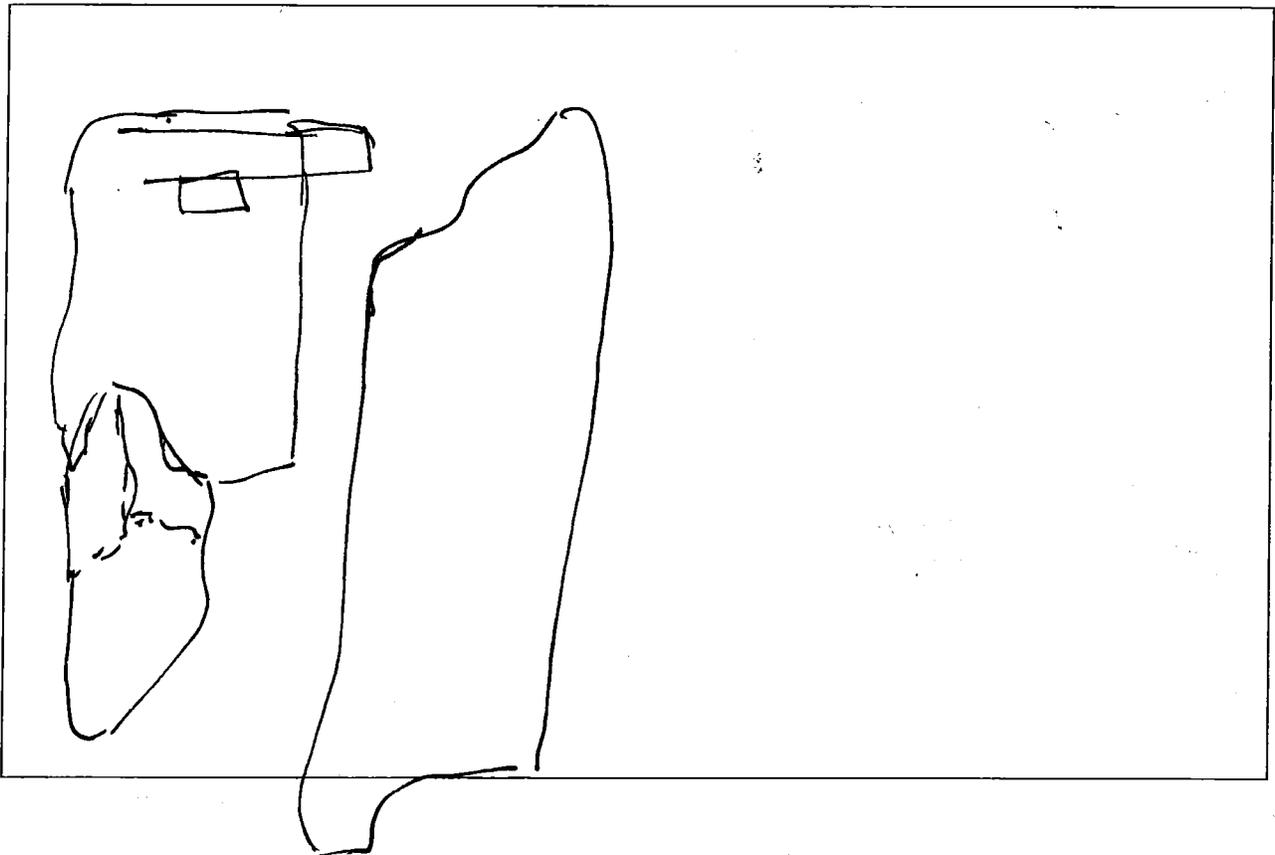
Nails (number and purpose)

Marine Growth _____

Notes

2 sandstone + wood on outside

1 impression of frame



Artifact Name B OP 3

Date Photographed: 08/___/11

Length 15 Sided (Width) 5 1/2 Molded (Thickness) 1 1/2"

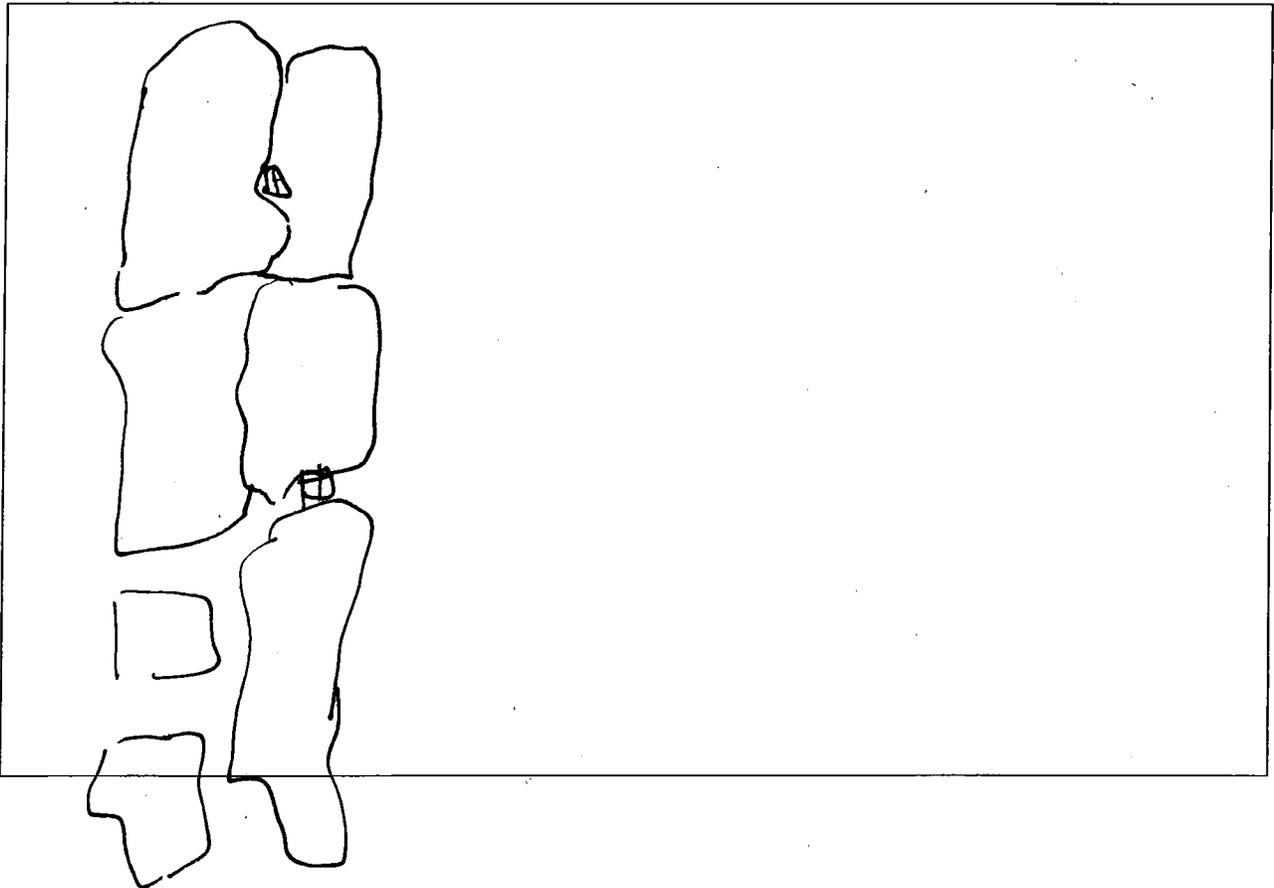
Fragment Number 7

Nails (number and purpose)

2

Marine Growth SW

Notes



Artifact Name BOP 3 #2

Date Photographed: 08/___/11

of large

Length 10"

Sided (Width) 4"

Molded (Thickness) 1 7/8"

Fragment Number 1 large, 3 medium, 3 small = 7 frag

no of 8/19
4 fragments

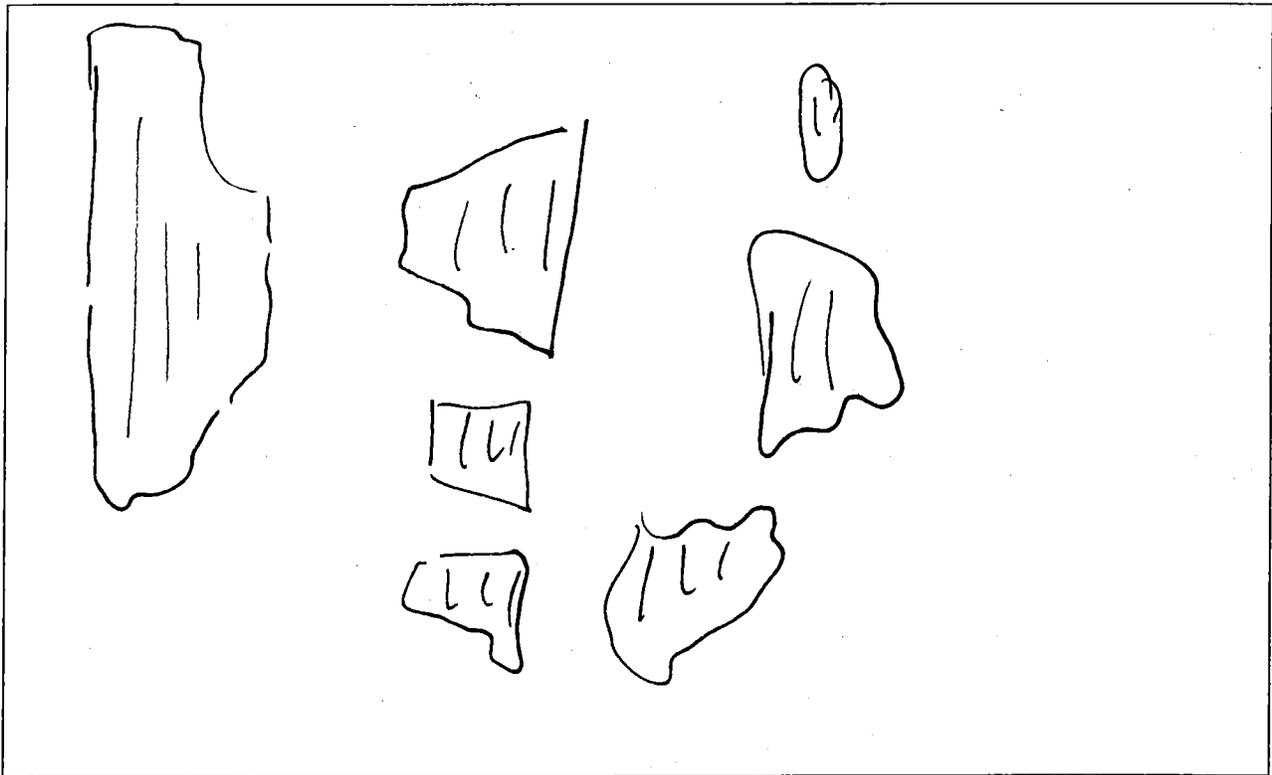
Nails (number and purpose)

4 pos. - to frames

Marine Growth SW

Notes

pos. 1 nail



Artifact Name BOP4

Date Photographed: 08/___/11

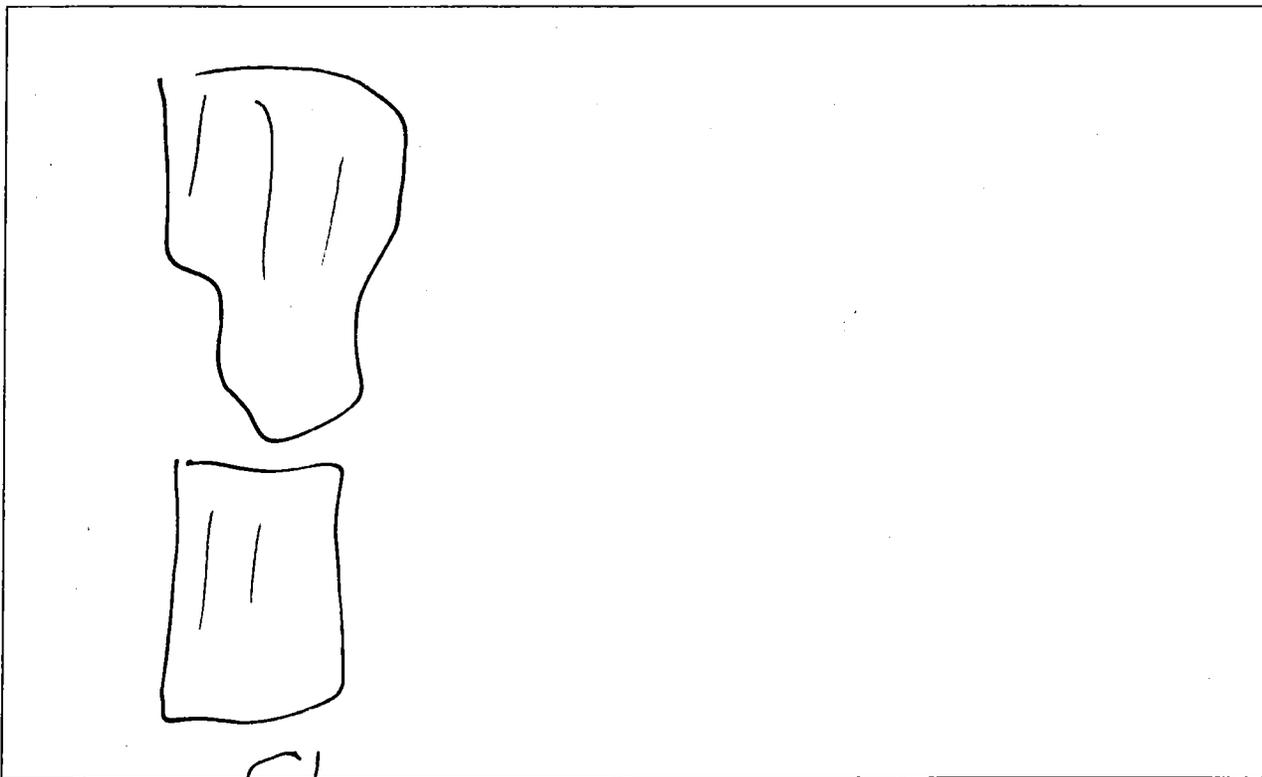
Length 16" Sided (Width) 4 1/2" Molded (Thickness) 1"

Fragment Number 3

Nails (number and purpose)

Marine Growth SW

Notes



Artifact Name BOP 6A

Date Photographed: 08/___/11

Length 9 1/2 Sided (Width) 7 1/2 Molded (Thickness) 1"

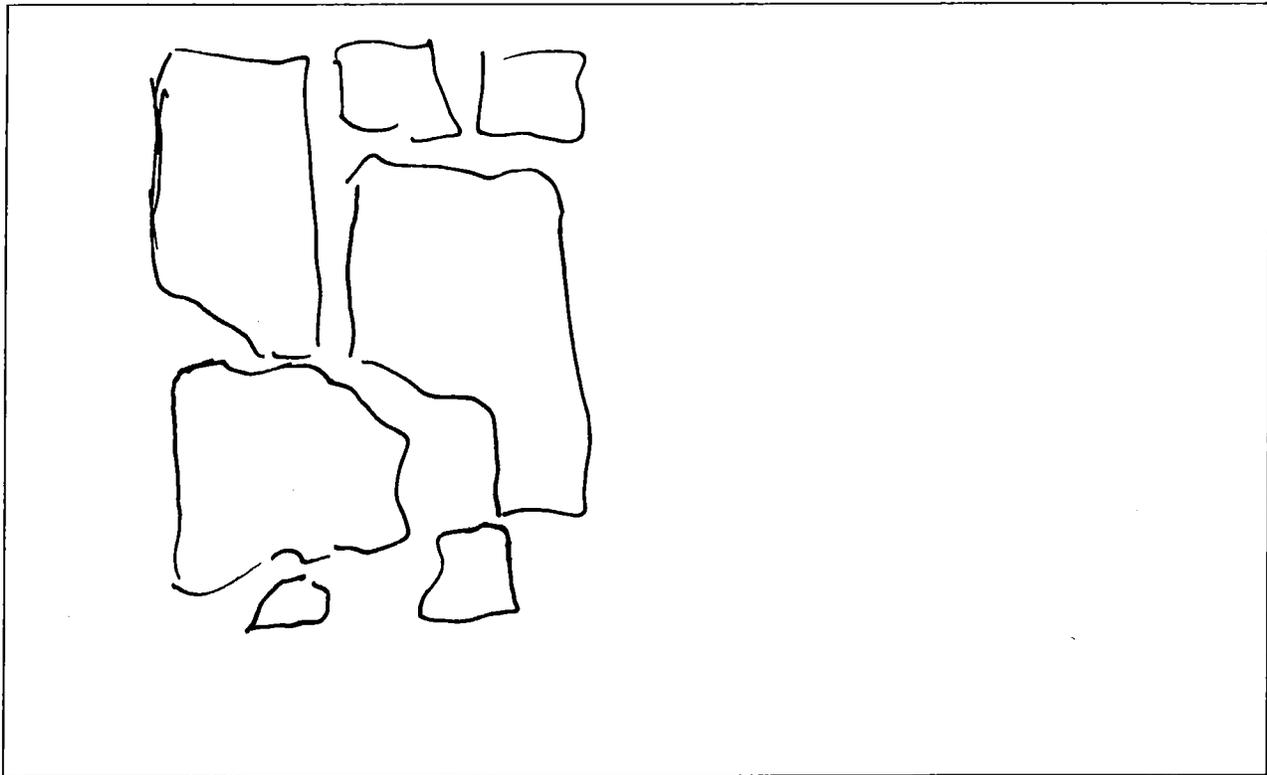
Fragment Number 3 large + 4 small

Nails (number and purpose)

0

Marine Growth _____

Notes



Artifact Name BOP 5B

Date Photographed: 08/___/11

Length 12 1/4" Sided (Width) 6" Molded (Thickness) 1 3/4"

Fragment Number 1

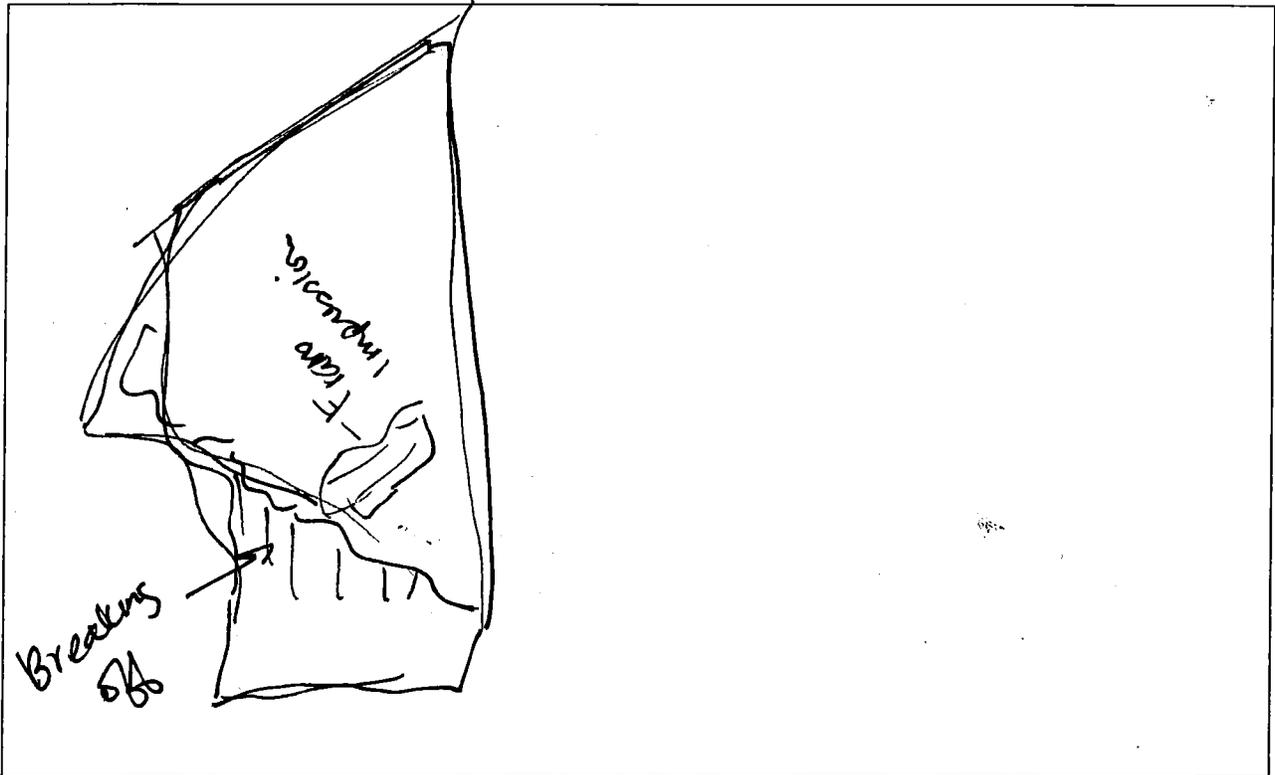
Nails (number and purpose)

0

Marine Growth SW

Notes

fragile



Artifact Name BOP GA

Date Photographed: 08/___/11

Length 6 1/2"

Sided (Width) 3"

Molded (Thickness) 1 1/2"

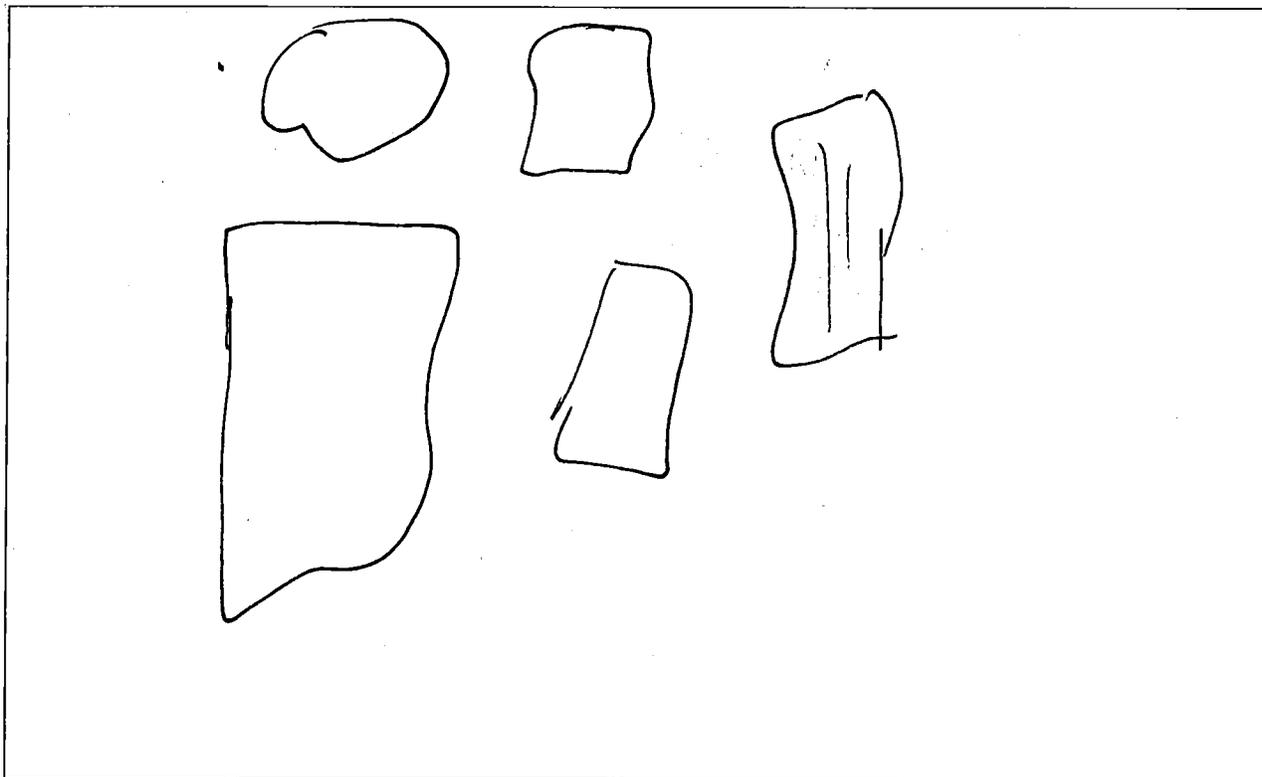
Fragment Number 1 large 4 small = 5 total

Nails (number and purpose)

Marine Growth SW

Notes

looks like a piece of gasboard starboard



Artifact Name B Wedges

Date Photographed: 08/___/11

Length _____ Sided (Width) _____ Molded (Thickness) _____

Fragment Number 2

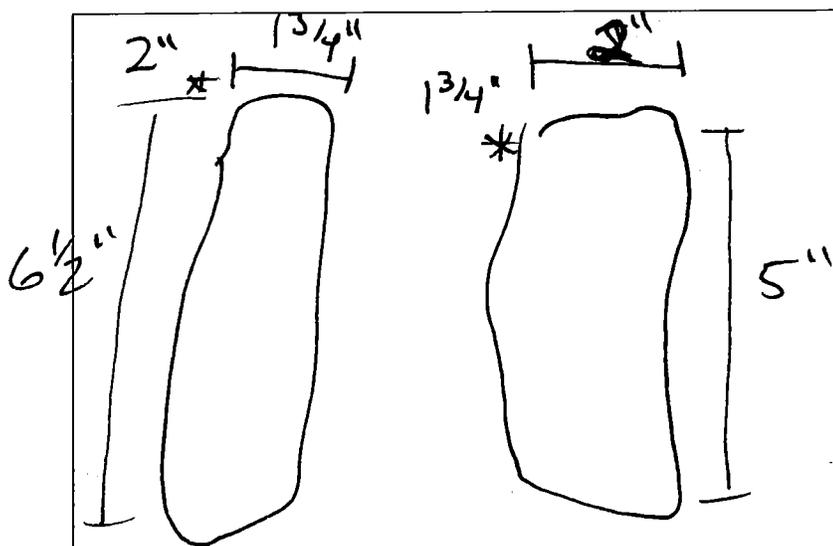
Nails (number and purpose)

0

Marine Growth 0

Notes

(Found b/w BF3 + BFF +/or BF2)



Artifact Name cask ?

Date Photographed: 08/___/11

Length 9"

Sided (Width) 2 1/4"

Molded (Thickness) 1/2"

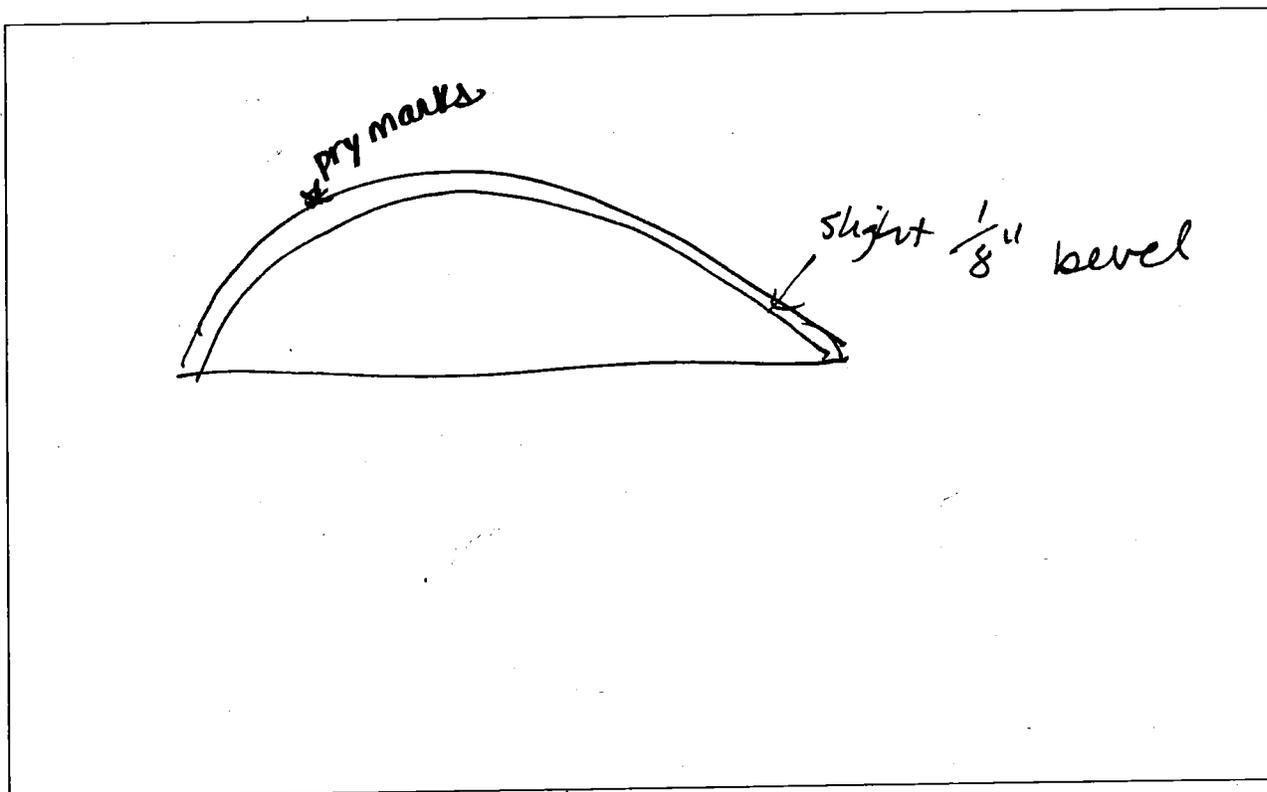
Fragment Number 1

Nails (number and purpose)

0

Marine Growth NO

Notes



MISC .1

Artifact Name ~~North side unknown 5~~ → Date Photographed: 08/___/11

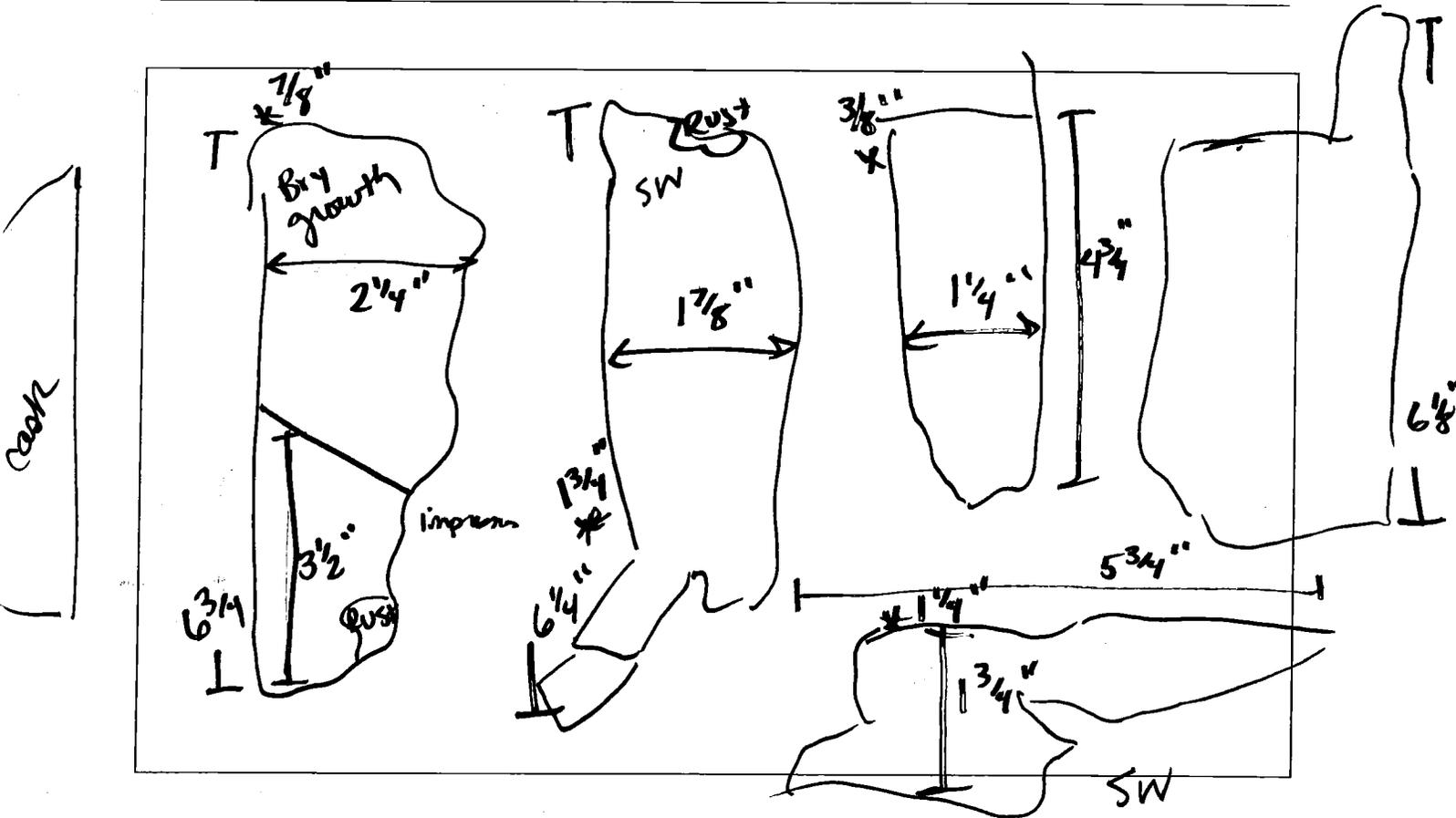
Length _____ Sided (Width) _____ Molded (Thickness) _____

Fragment Number ~~14~~ 14

Nails (number and purpose)

Marine Growth _____

Notes



Artifact Name MISC. .2

Date Photographed: 08/___/11

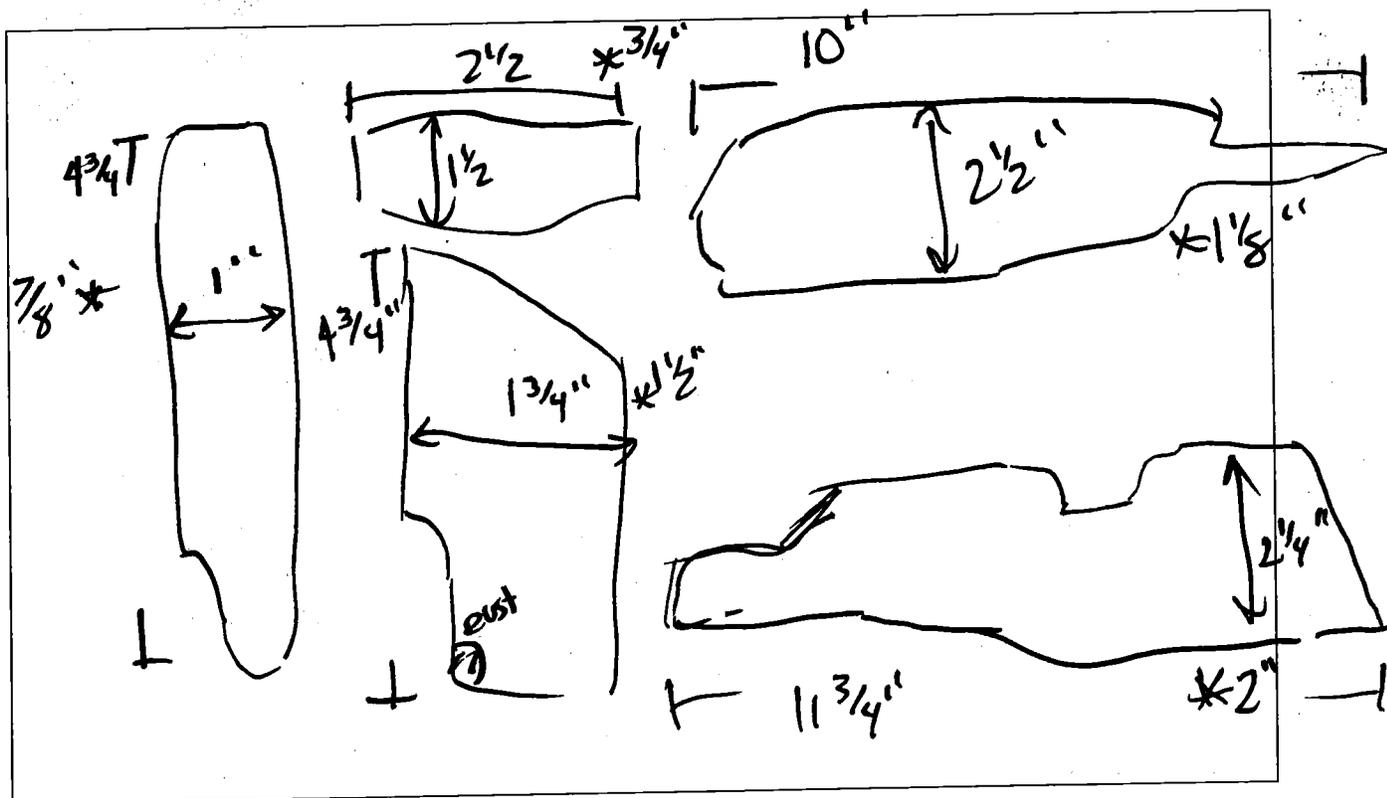
Length _____ Sided (Width) _____ Molded (Thickness) _____

Fragment Number 14 (5 of 14)

Nails (number and purpose)
None

Marine Growth SW

Notes



Artifact Name Mix. 3

Date Photographed: 08/___/11

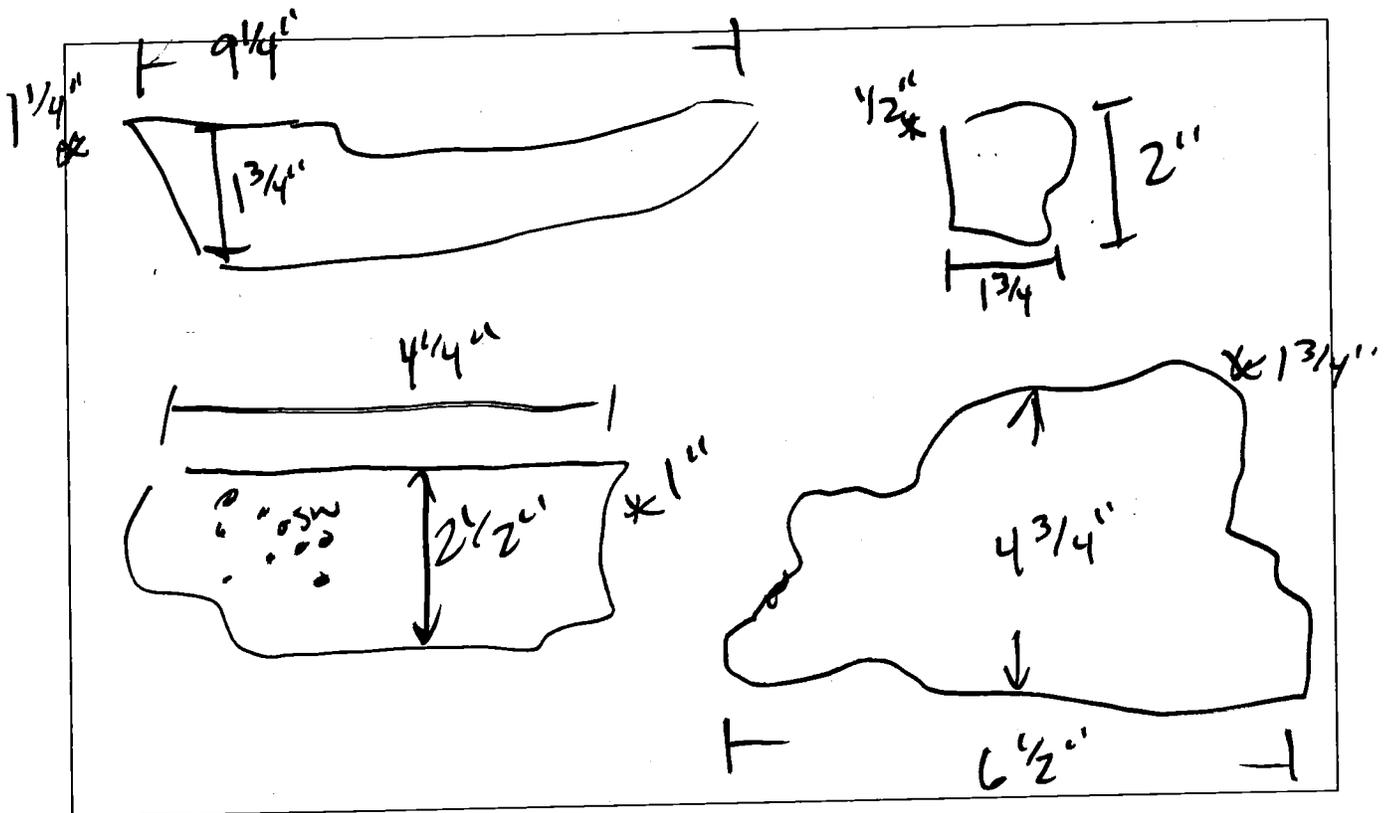
Length _____ Sided (Width) _____ Molded (Thickness) _____

Fragment Number 14 (4 of)

Nails (number and purpose)

Marine Growth SW

Notes



Artifact Name North Side Unknown 1 Date Photographed: 08/___/11

Length 13" Sided (Width) 4 3/4" Molded (Thickness) 1 3/4"

Fragment Number 1

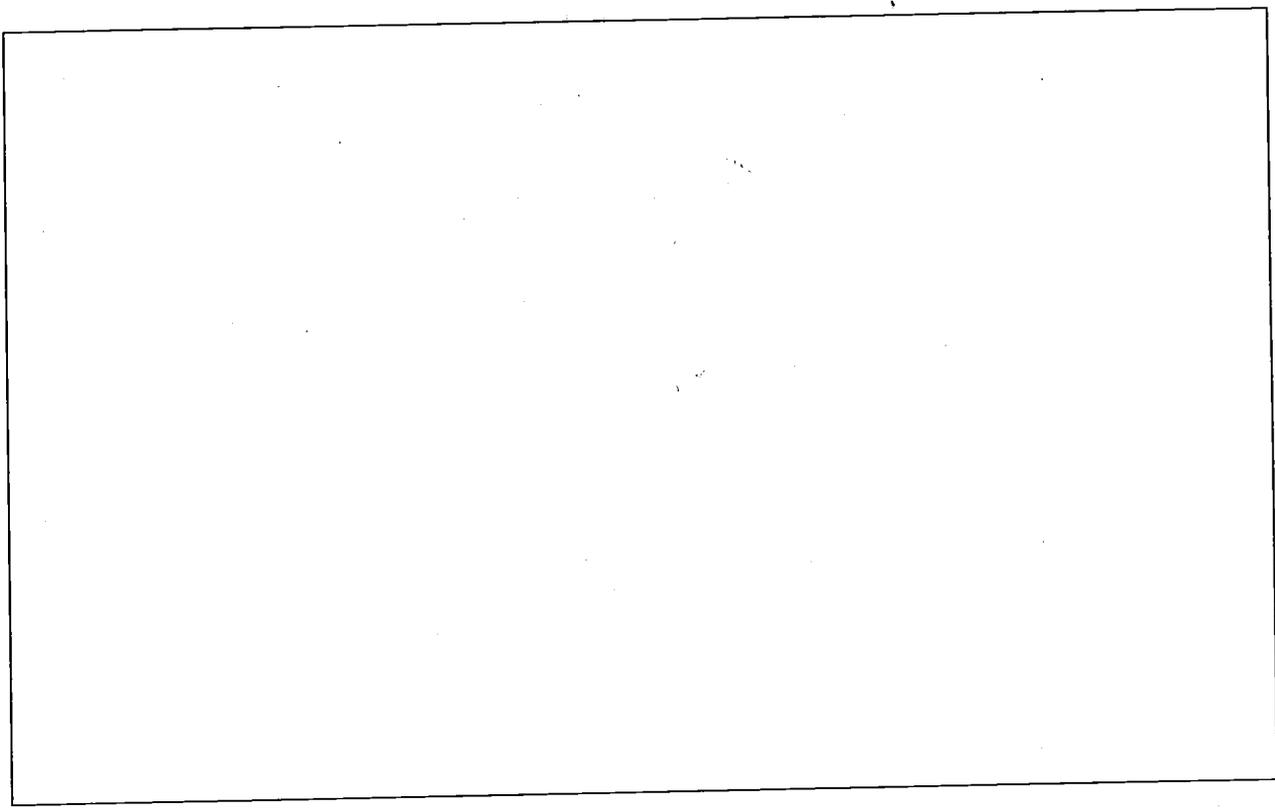
Nails (number and purpose)

0

Marine Growth None

Notes

Questionable ship



Artifact Name North side unknown 2 Date Photographed: 08/___/11

Length 15 1/2" Sided (Width) 5" Molded (Thickness) 1 1/4"

Fragment Number 1

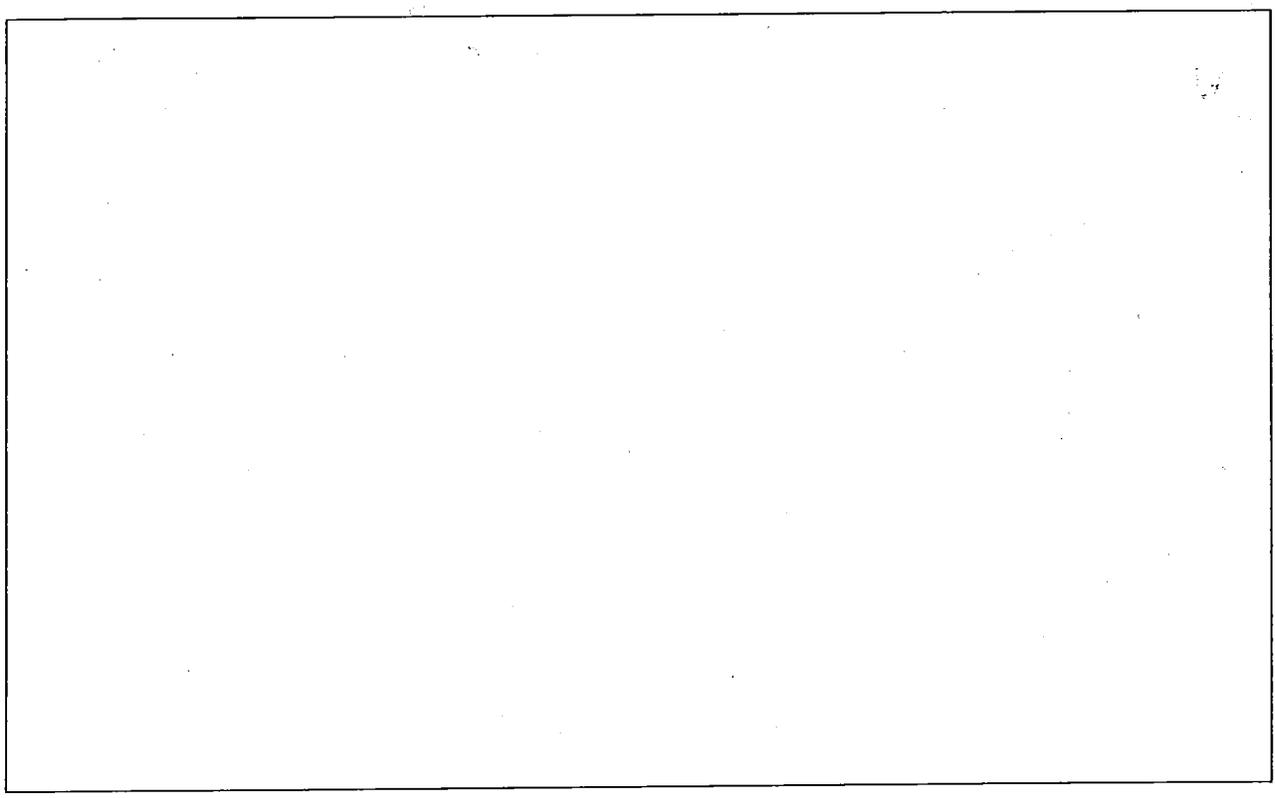
Nails (number and purpose)

1 wooden plug
1 nail

Marine Growth _____

Notes

- Hair sample taken
- pos. outer planking



Artifact Name North Side unknown 3 Date Photographed: 08/___/11

Length 11 1/2" Sided (Width) 4" Molded (Thickness) 1 1/2"

Fragment Number 1

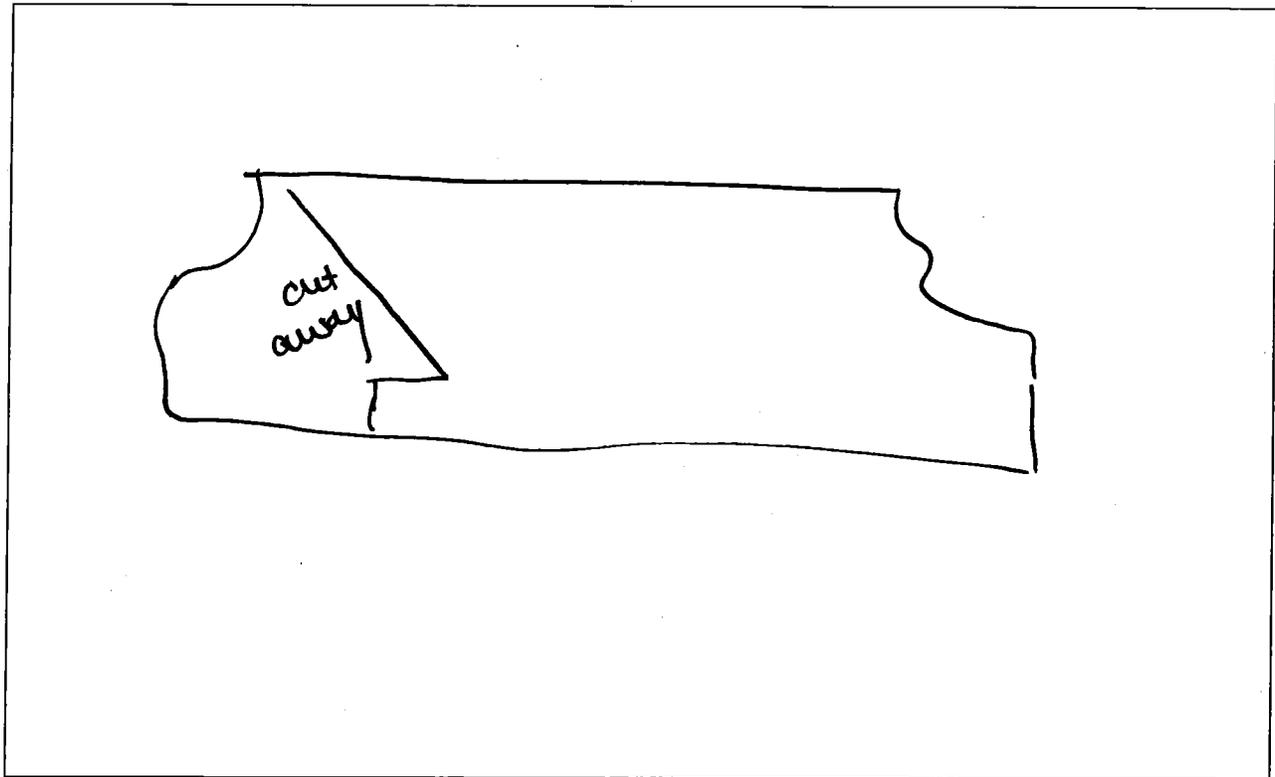
Nails (number and purpose)

0 - nothing distinguishing

Marine Growth None

Notes

pos. gash cut into top



Artifact Name North side unknown 4 Date Photographed: 08/___/11

Length 13 1/4" Sided (Width) 3 3/4" Molded (Thickness) 7/8"

Fragment Number 1

Nails (number and purpose)

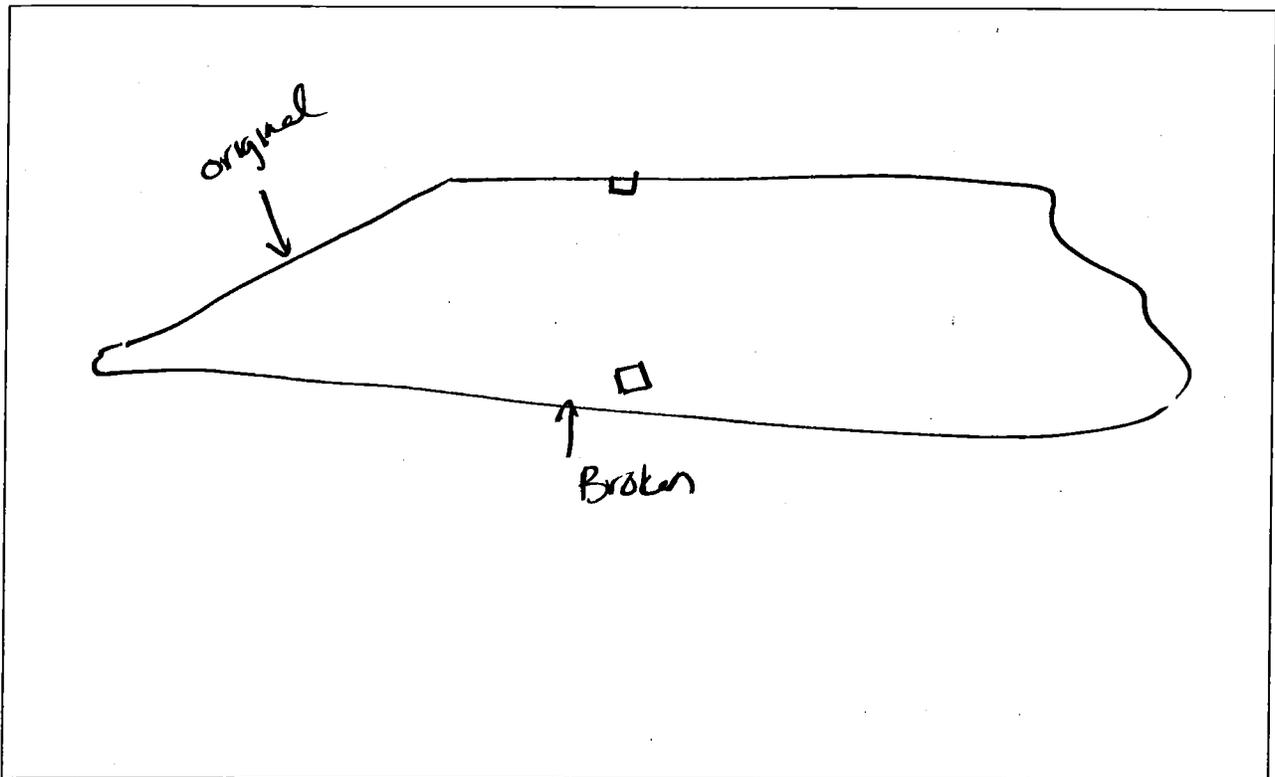
2 - tacks

Marine Growth SW

Notes

ceiling planking? → deck planking b/c
small tacks 1/4" square

pine
hair on underside; sample taken



Artifact Name North Side Unknown 5-7 Date Photographed: 08/___/11

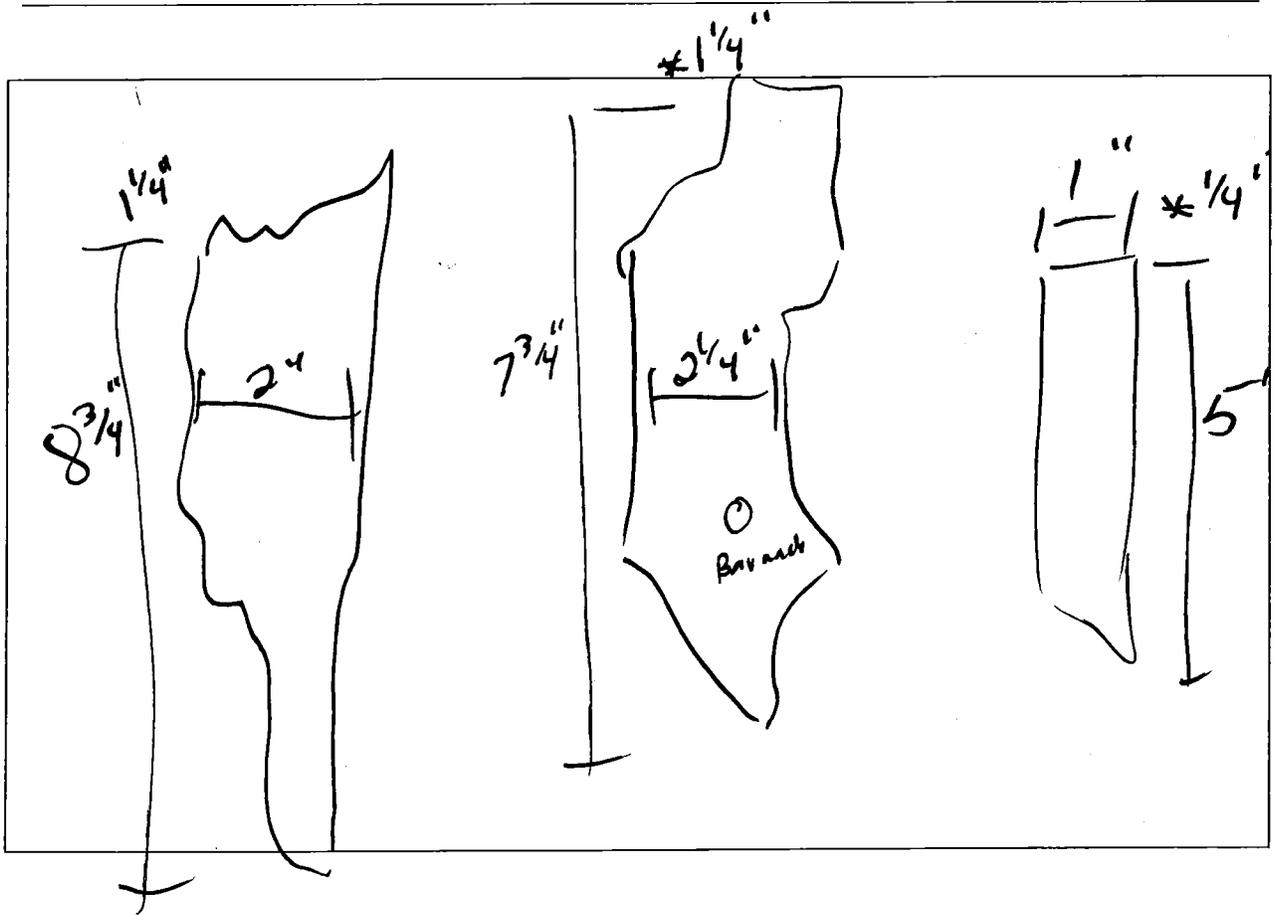
Length _____ Sided (Width) _____ Molded (Thickness) _____

Fragment Number 3

Nails (number and purpose)
0

Marine Growth Barnacle SW

Notes



Artifact Name North side unknown ⁸⁻¹¹ Date Photographed: 08/___/11

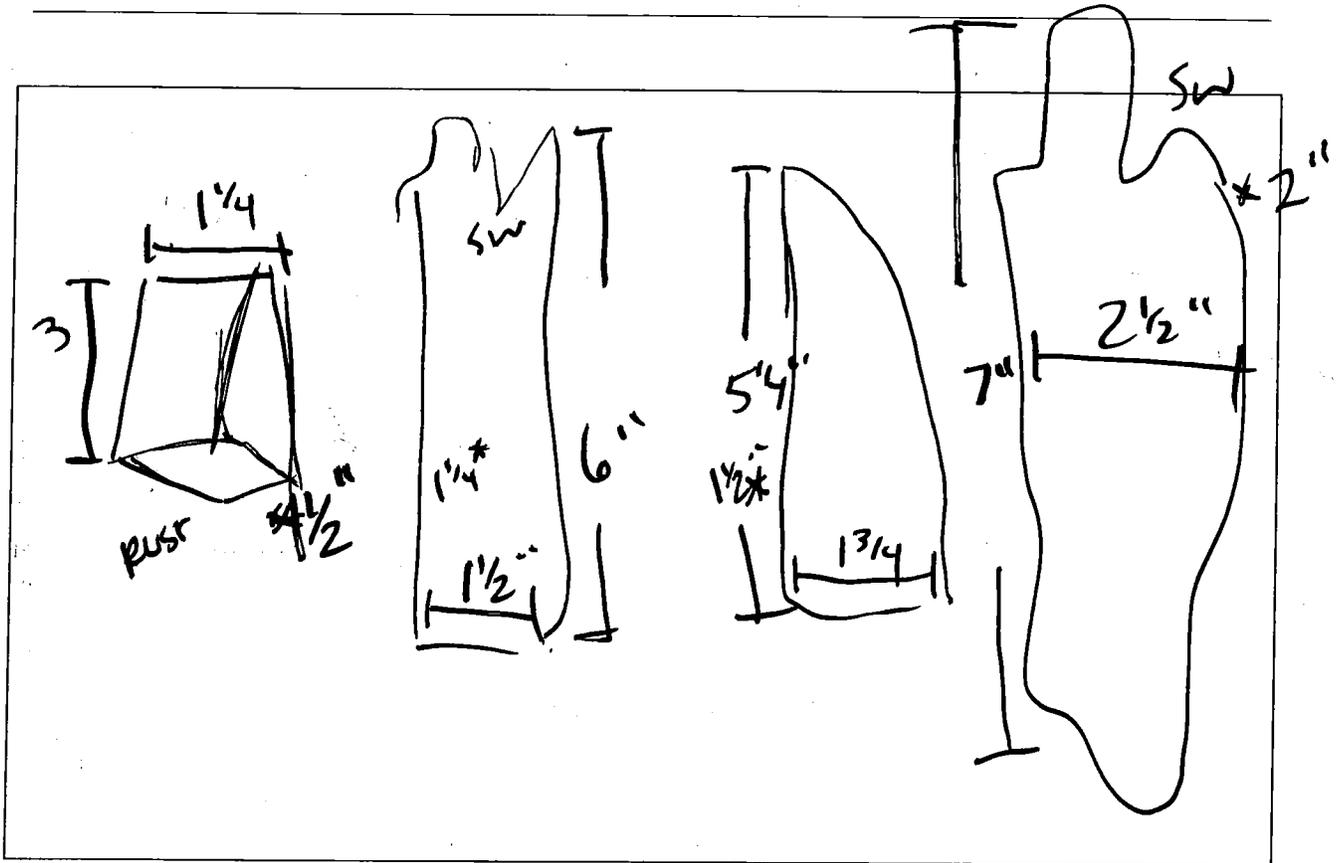
Length _____ Sided (Width) _____ Molded (Thickness) _____

Fragment Number 4

Nails (number and purpose)
None visible

Marine Growth _____

Notes



Artifact Name unknown North side 12 Date Photographed: 08/___/11

Length 10" Sided (Width) 3 7/8" Molded (Thickness) 1 1/2"

Fragment Number 1

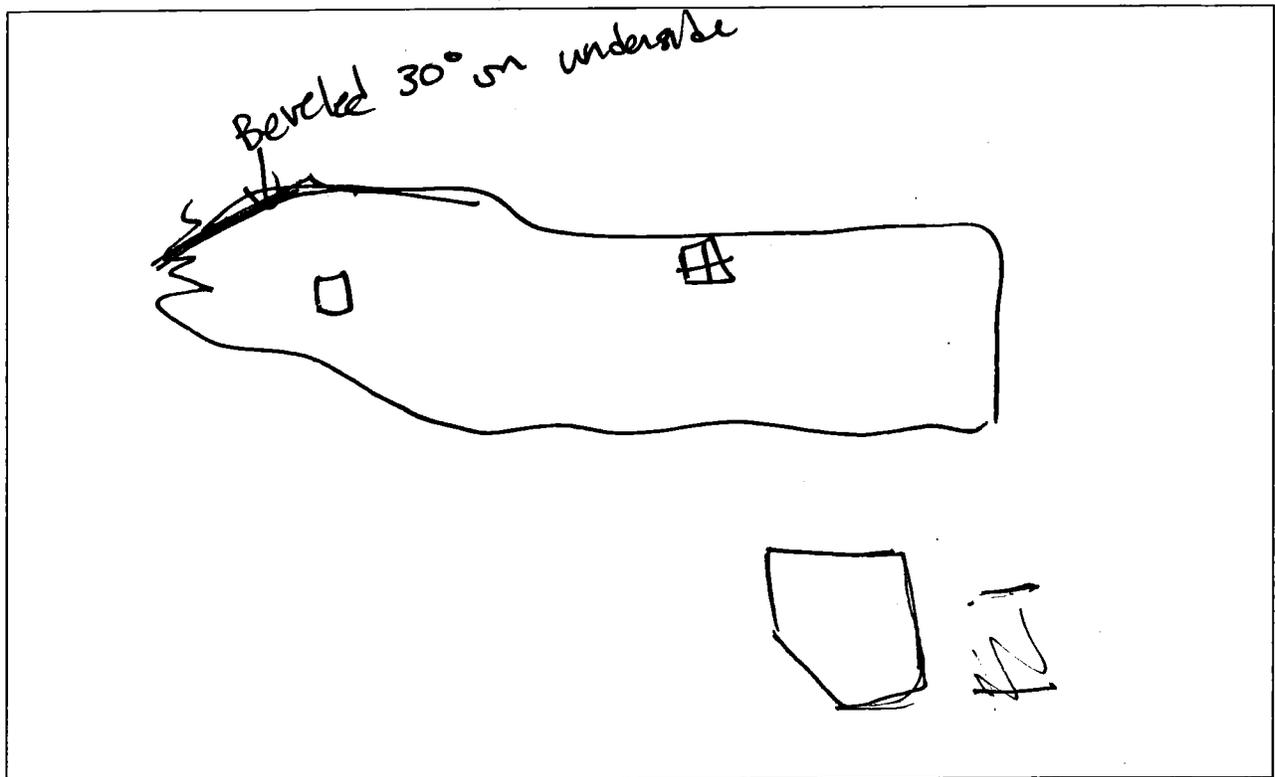
Nails (number and purpose)

2 - 3/8" square

Marine Growth SW

Notes

tag as unknown 12



Artifact Name unknown north side 13 Date Photographed: 08/___/11

Length 11 1/4" Sided (Width) 4 1/8" Molded (Thickness) 1 1/8"

Fragment Number 1

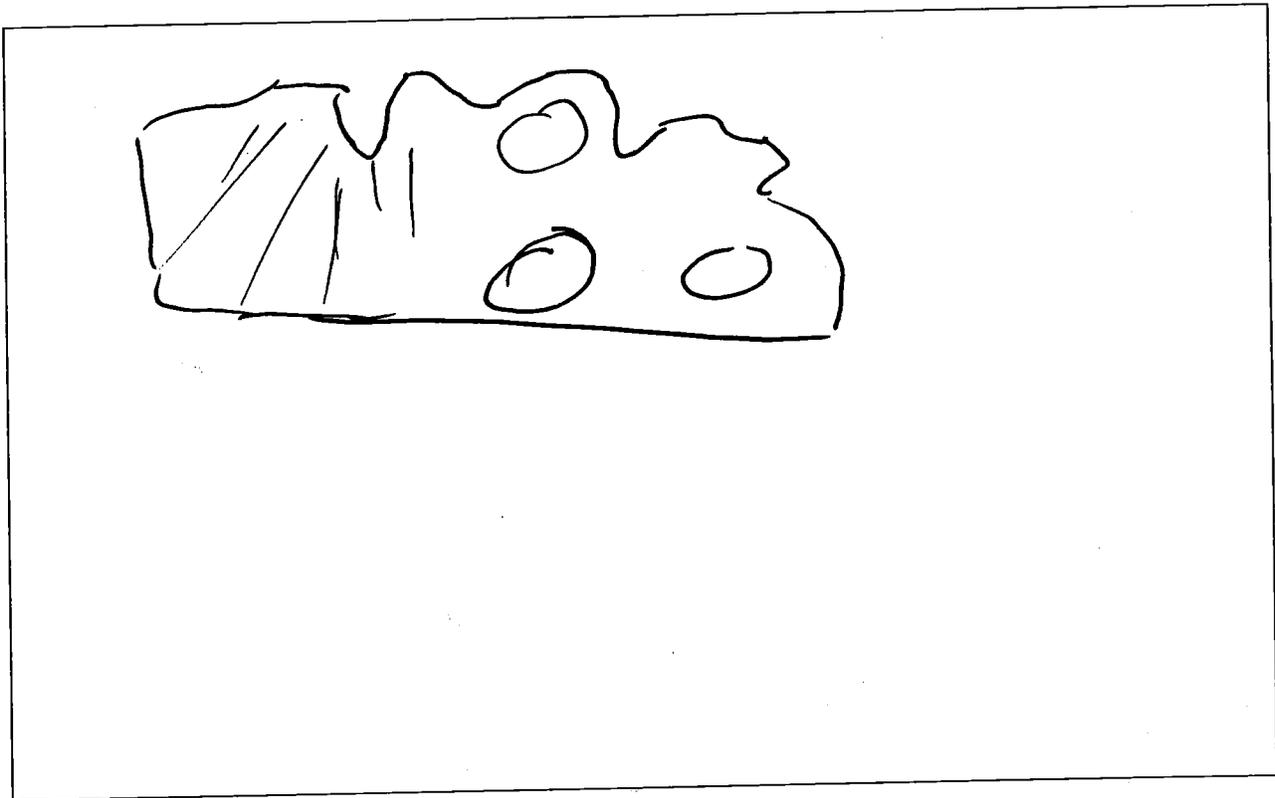
Nails (number and purpose)

0

Marine Growth unknown worm underside, SW, 1 1/8" oysters (3), Bryozoan

Notes

marks on top



Artifact Name ~~#~~ south side unknown¹ Date Photographed: 08/___/11

Length 32" Sided (Width) 4 1/4" Molded (Thickness) 6"

Fragment Number 1

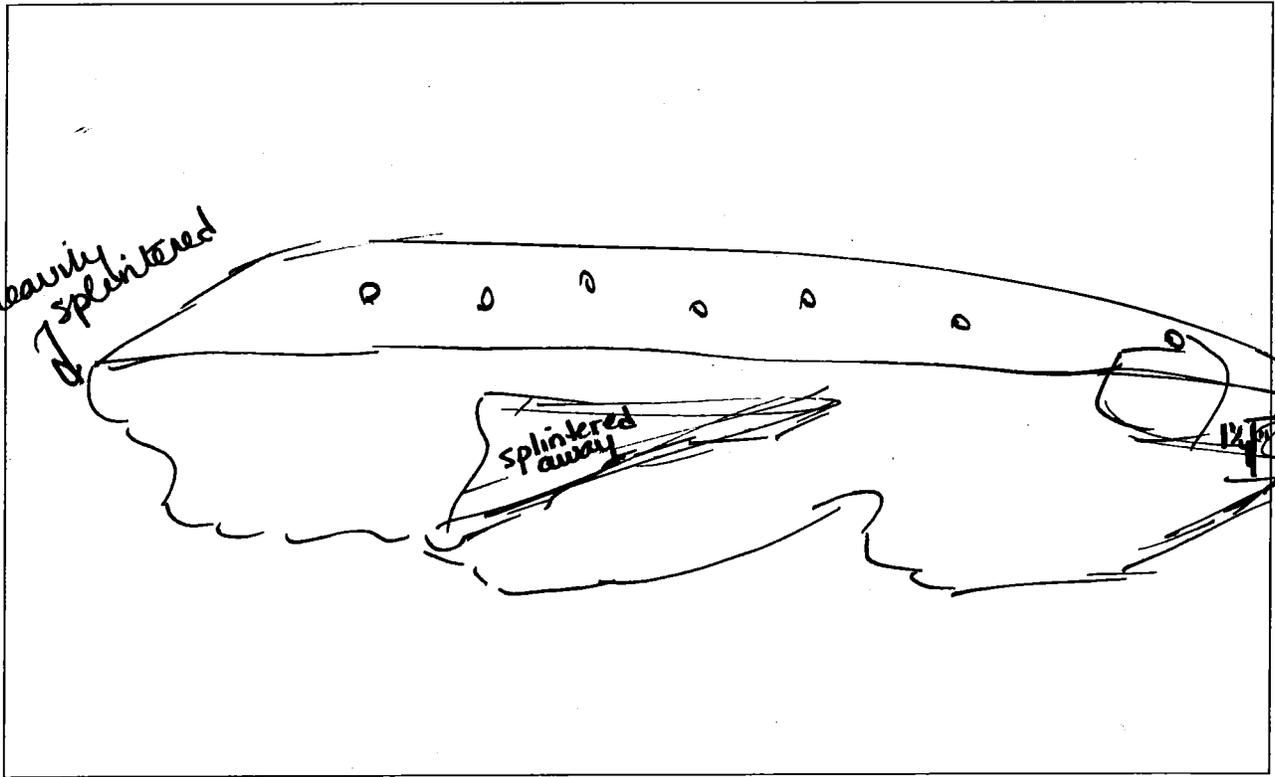
Nails (number and purpose)

7 unknown

Marine Growth Barnacle (3/4" long) remnants, Bryozoan

Notes

South side - disarticulated from forward of
stap post - collected prior to excavation



Artifact Name south side unknown² Date Photographed: 08/___/11

Length 31 1/4" Sided (Width) 3 - 7 1/4" Molded (Thickness) 1 1/4 - 1 1/2"

Fragment Number 1

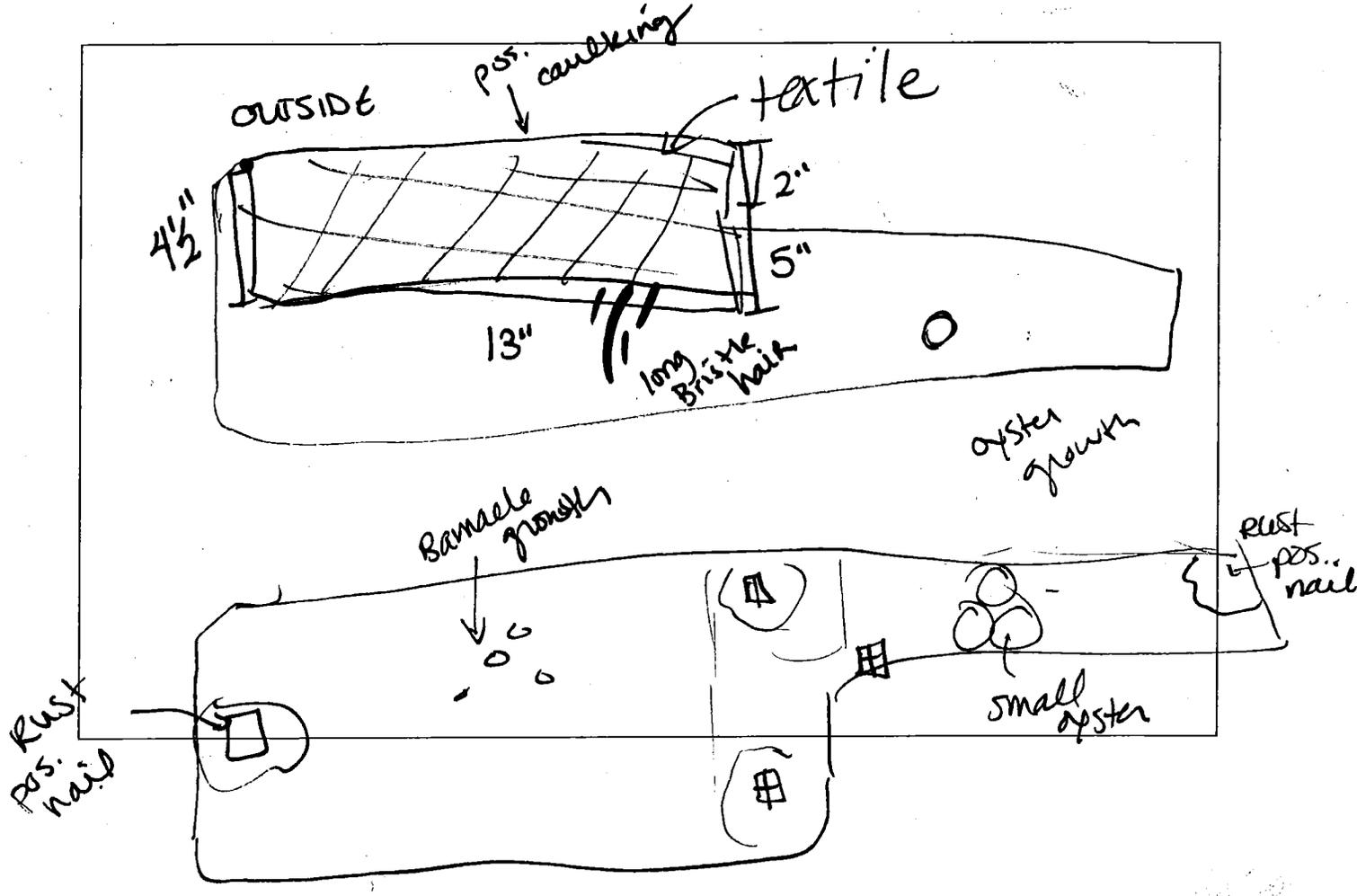
Nails (number and purpose)

inside - 3 def., 2 pos.
outside

Marine Growth Barnacle + oyster inside

Notes

from disarticulated forward of bow
very fragile canvas piece - sample taken
bristle hair on outside



Artifact Name South side unknown 3

Date Photographed: 08/___/11

Length 29

Sided (Width) 5 1/8"

Molded (Thickness) 1 1/4"

BF11A in
one extra
fragment

Fragment Number 1

Nails (number and purpose)

4 nails

Marine Growth Barnacle / oyster (max 1 1/4") , Bryozoan

Notes

caulking

disarticulated from forward of BOW

nails 3/8" square.

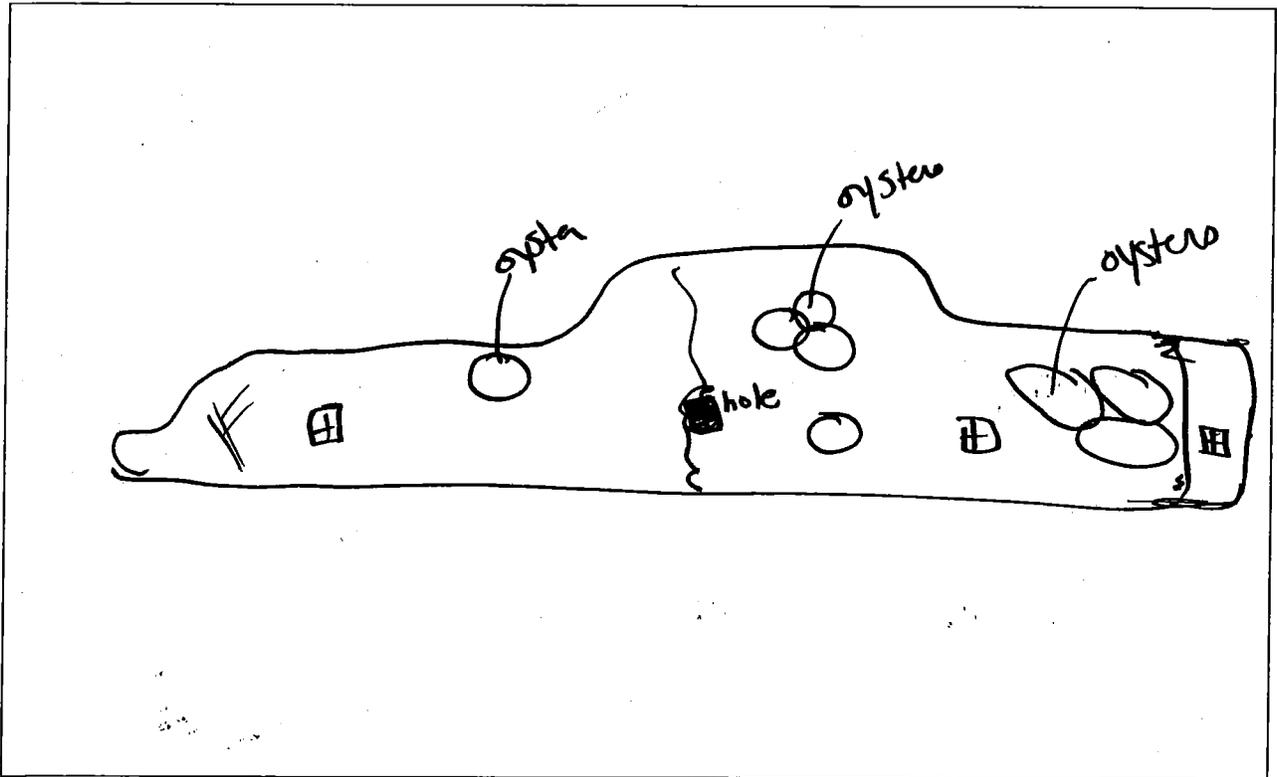


Photo - Both sides

Artifact Name South side unknown 5 Date Photographed: 08/___/11

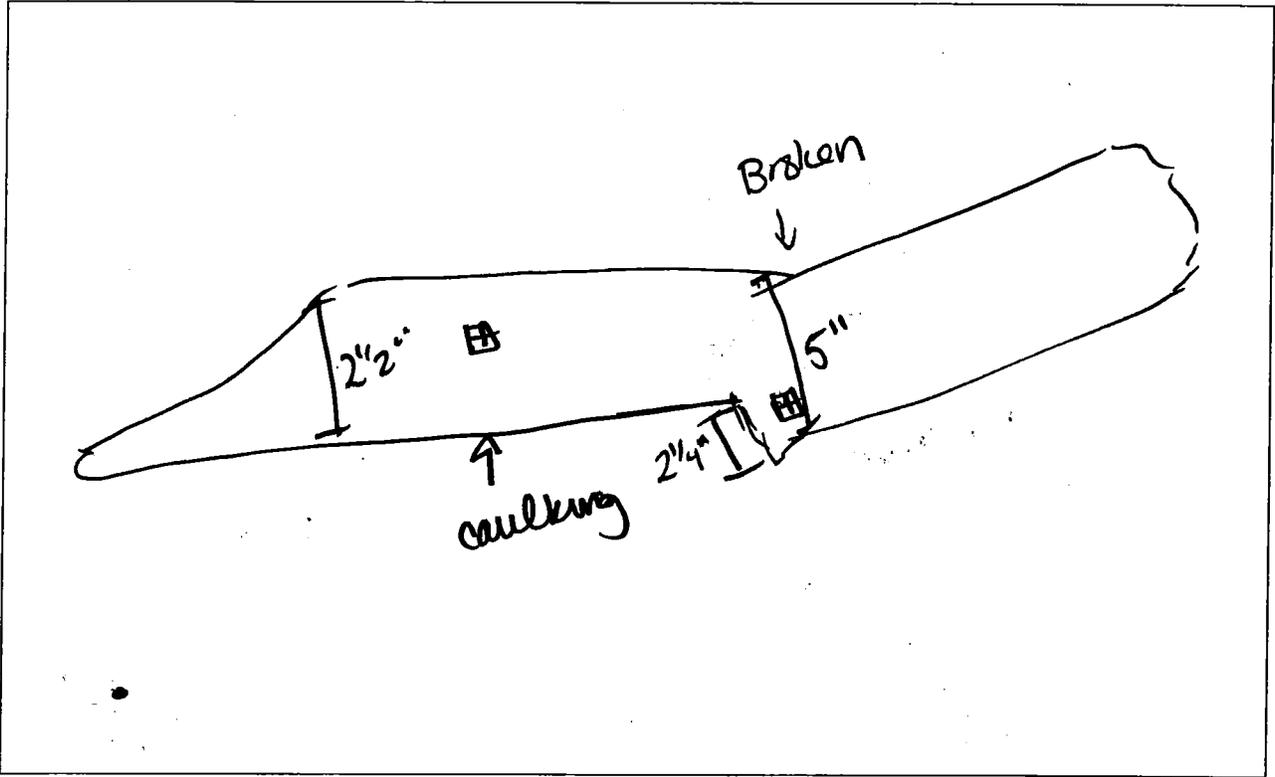
Length 30" Sided (Width) 5" Molded (Thickness) 1 1/2" (max)

Fragment Number 1

Nails (number and purpose)
2 to frames?

Marine Growth S W

Notes
pos. outer planking
caulking
debris on outside ; inside w/ impression of frame



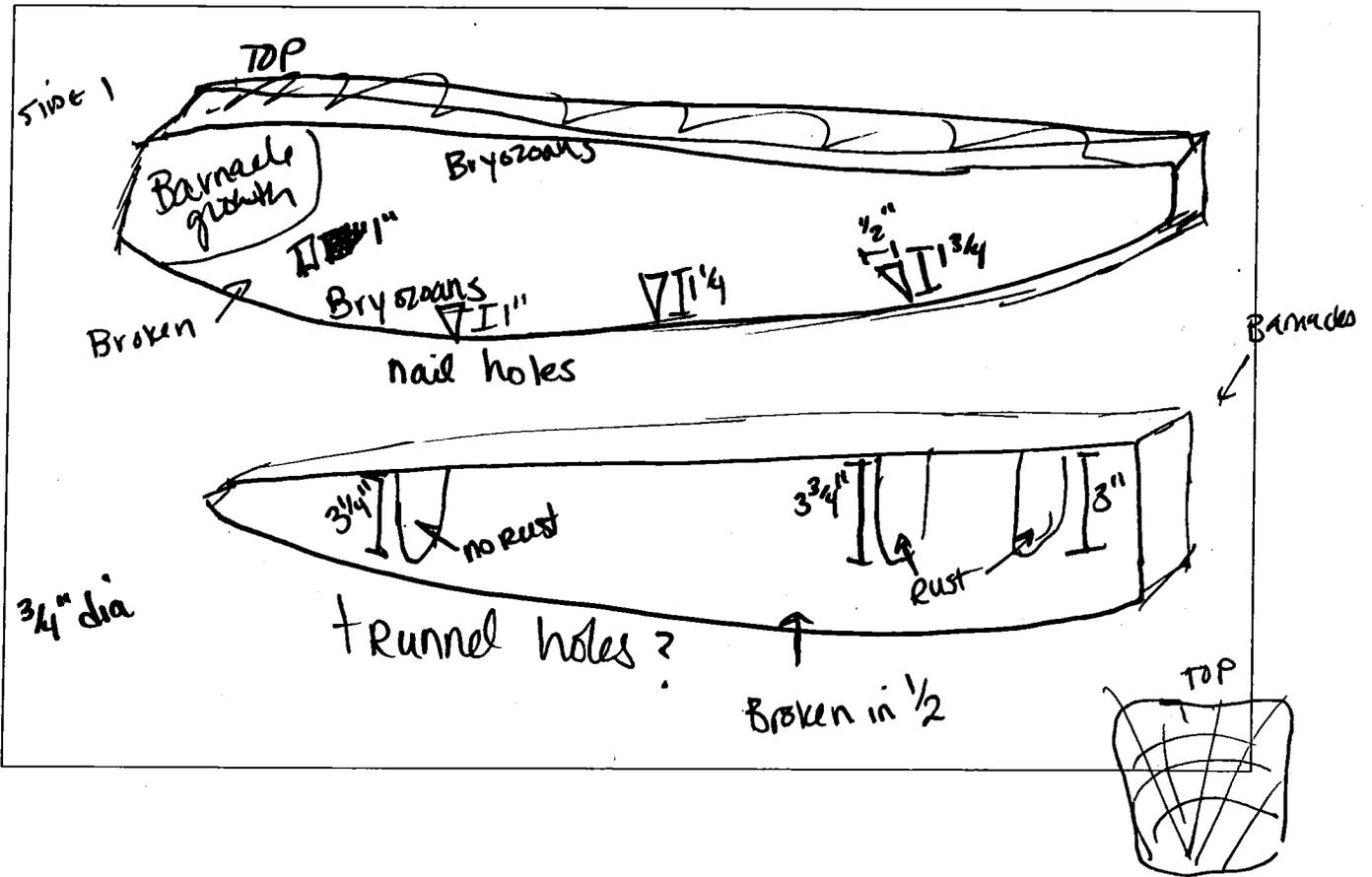
Artifact Name B? 1 Date Photographed: 08/___/11
 Length 43 3/4" Sided (Width) 5 1/2" (top) 1 1/2" (bottom) Molded (Thickness) max 6"
 Fragment Number 1 → Broke into 2

Nails (number and purpose)

Marine Growth Barnacles, Bryozoa, shipworm

Notes

Barnacle growth on broken side → Broken in 1700s?



Artifact Name B ? 2

Date Photographed: 08/___/11

Length 4 1/4 Sided (Width) 3 1/4" Molded (Thickness) 3"

Fragment Number 1

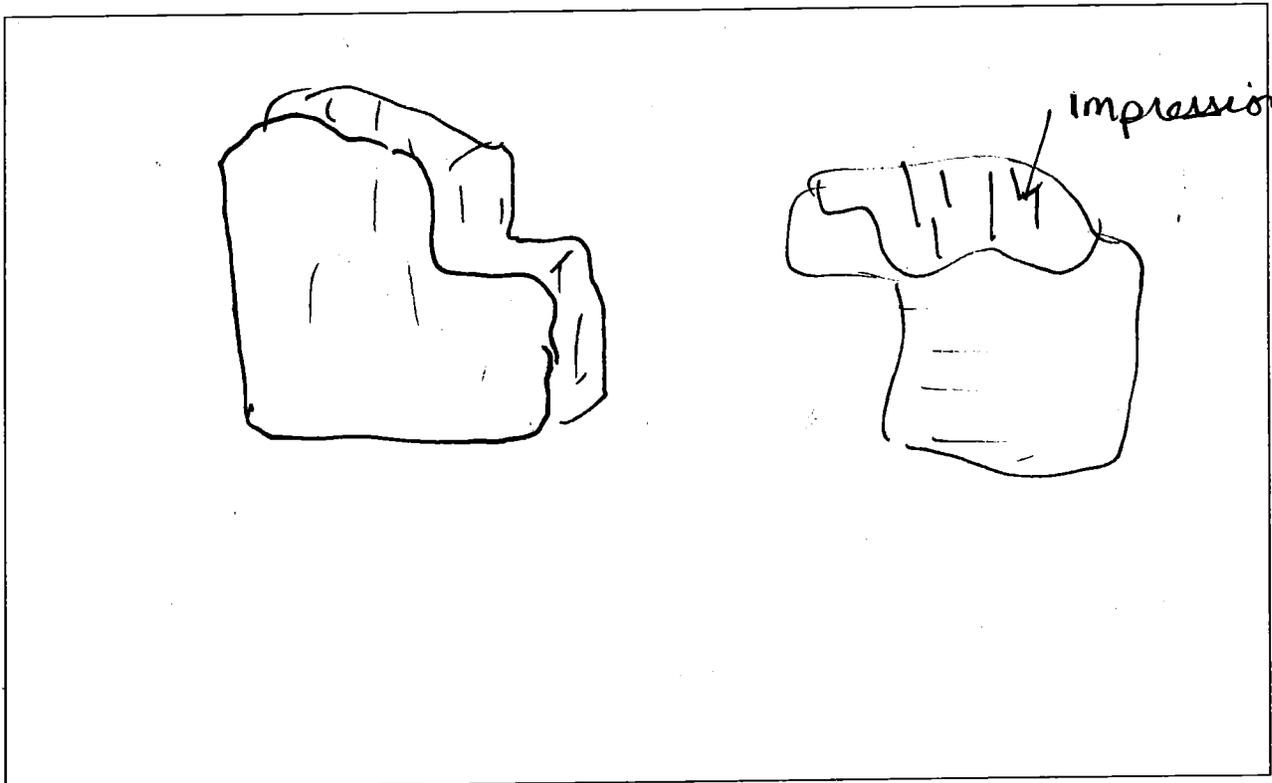
Nails (number and purpose)

0

Marine Growth SW

Notes

Impression on Bottom?



Artifact Name B ? 3

Date Photographed: 08/___/11

Length 17" Sided (Width) 2.5" Molded (Thickness) 7/8"

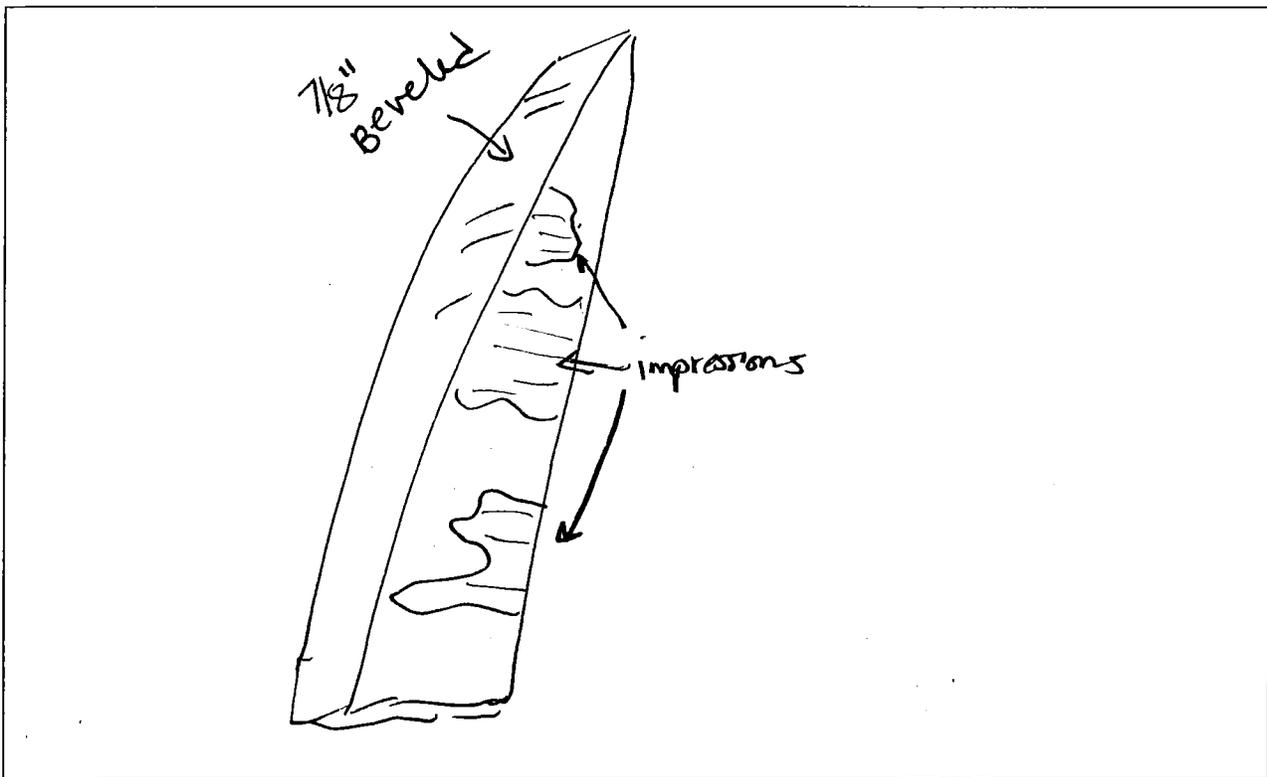
Fragment Number 1

Nails (number and purpose)

0

Marine Growth _____

Notes



Artifact Name B?3A * Renamed to A

Date Photographed: 08/___/11

Length 14 1/2" Sided (Width) 2 1/2" Molded (Thickness) 1 1/2"

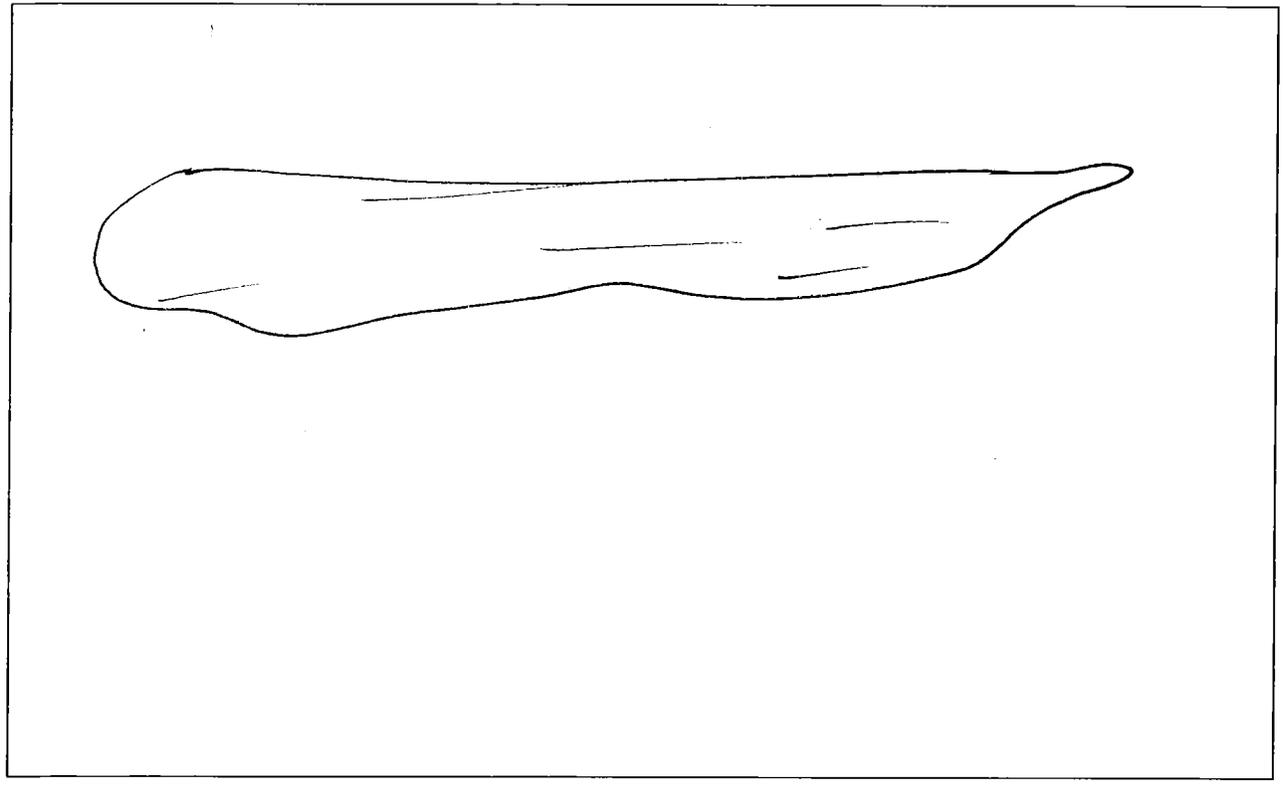
Fragment Number 1

Nails (number and purpose)
0

Marine Growth JW

Notes

NO significant markings back from start
only top side (photographed back) if original surface



Photos of nail side up

Artifact Name Outside 1

Date Photographed: 08/___/11

Length 23 3/4"

Sided (Width) 5 1/2"

Molded (Thickness) 3 1/2"

Fragment Number 1

Nails (number and purpose)

3 - to Deck? + 1 nail hole

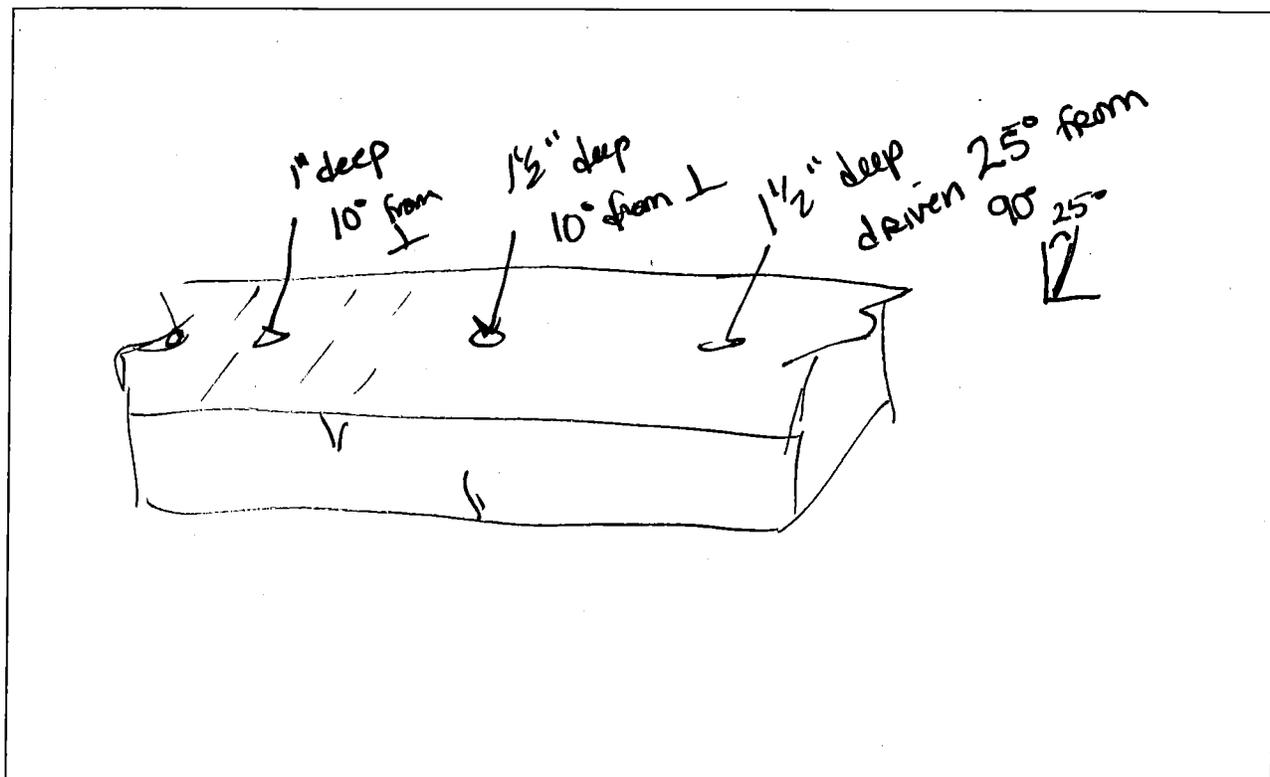
Marine Growth _____

Notes

Tool marks on side + top

Deck Beam

Impressions on top



Artifact Name outside 2

Date Photographed: 08/___/11

Length 18³/₄" Sided (Width) 3¹/₂" Molded (Thickness) 1¹/₈"

Fragment Number 1

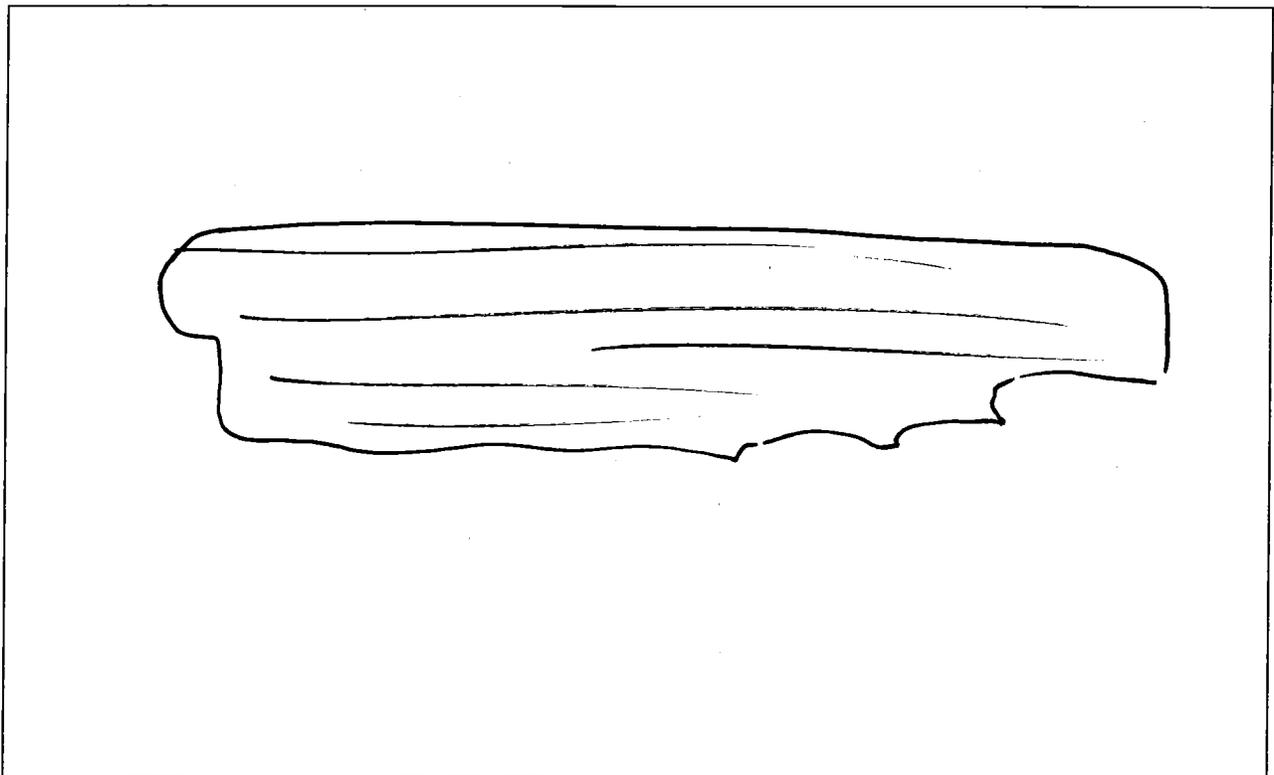
Nails (number and purpose)

0

Marine Growth SW

Notes

one original side - rest broken



Artifact Name outside 3

Date Photographed: 08/___/11

Length 22 1/8" Sided (Width) 2 3/4" Molded (Thickness) 2 1/2"

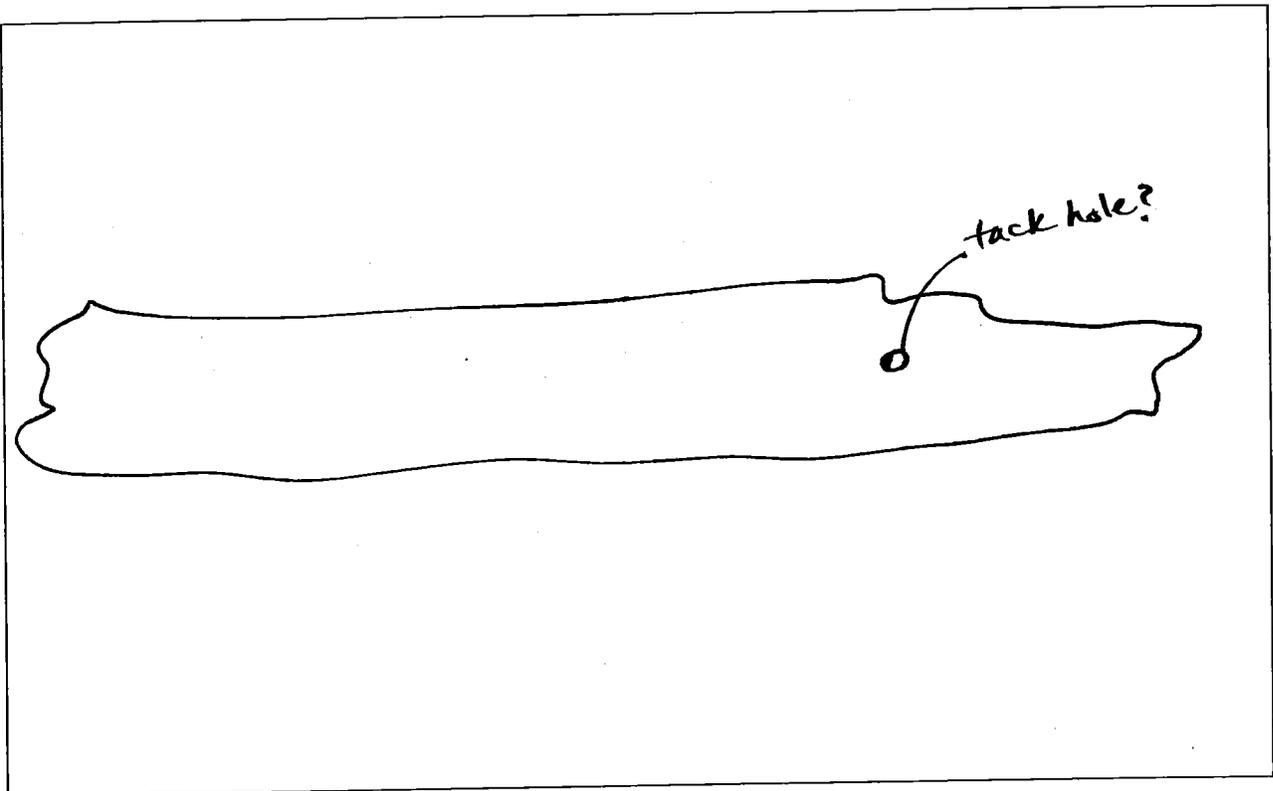
Fragment Number 1

Nails (number and purpose)

1 pos.

Marine Growth SW

Notes



Artifact Name Tip of A

Date Photographed: 08/___/11

Length 5 1/4" Sided (Width) 2" Molded (Thickness) 2 3/4"

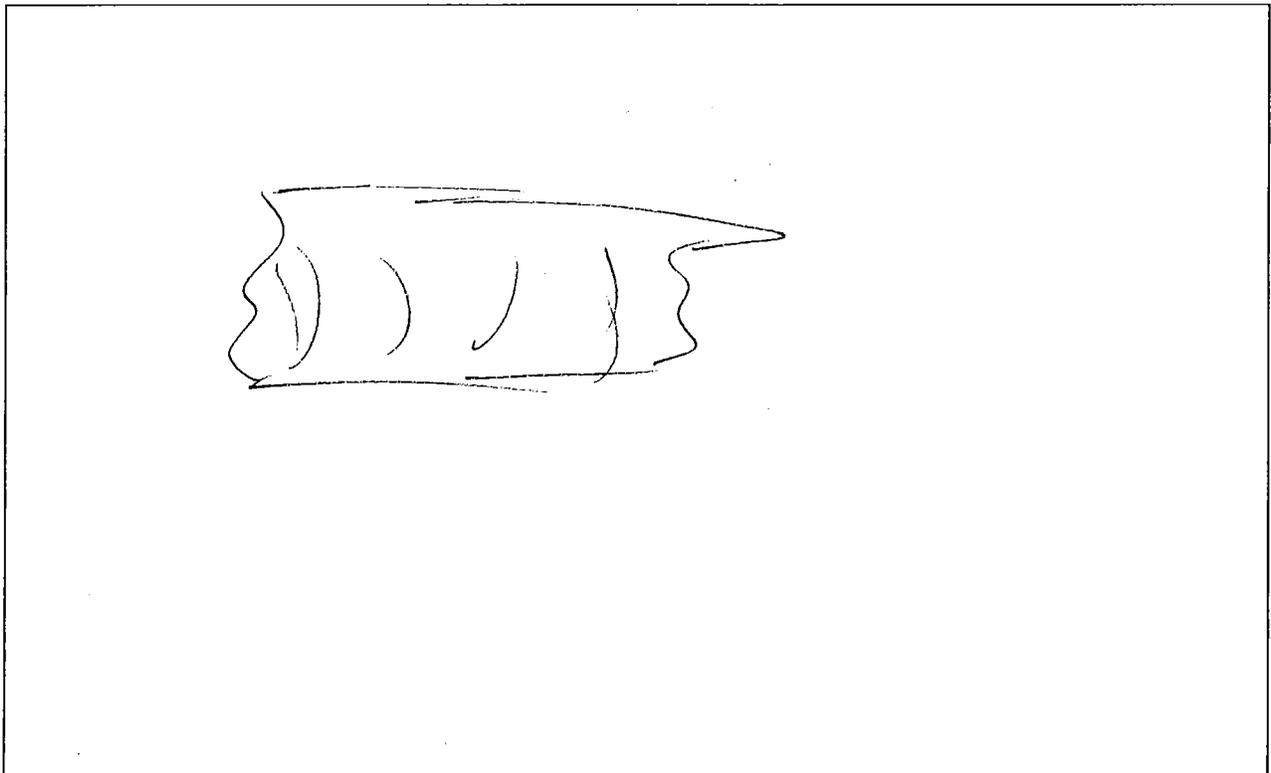
Fragment Number 1

Nails (number and purpose)

0

Marine Growth SW

Notes



Artifact Name A # 1

Date Photographed: 08/___/11

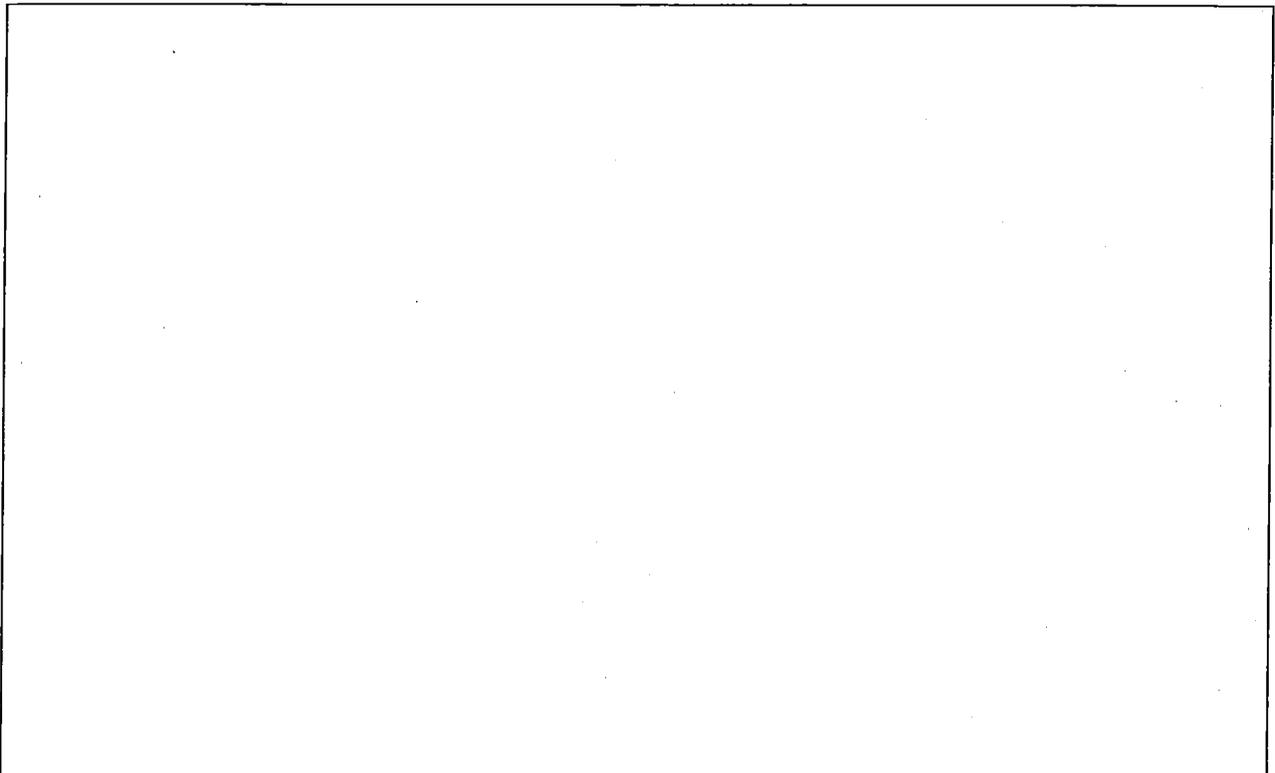
Length _____ Sided (Width) _____ Molded (Thickness) _____

Fragment Number 2 - 1 large 1 small for sampling

Nails (number and purpose)

Marine Growth SW, concretin

Notes



Artifact Name A #2

Date Photographed: 08/___/11

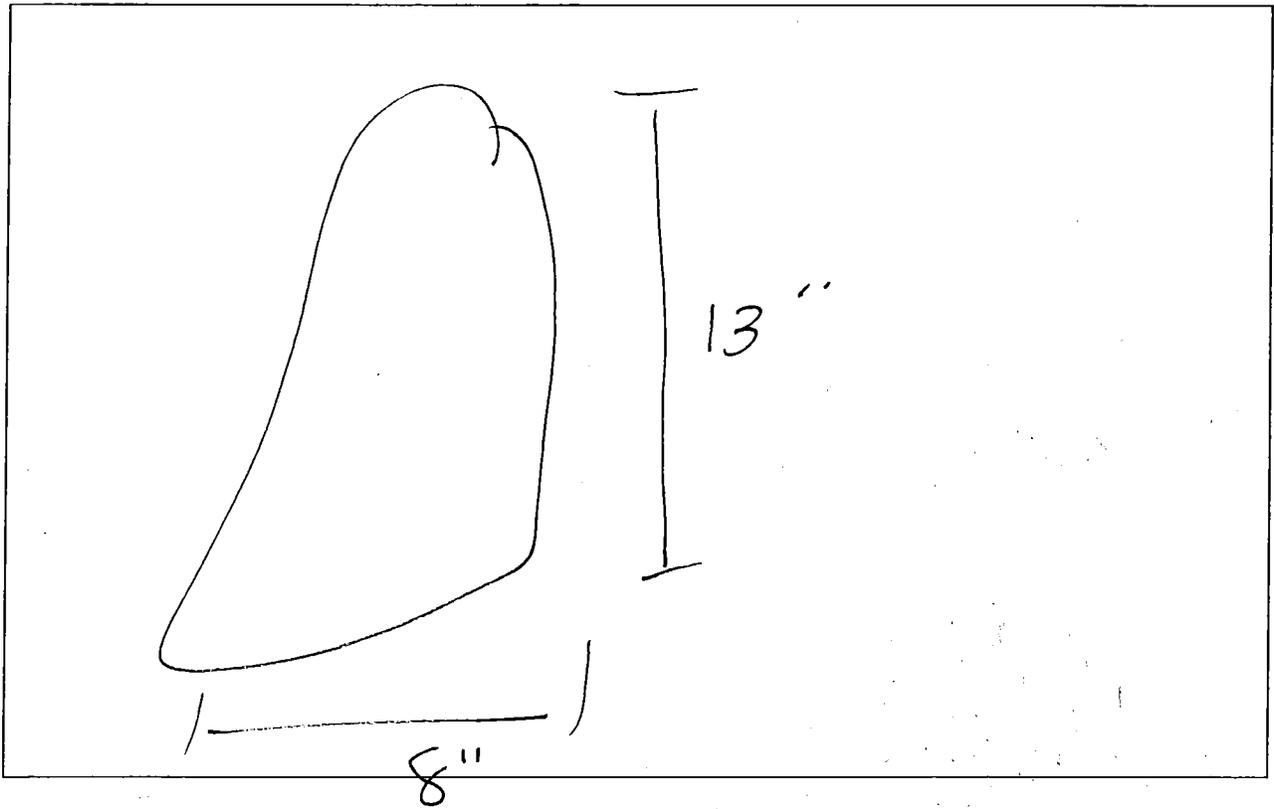
Length _____ Sided (Width) _____ Molded (Thickness) 4''

Fragment Number 1

Nails (number and purpose)

Marine Growth SW

Notes



07 ST I
Roman numeral
II 16 1/2"
up from
Bottom

Artifact Name Stem Pieces 1+2 Date Photographed: 08/___/11

Length _____ Sided (Width) _____ Molded (Thickness) _____

Fragment Number 2 held together w/ spike

Nails (number and purpose)

1 ~~2~~ spikes to hold ~~wood~~ apron to stem

Marine Growth SW growth

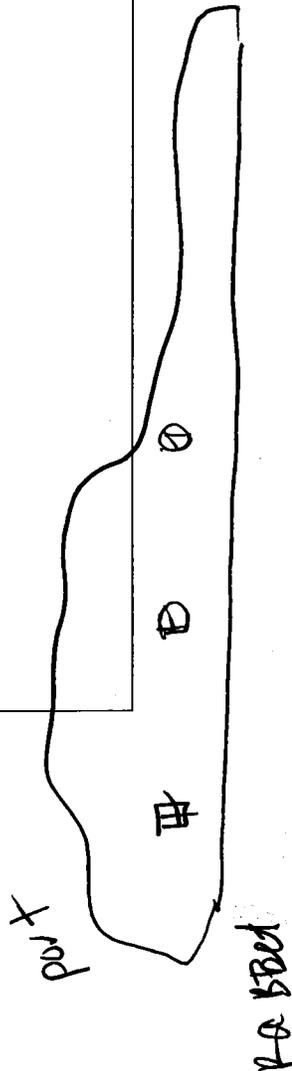
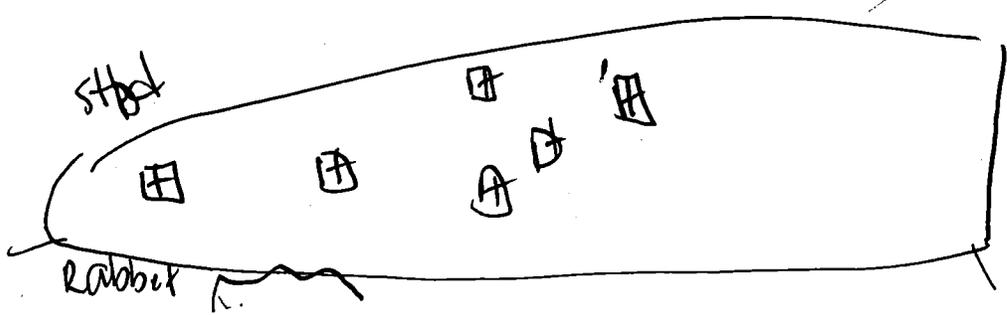
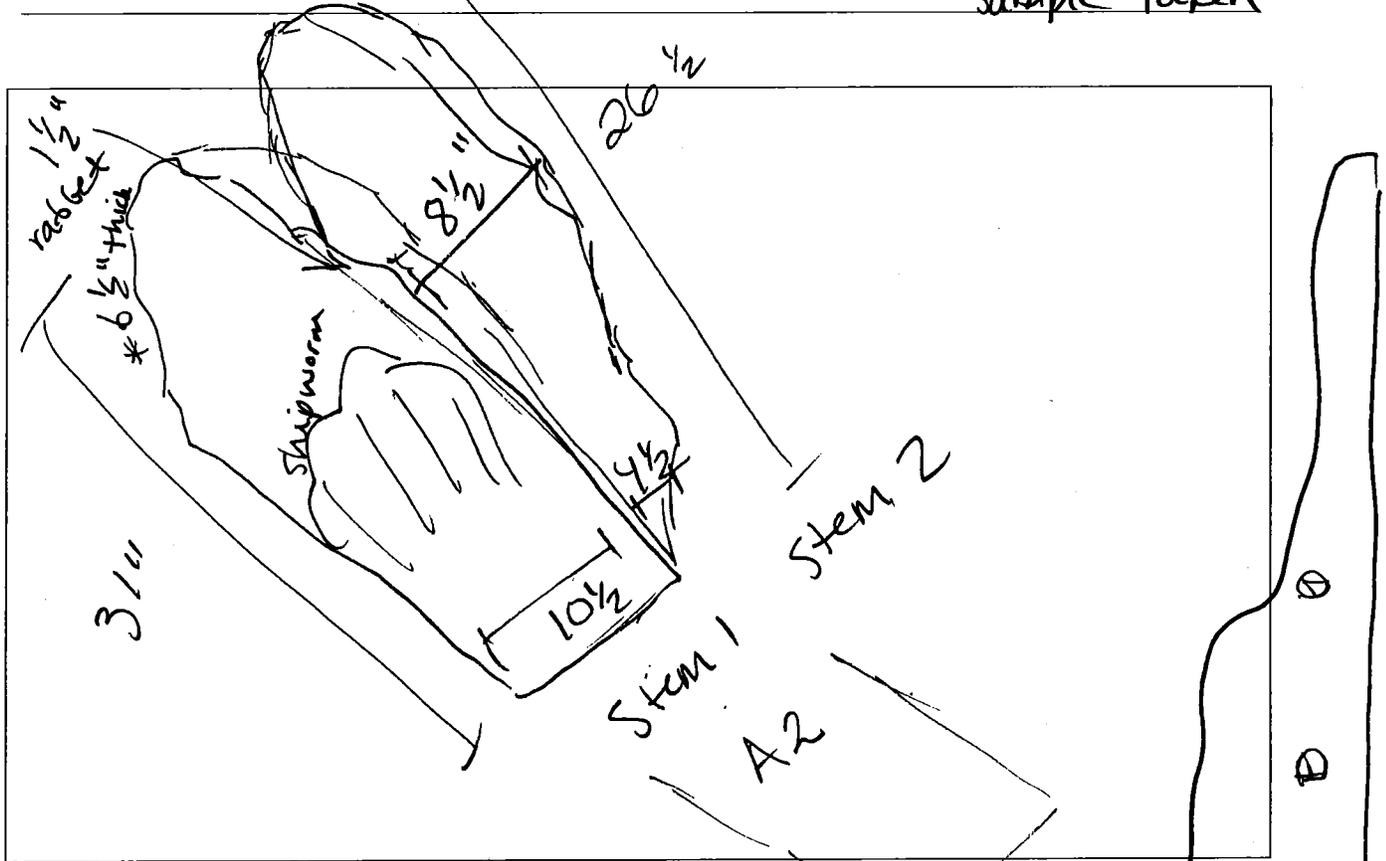
Notes

back is deteriorating

Fits in w/ A1 - A2

not a complete side

caulking from Rabbit sample taken



Artifact Name ST-2

Date Photographed: 08/17/11

Length 44 1/2" Sided (Width) _____ Molded (Thickness) _____

Fragment Number _____

Nails (number and purpose)

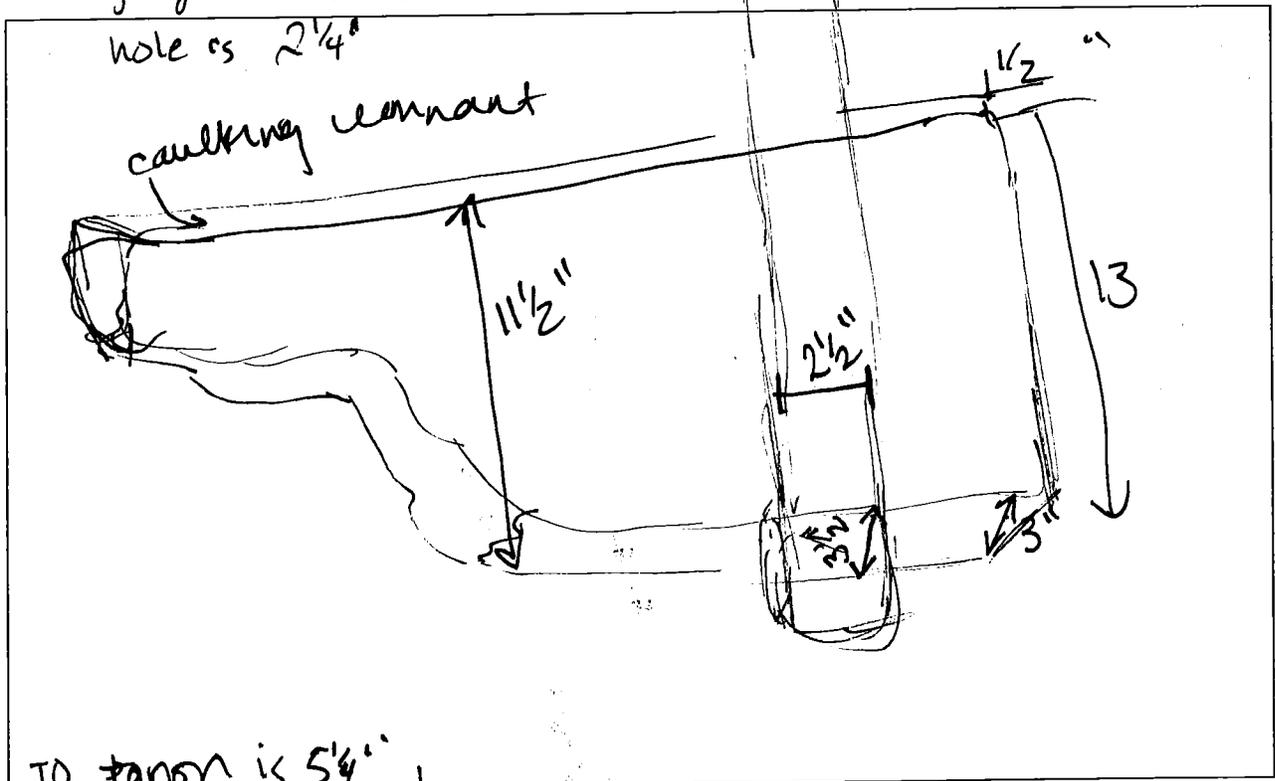
Marine Growth SW

Notes

Re. photo + measure to note change

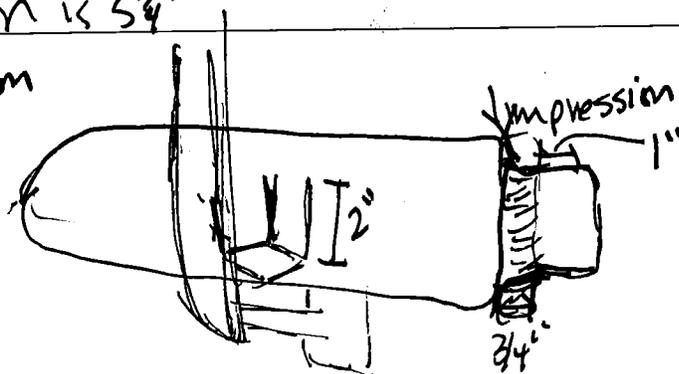
photo all way around

strap 2 1/2" thick. from tip to gudgeon
gudgeon 1 3/4" thick iron
hole is 2 1/4"



TO tenon is 5 1/4"

1 3/4" tenon



Appendix B: Artifact Inventory

Appendix B:

Artifact Inventory and Index to Field and Laboratory Proveniences

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes		
Landfill	n/a	Landfill - 30-60 feet northwest of ship	1	Activities	Specialized Activities	ship part	anchor			cast iron	anchor	whole	conserved		
			1	Activities	Storage item	Storage item	barrel			wood	barrel	whole	conserved		
		Ship Vicinity	1	Activities	Faunal	natural	shell			shell	horseshoe crab?				
		Ship Vicinity - between outer ends of FN3 and FN6, NW corner of ship	1	Activities	Specialized Activities	shoe/ clothing	shoe				leather	shoe	sole	shoe nails present	
		Ship Vicinity - clearing north of ship during initial discovery	1	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	peach?			
			1	Activities	Faunal	food related	bone				bone	med. mammal	rib	chopped	
			1	Activities	Faunal	food related	bone				bone	pig	femur	young; cut marks	
			1	Activities	Faunal	food related	bone				bone	pig	tibia	chopped	
			1	Activities	Faunal	food related?	fish scale				scale	Unident. fish	scale		
			1	Activities	Specialized Activities	shoe/ clothing	shoe					leather	shoe		
			2	Furniture	Decorative Furnishings	ceramic	tile or dish	delft			ceramic	tile or dish	base		tin-glazed, blue and white; person; glaze on back of tile or dish; mends
			1	Tobacco	Pipe	personal item	tobacco pipe		1680		ball clay	smoking	stem		5/64" bore
			1	Activities	Specialized Activities	cooking/ heating?	charcoal				charcoal				
			1	Activities	Faunal	food related	bone				bone	cow	cervical vertebrae		cleaved
			1	Activities	Faunal	food related	bone				bone	cow	humerus		sawed, cut
			1	Activities	Faunal	food related	bone				bone	cow	phalange		
			1	Activities	Specialized Activities	shoe/ clothing	shoe					leather	shoe	seam	has stitching holes in it
			1	Tobacco	Pipe	personal item	tobacco pipe		1710		ball clay	smoking	stem		4/64" bore; stem is burned on exterior
		Ship Vicinity - east side of ship	1	Activities	Faunal	food related	bone				bone	cow	carpus		
			1	Activities	Faunal	food related	bone				bone	cow	rib		dark stained
			1	Unident.	Lithic	natural	stone				stone				natural?
		Ship Vicinity - imm. south of poss. cask above orlop deck	1	Activities	Specialized Activities	shoe/ clothing	shoe				leather	shoe	front		top portion
		Ship Vicinity - misc. surface find in northeast corner	1	Activities	Faunal	food related	bone				bone	cow	femur		sawed; slice mark
			1	Activities	Faunal	food related	bone				bone	cow	maxilla		left side, mild dental hypoplasia
		Ship Vicinity - south side of ship	1	Activities	Specialized Activities	cooking/ heating?	coal/slag				coal				
			1	Activities	Specialized Activities	cooking/ heating?	coal/slag				slag/clinker				
			1	Activities	Faunal	food related	bone				bone	cow	radius		cleaved
			1	Activities	Faunal	food related	bone				bone	cow	tibia		chopped

World Trade Center Memorial and Development Plan—Data Recovery and Analysis of the WTC Ship

Table B-1: Artifact Inventory																
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes			
Landfill/ Ship	Possibly ship-related	Ship - east of orlop deck above ceiling layer	1	Activities	Botanical	natural	plant			seaweed						
			2	Activities	Faunal	natural	shell			shell	oyster	fragments				
			1	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	bottom part of shoe and heel	composed of several parts: inner and outer sole, seam and heel			
			8	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	fragments				
			5	Architectural	Construction Materials	cooking/ heating?	brick	terracotta	brick						Brick sample: red bricks, all burnt; only one whole brick	
			3	Architectural	Construction Materials	cooking/ heating?	brick	terracotta	brick						"Mortar sample:" red bricks, burnt; one attached to mortar & wood; perhaps stove?	
			1	Architectural	Window Glass	Window Glass	window pane			glass	window pane	fragment			Light aqua, devitrified	
		Ship Vicinity - clearing dark clay from port side of ship during initial discovery	1	Activities	public utilities	sewer pipe	sewer pipe	earthen-ware	ceramic	sewer pipe	fragments					
			2	Kitchen	Dishes	food storage/ service	dish fragment	white earthen-ware	ceramic			body			1 pale yellow lead glazed; 1 white lead glazed	
		Ship Vicinity - clearing during initial discovery	1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	chestnut hull?					
			1	Activities	Faunal	food related	bone			bone	sheep	radius				
			4	Activities	Faunal	food related	bone			bone	sm. mammal	calvar			possible partial cat cranium	
			2	Activities	Faunal	food related	bone			bone	cow	radius			gnawed by carnivore; charred	
			1	Activities	Faunal	food related	bone			bone	cow	rib			sawed, cut	
			1	Activities	Faunal	food related	bone			bone	sheep	radius			cut marks	
			1	Activities	Faunal	food related	bone			bone	Turkey	tibiotarsus			cut marks; gnawed by carnivore	
			1	Activities	Faunal	food related	bone			bone	cow	proximal phalange				
			1	Activities	Faunal	food related	bone			bone	cow	femur			cleaved	
			1	Activities	Faunal	natural	shell			shell	mussel					
			1	Activities	Faunal	natural	shell			shell	oyster					
			1	Activities	Faunal	natural	shell			shell	oyster					
			1	Activities	Faunal	natural	shell			shell	horseshoe crab					
			15	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	parts				includes 2 soles, 1 heel and scraps
			1	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	complete				Conserved
			13	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	heels, soles, seams, tongue?				Many parts including what looks like a child's shoe
			1	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	sole				
			1	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	fragments				Conserved
			9	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	soles, heels				One complete shoe set aside for conservation; in heels are several pegs <i>in situ</i>
			1	Architectural	Construction Materials	Construction Materials	brick	terracotta	brick							fragment

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
Landfill/ Ship	Possibly ship-related	Ship Vicinity - clearing during initial discovery	2	Architectural	Construction Materials	Construction Materials	brick			red clay			2 bricks one is covered with mortar on one side 8.5 x 4 x 2.25" and burned on one side; one is also glazed probably from heat on one side
			1	Architectural		Construction Materials	lug			iron	lug		
			3	Architectural		Construction Materials	lug			iron/wood	lug		
			1	Architectural		Construction Materials	metal plate			iron	reinforcing plate		Probably ship-related
			2	Architectural		Construction Materials	mortar			mortar	mortar		associated with the bricks
			1	Architectural		Construction Materials	unident. iron			iron	unident.		
			1	Architectural		fastener	bolt?			iron	bolt?		
			2	Architectural		fastener	rod			iron	rods		
			1	Architectural		fastener	spike			iron	spike		
			1	Architectural		fastener	unident. iron			wood/iron	wood with large nail through it		
			4	Architectural		fastener	rod?			iron/wood	tie rod holding ship together?		includes 2 fragments worm-eaten wood
			2	Architectural		ship part	unident. wood			wood			
			6	Architectural		ship part	wood fragment			wood			2 are worm eaten
			2	Architectural		Construction Materials	lug			iron	lug		
			1	Architectural		fastener	spike			iron	spike		
			1	Arms	Arms Accessories	Arms Accessories	cannon vent plate			lead	vent plate		for cannon
			1	Furniture	Decorative Furnishings	ceramic	flowerpot	red earthen-ware		ceramic	flowerpot	body	plain
			1	Furniture	Decorative Furnishings	ceramic	flowerpot?	red earthen-ware		ceramic	flowerpot?	rim	looks like interior was once slipped
			1	Kitchen	Containers	food storage/service	bottle			glass	bottle	base	filled with tar or pitch
			1	Kitchen	Dishes	food storage/service	dish fragment	cream-ware	1762	ceramic	dish	body	
			1	Kitchen	Dishes	food storage/service	dish fragment	oriental porcelain		ceramic	saucer	rim	blue hand painted int. rim
1	Kitchen	Dishes	food storage/service	dish fragment	buff-bodied earthen-ware		ceramic		body	cobalt blue decoration on exterior			

World Trade Center Memorial and Development Plan—Data Recovery and Analysis of the WTC Ship

Table B-1: Artifact Inventory														
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes	
Landfill/ Ship	Possibly ship-related	Ship Vicinity - clearing during initial discovery	1	Kitchen	Dishes	food storage/service	dish fragment	grey salt-glazed stoneware		ceramic		body	combed, brown on yellow slip int., unglazed exterior	
			1	Kitchen	Dishes	food storage/service	dish fragment	red earthenware		ceramic		base	clear lead glazed	
			1	Kitchen	Dishes	food storage/service	dish fragment	unident.		ceramic		base/body	olive glazed interior; poorly fired	
			1	Kitchen	Dishes	food storage/service	dish fragment	white salt-glazed stoneware		ceramic		rim		
		Ship Vicinity - clearing of soils east of orlop deck and above ceiling layer	1	Activities	Faunal	food related	bone				bone	cow	rib	chopped
			4	Architectural	Construction Materials	fastener	nail				iron	nails		square cut; possibly ship-related; also metal cast with iron rust and mud that once held a nail
			3	Architectural	Construction Materials	ship part	wood fragment				wood			
		Ship Vicinity - clearing of soils from starboard side of ship east of orlop deck and above ceiling layer	1	Activities	Specialized Activities	cooking/heating?	charcoal				charcoal			
			1	Activities	Specialized Activities	cordage	rope				rope	rope		conserved
			2	Activities	Faunal	food related	bone				bone	sheep	lumbar vertebrae	cleaved
			1	Activities	Specialized Activities	shoe/clothing	shoe				leather	shoe	scrap	
			1	Architectural	Construction Materials	fastener	nail				iron	Mostly rust with large square cut nail in the center		
			3	Architectural	Construction Materials	ship part	wood fragment				wood		fragments	
			2	Architectural	Construction Materials	ship part	wood fragment				wood			stripped branch, possibly for making a trunnel?
			1	Kitchen	Containers	food storage/service	bottle				glass	bottle		devitrified
			1	Kitchen	Dishes	food storage/service	dish fragment	delft or majolica			ceramic	possible saucer or plate	base	sulfite stains; base has dab of cobalt blue
			2	Kitchen	Dishes	food storage/service	dish fragment	cream-ware	1762		ceramic		1 body; 1 handle fragments	
			1	Tobacco	Pipe	personal item	tobacco pipe				ball clay	smoking	bowl	decorated with fluting and floral decoration; 5/64" bore; utilized
		Ship Vicinity - clearing of west half of stern during initial discovery	1	Activities	Storage item	storage item	barrel lid				wood	barrel lid	part	
		Ship Vicinity - east side of ship	1	Architectural	Construction Materials	fastener	iron bar				iron	iron bar		

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes	
River Bottom	n/a	River Bottom - below outer planking in SE corner of ship	4	Activities	Specialized Activities	shoe/clothing	shoe			leather	shoe	soles and shoe scraps	1 @ 8"; 1 @ 9 1/8"	
			1	Activities	Faunal	food related	bone			bone	unidentified			
		River Bottom - below outer planking in vicinity of stern knee	2	Activities	Faunal	natural	shell				shell	dwarf surf clam; oyster		1 clam; 1 oyster
			10	Activities	Specialized Activities	shoe/clothing	shoe				leather	shoe	fragments	includes 1 heel with many shoe pegs, 1 sole and many scraps
			2	Activities	Specialized Activities	shoe/clothing	shoe				leather	shoe	soles	1 child's shoe only 6 1/2" long; the other is apx. 8 1/2"
			1	Kitchen	Dishes	food storage/service	dish fragment	cream-ware	1762		ceramic	bowl; possible sugar bowl	rim/body	beading on exterior; probably same set as saucer below
			10	Kitchen	Dishes	food storage/service	dish fragment	cream-ware	c. 1762-1820		ceramic	saucer	whole	mends; decorated with beading in cavetto; shallow bowl or saucer; same set as sugar bowl
			1	Activities	Faunal	food related	bone				bone	med. mammal	vertebrae	
		1	Activities	Faunal	food related	bone				bone	med. mammal	unident.	chopped	
		1	Activities	Faunal	food related	bone				bone	sheep	carpus		
		1	Activities	Faunal	food related	bone				bone	sheep	femur		
		75	Activities	Faunal	natural	bone				bone	Bay Anchovy	partial skeleton missing the head		
		17	Activities	Faunal	natural	shell				shell	snail, clam, whelk, oyster		2 clams, 1 oyster, 1 whelk, 3 soft shell clams, 3 unident., 7 snail; maybe river bottom	
		2	Activities	Faunal	natural	shell				shell	unident.			
		1	Activities	public utilities	sewer pipe	sewer pipe				coarse earthen-ware?	ceramic	sewer pipe or very heavy storage vessel		lead glazed with incised decoration on exterior
		7	Activities	Specialized Activities	shoe/clothing	shoe					leather	shoe	fragments	maybe river bottom
		2	Architectural	Construction Materials	Construction Materials	brick					brick		fragments	1 burned; 1 water-worn
		1	Architectural	Construction Materials	Construction Materials	mortar					mortar		fragment	
		1	Architectural	Construction Materials	Construction Materials	stone					slate		fragment	
		16	Architectural	Construction Materials	Construction Materials	wood fragment					wood			some worm eaten are probably ship-related; 3 look like twigs, one is a piece of cut wood; bark
		3	Architectural	Construction Materials	fastener	rust					iron	rust by-products		
		1	Kitchen	Dishes	food storage/service	dish fragment				buff-bodied earthen-ware	ceramic	bowl?	base	yellow glazed on interior
		1	Kitchen	Dishes	food storage/service	dish fragment				earthen-ware?	ceramic	unident.	unident.	unglazed; possible delft tile?

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Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes			
River Bottom	n/a	River Bottom - below outer planking on east side of the ship	2	Activities	Specialized Activities	cooking/heating?	coal/slag			slag						
			6	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	2 peach, 2 cherry, 1 poss. coffee bean, 1 unident. nut shell					
			1	Activities	Faunal	food related	bone			bone	chicken	coracoid		fragment		
			152	Activities	Faunal	food related	bone			bone	horse	calvar		horse between 18 and 20 years old; was probably pole-axed		
		1	Activities	Faunal	food related	bone			bone	cow	tibia		cleaver mark			
		1	Activities	Faunal	food related	bone			bone	med. mammal	rib					
		2	Activities	Faunal	food related	bone			bone	suckling pig	calvar					
		2	Activities	Faunal	food related	bone			bone	fish	operculum		Possible porgy			
		2	Activities	Faunal	food related	bone			bone	med. mammal	rib					
		1	Activities	Faunal	food related	bone			bone	med. mammal	sternum		unfused			
		1	Activities	Faunal	food related?	fish scale			scale	Unident. fish	scale		fish scale			
		7	Activities	Faunal	natural	shell			shell	snail, clam, jingle, dwarf surf clam				1 jingle?, 3 snail, 1 clam, 2 whole dwarf surf clams		
		2	Activities	Faunal	natural	shell			shell	mussel	fragments					
		1	Activities	Specialized Activities	shoe/clothing	shoe			leather	shoe	part					
		2	Architectural	Construction Materials	Construction Materials	brick	terracotta	brick								
		1				mortar		mortar								
		1				stone		slate								
		3				wood fragment		wood								
		5				wood fragment		wood								
		1	Arms	Arms Accessories	Arms Accessories	Belt or strap			iron/leather	probably part of a carryall or ammunition carrying bag	buckle and strap			conserved		
		1	Kitchen	Dishes	food storage/service	dish fragment	red earthen-ware	late 18th century	ceramic	unident.	rim			yellow, green & brown clouded ware; probably mends with large vessel below in "from under outer planking on north half of ship under keel"; possibly local potter; probably mends with pint mug (below)		
		13	Kitchen	Dishes	food storage/service	dish fragment	red earthen-ware		ceramic		base and body			mottled lead glazed interior		
		40	Kitchen	Dishes	food storage/service	pint mug	red earthen-ware	late 18th to early 19th century	ceramic	pint mug	half of vessel			clouded? Green, brown, yellow, many different motifs; possibly NY or Phila. Potter copying British late 18th century wares; all mend and probably mends with rim sherd above		

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
River Bottom	n/a	River Bottom - below outer planking on north side of keel	3	Activities	Specialized Activities	cooking/heating?	coal/slag			slag			
			5	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	peach, melon/squash	fragments	
		River Bottom - below outer planking on south side of keel	1	Activities	Faunal	food related	bone			bone	cow	rib	cleaved
			3	Activities	Faunal	food related	bone			bone	pig	rib	chopped
			1	Activities	Faunal	food related	bone			bone	chicken	tibiotarsus	cut above joint
			1	Activities	Faunal	food related	bone			bone	cow	cervical	bisected vertically
			1	Activities	Faunal	food related	bone			bone	cow	tibia	chopped; young
			1	Activities	Faunal	food related	bone			bone	pig	humerus	young; cleaved
			1	Activities	Faunal	food related	bone			bone	sheep	radius	cut marks
			1	Activities	Faunal	food related	bone			bone	sheep	metatarsus	
			1	Activities	Faunal	food related	bone			bone	sheepshead	Preoperculum	dark stained
			1	Activities	Faunal	food related	bone			bone	cow	metacarpus	
			7	Activities	Faunal	food related	bone			bone	3 fish bone, 2 fish scales, 1 tooth, 1 crab claw		
			26	Activities	Faunal	food related	bone			bone	cow	calvar (skull)	fragments
			1	Activities	Faunal	food related	bone			bone	cow	innominate	neonate; chopped
			3	Activities	Faunal	food related	bone			bone	fish	Branchiostegal	fragment; unident.
			1	Activities	Faunal	food related	bone			bone	fish	thoracic vert.	unidentified
			1	Activities	Faunal	food related	bone			bone	fish	unident.	
			1	Activities	Faunal	food related	bone			bone	horse	mid phalange	
			1	Activities	Faunal	food related	bone			bone	lg. mammal	long bone	fragment; charred
			4	Activities	Faunal	food related	bone			bone	med. mammal	unident.	one is charred
			1	Activities	Faunal	food related	bone			bone	med. mammal	rib	
			1	Activities	Faunal	food related	bone			bone	med. mammal	long bone	fragment
			1	Activities	Faunal	food related	bone			bone	pig	scapula	chopped
			1	Activities	Faunal	food related	bone			bone	pig	humerus	
			2	Activities	Faunal	food related	bone			bone	sheep	tibia	chopped; one fragment gnawed by carnivore
			1	Activities	Faunal	food related	bone			bone	Sheepshead	vertebra	
			1	Activities	Faunal	food related	bone			bone	sm. mammal	rib	
			1	Activities	Faunal	food related	bone			bone	turtle	tibia	
			1	Activities	Faunal	food related	bone			bone	unidentified		calcined
			1	Activities	Faunal	food related	bone			bone	cow	pelvis	chopped; shells growing on bone
			1	Activities	Faunal	food related	bone			bone	cow	cervical vertebrae	chopped
			1	Activities	Faunal	food related	bone			bone	cow	thoracic v.	chopped
			1	Activities	Faunal	food related	bone			bone	cow	rib	chopped
			1	Activities	Faunal	food related	bone			bone	goat	horn core	chopped; right
			1	Activities	Faunal	food related	bone			bone	cow	rib	chopped; slice mark on shaft
			1	Activities	Faunal	food related	bone			bone	horse	metacarpus	
			1	Activities	Faunal	food related	bone			bone	lg. mammal	Unident.	
			1	Activities	Faunal	food related	bone			bone	pig	humerus	chopped
			1	Activities	Faunal	food related?	fish scale			scale	Unident. fish	scale	fragment
			2	Activities	Faunal	natural	shell			shell	dwarf clam; lg whelk		
			1	Activities	Faunal	natural	shell			shell	oyster		

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Table B-1: Artifact Inventory															
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes		
River Bottom	n/a	River Bottom - below outer planking on south side of keel	3	Activities	Faunal	natural	shell			shell	1 hard shell clam & 2 dwarf clams				
			1	Activities	Faunal	natural	shell			shell	whelk				
			50	Activities	Faunal	natural	shell			shell	16 oyster, 3 dwarf surf clam, 2 hard shell clam, 28 snails, 1 mussel				
			1	Activities	Faunal	natural	shell			shell	snail				
			28	Activities	Specialized Activities	shoe/clothing	leather			leather			fragments		
			1	Activities	Specialized Activities	shoe/clothing	shoe			leather		shoe	almost complete		
			3	Activities	Specialized Activities	shoe/clothing	shoe			leather		shoe	heel and scraps		
			1	Architectural	Construction Materials	Construction Materials	brick	terracotta		brick			fragments	water-worn	
			8	Architectural	Construction Materials	Construction Materials	brick			brick				7 red; 1 yellow Dutch	
			1	Architectural	Construction Materials	Construction Materials	concrete			concrete					
			1	Architectural	Construction Materials	Construction Materials	conglomerate			conglomerate : metal, wood					
			3	Architectural	Construction Materials	Construction Materials	mortar			mortar					
			1	Architectural	Construction Materials	Construction Materials	stone			Sandstone?					
			5	Architectural	Construction Materials	Construction Materials	wood fragment			wood					
			10	Architectural	Construction Materials	Construction Materials	wood fragment			wood				1 piece looks like it might have been trim because it has small nails in it.	
			35	Architectural	Construction Materials	Construction Materials	wood fragment			wood					
			3	Architectural	Construction Materials	Construction Materials	wood fragment			wood					
			2	Kitchen	Containers	food storage/service	drinking glass; bottle			glass			drinking glass; bottle		
			3	Kitchen	Dishes	food storage/service	dish fragment	cream-ware	1762	ceramic		plate		rim and base	Queens ware pattern
			3	Kitchen	Dishes	food storage/service	dish fragment	oriental porcelain		ceramic		shallow bowl			Mends; hand painted blue ext. and int.; appears faded colors
1	Kitchen	Dishes	food storage/service	dish fragment	buff-bodied earthen-ware		ceramic		slipware			yellow and brown			
6	Kitchen	Dishes	food storage/service	dish fragment	white salt-glazed stoneware	1740	ceramic		small bowl		rim, base, body	all from the same vessel			
1	Kitchen	Dishes	food storage/service	dish fragment	red earthen-ware		ceramic		small bowl?		base	dark brown lad glaze on interior; unglazed exterior			

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
River Bottom	n/a	River Bottom - below outer planking on south side of keel	1	Kitchen	Dishes	food storage/service	dish fragment	porcelain		ceramic			
			1	Kitchen	Dishes	food storage/service	dish fragment	red earthen-ware		ceramic		base	dark brown lead glaze
			1	Kitchen	Dishes	food storage/service	Storage vessel	gray/buff bodied salt-glazed stoneware		ceramic	Storage vessel	body	
			2	Tobacco	Pipe	personal item	tobacco pipe		1680	ball clay	smoking	stems	5/64" bore
			1	Kitchen	Dishes	food storage/service	dish fragment	porcelain	17th or 18th century	ceramic	small bowl	half vessel	hand-painted blue with dragon motif; possibly southeast Asian (Janowitz 2010)
			1	Activities	Faunal	food related	bone			bone	pigeon	ulna	cut
			1	Activities	Faunal	natural	shell			shell	horseshoe crab?		
			1	Activities	Specialized Activities	cooking/heating?	coal/slag			coal			anthracite
			1	Activities	Specialized Activities	cooking/heating?	coal/slag			slag			
			8	Activities	Specialized Activities	cooking/heating?	coal/slag			slag	slag		
			1	Activities	Specialized Activities	cordage	rope			rope	rope		should be conserved
		25	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	12 peach, 1 hickory, 2 black walnut, 9 cherry, 1 orange			
		1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	cherry			
		2	Activities	Faunal	food related	bone			bone	sheep	rib	chopped	
		1	Activities	Faunal	food related	bone			bone	unidentified			
		2	Activities	Faunal	natural	shell			shell	oyster	whole		
		4	Activities	Faunal	natural	shell			shell	snails			
		6	Activities	Faunal	natural	shell			shell	unident.			
		2	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	cherry pit			
		1	Kitchen	Containers	food storage/service	bottle?			glass	bottle?		aqua; sent from MAC Lab	
		3	Activities	Faunal	natural	shell			shell	snails, limpet		2 snails, 1 limpet	
		River Bottom - pedestal below ship	1	Activities	Faunal	food related	bone		bone	cow	lumbar vertebrae	cleaved	
			1	Activities	Faunal	food related	bone		bone	sheep	metacarpus	chewed by carnivore; neonate	
			1	Activities	Faunal	food related	bone		bone	cow	right mandible	chopped	
			1	Activities	Faunal	food related	bone		bone	cow	Atlas	chopped	
			1	Activities	Faunal	food related	bone		bone	cow	rib	chopped; neonate	
			1	Activities	Faunal	food related	bone		bone	cow	rib		
			1	Activities	Faunal	food related	bone		bone	cow	innominate	sawed; slice mark	
			1	Activities	Faunal	food related	bone		bone	cow	calcaneus	cut marks	
			4	Activities	Faunal	food related	bone		bone	med. mammal	long bone fragment		
			1	Activities	Faunal	natural	shell			shell	horseshoe crab?		
		3	Activities	Faunal	natural	shell			shell	oyster			

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Table B-1: Artifact Inventory														
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes	
River Bottom	n/a	River Bottom - pedestal below ship	2	Activities	Specialized Activities	shoe/clothing	leather			leather		fragments		
			8	Activities	Specialized Activities	shoe/clothing	shoe			leather	shoe	fragments		
			1	Architectural	Construction Materials	Construction Materials	brick			brick	Dutch brick	whole		
			4	Architectural	Construction Materials	Construction Materials	wood fragment			wood				
			1	Architectural	Construction Materials	fastener	bolt			iron/wood			wooden block with large bolt through it	
			1	Kitchen	Dishes	food storage/service	dish fragment	cream-ware or whiteware		ceramic	saucer		hand painted blue	
			7	Kitchen	Dishes	food storage/service	dish fragment	buff-bodied		ceramic			crude paste; dark brown glaze	
			1	Kitchen	Dishes	food storage/service	dish fragment	cream-ware?		ceramic			blue hand-painted; possibly whiteware	
			1	Kitchen	Dishes	food storage/service	jar?	grey salt glazed stoneware		ceramic	jar?			
			2	Tobacco	Pipe	personal item	tobacco pipe			ball clay	smoking		5/64" bore	
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	cherry pit			
			1	Activities	Faunal	natural	shell			shell	snail			
			2	Activities	Sanitary	ceramic	chamber pot	white salt glazed stoneware	c. 1720-1805	ceramic	chamber pot	rim & body	cobalt blue decoration on exterior; small vessel	
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	cherry			
		2	Architectural	Construction Materials	Construction Materials	brick	terracotta		brick			1 burnt; 1 has mortar		
		1	Architectural	Construction Materials	fastener	nail			iron	Nails	shaft			
		2	Activities	Botanical	natural	plant			eel grass	eel grass				
		1	Activities	Botanical	natural	plant			sea grass	sea grass				
		2	Activities	Faunal	natural	shell			shell	barnacle				
		10	Activities	Faunal	natural	shell			shell	clam				
		3	Activities	Faunal	natural	shell			shell	clam				
		1	Activities	Faunal	natural	shell			shell	clam				
		1	Activities	Faunal	natural	shell			shell	clam				
		5	Activities	Faunal	natural	shell			shell	mussel				
		1	Activities	Faunal	natural	shell			shell	mussel				
		5	Activities	Faunal	natural	shell			shell	oyster				
		14	Activities	Faunal	natural	shell			shell	snail				
		4	Activities	Faunal	natural	shell			shell	unident.				
		1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	unident.				
		1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	cherry				
		1	Activities	Specialized Activities	fastener	wooden pin			wood	pin				
				River Bottom - below east side of hull	1	Activities	Specialized Activities	fastener	wooden pin			wood	pin	

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes		
River Bottom	Possibly ship-related	River Bottom - below outer planking in SE corner of ship	1	Architectural	Construction Materials	Construction Materials	brick	terracotta		brick					
			1	Architectural	Construction Materials	Construction Materials	mortar		mortar		fragments				
			1	Architectural	Construction Materials		ship part	wood fragment		wood					
		River Bottom - below outer planking on east side of the ship	1	Activities	Specialized Activities	fastener	wooden pin		wood	pin					
		River Bottom - pedestal below ship	1	Architectural	Construction Materials	fastener	rod?		iron/wood	iron through a piece of wood		wood is worm-eaten			
		River Bottom - around stem post	1	Activities	Faunal	natural	shell		shell	oyster					
		River Bottom - below east side of hull	1	Tobacco	Pipe	personal item	tobacco pipe		ball clay	stem					
		River Bottom - below outer hull in vicinity of stern knee	7	Activities	Faunal	food related	bone		bone	unident.		possibly torn apart			
			1	Activities	Faunal	natural	shell		shell	horseshoe crab?	body	covered in tar; possibly leather			
			1	Activities	Specialized Activities	shoe/ clothing	shoe		leather	shoe	parts				
			1	Architectural	Construction Materials	fastener	nail		iron	Nails	fragment	badly corroded			
			1	Furniture	Decorative Furnishings	ceramic	flower pot	red earthen-ware	ceramic	flower pot					
			1	Kitchen	Containers	food storage/ service	wine bottle		18th century	glass	wine bottle	lip/neck	dark green		
		Ship	A	Ship - attached to F0	1	Personal	Coin	personal item	coin			cu alloy	coin		illegible writing/date; badly corroded, very thin; MAC LAB attempted to X-Ray with negligible results
				Ship - between cant frames and FNFS10	4	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	hickory nut		
2	Activities				Botanical	food related	seed/pit/nut			seed/pit/nut	peach				
1	Activities				Botanical	food related	seed/pit/nut			seed/pit/nut	unident. shell				
6	Activities				Botanical	food related	seed/pit/nut			seed/pit/nut	cherry		peach, cherry, nut		
1	Activities				Faunal	food related	bone			bone	bird	long bone frag	very dark stain; unident. bird		
1	Activities				Faunal	food related	bone			bone	bird	radius	very dark stain; unident. bird		
2	Activities				Faunal	food related	bone			bone	cow	humerus	gnawed by rodent; vy dark stain		
1	Activities				Faunal	food related	bone			bone	cow	rib	gnawed by rodent; vy dark stain		
2	Activities				Faunal	food related	bone			bone	med. mammal	scapula	very dark stain; unident. bird		
1	Activities				Faunal	food related	bone			bone	med. mammal	sacrum	fragment; very dark stain		
1	Activities				Faunal	food related	bone			bone	med. mammal	long bone	fragment; very dark stain		
1	Activities				Faunal	food related	bone			bone	pig	cervical vert.	Rodent-gnawed; vy dark stain		
1	Activities				Faunal	food related	bone			bone	pig	femur	Rodent-gnawed; vy dark stain		
1	Activities				Faunal	food related	bone			bone	Sheepshead	vertebrae	very dark stain; unident. bird		

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Table B-1: Artifact Inventory														
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes	
Ship	A	Ship - between cant frames and FNFS10	1	Activities	Faunal	food related	bone			bone	Yellow Perch	preoperculum	very dark stain; unident. bird	
			4	Activities	Faunal	natural	shell			shell	clam and snail		1 clam; 3 snail	
			1	Architectural	Construction Materials	Construction Materials	conglomerate			iron oxide/lead/wood	concretion		contains 11 pcs. Birdshot inventoried separately;	
			1	Architectural			conglomerate			iron oxide/lead/wood	concretion		includes 6 birdshot and 1 buckshot inventoried separately;	
			1	Architectural			conglomerate			iron/iron oxide/lead/glass	concretion		Included: 1 grapeshot, 3 birdshot, 1 window glass, 1 wood, 1 pc. of lead, inventoried separately	
			1	Architectural			conglomerate			lead/iron oxide/wood	concretion		includes 6 bird shot inventoried separately	
			1	Architectural			conglomerate			rust/lead/glass	concretion		3 square nail holes; 8 birdshot & 1 frag. glass attached inventoried separately	
			5	Architectural			unident. iron			iron/wood	concretion			
			1	Architectural			unident. lead			lead		fragments	triangular piece of lead; in concretion	
			1	Architectural			wood fragment			wood	fragments		in concretion	
			1	Architectural			fastener			nail		iron?	nail	
			1	Architectural			fastener			spike		iron	spike	
			1	Architectural	Window Glass	Window Glass	window pane			glass	window pane		aqua	
			1	Architectural	Window Glass	Window Glass	window pane			glass	window pane		in concretion	
			1	Architectural	Window Glass	Window Glass	window pane			glass	window pane		in concretion	
			1	Arms	Arms Accessories	Arms Accessories	gun spall			Dover flint	gun spall		black; slightly utilized; American	
			62	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot		made from shot tower	
			18	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot			
			11	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot		in concretion	
			8	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot		in concretion	
			6	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot		in concretion	
			6	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot			
			6	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot		in concretion	
			3	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot		in concretion	
			2	Arms	Projectiles	Projectiles	Buck shot			lead	Buck shot			
			1	Arms	Projectiles	Projectiles	Buck shot			lead	Buck shot		in concretion	
			1	Arms	Projectiles	Projectiles	Grape shot			iron	Grape shot			
			1	Arms	Projectiles	Projectiles	Grape shot			iron	Grape shot		made for 3 pounder cannon; in concretion	
			3	Arms	Projectiles	Projectiles	Musket ball			lead	Musket ball		chewed by a rat	
			37	Arms	Projectiles	Projectiles	Musket ball			lead	Musket ball			
			1	Clothing	Fasteners	shoe/clothing	cufflinks?			copper alloy	cufflinks?			

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory																
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes			
Ship	A	Ship - between cant frames and FNFS10	1	Clothing	Fasteners	shoe/clothing	hook from hook and eye				copper alloy	hook from hook and eye		Conserved		
			2	Kitchen	Containers	food storage/service	bottle fragment				glass	bottle	body	1 olive green; 1 devitrified		
			1	Kitchen	Dishes	food storage/service	dish fragment	stoneware				ceramic		body	brown glazed int. & ext. and incised decoration on exterior	
			4	Kitchen	Dishes	food storage/service	dish fragment	red earthenware				ceramic		body	clear lead glazed w/ dk. Brown mottling; unglazed exterior; interior slip?	
			1	Kitchen	Dishes	food storage/service	dish fragment	white salt-glazed stoneware	1720-1805			ceramic		body	white salt-glazed, very thin	
			1	Kitchen	Dishes	food storage/service	dish fragment	red earthenware	1740-1850			ceramic		body	unglazed w/interior slip? jackfield type	
			1	Kitchen	Dishes	food storage/service	dish fragment	red earthenware				ceramic		body	jackfield-style	
			1	Personal	Coin	personal item	coin					silver	Coin			silver; coin is attached to a number of pieces of birdshot counted separately
			3	Tobacco	Pipe	personal item	tobacco pipe		1680			ball clay	smoking	stems		5/64"
		4	Activities	Specialized Activities		cooking/heating?	charcoal				wood charcoal				<i>Carya spp.</i>	Hickory
		8	Activities												<i>Pinus spp.</i>	Pine
		8	Activities												<i>Quercus spp.</i>	Oak
		28	Activities												Unident.	Unidentifiable
		4	Activities	Botanical	food related	seed/pit/nut					seed/pit/nut		whole		<i>Rubus sp.</i>	blackberry/raspberry
		1	Activities	Botanical	food related	seed/pit/nut					seed/pit/nut		fragments		<i>Sambucus canadensis</i>	Elder
		1	Activities	Botanical	food related	seed/pit/nut					seed/pit/nut		whole		<i>Vitus sp.</i>	Grape
		1	Activities	Botanical	food related	seed/pit/nut					seed/pit/nut				<i>Cucumis sp.</i>	Melon or Cucumber
		1	Activities	Botanical	food related	seed/pit/nut					seed/pit/nut		fragments		<i>Prunus persica</i>	Peach
		1	Activities	Botanical	food related	seed/pit/nut					seed/pit/nut		fragments		<i>Carya illinoensis</i>	Pecan
		1	Activities	Botanical	natural	plant					grass		fragments		<i>Poaceae</i>	stem fragment
		1	Activities	Botanical	natural	seed/pit/nut					seed/pit/nut				<i>Potentilla sp.</i>	Cinquefoil
		5	Activities	Botanical	natural	seed/pit/nut					seed/pit/nut				<i>Datura stramonium</i>	Jimsonweed
		1	Activities	Botanical	natural	seed/pit/nut					seed/pit/nut				<i>Panicum/Setaria</i>	Panic/Foxtail grass
		1	Activities	Botanical	natural	seed/pit/nut					seed/pit/nut				<i>Amaranthus spp.</i>	Pigweed
		1	Activities	Specialized Activities	block and tackle?	wooden block					wood	block				Ship-related
		1	Activities	Faunal	food related	bone					bone	sm. mammal	vertebra			
		3	Architectural	Construction Materials	ship part	wood fragment					non-carbonized wood			fragments	<i>Pinus spp.</i>	Pine

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Table B-1: Artifact Inventory															
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes		
Ship	A	Ship - between frames FN2 and FN3	17	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Pinus spp.</i>	fragments	Pine		
			3	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Quercus spp.</i>	fragments	Oak		
			709	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	Unident.	fragments			
			1	Architectural	Construction Materials	Construction Materials	wood fragment			wood					
		Ship - between frames FN4 and FN5	3	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	cherry			
			2	Activities	Faunal	natural	shell				shell	snail		Brick Sample: red brick has black glaze and mortar	
			1	Activities	Specialized Activities	shoe/ clothing	shoe				leather	shoe		excellent leather preservation	
			1	Architectural	Construction Materials	cooking/ heating?	brick	terracotta			brick				
			1	Architectural	Construction Materials	ship part	wood fragment				wood			worm eaten chunk of wood, probably ship-related	
		Ship - between frames FN5 and FN6	1	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	seed coat	fragments	Unidentifiable	
			2	Activities	Botanical	natural	plant				deciduous leaf		fragments		
			4	Activities	Botanical	natural	seed/pit/nut				seed/pit/nut	<i>Datura stramonium</i>		Jimsonweed	
			1	Activities	Botanical	natural	seed/pit/nut				seed/pit/nut	<i>Phytolacca americana</i>		Poke	
			20	Architectural	Construction Materials	ship part	wood fragment				non-carbonized wood	<i>Quercus spp.</i>	fragments	White oak group	
			159	Architectural	Construction Materials	ship part	wood fragment							fragments	Unidentified
			3	Architectural	Construction Materials	ship part	wood fragment						<i>Pinus spp.</i>	fragments	Pine
			2	Architectural	Construction Materials	ship part	wood fragment						<i>Quercus sp.</i>	shavings or chips	Oak
			Ship - between frames FN6 and FN7	1	Arms	Projectiles	Projectiles	Bird shot				lead	Bird shot		
				1	Arms	Projectiles	Projectiles	Buck shot				lead	Buck shot		
		Ship - between frames FN7 and FN8	1	Activities	Faunal	food related	bone				bone				
			6	Activities	Specialized Activities	cooking/ heating?	charcoal				wood charcoal	<i>Pinus spp.</i>	fragments	Pine	
			6	Activities	Specialized Activities	cooking/ heating?	charcoal				wood charcoal	<i>Quercus spp.</i>	fragments	White Oak group	
			2	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	<i>Rubus sp.</i>	whole	blackberry/raspberry	
				1	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	<i>Umbelliferae</i>	fragments	carrot family

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory													
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
Ship	A	Ship - between frames FN7 and FN8	2	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	unident. non-carbonized botanical	fragments	
			1	Activities	Botanical	natural	plant			deciduous leaf		fragments	
			1	Activities	Botanical	natural	plant			non carbonized plant	moss	fragments	
			2	Activities	Botanical	natural	seed/pit/nut			seed/pit/nut	<i>Datura stramonium</i>		Jimsonweed
			1	Activities	Botanical	natural	plant			non carbonized plant	moss	fragments	
			1	Activities	Specialized Activities	shoe/clothing	unident. leather			leather		fragments	
			8	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Pinus spp.</i>	fragments	Pine
			6	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Quercus spp.</i>	fragments	Red Oak group
			551	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	Unident.	fragments	
			6	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	unident.	fragments	Ring porous
		1	Arms	Projectiles	Projectiles	Buck shot			lead	Buck shot			
		1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	Unident.			
		1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	Unident.			
		2	Activities	Faunal	natural	shell			shell	snail			
		1	Architectural	Construction Materials	fastener	nail			Iron			possibly large bolt	
		1	Kitchen	Tableware	tool	utensil handle			metal	utensil handle	handle	Britannia metal: tin, antimony & zinc. Similar to "London" spoon recovered under stern pieces further aft. Unident. square hallmark on the front of knob.	
		2	Architectural	Construction Materials	cooking/heating?	brick	terracotta	brick	brick		whole	red bricks, burnt	
		1	Activities	Faunal	natural	shell			shell	snail			
		1	Activities	Specialized Activities	personal item	pouch			leather	possible pouch			
		1	Architectural	Construction Materials	fastener	trunnel			wood	trunnel	fragment	pin?	
		2	Activities	Specialized Activities	block and tackle?	wooden block			wood	block and pin that goes thru the sheave			

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Table B-1: Artifact Inventory													
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
Ship	A	Ship - between frames FS7 and FS9	1	Activities	Specialized Activities	block and tackle?	wooden sheave			wood	sheave?		sheave
			1	Activities	Specialized Activities	block and tackle?	wooden sheave			wood	sheave w/ pin through it		2 objects: rod and sheave
			1	Activities	Specialized Activities	block and tackle?	wooden sheave			wood	sheave?		marked with a tree-like decoration; possibly the shipwright's mark; appears to be the edge of something, possibly a sheave; Conserved.
			1	Activities	Specialized Activities	block and tackle?	wooden sheave			wood	sheave		block & tackle; ironwood (lignum vitae)
			9	Activities	Specialized Activities	block and tackle?	wooden sheave			wood	sheave parts		this might be the outer part of the sheave but it is in fragments
			1	Activities	Specialized Activities	fastener	wooden pin			wood	pin		half of sheave
			1	Activities	Faunal	natural	shell			shell	clam		
			1	Architectural	Construction Materials	cooking/heating?	brick			brick			
		3	Architectural	Construction Materials	cooking/heating?	brick	terracotta		brick			red bricks, only 1 is whole, all are burnt	
		1	Architectural	Construction Materials	cooking/heating?	brick	terracotta		brick			red brick, burnt	
		1	Tobacco	Pipe	personal item	tobacco pipe			ball clay	Pipe stem	fragments	Undecorated, 5/64" bore diameter; rust stained; Sent from MAC Lab	
		1	Architectural	Construction Materials	cooking/heating?	brick	terracotta		brick		fragment	Brick sample: 1 red brick fragment, burnt and with mortar	
Ship	B	Ship - adjacent to FN13	1	Activities	Faunal	natural	shell			shell	snail		
		Ship - below CS 2/5 east of orlop deck	1	Activities	Specialized Activities	cooking/heating?	charcoal			wood charcoal	Diffuse porous	fragments	Unident.
			11	Activities	Specialized Activities	cooking/heating?	charcoal			wood charcoal	<i>Pinus spp.</i>	fragments	Pine
			6	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Pyrus malus</i>	fragments	Apple: seed coat fragments
			7	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Rubus sp.</i>	whole & fragments	Blackberry/Raspberry: 6 whole; 1 fragment
			13	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Prunus sp.</i>	whole, nearly whole and fragments	Cherry pit: 1 whole, 6 nearly complete, 6 fragments
			2	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Vitis sp.</i>	whole	Grape
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Curcubita sp.</i>		Squash
			1	Activities	Botanical	natural	seed/pit/nut			seed/pit/nut	<i>Poaceae</i>		Grass family
			5	Activities	Botanical	natural	seed/pit/nut			seed/pit/nut	<i>Datura stramonium</i>		Jimsonweed
			1	Activities	Botanical	natural	seed/pit/nut			seed/pit/nut	<i>Polygonaceae</i>		Knotweed family
			20	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Pinus spp.</i>	fragments	Pine

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes		
Ship	B	Ship - below CS 2/5 east of orlop deck	1085	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	Unident.	fragments			
			1	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot			made by drop tower;	
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Prunus sp.</i>			cherry half	
		Ship - below CS 2/6A east of orlop deck	4	Activities	Faunal	natural	shell				shell	shell			includes snail, clam, worm, possible barnacle
			6	Architectural	Construction Materials	Construction Materials	mortar				mortar	mortar			
			2	Architectural	Construction Materials	Construction Materials	wood fragment				wood	wood	fragments		
			1	Architectural	Construction Materials	cooking/heating?	brick	terracotta			brick				
			2	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	cherry				
		Ship - between frames FN10 and FN11	2	Activities	Faunal	natural	shell				shell	snail, oyster			1 snail, 1 oyster
			1	Activities	Specialized Activities	ship part	caulking?				hair	caulking?	clump		grease-contaminated
			2	Architectural	Construction Materials	Construction Materials	wood fragment				wood				
			2	Architectural	Construction Materials	fastener	spike				iron	spike			
			1	Arms	Projectiles	Projectiles	Bird shot				lead	Bird shot			
			1	Arms	Projectiles	Projectiles	Musket ball				lead	Musket ball			
		Ship - between frames FN10 and FN14	9	Activities	Specialized Activities	cooking/heating?	coal/slag				coal				
			2	Activities	Specialized Activities	cooking/heating?	coal/slag				Coal?		anthracite?		Possibly leather?
			23	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	19 cherry, 1 pecan, 2 squash/melon, 1 peach			squash/melon seed is probably Watermelon
			1	Activities	Faunal	food related	bone				bone	chicken	Tarso-metatarsus		
			2	Activities	Faunal	food related	bone				bone	cow	thoracic vert.		very dark stain
			1	Activities	Faunal	food related	bone				bone	cow	cervical vert.		very dark stain; chopped
			1	Activities	Faunal	food related	bone				bone	cow	lumbar vert.		very dark stain; chopped
			1	Activities	Faunal	food related	bone				bone	cow	rib		rodent gnawed; chopped
			1	Activities	Faunal	food related	bone				bone	cow	premolar		very dark stain
			2	Activities	Faunal	food related	bone				bone	Eastern Grey Squirrel	tibia		very dark stain
			6	Activities	Faunal	food related	bone				bone	horse	calvar (skull)		
			5	Activities	Faunal	food related	bone				bone	lg. mammal	unident.		2 very dark stain; 1 gnawed by a rodent
			1	Activities	Faunal	food related	bone				bone	lg. mammal	mandible		very dark stain
			1	Activities	Faunal	food related	bone				bone	lg. mammal	vertebra		very dark stain
			1	Activities	Faunal	food related	bone				bone	lg. mammal	humerus		Poss. cattle; very dark stain
			4	Activities	Faunal	food related	bone				bone	med. mammal	unident.		calcined
			3	Activities	Faunal	food related	bone				bone	med. mammal	rib		fragments; very dark stain
		1	Activities	Faunal	food related	bone				bone	med. mammal	costal rib			
		1	Activities	Faunal	food related	bone				bone	med. mammal	vertebra		calcined; sawed	
1	Activities	Faunal	food related	bone				bone	med. mammal	long bone					
1	Activities	Faunal	food related	bone				bone	pig	rib		cut marks; very dark stain			

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Table B-1: Artifact Inventory															
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes		
Ship	B	Ship - between frames FN10 and FN14	1	Activities	Faunal	food related	bone			bone	pig	humerus	chopped; gnawed by rodent; very dark stain		
			1	Activities	Faunal	food related	bone			bone	pig	tibia	Calcined		
			1	Activities	Faunal	food related	bone			bone	Sheepshead	vertebrae		very dark stain	
			2	Activities	Faunal	food related	bone			bone	unident. bird	long bone		very dark stain	
			7	Activities	Faunal	natural	shell			shell	4 oyster, 3 unident., 1 snail, 2 hard shell clam				1 oyster has 3 others on its back
			2	Activities	Leisure Activities	toy	marble			marble	marbles				
			2	Architectural	Construction Materials	Construction Materials	brick	terracotta		brick				fragments	burned
			1	Architectural	Construction Materials	Construction Materials	plaster			plaster	plaster				
			1	Architectural	Construction Materials	Construction Materials	unident. iron			iron/rust	concretion				
			9	Architectural	Construction Materials	Construction Materials	wood fragment			wood					
			6	Architectural	Construction Materials	fastener	nail			iron/wood					Nails, some going through wood, probably ship related
			1	Arms	Arms Accessories	Arms Accessories	gun spall			Dover flint	gun spall				black; Dover Flint
			7	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot				
			1	Arms	Projectiles	Projectiles	Buck shot			lead	Buck shot				
			1	Arms	Projectiles	Projectiles	conglomerate			iron	concretion				iron concretion with musket ball and anthracite coal; musket ball inventoried individually
			7	Arms	Projectiles	Projectiles	Musket ball			lead	Musket ball				Round, sprue cut
			2	Arms	Projectiles	Projectiles	Musket ball			lead	Musket ball				possibly impacted
			1	Arms	Projectiles	Projectiles	Musket ball			lead	Musket ball				
			1	Clothing	Fasteners	shoe/clothing	button			leather	button				Conserved
			1	Clothing	Fasteners	shoe/clothing	button			c. 1776	Pewter	button	whole		embossed "52"; British 52nd Regiment of Foot; private's uniform button
			1	Kitchen	Containers	food storage/service	unident. glass			glass	flat				
			2	Kitchen	Dishes	food storage/service	dish fragment	creamware	1762	ceramic	cup	handle and body sherd			
			1	Kitchen	Dishes	food storage/service	dish fragment	tin-glazed red earthenware	pre-1770	ceramic	pot/bowl	unident.			tin-glazed, possibly English; probably a lid for a chocolate pot, sugar bowl, covered bowl or small posset pot (Janowitz 2012)
			2	Kitchen	Dishes	food storage/service	dish fragment	white salt-glazed stoneware	1740	ceramic	plate	rim and body			rim decorated with bead and reel; the other sherd plain
			2	Kitchen	Dishes	food storage/service	dish fragment	Oriental	1790	ceramic	plate/saucer	rims			blue on white decorated; one is thicker and might be later

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes		
Ship	B	Ship - between frames FN10 and FN14	1	Kitchen	Dishes	food storage/ service	dish fragment	delft		ceramic	saucer	base	sulfite-stained black		
			2	Kitchen	Tableware	tool	utensil handle			bone	utensil handle	handle	incised; calcined and possibly burnt; 2 pcs from same object but do not mend; identical to utensil handle found around Stern Knee.		
			5	Tobacco	Pipe	personal item	tobacco pipe			ball clay	stems	stems	all 5/64" bores		
		Ship - between frames FN12 and FN13	2	Activities	Specialized Activities	cooking/ heating?	coal/slag			coal				anthracite	
			5	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	Cherry				
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	olive				
			2	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	peach				
			1	Activities	Faunal	food related?	feather			feather	feather			underlayer; not a flight feather	
			1	Activities	Faunal	natural	shell			shell	unident.	fragments		shattered during processing	
			3	Architectural	Construction Materials	Construction Materials	mortar			mortar					
			3	Architectural	Construction Materials	Construction Materials	wood fragment			wood					1 is unident.
			6	Architectural	Construction Materials	fastener	nail			iron					conglomerate iron with nail bits and 2 square cut nails
			1	Arms	Projectiles	Projectiles	Musket ball			lead	Musket ball				
		Ship - between frames FN14 and FN15	1	Activities	Specialized Activities	cooking/ heating?	charcoal			wood charcoal	Diffuse porous	fragments		Unident.	
			19	Activities	Specialized Activities	cooking/ heating?	charcoal			wood charcoal	<i>Carya spp.</i>	fragments		Hickory	
			41	Activities	Specialized Activities	cooking/ heating?	charcoal			wood charcoal				Unident.	
			7	Activities	Botanical	natural	seed/pit/nut			seed/pit/nut	<i>Datura stramonium</i>			Jimsonweed	
			1	Activities	Specialized Activities	block and tackle?	wooden sheave			wood	sheave			Partial and deteriorating	
			10	Activities	Specialized Activities	cooking/ heating?	coal/slag			coal				anthracite	
			1	Activities	Faunal	food related	bone			bone	lg. mammal	calvar (skull)			
			20	Activities	Faunal	natural	shell			shell	7 possibly soft shell clams, 7 dwarf clams, 1 oyster, 5 fragments		whole and fragments		
			1	Activities	Specialized Activities	shoe/ clothing	leather			leather			scrap		
			1	Activities	Storage item	Storage item	barrel bung			wood	barrel bung				
			2	Activities	Specialized Activities	tool	wooden handle			wood	handle?				Wooden objects have been worked, possibly to make a tool or utensil handle; both are incised; Conserved
			1	Activities	Specialized Activities	tool	wooden tool			wood	whittling				Conserved

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Table B-1: Artifact Inventory													
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
Ship	B	Ship - between frames FN14 and FN15	2	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Pinus spp.</i>	fragments	Pine
			18	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Quercus spp.</i>	fragments	White oak group
			317	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	Unident.	fragments	
			1	Architectural	Construction Materials	fastener	nail			iron		rust casing	
			1	Architectural	Construction Materials	ship part	plank			wood	plank		
			4	Architectural	Construction Materials	ship part	wood fragment			wood			1 is worm eaten
			1	Architectural	Construction Materials	tool	wooden handle?			wood			possibly a utensil handle part
		1	Kitchen	Containers	food storage/ service	bottle			glass	bottle	body	olive green; devitrified	
		1	Activities	Specialized Activities	cooking/ heating?	coal/slag			coal	anthracite			
		1	Activities	Specialized Activities	cordage	rope			rope	rope		Part of a hair & rope sample	
		3	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	melon/squash		watermelon?	
		3	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	Cherry			
		1	Activities	Botanical	natural	plant			seaweed				
		1	Activities	Botanical	natural	plant			sponge	<i>Halichondria bowerbankia</i>	dark green, brittle		
		5	Activities	Faunal	natural	shell			shell	Dwarf surf clam	whole		
		3	Activities	Faunal	natural	shell			shell	Eastern oyster	whole and fragments		
		1	Activities	Faunal	natural	shell			shell	Hard clam, <i>Mercenaria mercenaria</i>	fragments		
		5	Activities	Faunal	natural	shell			shell	mud snail	whole		
		15	Activities	Faunal	natural	shell			shell	6 soft shell clam, 1 hard shell clam, 3 oysters, 5 snails			
		1	Activities	Storage item	Storage item	barrel bung			wood	barrel bung			
		1	Architectural	Construction Materials	fastener	nail			Iron	square-cut nail		Rusted	
		7	Architectural	Construction Materials	ship part	wood fragment			wood		fragments		
		1	Activities	Specialized Activities	cooking/ heating?	charcoal			wood charcoal	<i>Carya spp.</i>		Hickory	
		1	Activities	Specialized Activities	cooking/ heating?	charcoal			wood charcoal	<i>Pinus spp.</i>		Pine	
		7	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Rubus sp.</i>	whole	Blackberry/Raspberry	
		1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Prunus sp.</i>	fragments	Cherry	
		6	Activities	Botanical	natural	seed/pit/nut			seed/pit/nut	<i>Datura stramonium</i>		Jimsonweed	

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
Ship Ship	B C	Ship - between frames FN17 and FN18	7	Architectural	Construction Materials	ship part	unident. wood			non-carbonized wood	<i>Pinus spp.</i>	shavings or chips	
			12	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Quercus spp.</i>	fragments	Oak
			5	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Quercus spp.</i>		White Oak group
			3	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Quercus spp.</i>		Red Oak group
			221	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	Unident.	fragments	Unident.
		Ship - between frames FS10 and FS11	1	Unident.	Unident.	Unident.	unident.			clayey soil conglomerate	unident.		possible caulking
		Ship - between frames FS12 and FS13	1	Activities	Specialized Activities	cooking/heating?	coal/slag			coal			anthracite
			1	Activities	Botanical	natural	plant			seaweed			
			1	Architectural	Construction Materials	Construction Materials	mortar			mortar	mortar	fragments	
			1	Architectural	Construction Materials	Construction Materials	wood fragment			wood			
			5	Architectural	Construction Materials	fastener	nail			iron			1 square nail fragment and rust casts of some others
			1	Kitchen	Containers	food storage/service	wine glass			glass	wine glass	base	possible bottle fragment; dark green devitrified and beveled
		Ship - between frames FS14 and FS15	1	Activities	Specialized Activities	block and tackle?	wooden sheave			wood	sheave	fragment	
			1	Activities	Faunal	natural	shell			shell	snail		
			2	Activities	Specialized Activities	tool	wooden tool			wood	handle		Mend; possibly ship-related; Conserved
			5	Architectural	Construction Materials	Construction Materials	wood fragment			wood		fragments	
			1	Architectural	Construction Materials	fastener	bolt?			iron/mud	nut or bolt?		outer layer of rust & mud covering what was once a screw, bolt, or lug nut
		Ship - between frames FS15 and FS16	1	Architectural	Construction Materials	Construction Materials	unident. iron			iron			
		Ship - north side near west end of keelson	1	Activities	Specialized Activities	cordage	rope			rope	rope		
		Ship - adjacent to FNFS23	1	Activities	Specialized Activities	cordage	rope			rope	rope		Conserved
		Ship - between frames FN18 and FN19	1	Activities	Specialized Activities	cordage	rope			rope	rope		Conserved
			2	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	peach, squash/melon		
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	peach		

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Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes			
Ship	C	Ship - between frames FN18 and FN19	3	Activities	Faunal	natural	shell			shell	1 snail, 2 soft shell clams					
		Ship - between frames FN20 and FN21	4	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	2 peach, 1 pine cone, 1 unident.					
			9	Activities	Faunal	natural	shell			shell	5 clam, 1 oyster, 2 snail, 1 dwarf surf clam					
			1	Activities	Specialized Activities	ship part	caulking?			hair	caulking?	clump				
			4	Architectural	Construction Materials	ship part	wood fragment			wood					1 worm eaten with shell casings	
			3	Clothing	Fasteners	shoe/ clothing	button			wood	button				mends; Conserved	
		Ship - between frames FN22 and FN23	7	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Rubus sp.</i>	whole			Blackberry/Raspberry	
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Sambucus canadensis</i>				Elder	
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	<i>Cucurbitaceae</i>				Squash family	
			2	Activities	Botanical	natural	seed/pit/nut			seed/pit/nut	<i>Potentilla sp.</i>				Cinquefoil	
			4	Activities	Botanical	natural	seed/pit/nut			seed/pit/nut	<i>Datura stramonium</i>				Jimsonweed	
			4	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	Squash/melon, black walnut, unident. nut, cherry pit					
			25	Activities	Faunal	natural	shell			shell	20 snail, 1 soft shell or dwarf surf clam, 1 oyster					
			1	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe fragments	scrap				
			1	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	Deciduous taxa	fragments				Unidentifiable
			13	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Quercus spp.</i>	fragments				White oak group
		6	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	<i>Quercus spp.</i>	fragments				Oak	
		772	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	unident.	fragments				Unidentified	
		2	Architectural	Construction Materials	Construction Materials	hinge			iron						1 is possible hinge	
	2	Architectural	Construction Materials	Construction Materials	stone			Sandstone?								
	2	Architectural	Construction Materials	ship part	wood fragment			wood						cut wood		
	Orlop Deck	Ship - below east edge of Orlop Deck above ceiling layer	1	Clothing	Fasteners	shoe/ clothing	button		18th century	cu alloy	button			from a woman's dress or men's underwear; Conserved		

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes			
Ship	Orlop Deck	Ship - below Orlop Deck above ceiling layer	3	Activities	Specialized Activities	cooking/heating?	charcoal			charcoal				burnt wood		
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	peach	fragments				
			3	Activities	Faunal	food related	bone			bone	med. mammal	long bone			fragments; calcined	
			1	Activities	Faunal	food related	bone			bone	sheep	rib			chopped	
			1	Activities	Botanical	natural	plant			clay w/ leaf						
			2	Activities	Faunal	natural	shell			shell	clam	fragments				
			7	Activities	Faunal	natural	shell			shell	oyster	fragments			burned	
			1	Activities	Faunal	natural	shell			shell	snail	fragments				
			2	Activities	Faunal	natural	shell			shell	whelk	fragments				
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	peach	whole				
			6	Architectural	Construction Materials	cooking/heating?	brick	terracotta		brick						red brick (1 whole; all burnt)
			3	Architectural	Construction Materials	Construction Materials	conglomerate			iron & wood		includes one nail	fragments			mostly conglomerate rust by-products with one nail fragment and some mortar
			1	Architectural	Construction Materials	Construction Materials	nail			iron		nail	complete			
			10	Architectural	Construction Materials	Construction Materials	nail			iron			fragments			includes nail fragments, rust byproducts, and a tubular form with what appears to be a nail
			8	Architectural	Construction Materials	cooking/heating?	brick			brick			fragments			
			21	Architectural	Construction Materials	cooking/heating?	mortar			mortar						some fragments appear to be burnt
			25	Architectural	Construction Materials	ship part	wood fragment			wood		fragments				
			1	Architectural	Window Glass	Window Glass	window pane			glass		window pane				light aqua
			1	Architectural	Construction Materials	Construction Materials	conglomerate			Iron conglomerate			fragments			mostly rust, some wood, mud.
			5	Architectural	Construction Materials	cooking/heating?	mortar			mortar			fragments			some parts seem to be part of a form
			1	Arms	Arms Accessories	Arms Accessories	gun spall			Dover flint		gun spall				American
			4	Arms	Projectiles	Projectiles	Bird shot			lead		Bird shot	complete			
			1	Clothing	Fasteners	shoe/clothing	button			cu alloy		button	complete			decorated with floral motif
			2	Kitchen	Dishes	food storage/service	dish fragment	pearlware	1780	ceramic		unident.	sherds			Mend; hand-painted polychrome flowers with brown band below rim on interior
			1	Kitchen	Dishes	food storage/service	dish fragment	earthen-ware		ceramic			body			stained
			1	Tobacco	Pipe	personal item	tobacco pipe		1680	ball clay		smoking	stem			5/64" bore
			5	Activities	Specialized Activities	cooking/heating?	charcoal			wood charcoal		<i>Pinus spp.</i>				Pine
			5	Activities	Specialized Activities	cooking/heating?	charcoal			wood charcoal		<i>Quercus spp.</i>				White Oak Group

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Table B-1: Artifact Inventory															
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes		
Ship	Orlop Deck	Ship - below Orlop Deck above ceiling layer	1	Activities	Specialized Activities	cooking/heating?	charcoal			wood charcoal	Ring porous				
			1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	Solaceae		Nightshade		
			1	Activities	Faunal	natural	shell				shell	barnacle	whole		
			20	Architectural	Construction Materials	ship part	wood fragment				non-carbonized wood	Pinus spp.	fragments		Pine
			415	Architectural	Construction Materials	ship part	wood fragment				non-carbonized wood	Unident.	fragments		
			4	Architectural	Construction Materials	cooking/heating?	brick	terracotta			brick		fragment		4 red brick fragments (3 are burnt, some have mortar)
	Stem Knee	Ship - around stern knee	1	Activities	Specialized Activities	cooking/heating?	charcoal			wood charcoal	Quercus spp.	fragments		White oak group	
			1	Activities	Specialized Activities	cooking/heating?	charcoal			wood charcoal	Ring porous	fragments		Unidentified	
			3	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	Pyrus malus	fragments		Apple
			3	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	Rubus sp.	whole		Blackberry/Raspberry
			7	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	Prunus sp.	fragments		Cherry
			2	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	Prunus sp.	nearly complete		Cherry
			13	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	Vitis sp.	whole		Grape
			6	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	Vitis sp.	fragments		Grape
			1	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	Curcubita sp.	fragments		Squash
			1	Activities	Botanical	natural	seed/pit/nut				seed/pit/nut	Polygonum			Knotweed
			1	Activities	Faunal	food related	bone				bone	chicken	femur		
			1	Activities	Faunal	food related	bone				bone	lg. mammal	unident.		
			2	Activities	Faunal	food related	bone				bone	med. mammal	lumbar vert.		fragments; chopped; may be sheep
			1	Activities	Faunal	food related	bone				bone	med. mammal	humerus		
			1	Activities	Faunal	food related	bone				bone	sheep	radius		
			1	Activities	Faunal	natural	shell				shell	worm shell			
			1	Activities	Faunal	natural	shell				shell	clam			
			8	Activities	Faunal	natural	shell				shell	worm shell and snails			
			4	Activities	Specialized Activities	shoe/clothing	shoe				leather	shoe-making scraps			
			1	Activities	Storage item	Storage item	bung				wood	bung			barrel bung
			1	Activities	Specialized Activities	tool	whetstone				Sandstone?	whetstone			
			3	Activities	Specialized Activities	fastener	wooden pin				wood	pin	for sheave?		shows evidence of work/rope wear
			12	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	1 peach, 8 cherry, 1 hickory, 1 squash/melon, 1 unident			
			2	Activities	Faunal	food related	bone				bone	cow	cuneiform		cleaved
1	Activities	Faunal	food related	bone				bone	cow	rib		chopped			
1	Activities	Faunal	food related	bone				bone	lg. mammal	long bone					

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
Ship	Stern Knee	Ship - around stern knee	8	Activities	Faunal	food related	bone			bone	med. mammal	unident.	calcined
			1	Activities	Faunal	food related	bone			bone	med. mammal	rib	
			1	Activities	Faunal	food related	bone			bone	med. Mammal	long bone	fragment
			1	Activities	Faunal	food related	bone			bone	rat	right mandible	Brown Rat
			1	Activities	Faunal	food related	bone			bone	pig	humerus	chopped
			1	Activities	Faunal	food related	bone			bone	sheep	pelvis	chopped
			1	Activities	Faunal	food related	bone			bone	unident. bird	radius	weathered
			1	Activities	Faunal	food related	bone			bone	unident. bird	unident.	weathered
			1	Activities	Faunal	food related	bone			bone	chicken	sacrum	
			5	Activities	Faunal	natural	shell			shell	3 clam, 2 oyster	fragments	
			4	Activities	Storage item	Storage item	bungs			wood	bungs	whole	some marked with incised "X"
			1	Activities	House-keeping	tool	wooden tool			wood	scrub brush		Conserved
			4	Architectural	Construction Materials	ship part	wood fragment			non-carbonized wood	Deciduous taxa	fragments	Unidentified
			2	Architectural	Construction Materials	ship part	wood fragment				<i>Pinus spp.</i>	fragments	Pine
			14	Architectural	Construction Materials	ship part	wood fragment				<i>Quercus spp.</i>	fragments	White Oak group
			571	Architectural	Construction Materials	ship part	wood fragment					fragments	Unidentified
			2	Architectural	Construction Materials	Construction Materials	stone			slate			
			1	Architectural	Construction Materials	Construction Materials	mortar			mortar			
			1	Architectural	Construction Materials	cooking/heating?	brick			yellow clay		fragments	Dutch brick fragment
			10	Architectural	Construction Materials	fastener	nail			iron			nail fragments, rust fragments, lug nuts?
			5	Architectural	Construction Materials	ship part	wood fragment			wood		fragments	some have evidence of metal fasteners and worm holes
			1	Architectural	Construction Materials	Construction Materials	plaster			plaster			
			1	Architectural	Construction Materials	Construction Materials	washer			iron?	washer?		has a square hole in middle
			3	Architectural	Construction Materials	cooking/heating?	brick	terracotta		brick		fragments	
			1	Architectural	Construction Materials	fastener	nail			iron	nail	fragment	
			7	Architectural	Construction Materials	ship part	wood fragment			wood			1 has hole for a fastener
			1	Architectural	Construction Materials	tool	knife			lead		fragments	possible knife
			1	Architectural	Misc. hardware	tool	hook			iron	hook		
			116	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot		
			3	Arms	Projectiles	Projectiles	Buck shot			lead	Buck shot		
			1	Arms	Projectiles	Projectiles	Musket ball			lead	Musket ball		

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Table B-1: Artifact Inventory													
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
Ship	Stern Knee	Ship - around stern knee	1	Arms	Arms Accessories	Arms Accessories	cannon vent plate			lead	vent plate		covers cannon vent holes
			1	Arms	Projectiles	Projectiles	Bird shot			lead	Bird shot		
			1	Arms	Projectiles	Projectiles	Buck shot			lead	Buck shot		
			1	Arms	Projectiles	Projectiles	cannon ball			iron	cannon ball	whole	4 pounder
			2	Arms	Projectiles	Projectiles	Musket balls			lead	Musket balls		
			1	Clothing	Fasteners	shoe/clothing	button			brass	button		
			1	Clothing	Fasteners	shoe/clothing	button			cu alloy	button		back missing
			1	Clothing	Fasteners	shoe/clothing	button			wood	button	1	Conserved
			2	Clothing	Making and Repair	shoe/clothing	glove			leather	glove	fragments	possible musket frizzen cover
			4	Clothing	Making and Repair	shoe/clothing	pouch			leather	pouch		pouch or wallet; divided into 3 compartments via stitching
			1	Kitchen	Dishes	food storage/service	dish fragment	light gray salt-glazed stoneware		ceramic	bowl?	body	thin with cobalt incised lines on exterior
			1	Kitchen	Dishes	food storage/service	dish fragment	cream-ware	1762	ceramic	cup or bowl	rim	very thin
			3	Kitchen	Dishes	food storage/service	dish fragment	red earthen-ware		ceramic		body	1 dark brown mottle grazed int. and ext.; 2 clear lead glaze int.
			2	Kitchen	Tableware	tool	utensil handle			bone	utensil handle	handle	Mend; diamond-scored
			1	Kitchen	Tableware	tool	spoon		18th century	pewter	spoon	bowl w/ bit of handle	Conserved; square hallmark on front near knob; spoon is very heavy as if made of lead; possibly Britannia metal; almost identical to "London" spoon
			1	Kitchen	Tableware	tool	utensil handle			metal	utensil handle; small spoon?		Decorated with "sun rays" at knob and dots in relief down the sides; has a circular cartouche or hallmark below the rays
			1	Kitchen	Containers	food storage/service	bottle			glass	bottle	fragment	olive green
			5	Kitchen	Dishes	food storage/service	dish fragment	cream-ware	1762	ceramic	unident.	body	plain
			1	Kitchen	Dishes	food storage/service	dish fragment	porcelain		ceramic	unident.	body	blue hand-painted floral
3	Kitchen	Tableware	tool	utensil handle			bone	utensil handle		badly burned; probably all pcs. from same handle but do not mend; bone is scored as a decoration; Identical item was in fill between F10 and F14.			

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory

Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes	
Ship	Stern Knee	Ship - around stern knee	1	Kitchen	Tableware	tool	spoon			metal	spoon	whole	marked "London" on handle. Decorated ribbons w/floral; cartouche hallmark has letter "P"; Conserved; cast pieces soldered together; very similar to handle from between frames FN 8 and FN 9.	
			1	Kitchen	Tableware	tool	utensil handle?			wood	utensil handle?			
			1	Personal	Grooming & Hygiene	personal item	mirror			glass & silver	mirror			pale aqua because devitrified
			1	Tobacco	Pipe	personal item	tobacco pipe		1680	ball clay	smoking	stem		5/64" bore
			1	Tobacco	Pipe	personal item	tobacco pipe		1680	ball clay	smoking	stems		5/64" bore
				1	Activities	Specialized Activities	block and tackle?	wooden sheave			wood	sheave and cheeks		
				1	Activities	Specialized Activities	block and tackle?	wooden sheave			wood			
				1	Activities	Specialized Activities	cordage	rope			rope	rope		
				1	Activities	Specialized Activities	fastener	Trunnel or pin			wood			
				1	Activities	Specialized Activities	ship part	metal			metal			
				1	Activities	Specialized Activities	ship part	gudgeon			metal			
				1	Activities	House-keeping	tool	wooden tool			wood			
				1	Architectural	Construction Materials	Construction Materials	mortar			mortar			
				2	Architectural	Construction Materials	fastener	nail			metal			
				4	Activities	Specialized Activities	cooking/heating?	coal/slag			coal			anthracite
				1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	squash/melon		possible watermelon seed
				7	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	cherry		
				1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	hickory nut	shell	
				2	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	peach	pit	
				1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	peach		
				1	Activities	Faunal	food related	bone			bone	cow	femur	chopped
				1	Activities	Faunal	food related	bone			bone	cow	thoracic vert.	chopped
				1	Activities	Botanical	natural	plant			seaweed			possible watermelon seed
				12	Activities	Faunal	natural	shell			shell	4 oyster, 1 worm shell, 2 soft shell clam, 1 dwarf surf clam, 4 snail		
				5	Activities	Faunal	natural	shell			shell	1 oyster, 3 clam, 1 snail		

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Table B-1: Artifact Inventory														
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes	
Ship	Unident. Ship	Ship - cleaning of inner surface of outer hull	1	Activities	Specialized Activities	ship part	caulking?			hair	caulking?		in very bad condition; advised by conservator to discard.	
			10	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	heels and scraps; wood shoe nails	6 shoe nails, 2 scraps, 2 heels	
			5	Architectural	Construction Materials	Construction Materials	conglomerate			conglomerate, metal, wood			some had imprints of nails	
			1	Architectural	Construction Materials	Construction Materials	mortar			mortar				
			2	Architectural	Construction Materials	Construction Materials	stone			slate				
			1	Architectural	Construction Materials	fastener	nail			metal	nail		square iron nail fragment; tip is curled back; white metal	
			4	Architectural	Construction Materials	fastener	spike			iron	spike and "lug" nut		3 spike fragments that probably mend and one "luggy" top	
			7	Architectural	Construction Materials	tool	wooden tools?			wood			two rounded pcs mend; 1 add rounded piece, 1 worm eaten fragment; some of these might be "tools" or have some ship-board use	
			1	Architectural	Unident.	Unident.	unident.			plastic/ asbestos?	unident.		pre-bakelite; possible modern oil filter	
			1	Arms	Projectiles	Projectiles	Grape shot			iron	Grape shot		Service 4 pounder iron grape shot - poor quality iron	
			1	Arms	Projectiles	Projectiles	Grape shot			iron	Grape shot		For sea service 3 pounder;	
			1	Arms	Projectiles	Projectiles	Musket ball			lead	Musket ball		out of round with flat spot, possibly impacted	
			1	Clothing	Ornamentation	shoe/ clothing	shoe buckle		18th century	cu alloy w/ gilt	shoe buckle		Conserved	
			1	Kitchen	Containers	food storage/ service	unident. glass			glass	unident.	body	clear	
			2	Kitchen	Containers	food storage/ service	wine bottle		18th century	glass	wine bottle	neck	dark green	
		7	Kitchen	Dishes	food storage/ service	dish fragment	red earthen-ware		ceramic	unident.	body	at least 2 mend; probably same vessel; dark reddish brown mottle glaze		
		1	Kitchen	Dishes	food storage/ service	dish fragment	delft/ majolica		ceramic	unident.	body	hand painted blue line on exterior, plain white interior; heavily rust-stained		
		2	Tobacco	Pipe	personal item	tobacco pipe		1680	ball clay	smoking	bowls	Heeled, undecorated; heavily utilized; one is 5/64" bore; the other could not be measured		
		1	Ship - immediately below PN10-4	Activities	Specialized Activities	ship part	caulking?				hair	caulking?	clump	some straw attached; sent from MAC Lab
		1	Ship - near starboard amidships	Activities	Specialized Activities	fastener	Trunnel or pin				wood	Trunnel or pin		
1	Ship - outer surface of outer hull	Activities	Botanical	food related	seed/pit/nut				seed/pit/nut	<i>Amaranthus spp.</i>	fragments	Pine		
1		Activities	Specialized Activities	ship part	caulking?				hair	caulking?		clump of grease-contaminated hair		
1		Activities	Faunal	natural	bone				bone	cat	mandible			

Appendix B: Artifact Inventory

Table B-1: Artifact Inventory													
Context	Ship Context	Lab Provenience	Count	Group	Class	Type	Artifact	Ware Type	Artifact TPQ	Material	Function	Parts	Notes
Ship	Unident. Ship	Ship Vicinity - clearing during initial discovery	2	Activities	Specialized Activities	tool	wooden tool			wood	tools		1 looks like a shuttle and the other the handle of a tool, Conserved
			1	Architectural	Construction Materials	fastener	rod			iron	rod or tie bar		possibly ship-related
			1	Architectural	Construction Materials	fastener	spike			iron	spike	whole	tapered, possibly ship-related
			2	Architectural	Construction Materials	ship part	wood fragment			wood		fragments	
			2	Kitchen	Dishes	food storage/ service	dish fragment	red earthen-ware		ceramic		fragments	dark brown lead glazed int. & ext.
			1	Kitchen	Tableware	tool	utensil handle			bone, metal	utensil handle		
Unknown	n/a	Misc. find by contractor	1	Activities	Specialized Activities	block and tackle?	wooden sheave			ironwood (<i>Lignum vitae</i>)	sheave	whole	8.25"x8.25"
			1	Activities	Specialized Activities	shoe/ clothing	shoe		c.1790-1810s	leather	shoe	whole	analyzed by Colonial Williamsburg; well-made man's shoe
			1	Activities	Specialized Activities	shoe/ clothing	shoe			leather	shoe	soles	
		Misc. find on or near ship	1	Activities	Botanical	food related	seed/pit/nut			seed/pit/nut	squash/melon		watermelon?
		Ship Vicinity	1	Architectural	Construction Materials	fastener	bolt			iron	fastener		possible bolt head
		Ship Vicinity - clearing south of ship during initial discovery	1	Architectural	Construction Materials	Construction Materials	conglomerate			iron/wood	iron conglomerate surrounding a pointed spike?		Conglomerate includes bits of mortar, wood, peach pit, stones
		Ship Vicinity - discovered while clearing off ship	1	Arms	Arms Accessories	Arms Accessories	cannon vent plate			lead	vent plate		Conserved
		Ship Vicinity - within 10 feet of north side of ship	1	Activities	Faunal	food related?	shell			shell	clam		complete clam
			1	Architectural	Construction Materials	fastener	nail			iron	nail/screw		
			1	Kitchen	Dishes	food storage/ service	mug?	gray salt-glazed stoneware		ceramic	possible mug or container	rim and handled side	undecorated

Appendix B: Artifact Inventory

Table B-2					
Index to Field and Laboratory Proveniences					
Field Provenience	Lab Provenience	Context	Analytical Unit	Collection Method	Date Collected
Artifacts under BP: Leather	Ship - around stern knee	Ship	Stern Knee		7/28/2010
Under BP [bow pieces] Leathers	Ship - around stern knee	Ship	Stern Knee		7/28/2010
2' below bow in clays	River Bottom - pedestal below ship	River Bottom	-----		7/30/2010
25' below ground surface at the level of the bottom of the vessel; within 10 feet north of the vessel's surface; found in backdirt.	Ship Vicinity - within 10 feet of north side of ship	Unknown	-----	Surface find	7/22/2010
about 25' below ground surface; about 4' south of the vessel, midway from top to bottom of vessel	Ship Vicinity - clearing south of ship during initial discovery	Unknown	-----	Surface find	7/22/2010
Above outer planks after frame removal	Ship - cleaning of inner surface of outer hull	Ship	Unidentified Ship	Water Screening	7/28/2010
Against Apron [stern knee]	Ship - around stern knee	Ship	Stern Knee	Water Screening	7/28/2010
Around Keel and Apron [stern knee]	Ship - around stern knee	Ship	Stern Knee	Flotation Sample #9	7/28/2010
Around Keel and Apron [stern knee]	Ship - around stern knee	Ship	Stern Knee	Water Screening	7/28/2010
Artifacts from BP	Ship - around stern knee	Ship	Stern Knee		7/28/2010
Artifacts from under BP	Ship - around stern knee	Ship	Stern Knee		7/28/2010
Artifacts from under BP	Ship - around stern knee	Ship	Stern Knee		7/28/2010
Below bow [stern] in clays	River Bottom - clays below ship	River Bottom	-----		7/30/2010
Below outer planking on south side of the ship	River Bottom - below outer planking on south side of keel	River Bottom	-----		7/30/2010
Beneath bow [stern]; recovered during hand excavation to remove apron [stern knee]	River Bottom - below outer hull in vicinity of stern knee	River Bottom	-----	Surface find	7/29/2010
Beneath hull south side of ship	River Bottom - below outer planking on south side of keel	River Bottom	-----		7/30/2010
Beneath hull, north side; recovered during removal of keel and apron	River Bottom - below outer planking on north side of keel	River Bottom	-----		7/30/2010
Beneath hull; recovered during removal of keel and apron	River Bottom - below outer planking on north side of keel	River Bottom	-----		7/30/2010
Beneath Orlop Deck - Flotation	Ship - below Orlop Deck above ceiling layer - Flotation	Ship	Orlop Deck	Flotation Sample #1	7/26/2010
Beneath Orlop Deck; water screened	Ship - below Orlop Deck above ceiling layer	Ship	Orlop Deck	Water Screening	7/26/2010
Beneath south side of vessel at the far west end at what was then called the bow	River Bottom - below outer planking on west end of south side of keel	River Bottom	-----		7/29/2010
Between FN 14 and FN 15	Ship - between frames FN14 and FN15	Ship	B	Flotation Sample #7	7/27/2010
Between FN7 and FN8	Ship - between frames FN7 and FN8	Ship	A	Flotation Sample #4	7/27/2010
Between FN7 and FN8	Ship - between frames FN7 and FN8	Ship	A	Water Screening	7/27/2010
BP 1/9	Ship - stern knee	Ship	Stern Knee		7/27/2010
BP1/9	Artifacts from MAC Lab	Ship	Unidentified Ship	lab find	-----
Brick from sw corner of vessel between ceiling and outer planks (among frames)	Ship - between frames in southwest corner	Ship	A	Water Screening	7/27/2010
Brick propping up CS-0 amidst frames at west end of vessel	Ship - supporting CS-0 amidst frames at west end of ship	Ship	A	surface find	7/27/2010
Brick Sample from beneath Orlop Beam (bricks beneath almost _ s. extent of Orlop beam)	Ship - below Orlop Deck beam above ceiling layer	Ship	Orlop Deck	Surface find	7/27/2010

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**Table B-2
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Field Provenience	Lab Provenience	Context	Analytical Unit	Collection Method	Date Collected
CN 1/8	Ship - north side near west end of keelson	Ship	B		7/26/2010
CN1/8	Artifacts from MAC Lab	Ship	Unidentified Ship	lab find	-----
CS 2/5	Ship - below CS 2/5 east of orlop deck	Ship	B	Flotation Sample #12	7/27/2010
CS 2/6A	Ship - below CS 2/6A east of orlop deck	Ship	B	Water Screening	7/27/2010
East edge under hull	River Bottom - below outer planking on east side of the ship	River Bottom	Possibly ship related		7/30/2010
Eastern side beneath planks	River Bottom - below outer planking on east side of the ship	River Bottom	-----		7/29/2010
Eastern side of vessel beneath outer planking	River Bottom - below outer planking on east side of the ship	River Bottom	-----		7/29/2010
F-0	Ship - attached to F0	Ship	A	lab find	8/30/2010
Fill from F10 to F 14	Ship - between frames FN10 and FN14	Ship	B	Water Screening	7/28/2010
Fill near vessel	Ship Vicinity	Landfill	-----		Unknown
Fill northwest of ship	Landfill - 30-60 feet northwest of ship	Landfill	-----	Surface find	7/27/2010
Fill outside the ship on the south side between the cross beams 6 and 9, if 1 is the easternmost	Ship Vicinity - south side of ship	Landfill	-----	Surface find	7/16/2010
FN 10 - FN 11	Ship - between frames FN10 and FN11	Ship	B	Water Screening	7/27/2010
FN 12 - FN 13	Ship - between frames FN12 and FN13	Ship	B	Water Screening	7/27/2010
FN 17 - FN 18	Ship - between frames FN17 and FN18	Ship	B	Flotation Sample #5	7/27/2010
FN 18 - FN 19	Ship - between frames FN18 and FN19	Ship	C	Water Screening	7/27/2010
FN 20 - FN 21	Ship - between frames FN20 and FN21	Ship	C	Water Screening	7/27/2010
FN 22 and FN 23	Ship - between frames FN22 and FN23	Ship	C	Flotation Sample #8	7/27/2010
FN 4 - FN 5	Ship - between frames FN4 and FN5	Ship	A	Water Screening	7/27/2010
FN 5 - FN 6	Ship - between frames FN5 and FN6	Ship	A	Water Screening	7/27/2010
FN 6 - FN 7	Ship - between frames FN6 and FN7	Ship	A	Water Screening	7/27/2010
FN 7-0	Ship - found in lab adhered to FN7	Ship	A	lab find	7/27/2010
Found in unknown location by site workers	Misc. find by contractor	Unknown	-----	Surface find	Unknown
From 1st 1-2 feet below outer planking near east end of AP-1 [stern knee]	River Bottom - below outer planking in vicinity of stern knee	River Bottom	-----		7/30/2010
From between FN5 and FN6	Ship - between frames FN5 and FN6	Ship	A	Flotation Sample #10	7/27/2010
From between frames FN 2- FN 3	Ship - between frames FN2 and FN3	Ship	A	Flotation Sample #3	7/27/2010
From between frames FN 4 and FN 5	Ship - between frames FN4 and FN5	Ship	A	Water Screening	7/27/2010
From between frames FN 8 and FN 9	Ship - between frames FN8 and FN9	Ship	A	Water Screening	7/27/2010
From between frames FS 15 and FS 16	Ship - between frames FS15 and FS16	Ship	B	Water Screening	7/27/2010
From between frames FS 7 and FS 9 (with pulleys)	Ship - between frames FS7 and FS9	Ship	A	Water Screening	7/27/2010
From between frames FS6 and FS7	Ship - between frames FS6 and FS7	Ship	A	Water Screening	7/27/2010
From between the area west of Frame 10 and the bow [stern]	Ship - between cant frames and FNFS10	Ship	A	Water Screening	7/28/2010

Appendix B: Artifact Inventory

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Field Provenience	Lab Provenience	Context	Analytical Unit	Collection Method	Date Collected
From between the frames near the Northwest corner of the ship; large shoe leather deposit	Ship Vicinity - between outer ends of FN3 and FN6, NW corner of ship	Landfill	-----		7/26/2010
From fill adjacent to the beams [frames] at the eastern side of the ship	Ship Vicinity - east side of ship	Landfill/Ship	Possibly ship related	Surface find	7/16/2010
From fill atop west half atop vessel	Ship Vicinity - clearing of west half of stern during initial discovery	Landfill/Ship	Possibly ship related	Surface find	7/14/2010
From outer planking on N 1/2 of ship under keel	River Bottom - below outer planking on north side of keel	River Bottom	-----		7/30/2010
From soil adjacent to frame FN 13	Ship - adjacent to FN13	Ship	B		7/27/2010
From soil within 1 foot below outer planking in center of ship (found while removing apron [stern knee])	River Bottom - below outer planking in vicinity of stern knee	River Bottom	-----		7/30/2010
From surface of outer planking	Ship - upper surface of outer hull	Ship	Unidentified Ship	Surface find	7/29/2010
From under outer planking on N 1/2 of ship under keel	River Bottom - below outer planking on north side of keel	River Bottom	-----		7/30/2010
FS 10 - FS 11	Ship - between frames FS10 and FS11	Ship	B	Water Screening	7/27/2010
FS 12 - FS 13	Ship - between frames FS12 and FS13	Ship	B	Water Screening	7/27/2010
FS 14 - FS 15	Ship - between frames FS14 and FS15	Ship	B	Water Screening	7/27/2010
FS1-FS7 brick sample	Ship - between frames FS1 and FS7	Ship	A	Water Screening	7/27/2010
FS7-FS9 brick sample	Ship - between frames FS7 and FS9	Ship	A	Water Screening	7/27/2010
Imm. Beneath vessel after removal	River Bottom - pedestal below ship	River Bottom	-----		8/2/2010
Immediate vicinity of vessel during initial identification	Ship Vicinity - clearing during initial discovery	Landfill/Ship	Possibly ship related	Surface find	7/13/2010
Immediately beneath east edge of platform [orlop deck], in center of platform	Ship - below east edge of Orlop Deck above ceiling layer	Ship	Orlop Deck		7/16/2010
Inside Vessel	Ship Vicinity - clearing during initial discovery	Landfill/Ship	Possibly ship related	Surface find	7/13/2010
Inside vessel near west end (in west half) but east of platform [orlop]	Ship Vicinity - clearing of soils east of orlop deck and above ceiling layer	Landfill/Ship	Possibly ship related	Surface find	7/16/2010
Inside vessel, north side; dark clay fill on top of SP	Ship Vicinity - clearing dark clay from port side of ship during initial discovery	Landfill/Ship	Possibly ship related	Surface find	7/13/2010
Inside vessel, south side, just east of platform	Ship Vicinity - clearing of soils from starboard side of ship east of orlop deck and above ceiling layer	Landfill/Ship	Possibly ship related	Surface find	7/13/2010
Landfill	Landfill - 30-60 feet northwest of ship	Landfill	-----	Surface find	7/15/2010
Machine excavated area below outer planking on the south side of the ship	River Bottom - below outer planking on south side of keel	River Bottom	-----		7/30/2010
Misc. surface finds near NE corner	Ship Vicinity - misc. surface find in northeast corner	Landfill	-----	Surface find	7/27/2010
Misc. surface finds outside ship collected by EE Cruz	Misc. find by contractor	Unknown	-----	Surface find	7/29/2010
Mortar sample associated with bricks found under the eastern orlop beam (brick sample is separate)	Ship - below Orlop Deck above ceiling layer	Ship	Orlop Deck		7/26/2010

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**Table B-2
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Field Provenience	Lab Provenience	Context	Analytical Unit	Collection Method	Date Collected
near starboard amidships	Artifacts from MAC Lab	Ship	Unidentified Ship	lab find	-----
Near starboard amidships	Ship - near starboard amidships	Ship	Unidentified Ship		Unknown
near1-2 abutting keel east end	Artifacts from MAC Lab	Ship	Unidentified Ship	lab find	-----
no provenience	Artifacts from MAC Lab	Ship	Unidentified Ship	lab find	-----
Northern side of vessel at level of the top of the vessel	Ship Vicinity - clearing north of ship during initial discovery	Landfill	-----	Surface find	7/13/2010
Outer Hull	Ship - outer surface of outer hull	Ship	Unidentified Ship	Flotation Sample #11	7/30/2010
Outside East	Ship Vicinity - east side of ship	Landfill	-----	Surface find	7/13/2010
Outside ship on east side below hull	River Bottom - below east side of hull	River Bottom	Possibly ship related		7/28/2010
Outside Vessel, North side	Ship Vicinity - clearing north of ship during initial discovery	Landfill	-----	Surface find	7/13/2010
Outside Vessel, South side	Ship Vicinity - clearing south of ship during initial discovery	Landfill	-----	Surface find	7/13/2010
Pedestal Removal	River Bottom - pedestal below ship	River Bottom	-----		7/30/2010
PN 10-2	River Bottom - below PN10-2	River Bottom	-----		7/30/2010
PN 10-4	Ship - immediately below PN10-4	Ship	Unidentified Ship		7/30/2010
Sample of brick beneath Orlop Deck	Ship - below Orlop Deck above ceiling layer	Ship	Orlop Deck	Surface find	7/27/2010
Sample of rope from east end of ship adjacent to 2nd to last [easternmost] crossbeam [frame]	Ship - adjacent to FNFS23	Ship	C	Surface find	7/13/2010
Scattered find in soil near ship	Ship Vicinity	Unknown	-----	Surface find	7/27/2010
Shoe Sample	Ship Vicinity - clearing during initial discovery	Landfill/Ship	Possibly ship related	Surface find	7/14/2010
Soil below hull south side of ship	River Bottom - below outer planking on south side of keel	River Bottom	-----		7/30/2010
Soil from west end below outer planking	River Bottom - below outer planking on west side of ship	River Bottom	-----		7/29/2010
Soil screening from above the outer planks after the removal	Ship - cleaning of inner surface of outer hull	Ship	Unidentified Ship	Water Screening	7/28/2010
South side far west end of bow [stern] at ST-1 [stern post] shell rich sample	River Bottom - shell rich sample below outer planking on west side of stern post	River Bottom	-----		7/29/2010
Southeast corner under planks	River Bottom - below outer planking in SE corner of ship	River Bottom	Possibly ship related		7/29/2010
Trunnel in fill between FS-6 and FS-8	Ship - between frames FS6 and FS8	Ship	A	Water Screening	7/28/2010
Under Apron [stern knee]	Artifacts from MAC Lab	Ship	Unidentified Ship	lab find	-----
Under Keel, southeast	River Bottom - below outer planking on south side of keel	River Bottom	-----		7/30/2010
Under planks of platform [orlop deck]	Ship - below Orlop Deck above ceiling layer	Ship	Orlop Deck		7/16/2010
Under PS-4-2A [outer planking] near apron [stern knee]	River Bottom - below outer planking in vicinity of stern knee	River Bottom	-----		7/29/2010
Under ship south side	River Bottom - below outer planking on south side of keel	River Bottom	-----		7/30/2010
Under ship west side	River Bottom - below outer planking on south side of keel	River Bottom	-----		7/30/2010
Under the keel southeast	River Bottom - below outer planking on south side of keel	River Bottom	-----		7/30/2010

Appendix B: Artifact Inventory

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Field Provenience	Lab Provenience	Context	Analytical Unit	Collection Method	Date Collected
Under west side	River Bottom - below outer planking on west side of ship	River Bottom	-----		7/30/2010
Unknown provenience; found in bottom of washing basin	Misc. find on or near ship	Unknown	-----	Surface find	-----
Unlabeled	Ship Vicinity - clearing during initial discovery	Landfill/Ship	Possibly ship related	Surface find	7/13/2010
Unlabeled	Ship Vicinity - discovered while clearing off ship	Unknown	-----		7/13/2010
VSC Vessel, FN 16-FN 17	Ship - between frames FN16 and FN17	Ship	B	Water Screening	7/27/2010
VSC Vessel FN 14-FN15	Ship - between frames FN14 and FN15	Ship	B	Water Screening	7/27/2010
VSC Vessel FN16-FN 17	Ship - between frames FN16 and FN17	Ship	B	Water Screening	7/27/2010
VSC Vessel FS14-FS15	Ship - between frames FS14 and FS15	Ship	B	Water Screening	7/27/2010
VSC Vessel	Ship - outer surface of outer hull	Ship	Unidentified Ship		Unknown
VSC Vessel FN14-FN15	Ship - between frames FN14 and FN15	Ship	B	Water Screening	7/27/2010
VSC Vessel, artifact sample from sketched feature [galley hearth] immediately East of Orlop Deck	Ship - east of orlop deck above ceiling layer	Landfill/Ship	Possibly ship related	Surface find	7/26/2010
VSC Vessel, FN14-FN15	Ship - between frames FN14 and FN15	Ship	B	Water Screening	7/27/2010
VSC Vessel; artifact sample from sketched feature immediately East of Orlop Deck	Ship - east of orlop deck above ceiling layer	Landfill/Ship	Possibly ship related	Surface find	7/26/2010
VSC Vessel; Beneath outer planking on the south side of the vessel, in line with the large notch in AP-1 [stern knee]	River Bottom - below outer planking on south side of stern knee	River Bottom	-----		7/29/2010
VSC Vessel; from area immediately south of possible cask	Ship Vicinity - immediately south of possible cask above orlop deck	Landfill	-----		7/26/2010
Water screen from area around bow [stern]	River Bottom - around stem post	River Bottom	-----	Water Screening	7/29/2010
Water screened from around bow [stern]	River Bottom - pedestal below ship	River Bottom	-----	Water screening	7/29/2010
Water screened from between frames FN 22 and FN 23	Ship - between frames FN22 and FN23	Ship	C	Water Screening	7/27/2010
water screened from eastern half of boat on top of outer planking	Ship - cleaning of inner surface of outer hull	Ship	Unidentified Ship	Water Screening	7/28/2010
Water screened between bow [stern]and apron [stern knee]	Ship - around stern knee	Ship	Stern Knee	Water screening	7/28/2010
Within or Adjacent to Ship	Ship Vicinity - clearing during initial discovery	Landfill/Ship	Possibly ship related	Surface find	7/13/2010
Within Vessel	Ship Vicinity - clearing during initial discovery	Ship	Unidentified Ship	Surface find	7/14/2010
Wood Sample	Ship Vicinity - clearing during initial discovery	Landfill/Ship	Possibly ship related	Surface find	7/13/2010

Appendix C: Faunal Analysis by Marie-Lorraine Pipes

1 Introduction

The VSC ship excavation recovered a small faunal assemblage two thirds of which was located outside the vessel. Most of the assemblage from both inside and out of the ship represents refuse thrown into landfill sediments. There does not seem to be any association between the ship and the faunal remains. Instead it appears to be primarily refuse generated by local businesses and households. A small amount of accidental inclusions such as wild mammals and fish are also indicated. Faunal remains are commonly recovered from landfill sites in lower Manhattan. Previous excavations at sites such 175 Water Street, Assay, and South Ferry Terminal yielded landfill deposits that included industrial waste from tanneries, commercial refuse from markets and eating establishments, as well as household dietary refuse.

Distinguishing bone refuse types is difficult. Landfill deposits present great challenges in terms of contextual association, refuse characterization, and interpretation of meaning and significance. Closed contexts are preferred by analysts because temporal and behavioral associations permit small scale interpretations whereas large open contexts such as landfill sites tend to be confusing due their depositional and post-depositional complexities. While most waterfront landfill sites contain refuse generated by trash disposal activities from surrounding businesses, markets and industries, they may also contain gradual and accidental refuse accumulations predating landfilling as well as during construction of docks and wharfs.

Dump deposits vary in volume and content according to time period and location as well as by refuse source. Dump deposits are similar in that they represent multiple source accumulations from households, businesses and local industries, and potentially many other sources including disaster and demolition cleanups. In many cases, the easiest dump deposits to identify are those generated by businesses and industries because they result in large dumping events, and leave signature compositions unlike households or small shops which yield smaller amounts of refuse. Where faunal remains are concerned, sorting out refuse types can be accomplished by considering the range of animal species and skeletal elements represented and by examining bone modifications found within the assemblage. The physical appearance of a bone provides an important clue to understanding sources of refuse and for interpreting what they represent.

2. Methodology

The assemblage was in an excellent state of preservation. As a result there was a high degree of identification, 81%. Each bone specimen was identified by species when possible, and by class and size range category when not possible. For the purposes of this report, large mammal

¹ A full catalog of faunal remains recovered during the investigation of the WTC Ship Remnant was prepared by Ms. Pipes follows this report.

is equivalent in size to cattle, medium mammal is equivalent in size to pig and sheep, and small mammal is equivalent in size to cat or smaller. Table 1 summarizes the faunal assemblage for the site by class, species and size-range category. Two counts are presented, the Total Number of bone Fragments (TNF) and the Minimum Number of bone Units (MNU). In brief, the TNF count serves as a curation tool indicating the absolute number of bone fragments for a given row of data. The MNU count is an adjusted bone count based on the number of actual skeletal elements represented for a given species for a given row of data. Not all rows of data received an adjusted bone count (MNU) as its application was used only when one or more skeletal elements were identified. For example, a crushed sheep femur consisting of 12 bone fragments would be tallied as 12 TNF, and receive an adjusted count of 1 MNU. Most of the descriptions in the report were based on the MNU or adjusted bone count. However, the TNF count was used when discussing frequencies of bone modifications.

Each bone specimen was further identified by skeletal element, portion, and age at death, when possible. All apparent bone modifications were recorded. The term “bone modification” means the physical alteration of the original appearance of a skeletal element either by human, animal or natural agents. Bone modifications at this site included butcher marks, gnaw marks, heat exposure and weathering. Identifications were made with the aid of a comparative skeletal type collection and the use of references including but not limited to: Brown and Gustafson (1979), Cannon (1987), Cornwall (1956), Daniels (1996), Lyman (1977), Olsen (1964, 1968), Pipes (1995), Schmid (1972) and Ubaldi and Grossman (1987). In the report that follows refuse types are classified based on skeletal elements, staining of the cortical bone surface, and associated butcher marks. “Dietary refuse” and “table scrap” are terms used to describe household food refuse: for example, the bones from a roast or a ham steak, or the skeletal remains of a roasted bird. “Processing waste” is used to describe the bone waste generated during the preparation of a meat dish: for example, skull bones left over from preparing headcheese or beef tongue. “Butcher waste” potentially includes butchered mandibles and skulls. “Industrial waste” describes waste from tanneries and horn-workers such skull, foot elements and horn cores from large domesticated mammals. “Commercial waste” is a term that describes tavern refuse such as large joints of meat and repetition of the same cuts of meat. Figures 3-5 illustrate the reduction of cattle, pig and sheep carcasses.

3. Data Description

There was approximately 445 bone fragments (TNF) representing a minimum of 124 actual bone units (MNU) in the assemblage. The bone fragment count is approximate because of the presence of a semi-fossilized fish skeleton recovered from beneath the ship’s hull. That particular specimen was partially embedded in a soil matrix. The faunal assemblage was composed of a diverse range of species despite its small size. Mammal was the most abundant class whereas fish and bird were about equally represented (Figure 1). More than half of the identified species were domesticated; six were mammals and two were birds (Table 1). Nearly all of the identified species were commonly consumed in New York City during the eighteenth century including all of the birds and fish, and most of the mammals, with the exception of rat and cat. All faunal specimens were stained. Some were brown and others dark brown-black. The brown staining is thought to be related to heat exposure whereas dark brown black was considered possibly related to tanning of hides. The brown staining is actually low level burning whereas the dark brown staining is a chemical transformation of the cortical bone.

a. Bird

Identified bird species included chicken, turkey and passenger pigeon (Table 1). Chicken was the most abundant of the three species (Figure 1). It was represented by a minimum of two individuals. Body parts included the back, wing, leg, thigh and foot. One specimen exhibited cut marks and another appeared to have been boiled. Turkey consisted of a leg bone that bore slice marks and exhibited canine tooth marks. Passenger pigeon was indicated by one element, a wing bone that was cut through the end. Unidentified bird consisted of wing elements and longbone fragments. One bird down feather was also present. This could not be identified by species because it was not a flight feather and lacked critical markers for identification.

b. Mammal

Eight mammal species were identified including cattle, pig, sheep, horse, goat, grey squirrel, cat and rat (Table 1). Figure 2 presents the relative frequencies of large domesticated mammals. Cattle (58%) was the most abundant species followed by pig (19%) and sheep (18%) and distantly by horse (4%) and goat (1%). Table 2 summarizes the types of meat units represented for beef, veal, pork and mutton. Figures 3-5 illustrate the reduction of cattle, pig and sheep carcasses and serve as guides for understanding the types of meat cuts presented in Table 2. Specific cuts are illustrated in Figures 6-8. Cattle was composed of a mix of industrial waste, commercial waste and household dietary refuse. It was represented by a partial skull and foot elements, several butchered cervical, lumbar, and thoracic vertebrae and ribs, large meat joints from the arm, shank, rump, round and sirloin. The skull came from an individual aged at around at more than 9 years at death. The teeth showed signs of enamel hypoplasia. This condition happens when the enamel is not formed properly and can happen for a variety of reasons such as illness, injury and genetic disorders. Most beef cuts were large (see Figure 6). The size of beef cuts was too large to be associated with regular household consumption. It is more likely that the cuts were generated by commercial eateries. A few cattle specimens represented veal meat cuts. Most of the meat cuts were processed by saw though some were chopped. Only one specimen bore canine gnaw marks.

Pig consisted of a majority of roasts or hams from the Boston butt, leg and shank (Table 2, Figure 4). A few spare ribs were also indicted. There was also a neonatal skull. Three bones exhibited rodent incisor gnaw marks. Many of the cuts were chopped and bore slice marks. Sheep was very limited as well in terms of body part distributions (Table 2, Figure 5). It was represented by the fore and hind shanks, two feet, the butt, leg, a loin chop, and two ribs. The majority represented stew meats though a few roasts were present as well. Most of the bones were chopped and exhibited slice marks. Two of them bore canine tooth marks. The majority of the specimens came from mature individuals though at least one lamb foot bone was also present.

Horse and goat remains were composed of tanner's and horn-worker's refuse. Horse consisted of a skull and two foot elements and goat consisted of a horn core that had been removed from the base of the skull. The horse skull came from an individual aged between 18 and 20 years of age at death. The frontal area was crushed suggesting the animal was killed by pole axing. The foot elements were very dark in color suggesting they came from a tannery.

In addition to identified mammal species there was a small number of medium and large mammal bones. These consisted mainly of vertebra, rib and longbone fragments. A fair number of these bore chop marks.

Cat was identified by a single mandible. None of the teeth were preserved and the specimen was culturally unmodified. There was a small mammal cranium that may also be cat but it was too fragmentary to be certain. Rat consisted of a mandible and squirrel of two leg bones. The squirrel bones appeared burned/heat which suggests they are food-related. There were two other small mammal bones consisting of fragments of a vertebra and rib.

c. Fish

Identified fish species included sheepshead, yellow perch and bay anchovy. Yellow perch was indicated by a cranial element, a preoperculum; sheepshead was represented by a preoperculum and two vertebrae and bay anchovy was identified by a fish scale. A nearly complete bay anchovy articulated skeleton was found impressed in the sediment beneath the ship's hull. The head was missing but the axial skeleton was fairly well preserved as were some of the fish scales. One other fish species was indicated by a fragmentary operculum. It may be from a porgy.

d. Reptile

Reptile was represented by a tibia from an unidentified turtle.

4. Summary

The faunal remains from the VSC excavation were composed of a range of species available within the local region. Most of the bone came from large domesticated mammal species. Beef, pork and mutton meat cuts dominated the assemblage. The size of beef cuts was large suggesting that they were mainly generated by commercial establishments such as restaurants, taverns and boardinghouses. Smaller meat cuts, however, were also present that may have been contributed by local households. Industrial waste was represented by the skulls and foot elements of cattle and horse, and by a goat horncore. Fish, bird and turtle remains were infrequent though all were locally available. As such, most of their remains may represent either household or commercial refuse.

Faunal remains were found within the ship in 'sealed' contexts as well as outside and beneath the ship. A comparison of the faunal remains from inside and outside revealed a few interesting patterns. The most frequent species, cattle, pig, sheep and chicken, were present in both contexts. Some infrequent and isolated specimens such as turkey, cat, rat, squirrel and yellow perch were present inside the ship, others such as anchovy, horse, goat, passenger pigeon and turtle were recovered outside the ship (Table 3). Stained bone was almost exclusively found inside the ship whereas heat exposed bone was recovered both inside and outside the ship (Table 4). It is unknown why the stained bone was so limited in distribution. Meat cuts appeared inside and outside the ship. While no specific cuts overlapped for beef, pork or mutton they were similar. Beef cuts included stew meats and roasts, pork included hams and mutton included rack cuts from both contexts. The visual differences in the appearance of meat cuts indicates they were generated by different butchers.

The VSC faunal assemblage by itself provides limited information. However it is significant because it represents another data set for the study of eighteenth century animal husbandry practices, dietary traditions and craft-related activities at the city level. There has generally been a lack of interest in landfill deposits. As a result the data sets are small or if they exist, remain undescribed. Yet these deposits are rich sources of information concerning the rearing and exploitation of animals during specific time periods. They also provide information about the life histories of livestock. Broad questions require lots of data. Landfill deposits represent an excellent source of data useful in investigating urban issues.

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Table 1. Summary of faunal species by Total Number of bone Fragments (TNF) and Minimum Number of bone Units (MNU).

Class/Species/Size-range Category	TNB	MNU
Bird		
Chicken (<i>Gallus gallus</i>)	5	5
Turkey (<i>Gallus gallopavo</i>)	1	1
Passenger Pigeon (<i>Ectopistes migratorius</i>)	1	1
Unidentified Bird	7	3
<i>Subtotal TNF/MNU</i>	<u>14</u>	<u>10</u>
Mammal		
Rat sp. (<i>Rattus sp.</i>)	1	1
Cat (<i>Felis domesticus</i>)	1	1
Cattle (<i>Bos Taurus</i>)	74	45
Goat (<i>Capra sp.</i>)	1	1
Grey Squirrel (<i>Sciurus caroliensis</i>)	2	2
Horse (<i>Equus caballus</i>)	160	3
Pig (<i>Sus scrofa</i>)	19	15
Sheep (<i>Ovis aries</i>)	16	14
Small Mammal	6	3
Medium Mammal	48	12
Large Mammal	13	3
<i>Subtotal TNF/MNU</i>	<u>341</u>	<u>100</u>
Fish		
Bay Anchovy (<i>Anchoa mitchilli</i>)	75	1
Sheepshead (<i>Archosargus probatocephalus</i>)	4	4
Yellow Perch (<i>Perca flavens</i>)	1	1
Unidentified Fish	8	7
<i>Subtotal TNF/MNU</i>	<u>88</u>	<u>13</u>
Reptile		
Unidentified Turtle	1	1
<i>Subtotal TNF/MNU</i>	<u>1</u>	<u>1</u>
Other		
Unidentified Bone	1	-
<i>Subtotal TNF/MNU</i>	<u>1</u>	<u>-</u>
Total TNF/MNU	<u>445</u>	<u>124</u>

Table 2. Summary of beef, veal, pork and mutton cuts, based on MNU.

Meat Type	Stew	Roast/Ham	Steak/Chop	Trimming Waste	Processed Waste	Tanners Waste
Beef						
Head	-	-	-	-	1	2
Neck	5	-	-	-	-	-
Loin	-	2	-	-	-	-
Rib	4	-	6	-	-	-
Shank	10	-	-	-	-	-
Foot	-	-	-	-	-	3
Sirloin	-	1	-	-	-	-
Rump	-	3	-	-	-	-
Round	-	2	-	-	-	-
Subtotal	19	8	6	-	1	5
Veal						
Rack	-	-	2	-	-	-
Breast	1	-	-	-	-	-
Shank	1	-	-	-	-	-
Foot	-	-	-	-	1	-
Leg	-	1	-	-	-	-
Subtotal	2	1	2	-	1	-
Pork						
Boston butt	1	4	-	-	-	-
Picnic Ham	-	2	-	-	-	-
Rib	2	-	1	-	-	-
Butt ham	-	2	-	-	-	-
Shank ham	-	2	-	-	-	-
Subtotal	3	10	1	-	-	-
Mutton						
Loin	-	-	1	-	-	-
Butt	-	2	-	-	-	-
Leg	-	1	-	-	-	-
Foot	-	-	-	3	-	-
Shank	5	-	-	-	-	-
Subtotal	5	3	1	3	-	-

Table 3. Comparison of faunal remains inside and outside the ship.

Class/Species/Size-range Category	Inside		Outside		
	MNU	Rel.%	MNU	Rel.%	
Bird					
Chicken	3	.06	2	.03	
Turkey	1	.02	-	-	
Passenger Pigeon	-	-	1	.01	
Unidentified Bird	3	.06	-	-	
Mammal					
Rat sp.	1	.02	-	-	
Cat	1	.02	-	-	
Cattle	15	.30	30	.41	
Goat	-	-	1	.01	
Grey Squirrel	2	.04	-	-	
Horse	-	-	3	.04	
Pig	6	.12	9	.12	
Sheep	5	.10	9	.12	
Unidentified Mammal	10	.20	8	.11	
Fish					
Bay Anchovy	-	-	1	.01	
Sheepshead	2	.04	2	.03	
Yellow Perch	1	.02	-	-	
Unidentified Fish	-	-	7	.10	
Reptile					
Unidentified Turtle	-	-	1	.01	
Total <u>MNU/Relative %</u>		50	1.00	74	1.00

Table 4. Comparison of burned bone and brown-black stained bone from inside and outside the ship.

Appearance	Inside	Outside
	TNF	TNF
Heat exposed	27	71
Stained brown-black	35	3

Table 5. Comparison of specific meat cuts from inside and outside the ship.

Species	Cut #	Inside MNU	Outside MNU
Cattle	126	1	-
	136	1	-
	162	1	-
	192	-	1
	199	-	1
	238	1	-
	277	-	1
	278	-	2
	279	1	-
	280	-	1
	283	2	-
	285	1	-
	305	-	1
	314	-	1
	396	-	1
	400	-	1
	425	-	1
	479	-	1
	482	-	1
630	-	1	
		8	14
Pig	148	-	1
	163	1	-
	285	-	2
	630	-	1
		1	4
Sheep	286	-	1
	283	1	-
	328	1	-
		2	1

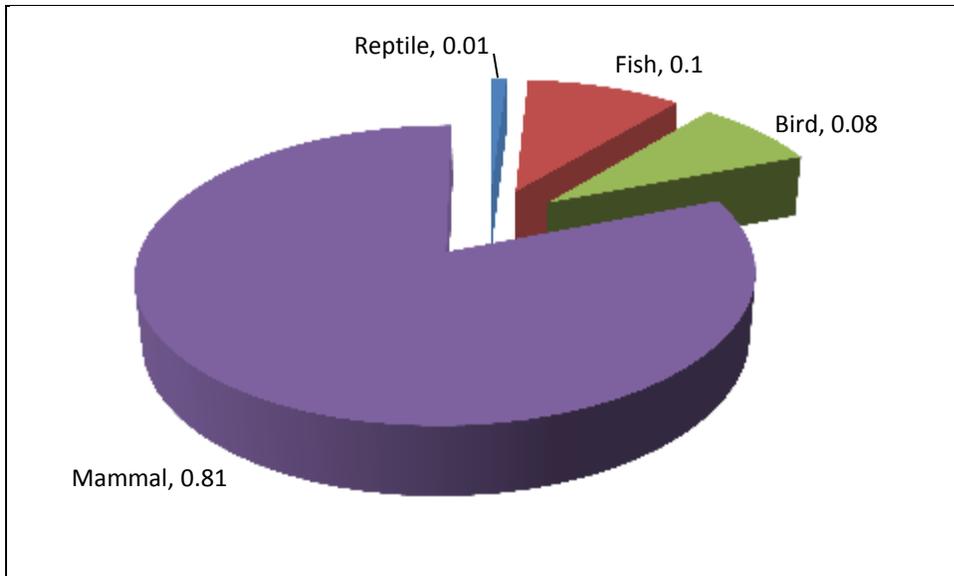


Figure 1. Class relative frequencies based on MNU.

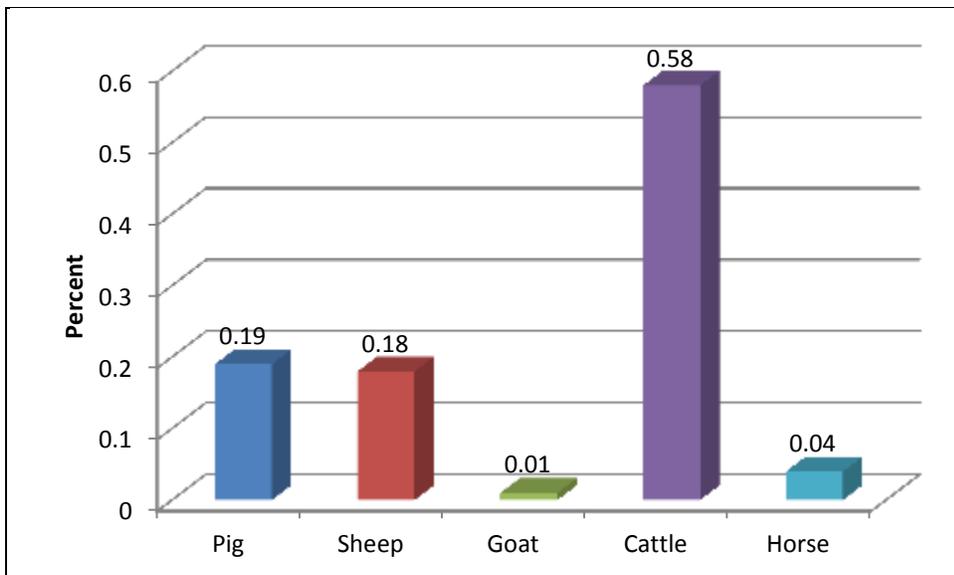


Figure 2. Relative frequencies of large domesticated mammals.

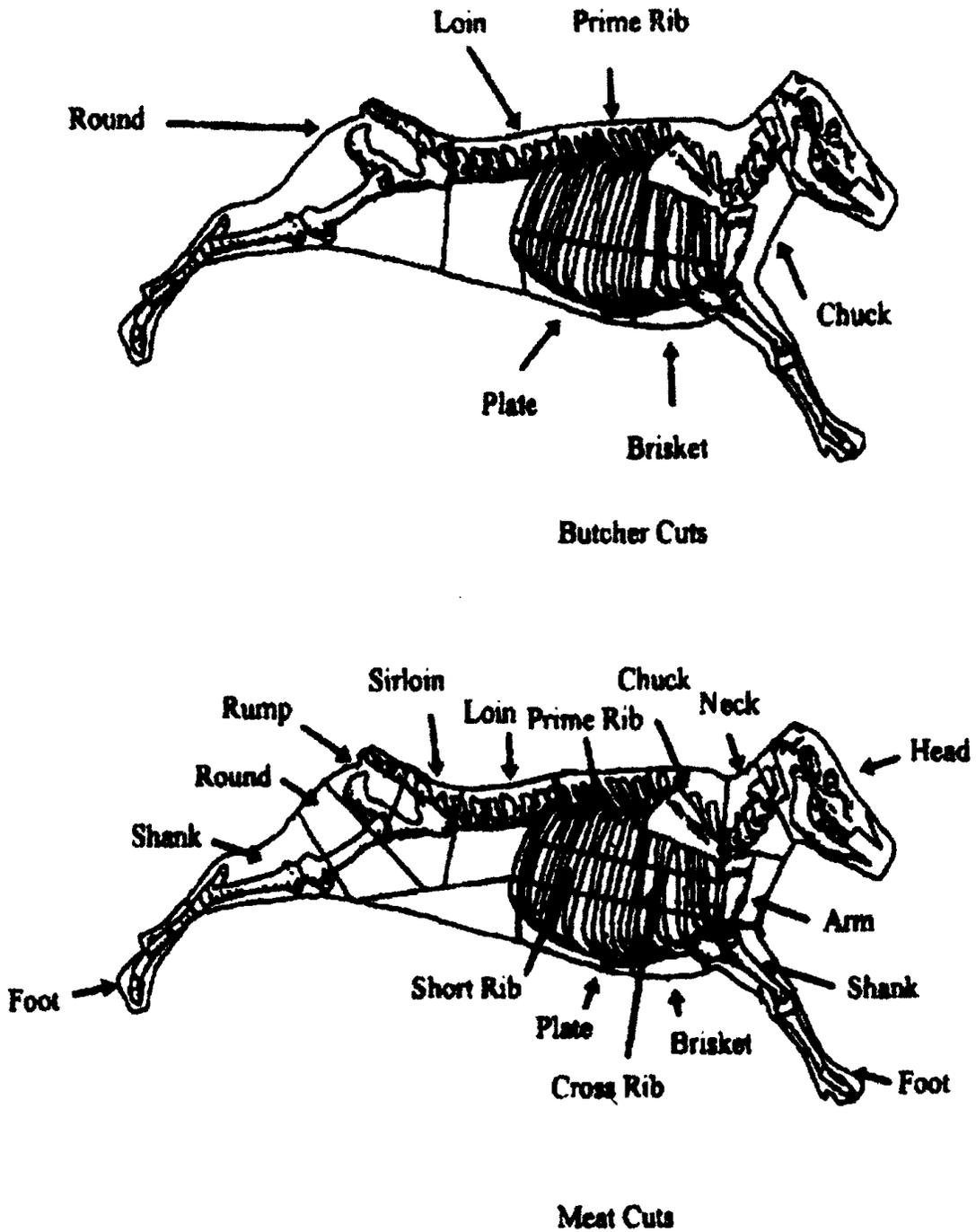


Figure 3. Cattle/Beef Secondary Butcher Cuts and Primary Meat Cuts.

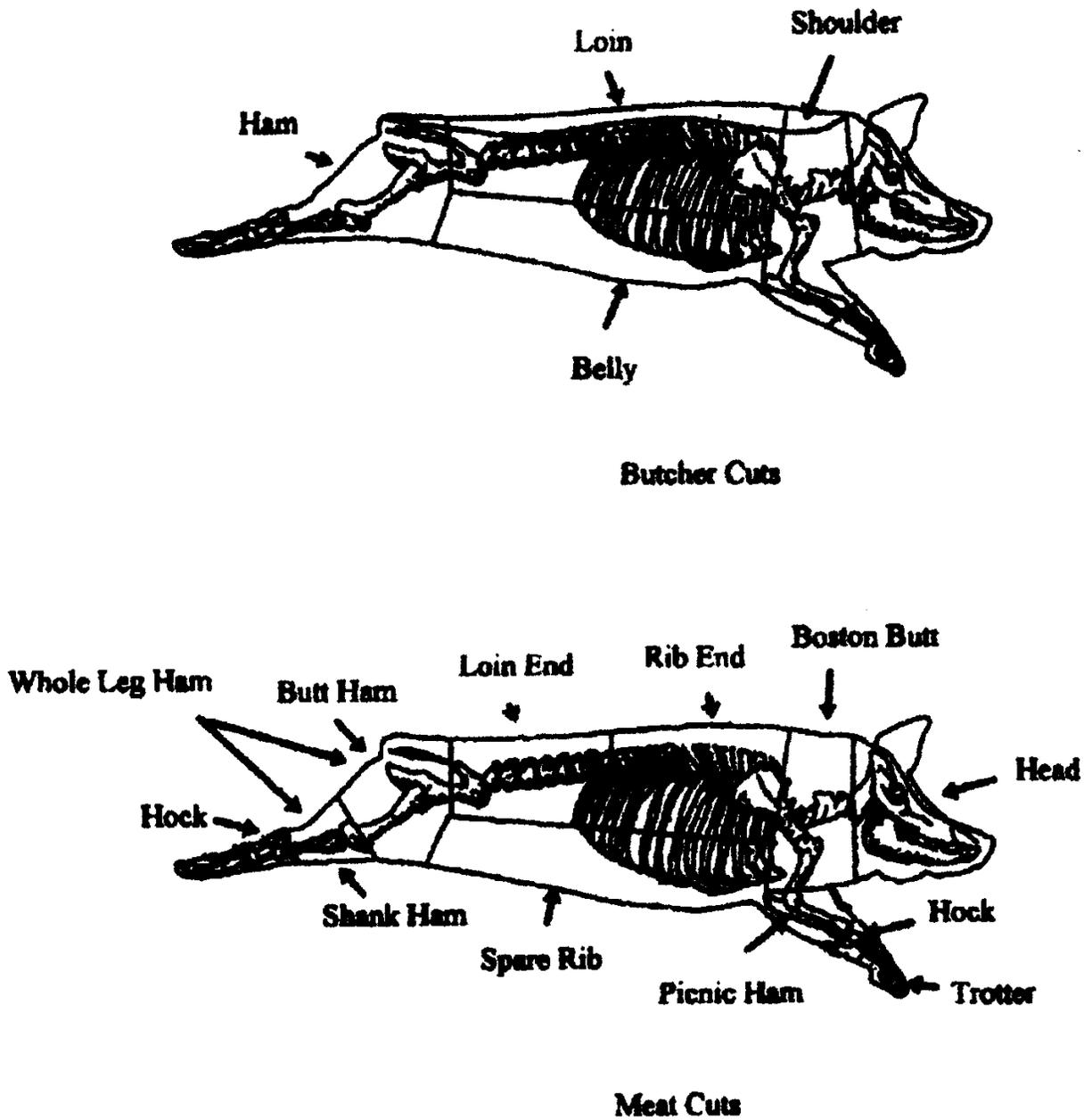
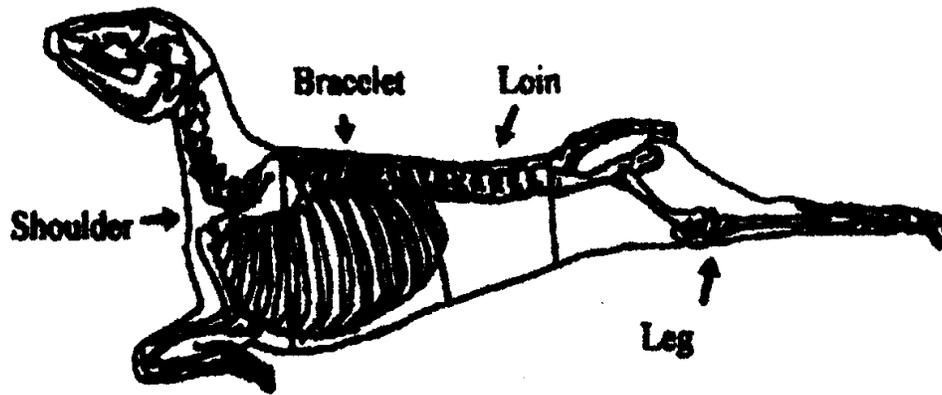


Figure 4. Pig/Pork Secondary Butcher Cuts and Primary Meat Cuts.



Butcher Cuts

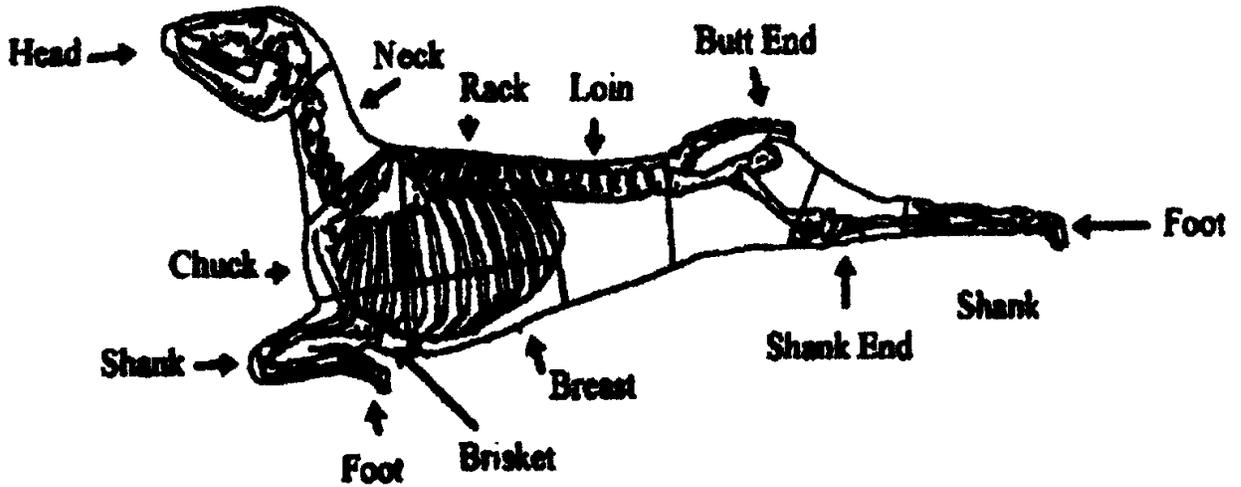


Figure 5. Sheep/Mutton Secondary Butcher Cuts and Primary Meat Cuts.

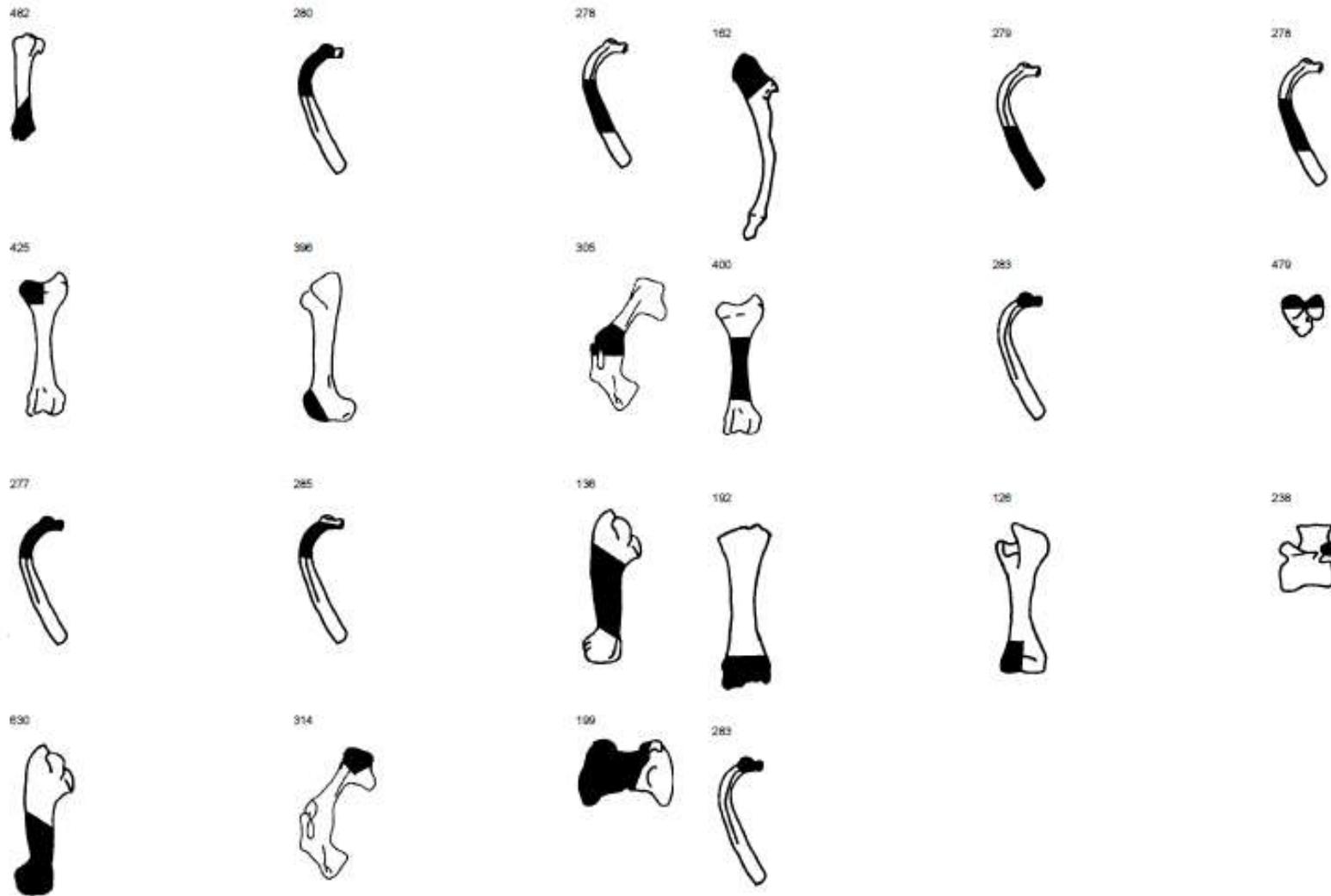


Figure 6. Illustrated beef meat cuts.

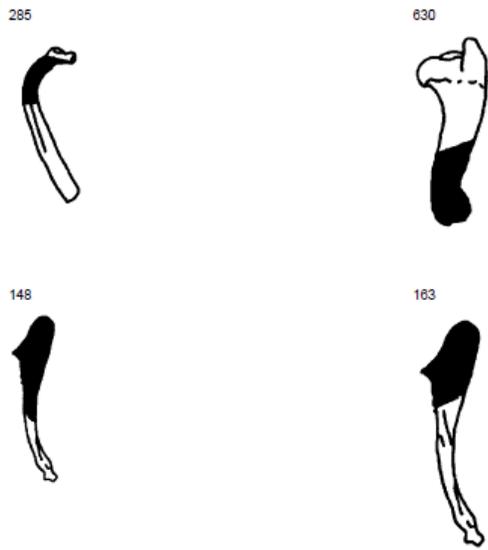


Figure 7. Illustrated pork meat cuts.



Figure 8. Illustrated mutton meat cuts.

Catalog No	Provenience description	Other field information	Species	Latin Name	TNF	MNU Descriptor	MNU	Skeletal Element	Element Part	Age Indicator	Cut Mark	Illustrated Meat Cut	Gnaw Mark	Heat Exposure Translation	Weathering Translation	Note Field
1	beneath hull, n side, found when removing keel and apron		Pig	<i>Sus scrofa</i>	2	MNE	1	Calvar (Skull)	Fragment	Neonate (< than 6 months)	-	0	-	-	Porous	SUCKLING
			Cow	<i>Bos taurus</i>	1	MNMC	1	Tibia	Distal section	+ 2 1/2 years	Chopped	482	-	-	Porous	SPIRAL FRACTURE PROXIMAL END, CLEAVER MARK DISTAL END
			Medium Mammal		1	MNE	1	Rib	Proximal fragment	Unfused	-	0	-	Calcined	-	
			Small Fish		2	MNE	1	Operculum	Partial	-	-	0	-	-	-	POSSIBLE PORGY
2	outside east		Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Proximal section	-	Cleaved	280	-	-	DARK STAINING	DARK IN APPEARANCE
3	below outer planking on south side of the ship		Pig	<i>Sus scrofa</i>	3	MNMC	2	Rib	Shaft section	-	Chopped	285	-	Presence	Porous	PLATE
			Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Shaft section	-	Cleaved	278	-	Presence	-	MASSIVE 11" LONG. SCORED ON SHAFT
4	se corner under outer planks		Cow	<i>Bos taurus</i>	1	MNMC	1	Femur	Proximal section	+ 3 1/2 years	Cleaved	425	-	-	DARK STAINING	VERY DARK, SMOOTH APPEARANCE
5	misc. surface finds near ne corner		Cow	<i>Bos taurus</i>	1	MNE	1	Maxilla	Partial	-	-	0	-	-	-	LEFT SIDE, MILD DENTAL HYPOPLASIA ON THE M1-M3. RECEDING GUM LINE DUE TO HEAVY PLAQUE BUILD UP. MAY BE CHOPPED BEHIND M3
			Cow	<i>Bos taurus</i>	1	MNMC	1	Femur	Distal section	+ 2 1/2 years	Sawed	396	-	Presence	-	PITTING AT THE SUTURE LINE. SLICE MARK ON THE CONDYLE
6	under keel se, shells growing on bone are falling off		Cow	<i>Bos taurus</i>	1	MNMC	1	Pelvis (innominates)	Section	+ 3/4 year	Chopped	305	-	-	Porous	
7	under ship west side		Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Proximal section	Fused	Chopped	277	-	Presence	Porous	SLICE MARK ON SHAFT
8	machine excavated area below outer planking on the south side of the		Chicken	<i>Gallus gallus</i>	1	MNMC	1	Tibiotarsus	Distal section	Unfused	Cut	0	-	Presence	-	CUT ABOVE THE JOINT
			Sheep	<i>Ovis aries</i>	1	MNE	1	Radius	Shaft	-	Cut marks(s) on body	0	-	Presence	Flaking cortex	
			Sheep	<i>Ovis aries</i>	1	MNE	1	Metatarsus	Whole	+ 2 1/2 years	-	0	-	-	Porous	

WTC Vehicular Security Center and Tour Bus Parking Facility—Ship Remnant Data Recovery Report

Catalog No	Provenience description	Other field information	Species	Latin Name	TNF	MNU Descriptor	MNU	Skeletal Element	Element Part	Age Indicator	Cut Mark	Illustrated Meat Cut	Gnaw Mark	Heat Exposure Translation	Weathering Translation	Note Field	
	ship		Pig	<i>Sus scrofa</i>	1	MNMC	1	Humerus	Distal section	Young	Cleaved	630	-	Presence	-		
			Cow	<i>Bos taurus</i>	1	MNMC	1	Cervical Vertebra	Section	- 9 years	Chopped	12	-	Presence	Flaking cortex	BISECTED VERTICALLY. C6	
			Cow	<i>Bos taurus</i>	1	MNMC	1	Tibia	Shaft section	Young	Chopped	0	-	Presence	-		
			Sheeps-head	<i>Archosargus probatocephalus</i>	1	MNE	1	Preoperculum	Whole	-	-	0	-	-	DARK STAINING	VERY DARK. LEFT	
9	inside vessel		Turkey	<i>Meleagris gallopavo</i>	1	MNE	1	Tibiotarsus	Partial	Fused	Cut marks(s) on body	0	Carnivore	Presence	-		
			Sheep	<i>Ovis aries</i>	1	MNE	1	Radius	Whole	1/4 - 3 1/2 years	Cut marks(s) on body	0	-	Presence	Porous		
			Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Proximal section	Unfused	Sawed, cut mark(s) on body	285	-	Presence	-		
			Cow	<i>Bos taurus</i>	2	MNMC	1	Radius	Shaft section	Young	Chopped	136	Carnivore	Charred/black	-		
10	outside vessel, south side		Cow	<i>Bos taurus</i>	1	MNMC	1	Cervical Vertebra	Section	- 9 years	Cleaved	12	-	Presence	-	C6	
10	outside vessel, south side		Cow	<i>Bos taurus</i>	1	MNMC	1	Humerus	Distal section	+ 1 1/2 years	Sawed, cut mark(s) on body	630	-	Presence	-		
			Cow	<i>Bos taurus</i>	1	MNE	1	Proximal Phalange	Distal fragment	-	-	0	-	Calcined	-		
11	under keel southeast		Pig	<i>Sus scrofa</i>	1	MNMC	1	Humerus	Proximal fragment	- 3 years	Chopped	148	-	Presence	-		
			Horse	<i>Equus caballus</i>	1	MNE	1	Metacarpus	Whole	+ 1 1/4 years	-	0	-	-	Porous		
			Large Mammal		1	-	0	Unidentified	Fragment	-	-	0	-	Presence	-		
12	immediately beneath vessel after removal		Sheep	<i>Ovis aries</i>	1	MNE	1	Metacarpus	Partial	Neonate (< than 6 months)	Chopped	0	Carnivore	Presence	-		
			Cow	<i>Bos taurus</i>	1	MNMC	1	Lumbar Vertebra	Section	+ 9 years	Cleaved	12	-	Presence	-	L6	
13	pedestal removal	wood block with spike removed for Gary		Cow	<i>Bos taurus</i>	1	MNMC	1	Right Mandible	Proximal section	-	Chopped	0	-	Presence	Porous	
				Cow	<i>Bos taurus</i>	1	MNMC	1	Atlas	Section	-	Chopped	199	-	Presence	-	
				Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Distal section	Neonate (< than 6 months)	Chopped	0	-	-	Porous	
				Cow	<i>Bos taurus</i>	1	MNE	1	Rib	Whole	-	-	0	-	Presence	-	
				Cow	<i>Bos taurus</i>	1	MNMC	1	Innominate - Ilium	Section	-	Sawed	314	-	Presence	-	

Catalog No	Provenience description	Other field information	Species	Latin Name	TNF	MNU Descriptor	MNU	Skeletal Element	Element Part	Age Indicator	Cut Mark	Illustrated Meat Cut	Gnaw Mark	Heat Exposure Translation	Weathering Translation	Note Field
			Cow	<i>Bos taurus</i>	1	MNE	1	Calcaneus	Whole	- 3 years	Cut mark(s) on body	0	-	Presence	Porous	
			Medium Mammal		4	-	0	Long bone	Fragment	-	-	0	-	-	-	
14	artifacts from under BP		Chicken	<i>Gallus gallus</i>	1	MNE	1	Sacrum	Partial	-	-	0	-	Presence	-	
14	artifacts from under BP		Unidentified Bird		1	MNE	1	Radius	Shaft	-	-	0	-	-	Weathering present	
			Unidentified Bird		1	-	0	Unidentified	Fragment	-	-	0	-	-	Weathering present	
			Sheep	<i>Ovis aries</i>	1	MNMC	1	Pelvis (innominates)	Partial	+ 1/2 year	Chopped	328	-	Presence	-	
			Pig	<i>Sus scrofa</i>	1	MNMC	1	Humerus	Proximal section	-	Chopped	0	-	Presence	Porous	
			Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Distal section	-	Chopped	279	-	Presence	Porous	PLATE
			Cow	<i>Bos taurus</i>	2	MNMC	1	Cuneiform	Proximal section	- 3 1/2 years	Cleaved	162	-	Presence	-	
			Brown Rat	<i>Rattus norvegicus</i>	1	MNE	1	Right Mandible	Whole	-	-	0	-	Presence	-	
			Medium Mammal		1	MNE	1	Rib	Shaft	-	-	0	-	Presence	-	
			Medium Mammal		1	-	0	Long bone	Fragment	-	-	0	-	Presence	-	
			Medium Mammal		8	-	0	Unidentified	Fragment	-	-	0	-	Calcined	-	
15	under ship, south side		Goat	<i>Capra</i>	1	MNMC	1	Horn Core	Whole	-	Chopped	0	-	-	Porous	RIGHT
			Cow	<i>Bos taurus</i>	1	MNMC	1	Cervical Vertebra	Section	-	Chopped	51	-	Presence	-	
			Cow	<i>Bos taurus</i>	1	MNMC	1	Thoracic Vertebra	Dorsal spine	Neonate (< than 6 months)	Chopped	0	-	Presence	-	
			Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Shaft section	-	Chopped	278	-	Presence	Porous	
16	soil below hull, south side of ship		Unidentified Bone		1	-	0	Unidentified	Fragment	-	-	0	-	Calcined	-	
			Sheep	<i>Ovis aries</i>	1	MNMC	1	Tibia	Distal section	- 1 1/4 year	Chopped	0	-	-	Porous	
			Sheep	<i>Ovis aries</i>	1	MNMC	1	Tibia	Proximal section	-	Chopped	0	Carnivore	Presence	-	
16	soil below hull, south side of ship		Pig	<i>Sus scrofa</i>	1	MNMC	1	Scapula	Distal section	-	Chopped	0	-	-	Porous	
			Pig	<i>Sus scrofa</i>	1	MNE	1	Humerus	Distal fragment	-	-	0	-	-	Porous	
			Cow	<i>Bos taurus</i>	26	MNE	1	Calvar (Skull)	Partial	-	-	0	-	Presence	-	INCLUDES ORBITAL
			Cow	<i>Bos taurus</i>	1	MNE	1	Metacarpus/Metatarsus	Distal epiphysis	- 2 years	-	0	-	-	-	
			Cow	<i>Bos taurus</i>	1	MNMC	1	Innominate - Ischium	Section	Neonate (< than 6 months)	Chopped	0	-	-	Porous	
			Horse	<i>Equus caballus</i>	1	MNE	1	Mid Phalange	Whole	+ 1 year	-	0	-	Presence	-	

WTC Vehicular Security Center and Tour Bus Parking Facility—Ship Remnant Data Recovery Report

Catalog No	Provenience description	Other field information	Species	Latin Name	TNF	MNU Descriptor	MNU	Skeletal Element	Element Part	Age Indicator	Cut Mark	Illustrated Meat Cut	Gnaw Mark	Heat Exposure Translation	Weathering Translation	Note Field
			Small Mammal		1	MNE	1	Rib	Shaft	-	-	0	-	-	Porous	
			Medium Mammal		1	MNMC	1	Rib	Proximal section	-	Chopped	0	-	Presence	-	
			Medium Mammal		1	-	0	Long bone	Fragment	-	-	0	-	-	Porous	
			Medium Mammal		3	-	0	Unidentified	Fragment	-	-	0	-	-	Porous	
			Medium Mammal		1	-	0	Unidentified	Fragment	-	-	0	-	Charred/black	-	
			Large Mammal		1	-	0	Long bone	Fragment	-	Cut mark(s) on body	0	-	Charred/black	-	
			Turtle		1	MNE	1	Tibia	Whole	-	-	0	-	Presence	-	
17	within or adjacent to ship		Cow	<i>Bos taurus</i>	1	MNE	1	Proximal Phalange	Whole	+ 2 years	-	0	-	Presence	-	
			Cow	<i>Bos taurus</i>	1	MNMC	1	Femur	Shaft section	-	Cleaved	400	-	Presence	-	
18	eastern side of vessel beneath outer planking		Chicken	<i>Gallus gallus</i>	1	MNE	1	Coracoid	Proximal fragment	-	-	0	-	Presence	-	
			Sheep	<i>Ovis aries</i>	1	MNE	1	Carpus	Whole	-	-	0	-	Presence	-	
18	eastern side of vessel beneath outer planking		Sheep	<i>Ovis aries</i>	1	MNE	1	Femur	Partial	+ 3 1/2 years	-	0	-	-	Porous	
			Horse	<i>Equus caballus</i>	152	MNE	1	Calvar (Skull)	Partial	Old	-	0	-	-	-	BETWEEN 18 AND 20 YEARS OLD
			Medium Mammal		1	-	0	Vertebra	Fragment	-	-	0	-	-	-	
			Medium Mammal		1	-	0	Unidentified	Section	-	Chopped	0	-	-	-	
19	between bow and apron	water screened	Sheep	<i>Ovis aries</i>	1	MNE	1	Radius	Shaft	-	-	0	-	Presence	-	
			Medium Mammal		2	MNMC	1	Lumbar Vertebra	Section	-	Chopped	12	-	Presence	-	MAY BE SHEEP
			Medium Mammal		1	MNE	1	Humerus	Shaft	-	-	0	-	Presence	-	
19	between bow and apron	water screened	Large Mammal		1	-	0	Unidentified	Fragment	-	-	0	-	Presence	-	
20	beneath orlop deck	water screened	Chicken	<i>Gallus gallus</i>	1	MNE	1	Femur	Shaft	-	-	0	-	-	-	
21	inside vessel near west end (in west half but east of 'platform')		Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Proximal section	Fused	Chopped	283	-	Presence	-	

Catalog No	Provenience description	Other field information	Species	Latin Name	TNF	MNU Descriptor	MNU	Skeletal Element	Element Part	Age Indicator	Cut Mark	Illustrated Meat Cut	Gnaw Mark	Heat Exposure Translation	Weathering Translation	Note Field
22	from all adjacent to th 'beams' (frames) at the eastern end of the ship		Cow	<i>Bos taurus</i>	1	MNE	1	Carpus	Whole	-	-	0	-	Presence	-	
23	above outer planks after frame removed		Cow	<i>Bos taurus</i>	1	MNMC	1	Thoracic Vertebra	Dorsal spine	Unfused	Chopped	12	-	Presence	-	
			Cow	<i>Bos taurus</i>	1	MNMC	1	Femur	Section	-	Chopped	0	-	Presence	-	
24	beneath south side of the vessel at the far west end of what was then called the bow		Passenger Pigeon		1	MNE	1	Ulna	Whole	-	Cut	0	-	-	-	
25	fill from F10 to F14		Medium Mammal		2	MNE	1	Costal Rib	Shaft	-	-	0	-	-	-	
26	from surface of outer planking		Cat	<i>Felis domesticus</i>	1	MNE	1	Mandible	Whole	-	-	0	-	-	Porous	
27	VSC (Vessel); FN14-FN15		Large Mammal		1	-	0	Calvar (Skull)	Fragment	-	-	0	-	Presence	-	
28	soil from west end below outer planking		Sheep	<i>Ovis aries</i>	2	MNMC	1	Rib	Proximal section	-	Chopped	286	-	-	Porous	
29	1 mm vicinity of vessel during initial identification		Sheep	<i>Ovis aries</i>	1	MNE	1	Radius	Shaft	-	-	0	-	-	Porous	
			Small Mammal		4	MNE	1	Calvar (Skull)	Fragment	-	-	0	-	Presence	-	POSSIBLE CAT CRANIUM
30	from under outer planking on the northern half of the ship, under the keel		Medium Mammal		2	MNE	1	Rib	Shaft	-	-	0	-	Presence	-	
			Medium Mammal		1	MNE	1	Sternum	Plates	Unfused	-	0	-	-	-	
31	inside vessel, south side		Sheep	<i>Ovis aries</i>	2	MNMC	1	Lumbar Vertebra	Section	- 4 years	Cleaved	12	-	Presence	-	
32	beneath orlop deck		Sheep	<i>Ovis aries</i>	1	MNMC	1	Rib	Proximal section	-	Chopped	283	-	Presence	-	
			Medium Mammal		3	-	0	Long bone	Fragment	-	-	0	-	Calcined	-	
33	from between frames FN2 and FN3		Small Mammal		1	MNE	1	Vertebra	Fragment	-	-	0	-	Presence	-	

WTC Vehicular Security Center and Tour Bus Parking Facility—Ship Remnant Data Recovery Report

Catalog No	Provenience description	Other field information	Species	Latin Name	TNF	MNU Descriptor	MNU	Skeletal Element	Element Part	Age Indicator	Cut Mark	Illustrated Meat Cut	Gnaw Mark	Heat Exposure Translation	Weathering Translation	Note Field
34	outside vessel, north side		Pig	<i>Sus scrofa</i>	1	MNE	1	Femur	Shaft	Young	Cut marks(s) on body	0	-	Presence	-	
			Pig	<i>Sus scrofa</i>	1	MNMC	1	Tibia	Distal section	-	Cleaved	0	-	Presence	-	
			Medium Mammal		1	MNMC	1	Rib	Shaft section	-	Chopped	278	-	Presence	-	
35	fill outside ship, south side between cross beams 6 and 9, if 1 is the eastern most		Cow	<i>Bos taurus</i>	1	MNMC	1	Radius	Distal section	-	Cleaved	192	-	-	Porous	
35	fill outside ship, south side between cross beams 6 and 9, if 1 is the eastern most		Cow	<i>Bos taurus</i>	1	MNMC	1	Tibia	Proximal section	+ 3 1/2 years	Chopped	479	-	-	Porous	
36	from between the area west of Frame 10 and the stern (id'd in the field as the bow)		Unidentified Bird		1	MNE	1	Radius	Shaft	-	-	0	-	-	DARK STAINING	VERY DARK
			Unidentified Bird		1	-	0	Long bone	Fragment	-	-	0	-	-	DARK STAINING	VERY DARK
			Pig	<i>Sus scrofa</i>	1	MNE	1	Cervical Vertebra	Partial	-	-	0	Rodent	-	DARK STAINING	VERY DARK
			Pig	<i>Sus scrofa</i>	1	MNE	1	Femur	Shaft	-	-	0	Rodent	-	DARK STAINING	VERY DARK
			Cow	<i>Bos taurus</i>	1	MNE	1	Rib	Proximal section	-	-	0	Rodent	-	DARK STAINING	VERY DARK
			Cow	<i>Bos taurus</i>	2	MNMC	1	Humerus	Distal section	+ 1 1/2 years	Spiral fracture	126	Rodent	-	DARK STAINING	VERY DARK
			Medium Mammal		1	-	0	Sacrum	Fragment	-	-	0	-	-	DARK STAINING	VERY DARK
			Medium Mammal		2	MNE	1	Scapula	Fragment	-	-	0	-	-	DARK STAINING	VERY DARK
36	from between the area west of Frame 10 and the stern (id'd in the field as the bow)		Medium Mammal		1	-	0	Long bone	Fragment	-	-	0	-	-	DARK STAINING	VERY DARK
			Yellow Perch	<i>Perca flavens</i>	1	MNE	1	Preoperculum	Partial	-	-	0	-	-	DARK STAINING	VERY DARK
36			Sheeps-head	<i>Archosargus probatocephalus</i>	1	MNE	1	Vertebra	Whole	-	-	0	-	-	DARK STAINING	VERY DARK
37	soil below hull, south side of ship		Sheeps-head	<i>Archosargus probatocephalus</i>	1	MNE	1	Vertebra	Whole	-	-	0	-	Presence	-	
			Unidentified Fish		1	MNE	1	Vertebra	Whole	-	-	0	-	-	-	

Catalog No	Provenience description	Other field information	Species	Latin Name	TNF	MNU Descriptor	MNU	Skeletal Element	Element Part	Age Indicator	Cut Mark	Illustrated Meat Cut	Gnaw Mark	Heat Exposure Translation	Weathering Translation	Note Field
			Unidentified Fish		1	MNE	1	Thoracic Vertebra	Dorsal spine	-	-	0	-	Presence	-	
			Unidentified Fish		1	MNE	1	Scale	Fragment	-	-	0	-	-	-	
			Unidentified Fish		3	MNE	3	Branchiostegal	Fragment	-	-	0	-	-	-	
			Chicken	<i>Gallus gallus</i>	1	MNE	1	Tarsometatarsus	Partial	-	-	0	-	-	Porous	
			Unidentified Bird		2	-	0	Long bone	Shaft	-	-	0	-	-	DARK STAINING	VERY DARK
			Pig	<i>Sus scrofa</i>	1	MNE	1	Rib	Partial	-	Cut mark(s) on body	0	-	-	DARK STAINING	VERY DARK
			Pig	<i>Sus scrofa</i>	1	MNMC	1	Humerus	Proximal section	-	Chopped	163	Rodent	-	DARK STAINING	VERY DARK
			Pig	<i>Sus scrofa</i>	3	MNE	1	Tibia	Distal fragment	- 2 years	-	0	-	Calcined	-	
			Cow	<i>Bos taurus</i>	1	MNE	1	Premolar	Proximal epiphysis and diaphysis	+ 9 years	-	0	-	-	DARK STAINING	VERY DARK
			Cow	<i>Bos taurus</i>	1	MNMC	1	Cervical Vertebra	Section	-	Chopped	12	-	-	DARK STAINING	VERY DARK
			Cow	<i>Bos taurus</i>	1	MNMC	1	Lumbar Vertebra	Section	-	Chopped	238	-	-	DARK STAINING	VERY DARK
			Cow	<i>Bos taurus</i>	2	MNE	1	Thoracic Vertebra	Dorsal spine	-	-	0	-	-	DARK STAINING	VERY DARK
			Cow	<i>Bos taurus</i>	1	MNMC	1	Rib	Proximal section	Fused	Chopped	283	Rodent	-	DARK STAINING	VERY DARK
			Eastern Grey Squirrel	<i>Sciurus carolinensis</i>	2	MNE	2	Tibia	Partial	-	-	0	-	-	DARK STAINING	VERY DARK
			Medium Mammal		1	MNE	1	Vertebra	Epiphysis	Unfused	Sawed on end	0	-	Calcined	-	
			Medium Mammal		3	MNE	1	Rib	Fragment	-	-	0	-	-	DARK STAINING	VERY DARK
			Medium Mammal		1	-	0	Long bone	Fragment	-	-	0	-	-	Porous	
			Medium Mammal		4	-	0	Unidentified	Fragment	-	-	0	-	Calcined	-	
			Large Mammal		1	MNE	1	Mandible	Fragment	-	-	0	-	-	DARK STAINING	VERY DARK
			Large Mammal		1	-	0	Vertebra	Fragment	-	-	0	-	-	DARK STAINING	VERY DARK
			Large Mammal		1	MNE	1	Humerus	Distal fragment	-	-	0	-	Presence	-	POSSIBLE CATTLE. VERY DARK
38	fill from F10 to F14		Large Mammal		1	-	0	Unidentified	Fragment	-	-	0	-	-	Porous	
			Large Mammal		3	-	0	Unidentified	Fragment	-	-	0	-	-	DARK STAINING	VERY DARK

WTC Vehicular Security Center and Tour Bus Parking Facility—Ship Remnant Data Recovery Report

Catalog No	Provenience description	Other field information	Species	Latin Name	TNF	MNU Descriptor	MNU	Skeletal Element	Element Part	Age Indicator	Cut Mark	Illustrated Meat Cut	Gnaw Mark	Heat Exposure Translation	Weathering Translation	Note Field
			Large Mammal		1	-	0	Unidentified	Fragment	-	-	0	Rodent	-	DARK STAINING	VERY DARK
			Sheeps-head	<i>Archosargus probatecephalus</i>	1	MNE	1	Vertebra	Whole	-	-	0	-	-	DARK STAINING	VERY DARK
39	outside ship on east side below hull		Horse	<i>Equus caballus</i>	6	-	0	Calvar (Skull)	Partial	-	-	0	-	-	-	POSSIBLE POLE AXED
40	FN12-FN13		Unidentified Bird		1	MNE	1	Feather	Whole	-	-	0	-	-	-	UNDER LAYER, NOT A FLIGHT FEATHER
41	found beneath the ship after removal		Bay Anchovy	<i>Anchoa mitchilli</i>	75	MNI	1	Articulated Skeleton	Partial	-	-	0	-	-	-	IDENTIFICATION BASED ON SCALES. ARTICULATED BODY, LACKING THE SKULL.

Notes: *MNE = Minimum Number of Elements; MNMC = Minimum Number of Meat Cuts; MNI = Minimum Number of Individuals.

Appendix D: Ordnance Analysis by Daniel Sivilich

CULTURAL RESOURCE REPORT

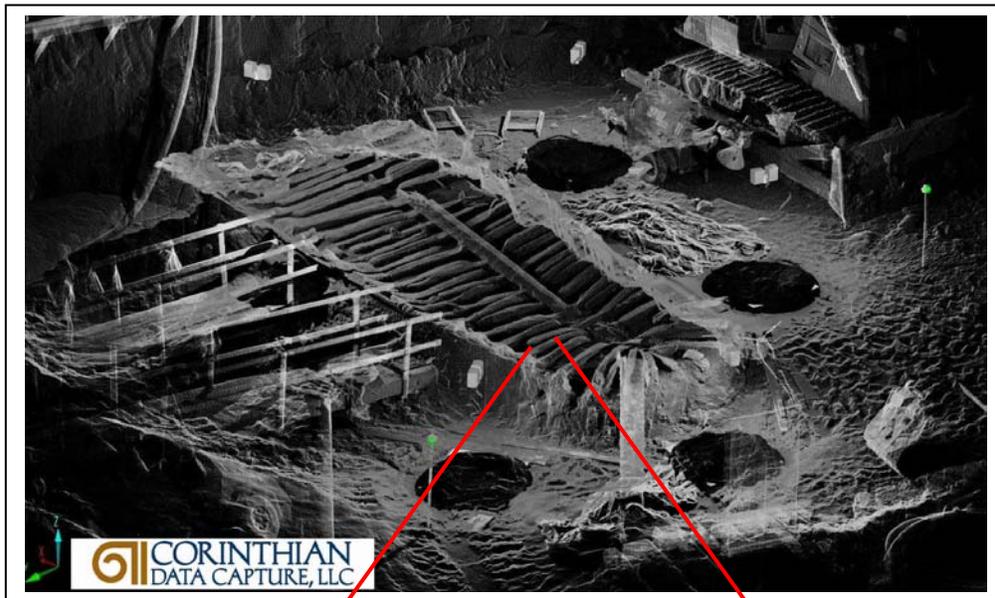
Analysis of Possible Military Artifacts Recovered from Partial Ship Remains Discovered at the Base of the World Trade Center Reconstruction Site New York City, New York

Client: **AKRF, INC.**

Environmental, Planning, and Engineering Consultants

440 Park Ave South, 7th Floor

New York, NY 10016



Prepared by:

Daniel M. Sivilich

Report Date: January 1, 2011

Management Summary

In July 2010, workers excavating the site of the underground vehicle security center for the future World Trade Center hit a 32' section of the hull of a wooden ship. Archaeologists Molly McDonald and A. Michael Pappalardo, both of AKRF, Inc., the firm hired to monitor construction, were on site at the time of the discovery. They began cleaning mud and silt away from the timbers by hand. The construction appeared to be 18th or 19th century. Only five days were allowed for the removal of the vessel and any associated artifacts. A number of ordnance or ordnance-related artifacts were recovered. Diane Dallal, Director of Archaeology at ARKF, contacted the author, Dan Sivilich, President and Founder of the Battlefield Restoration and Archaeological Volunteer Organization (BRAVO) for assistance in identifying the artifacts in an effort to more precisely date the ship. The author has over 20 years experience in excavating and identifying Revolutionary War Era military artifacts (Sivilich 1996, Sivilich 2004).

On October 31, 2010, Molly McDonald gave the author 346 artifacts for analysis that were recovered from in and around the vessel. On December 6, 2010 an additional artifact (gun spall) was received in the mail.

251 of the artifacts were lead birdshot. The majority of the birdshot (215 pieces) had diameters of 0.14" - 0.16" and the majority of the musket balls (31 of the 56 found) were 0.52" in diameter. These are not typical sizes for military ordnance (Sivilich 1996, Sivilich 2004). These sizes are more consistent with personal fowling muskets. Most of the birdshot was slightly out-of-round, apple-shaped and had a distinctive dimple. An experiment was conducted to determine how the birdshot was manufactured (Attachment C). The results show that it was produced using the short drop method. This method was used before shot towers were invented. The first shot tower built in the US was constructed in 1808 (Spivak 1990) in Philadelphia. Birdshot and dust shot have been linked to slave ships such as the Whydah that went down off Cape Cod in 1717 (Kinkor 2010). Due to its light weight, the force of impact is minimal and thus not deadly. Therefore it was kept on board to quell potential riots. With a low powder charge, it could cause sufficient pain to stop slaves, but without causing irreparable damage. Alternatively it could have also been on board as an anti-boarding weapon to be used against pirates or other undesirables. Based on the marine biology analysis of the outer planking (which will be covered in the ARKF report), this vessel did spend time in the Caribbean which was known for being infested with pirates. However, it was most likely used for hunting water fowl for food which is what it was specifically designed for.

56 artifacts were lead musket balls. They ranged in size from 0.47" to 0.67" with 31 pieces being at 0.52". This could represent as many as 4 different weapons as shown in Attachment E: Figure 3. The sizes of Weapons 1-3 are not typically military and are either rifled muskets, which are typically American, or small smooth bore fowling pieces (Sivilich 1996, Sivilich 2004). Weapon 4 is only represented by 1 musket ball. It is 0.67" in diameter and is of the size range used with British Brown Bess muskets. 15 of the musket balls were cast out-of-round. Nearly all of the round and out-of-round musket balls had visible mold seams and sprue cuts. This is very characteristic of American musket balls (Sivilich 1996). 3 musket balls were chewed by rats as identified by zoo-archaeologist Henry Miller, Ph.D., Director of Research and Maryland Heritage

Scholar at Historic St. Mary's City, St. Mary's City, Maryland (personal communication email, November 12, 2010).

Only one artifact could be associated specifically with the military. This was a British 52nd Regiment of Foot pewter button. This regiment was active during the Revolutionary War from 1775 to 1778. They participated in Lexington and Concord; Bunker Hill; Siege of Boston; Long Island; Pell's Point, White Plains; occupation of Newport, Rhode Island; Fort Washington; Princeton; Brandywine; Fort Montgomery; occupation of Philadelphia; Monmouth Courthouse and the retreat to Sandy Hook and New York (Troiani 2001:58).

One small cannon ball was found. Based on the diameter, it was for a four-pounder cannon (Caruana 1979:14). This size was not typical for the British military (McConnell 1988:92), but was a standard size for the French who supplied the Americans (Stryker 1927).

Four pieces of grape shot were recovered, but only one had sufficient unruled iron to yield a reliable weight and diameter. It also was the size consistent for a four-pounder cannon (Caruana 1979:18).

Three gun spalls, wedge-shaped gun flints with curved backs (Hume 1991:219-221), were recovered from three different locations on the ship. All three were made from black flint from the chalk regions in and around Dover, England. However, this material was in common use in this country for centuries. "Dover" flints have been found by the author on numerous domestic sites throughout New Jersey and in several other states.

One silver coin was found, but is too encrusted to identify. This coin may yield a date after electrolytic conservation.

Overall, the analysis of all of the lead shot suggest they are most likely of civilian origin. The musket balls are more likely American made. The artillery related artifacts suggest there was possibly a four-pounder cannon on board which was most likely American. The high level of birdshot on board might suggest that the vessel was involved in slave transport at one time, however, this is speculative.

The lack of any weapons such as cannons, muskets, rifles, pistols, swords, etc. strongly indicates that the ship was stripped of any usable materials before it sank. The scatter of the lead ordnance throughout the ship's hold suggests that this material was accidentally or intentionally discarded over time along with other miscellaneous items. The 52nd Regimental button might suggest some usage during the Revolutionary War, but most likely as a merchant vessel or maybe a personnel transport.

Based on the ordnance found, the vessel was no older than the early 19th century when it sank. All of the materials indicate the usage of flintlock muskets. No evidence of percussion weapons was found. Discovered in 1805 by Alexander Forsyth, the percussion lock and cap revolutionized firearms. The concept most likely reached the states by the 1820's.

Therefore, based on the dating of the 52nd button and the lack of percussion caps, it is estimated that the vessel sank between 1775 and 1830.

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INTRODUCTION:

On July 13, 2010 workers excavating the site of the underground Vehicular Security Center for the future World Trade Center hit a row of sturdy, upright wood timbers, regularly spaced, sticking out of the mud. The world was surprised when it was announced that a 32' section of the hull of a wooden ship was being recovered. Archaeologists Molly McDonald and A. Michael Pappalardo, both of AKRF, Inc., the firm hired to monitor construction during the construction process, were on site at the time of the discovery. As reported by the New York newspapers, "They began cleaning mud and silt away from the timbers by hand". Figure 1 shows a laser scan of the site when the assemblage was exposed.

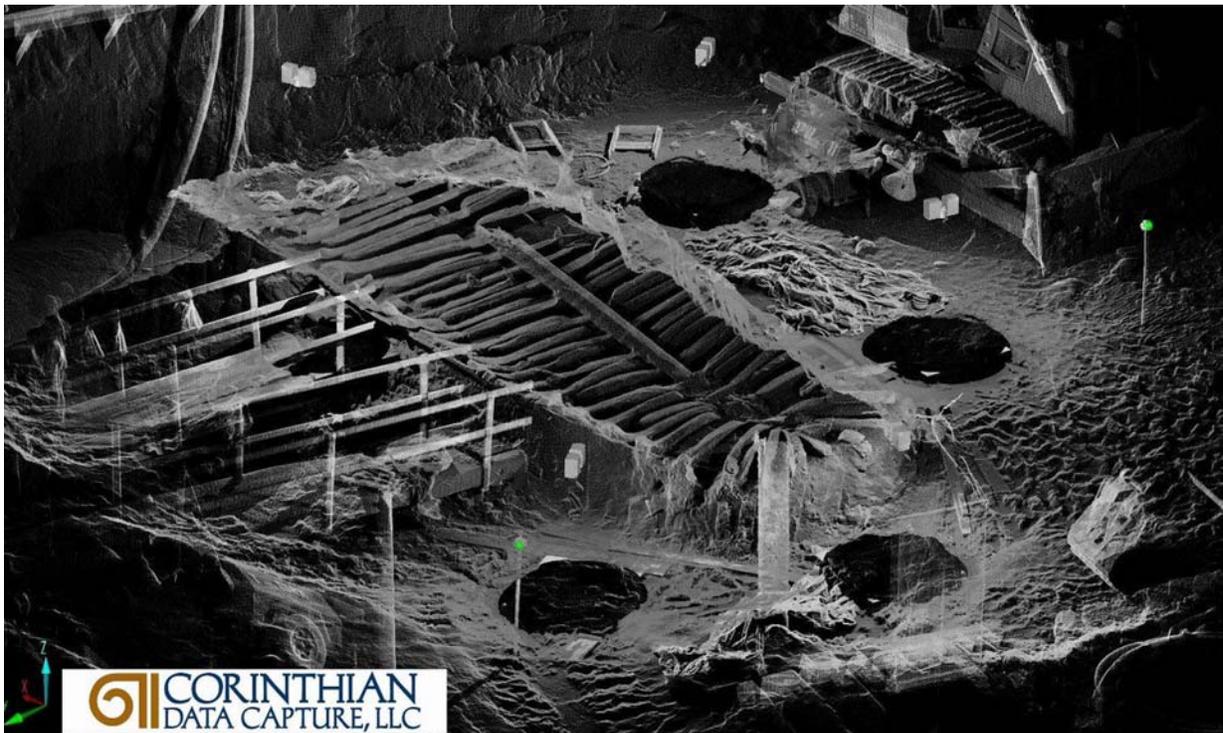


Figure 1 – Laser Scan of Ship Frame In-Situ at the World Trade Center Site. Provided by: Diane Dallal, Director of Archaeology, AKRF, INC., New York, NY 10016

Figure 2 shows a composite of the field sketches of the layers of timbers removed. Only five days were allowed for the removal of the vessel and any artifacts. Most of the small artifacts were recovered by water screening. As such, it was nearly impossible to point-provenience each artifact. A number of ordnance or ordnance related artifacts, such as a cannon ball, musket balls, small lead shot, gun flints, and more were recovered. Diane Dallal of ARKF contacted the author, Dan Sivilich, President and Founder of the Battlefield Restoration and Archaeological Volunteer Organization (BRAVO) for assistance in identifying the artifacts in an effort to more precisely date the ship. The author has over 20 years experience working with Revolutionary War Era military artifacts specializing in musket balls and other lead shot (Sivilich 1996, Sivilich 2004).

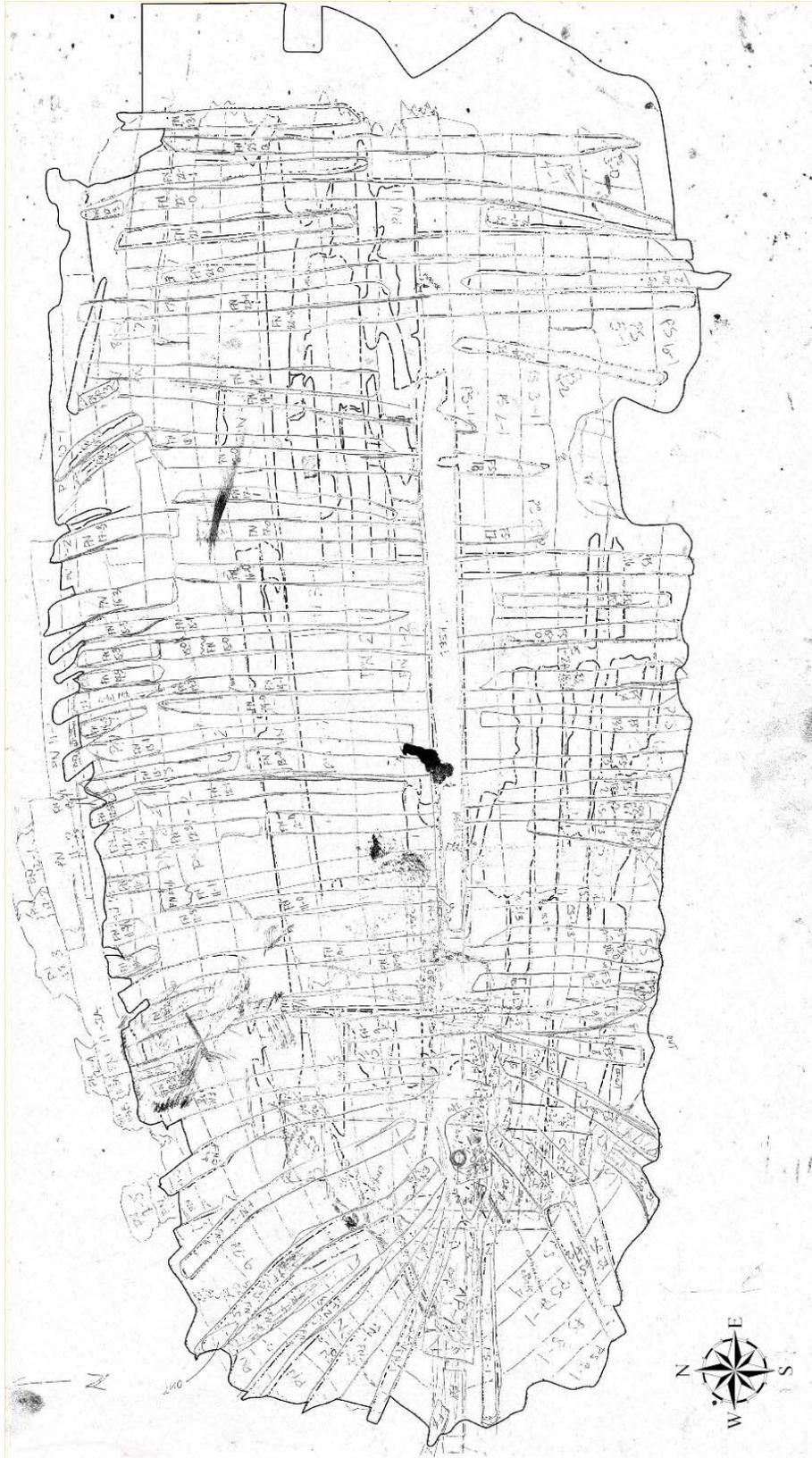


Figure 2 - World Trade Center Ship: Frame and Planking Composite of Field Sketches

METHODOLOGY USED IN ANALYZING THE LEAD SHOT:

All artifacts were weighed to the nearest 0.1 gram using an Ohaus electronic laboratory balance. Diameters of spherical or circular artifacts were measured using Max-Cal electronic digital calipers. The diameters of any deformed musket balls or lead shot were determined using the Sivilich Formula (Sivilich 1996:104):

$$\text{Diameter in inches} = 0.223204 \times (\text{Weight in grams})^{1/3}$$

Lead shot that had small amounts of concretion still attached were cleaned using mechanical abrasion and/or aqueous ultrasonic cleaning. The diameters of shot that were embedded in concretions were estimated using Max-Cal electronic digital calipers.

ARTIFACT ANALYSIS:

1. *Birdshot:*

As shown in Figure 3 and Table 1-3 (see Attachment B), of the 313 pieces of lead shot recovered, 251 were birdshot. Birdshot is defined as having diameters from 0.08" to 0.19" inclusive. The majority of the birdshot (215 pieces) had diameters of 0.14" - 0.16". No birdshot has been recovered by BRAVO at Monmouth Battlefield or any other Revolutionary War site that the author has been involved with. Typical military buckshot is 0.30" - 0.36" in diameter. In 1776, General George Washington issued a general order that the men shall load their muskets with one musket ball and four to eight buckshot for their first volley. However it was a more common practice to use one ball and three buckshot (Peterson 1968). Since most of the Americans cast their own shot, the diameter became more of a function of the sprue hole in which the lead was poured (Refer to Figure 1 of the attached paper on manufacturing lead shot). Several musket balls have been excavated at Monmouth Battlefield having the impression of 3 buckshot impressed into the lead musket ball (Sivilich 2004:5).

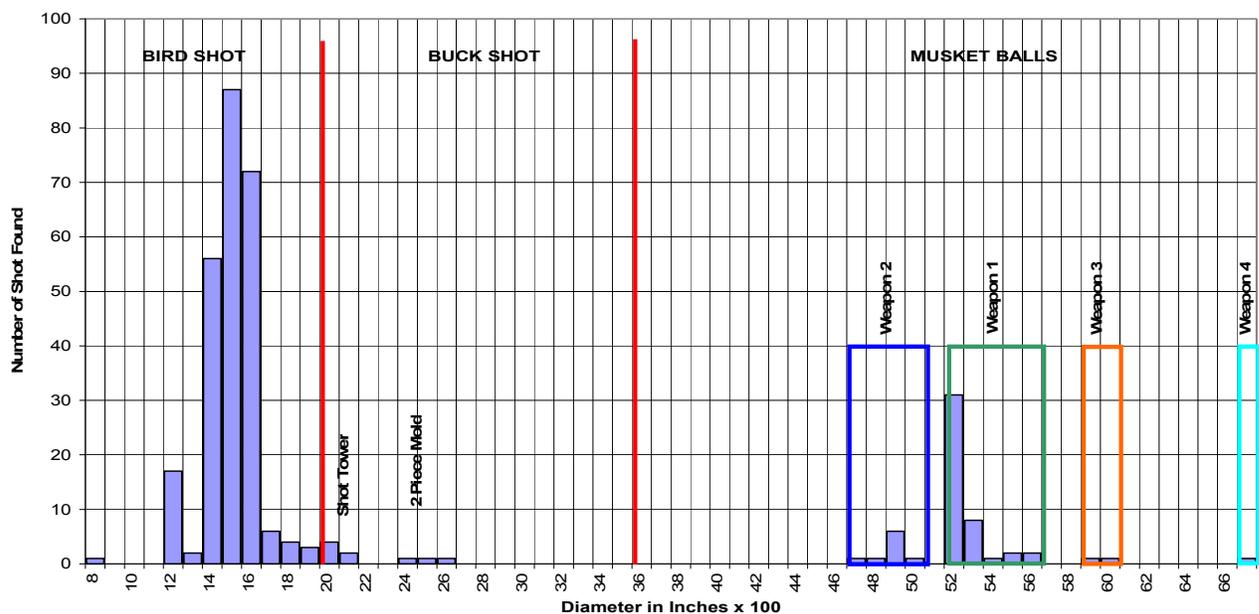


Figure 3 - Lead Shot Sizes Found on the Ship Excavated at the World Trade Center Site

The sizes of the birdshot found on the WTC vessel are more consistent with personal fowling pieces. Based on the small diameters of the musket balls, which will be discussed later, these were either rifled muskets or small caliber smooth bore flintlock muskets.

Most of the birdshot was slightly out-of-round, apple-shaped and had a distinctive dimple. An experiment was conducted to determine how the birdshot was manufactured (Attachment C). The results show that it was produced using the short drop method. As shown in Figure 4 below, the experimental shot had the same dimple and was roughly the same size as the WTC shot. Occasionally a droplet was not hot enough to create a sphere but would form a tear-shaped droplet instead. This was also reproduced in the experiment as shown in Figure 4. This production method was used before shot towers were invented. The first shot tower built in the US was constructed in 1808 (Spivak 1990) in Philadelphia. Birdshot and dust shot have been linked to slave ships, such as the Whydah that went down off Cape Cod in 1717 (Kinkor 2010). Due to its light weight, the knock-down power of birdshot is minimal and not deadly. Therefore it was kept on board to quell potential riots. With a low powder charge, it could cause sufficient pain to stop slaves, but without causing irreparable damage to the "merchandise". . Alternatively it could have also been available as an anti-boarding weapon to be used against pirates or other undesirables. Based on the marine biology analysis of the outer planking (which will be covered in the ARKF report), this vessel did spend time in the Caribbean which was known for being infested with pirates. However, it was most likely used for hunting water fowl for food which is what it was specifically designed for.



Figure 4 - Experimental shot to the left and WTC shot to the right



Figure 5 - Experimental shot to the left and WTC shot to the right

2. Buckshot:

Buckshot is defined as having diameters from 0.20" to 0.36" inclusive with military usage being typically 0.30 – 0.36". 8 pieces were found. 5 could be identified as having the distinctive short drop dimple and they had diameters of 0.20" - 0.21". 2 pieces had distinct mold seams and sprue cuts (0.24" and 0.25" in diameter.) The 0.26" diameter was an estimate since the piece is embedded in a concretion and has a slightly irregular shape.

3. **Button (F10-14-001):**

Only one button was found. It is a British 52nd Regiment of Foot button in excellent condition. It is 23.5 mm in diameter and is made of pewter. It is a standard pewter private's button, not an officer's button (Troiani,- personal communication, November 3, 2010). The 52nd Regiment, also known as the Oxfordshire Regiment, was very active during the Revolutionary War from 1775 to 1778. They participated in Lexington and Concord; Bunker Hill; Siege of Boston; Long Island; Pell's Point, White Plains; occupation of Newport, Rhode Island; Fort Mifflin; Princeton; Brandywine; Fort Mifflin; occupation of Philadelphia; Monmouth Courthouse and the retreat to Sandy Hook and New York (Troiani 2001:58). They were last stationed in New York until 1778. Possibly the WTC ship was used to ferry troops from the dock to the British warships and troop transports that were docked in Raritan Bay. However this button does provide the *terminus post quem* date of 1775 for the sinking of the vessel.



Figure 6 - British 52nd Regiment of Foot button

Finding only one button is somewhat surprising to the author, since buttons are so easily lost by either the thread breaking or the button loop breaking. These are usually one of the most prolific artifacts found on terrestrial sites.

4. **Cannon Ball (USP-001):**

One small cannon ball was found. Based on the diameter, it was for a four-pounder cannon (Caruana 1979:14). This size was not typical for the British military (McConnell 1988:92), but was a standard size for the French who supplied the Americans (Stryker 1927). It was attached to wood. Possibly an analysis of the wood can identify if this was just lying on the decking or if it was in a wooden container.

5. **Clay Marbles (F10-14-011 and -012):**

Two earthenware clay marbles made of Kaolin or Ball clay were found together. These gaming pieces are common artifacts found on numerous terrestrial sites. The following was found on the internet in an article titled "Handmade Non-Glass Marbles" at: <http://www.cowtowncollectibles.com/Handmade Non-Glass Marbles.htm>:

"**Clay marbles** are the most common old marble that you will find. These marbles were the easiest to produce and hundreds of thousands, probably millions, still exist. Unfortunately, clay marbles do not have nearly the eye-appeal of any other marbles and therefore are the least collectible of any marble. Clay marbles were made in both Germany and the United States. It has been reported that clay marbles were used as

ballast in the keels of ships that sailed to America from Germany, and were then removed and sold in this country. On the American side, some of the earliest U.S. marble-related patents are for devices that fashion blobs of clay into round spheres, which were then fired to harden them. Clay marbles are usually found in their natural tan color, but they may also be dyed."

6. Coal (F10-14-014A-2):

A small piece of anthracite coal, known as pea coal based on its size, was found embedded in a concretion next to a musket ball. This context strongly suggests that the coal was associated with the ship. A small coal stove for cooking and heating was far more efficient than a wood-burning stove.



Figure 7 - musket ball (left) and pea coal (right) in concretion

7. Coin (WF10S-009-1):

One coin was found in a concretion with 8 birdshot. A slight scraping of the edge suggests that the coin is made of silver. It is too encrusted to identify country of origin, denomination or date. Professional electrolytic conservation may yield this data, which would be useful for dating the time of sinking of the ship.

8. Concretions (WF10S-011 to 016):

A number of concretions were recovered, most with either birdshot or musket balls embedded in them. However, artifact numbers WF10S-011 to 016 were wood and rust or simply rusted iron. AKRF questioned the possibility that the iron could be from case or canister shot. Both case and canister shot containers were made from tin not iron. The sources of the wood and iron are not readily identifiable. As with the cannon ball, a qualitative analysis of the wood might identify if it is decking or from an alternate source.

9. Concretions (WF10S-017 and WF10S-022):

Two of the concretions were of particular interest because they had rectangular holes piercing them. The holes were impressions of where square nails once resided and have since rusted away. This appears to be the source of much of the rust found on the concretions. A thorough examination of the holes might determine if they were made by wrought nails or machine cut nails.



Figure 8 - WF10S-017: Concretion with 2 square nail holes



Figure 9 - WF10S-022: Concretion with toothpicks showing locations and directions of 3 square nail holes

10. Glass (WF10S-017-9 and WF10S-022-3):

Two small sherds of flat, clear glass were found embedded in the concretions with the square nail holes. Due to the diminutive sizes of the sherds, it is difficult to determine if they are window glass or bottle glass.

11. Grape Shot:

Four iron balls were recovered and appear to be grape shot, but only one (AOP-001-1) had sufficient unruined iron to yield a reliable weight and diameter. It also was the size consistent for a sea service four-pounder cannon (Caruana 1979:18). This is consistent with the cannon ball described above. The diameter of embedded artifact # WF10S-022-1 has a diameter consistent with shot for a sea service 3-pounder. However, it is not known if any iron was lost due to exfoliation. The two remaining pieces were very light weight and may actually be all iron oxide. X-Ray analysis and professional electrolytic conservation may possibly identify their original size and weight.

12. Gun Spalls:

Three gun spalls, wedge-shaped gun flints with curved backs (Hume 1991:219-221), were recovered from three different locations on the ship and are shown in Figures 10 - 12.. All three were made from black flint from the chalk regions, in and around Dover, England. However, this material was in common use in this country for centuries. "Dover" flints have been found by the author on numerous domestic sites throughout New Jersey and in several other states. The spall shape suggests that these were for domestic use. British military flints are typically square with a trapezoidal cross section.



Figure 10 - F10-14-013



Figure 11 - ORLOP-027-5



Figure 12 - WF10S-023

13. Lead:

F10-14-010 is a small lead hemisphere with partial lip around the flat spot. No mold seam is visible. This does not appear to be a musket ball. WF10S-022-5 is very small triangular piece of sheet lead.

14. Lead Sheeting:

2 pieces of plate or sheet lead were found in different location throughout the ship. ADJ-032 is a possible plate with multiple square nail holes. USP-004 is a piece of bent sheeting with a possible knife hole in it. Due to its malleability, lead sheeting was used for many different purposes.

15. Leather:

Several pieces of intact leather were recovered. FS6-FS7-031 appears to be black leather and may have been from a pouch. USP-003 is two small, thin pieces that are shaped like a thumb of a glove or possibly a musket frizzen cover. A frizzen is the steel plate on a musket lock that is struck with the flint to create a spark. It is usually covered with a leather sheath when the musket is not in use, to prevent an accidental firing.

16. Musket Balls:

One of the artifacts studied in great detail by the author is the musket ball at the time of the Revolutionary War. Its size can identify the type of weapon that it was made for. Previous research by the author shows that typically, but not exclusively, musket balls having diameters of less than 0.60" in diameter are used by rifles; musket balls with diameters between 0.60" - 0.66" are associated with a variety of smooth bore muskets, such as British fusils and French-supplied Charleville muskets, and lead shot with diameters greater than 0.66" are used by large bore muskets, such as the British Brown Bess which was issued to infantry (Sivilich 2004; Sivilich 2009) as shown in Figure 13. However, small quantities of Brown Bess muskets were also used by American troops. Some were captured weapons and others were early versions supplied as Committee of Safety weapons to the Colonies during the French and Indian War. Fowling (or hunting) muskets were generally small caliber, smooth bore weapons.

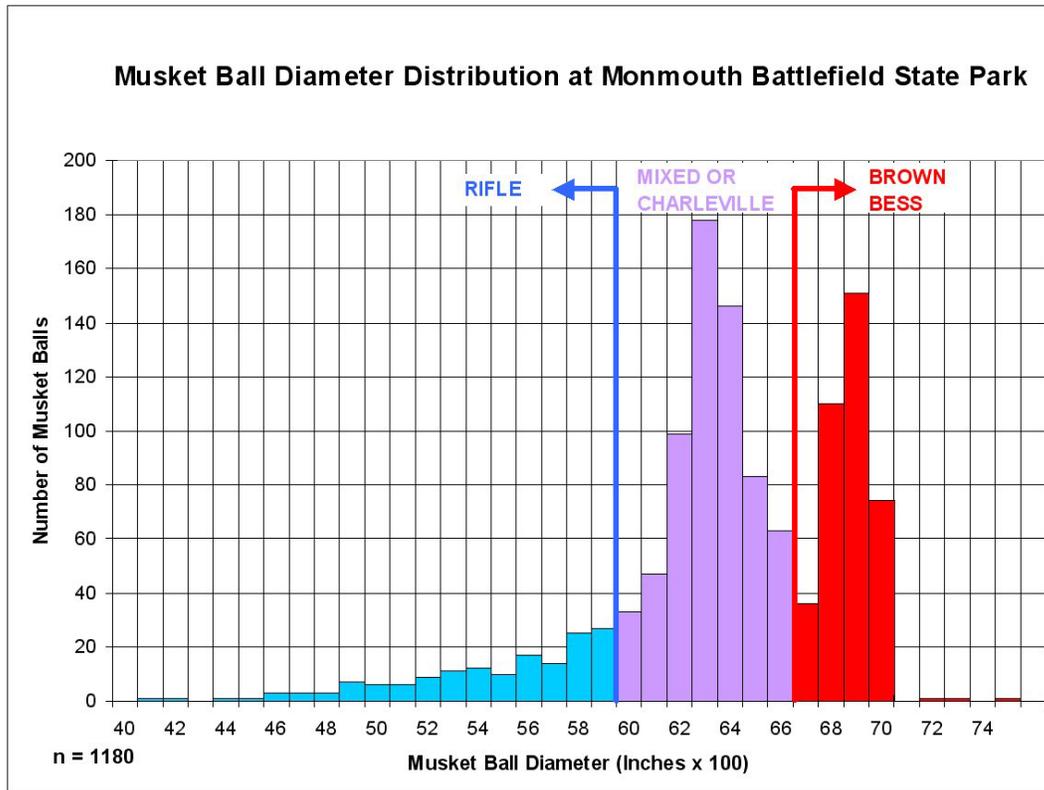


Figure 13 - Analysis of musket balls excavated at Monmouth Battlefield State Park, Freehold/Manalapan, NJ (Sivilich 2009).

However, Figure 13 is of data taken primarily from a battlefield environment and the majority of the musket balls are impacted. To specifically identify weapons used by either side, the author evaluated musket balls (primarily dropped) from a campsite occupied strictly by American troops the day before the Battle of Monmouth (Figure 14) and another site that was only occupied by British troops the day after the Battle of Monmouth (Figure 15). This data is useful in associating specific ordnance sizes with a given 18th-century army. Unfortunately, none of the charts address weapons used by Hessian Jaegers. The Jaegers carried rifles and were known for their hunting skills (Catts 2004). Three Jaeger rifles are listed in *The History of Weapons of the American Revolution*, by George Neumann. Two are 56 caliber (0.56" diameter) and one is 60 caliber (0.60" diameter). Estimating the typical windage of 0.06", these weapons would probably take musket balls that are 0.50" and 0.54" in diameter, respectively. Windage is the difference between the inside diameter of the gun barrel and the outside diameter of the projectile.

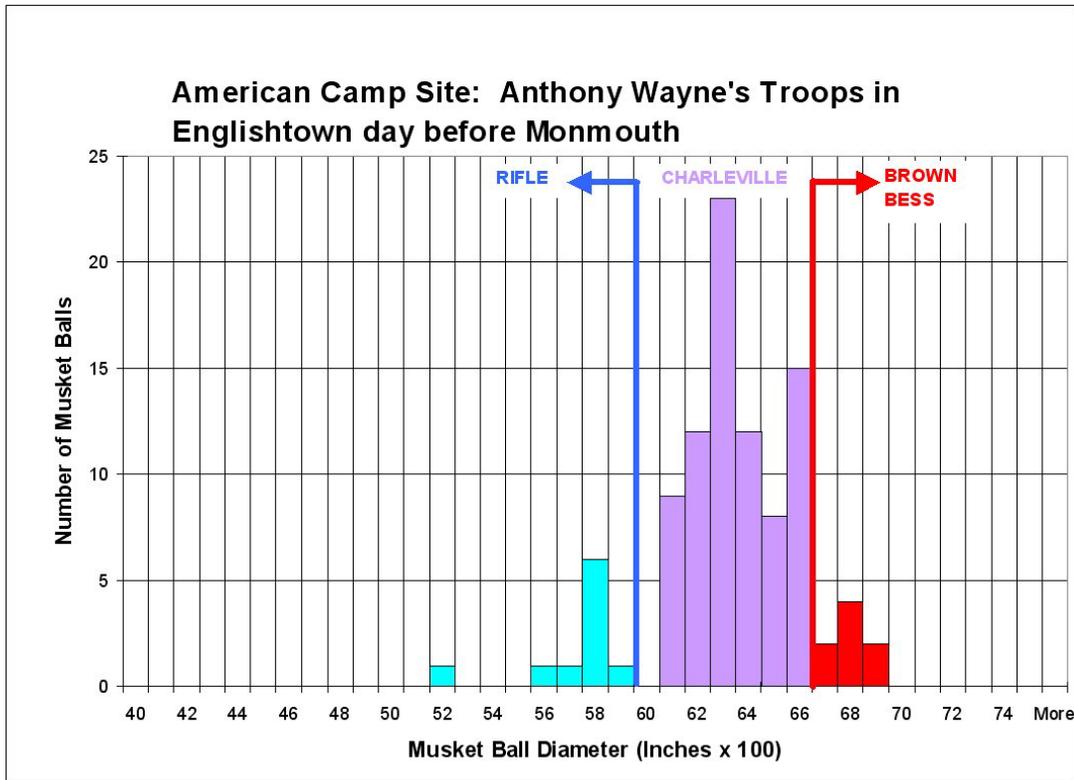


Figure 14- Analysis of musket balls recovered from an American camp site occupied the day before (and possibly the day after) the Battle of Monmouth.

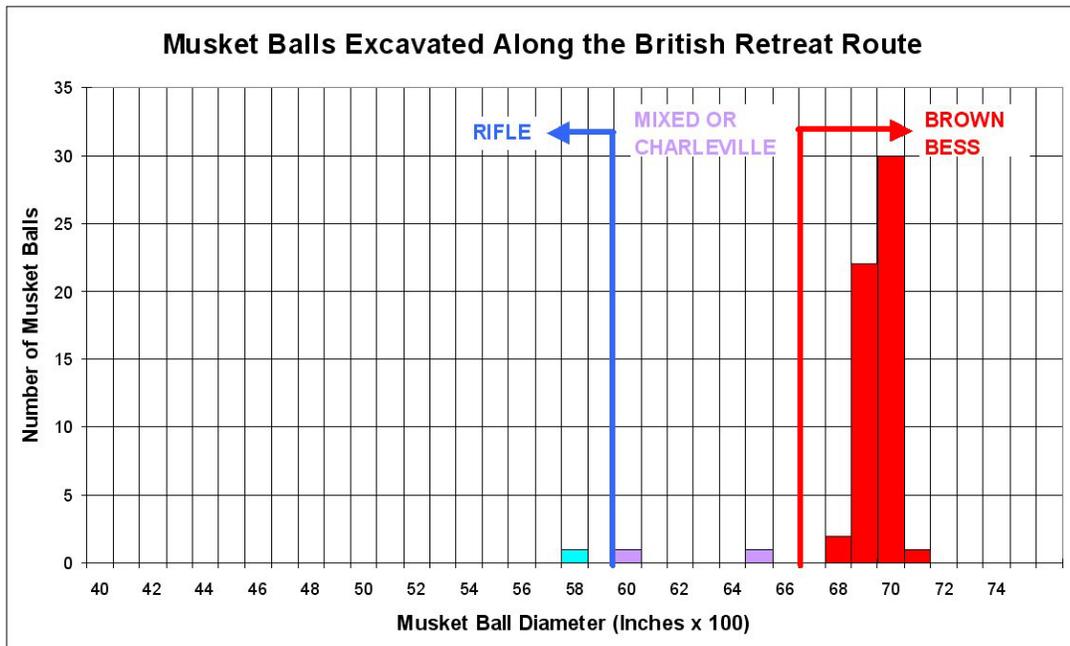


Figure 15 - Analysis of musket balls recovered from a British occupation site the day after the Battle of Monmouth.

Using this data as a baseline, a detailed analysis of 56 musket balls recovered from the WTC ship is presented. They ranged in size from 0.47" to 0.67" with 31 pieces being at 0.52" as shown in Figure 3. This could represent as many as 4 different weapons as also shown in Figure 3. The sizes of Weapons 1-3 are not typically military. They would either be rifled muskets, which would be typically American, or small caliber, smooth bore fowling pieces (Sivilich 1996, Sivilich 2004). Weapon 4 is only represented by 1 musket ball. It is 0.67" in diameter and is of the size range used with British Brown Bess muskets. 15 of the musket balls were cast out-of-round which suggests that they were probably made from a rough mold such as the steatite mold shown in Attachment F: Figure 1 (Sivilich 2010). Military musket balls were typically made in iron gang molds that were held to tight tolerances. Nearly all of the 34 round and 15 out-of-round musket balls had visible mold seams and sprue cuts. This is very characteristic of American musket balls (Sivilich 1996).

3 musket balls were chewed by rats (Figures 16-18) as identified by zoo-archaeologist Henry Miller, Ph.D., Director of Research and Maryland Heritage Scholar at Historic St. Mary's City, St. Mary's City, Maryland (personal communication email, November 12, 2010). The parallel line gouges are too small to be human. Experimental testing by Dr. Miller and the author actually chewing on lead musket balls show totally different patterns for humans (Sivilich 2009:91-93). The small parallel lines match rat incisors as compared to skeletal bite marks made into clay by Dr. Miller. This obviously indicates the presence of rats on board before the ship sank and that the musket balls were probably in a dry environment.



Figure 16 - WF10S-002-22



Figure 17 - WF10S-002-23



Figure 18 - WF10S-002-24

Musket ball WF10S-002-35 is a short shot, meaning that insufficient lead was poured into the mold and the result is a hemispherical incomplete musket ball. This may indicate that some of the musket balls were being cast on board.

2 musket balls (F10-14-009 AND WF10S-002-26) were deformed into wedge shapes. This was most likely caused by being crushed by the overburden, such as being between 2 planks.

17. Nail:

Artifact AOP-001-3 is a nail fragment that lacks sufficient definition to identify the method of manufacture. This item lacks rust and this may indicate that it was thermally altered.

18. Leather Pouch or "Wallet":

Artifact # USP-002 is a black leather pouch or wallet that has 3 stitched compartments, but the stitching is not completed from top to bottom. Its specific use is not known by the author.



Figure 19 - Artifact # USP-002: Pouch or Wallet?

19. Unknown:

Artifact # MISC-001 appears to be the tip of a wooden spike that has an iron sheeting overlay. The author's initial reaction was that this was a possible defensive chevaux-de-frise. However, given its location and small diameter, it is most likely the remnant of an iron-tipped piling.



Figure 20 - Ironclad spike, probably a piling

20. Wood:

Artifact # WF10S-022-4 is a small but distinct piece of wood embedded in a concretion.

CONCLUSIONS:

The presence of a British 52nd Regiment of Foot button provides the terminus post quem date of 1775 for the sinking of the vessel since that is the earliest year this unit was in the area. Based on the ordnance found, all of the materials indicate the usage of flintlock muskets or rifles. No evidence of percussion weapons was found. Percussion caps are very small and easily lost, but none were recovered from the ship. Discovered in 1805 by Alexander Forsyth, the percussion lock and cap revolutionized firearms. The concept most likely reached the states by the 1820's. This indirectly gives a possible terminus ad quem date of approximately 1830.

The size of the cannon ball, grape shot, the type, size and physical characteristics of the musket balls recovered, the types of gun spalls found, the type of manufacture of the birdshot recovered all suggest that the vessel was American and most likely civilian. There is a slight possibility that based on the birdshot, it may have been used for slave transportation.

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WTC-Adj-032.jpg



WTC-Aop-001-1.jpg



WTC-Aop-001-2.jpg



WTC-Aop-001-3.jpg



WTC-AOP-002a.JPG



WTC-AOP-002b.JPG



WTC-CS2_5-030.jpg



WTC-F10-14_002-010.jpg



WTC-F10-14-001 to 002.JPG



WTC-F10-14-001a.JPG



WTC-F10-14-001b.JPG



WTC-F10-14-001c.JPG



WTC-F10-14-013a.jpg



WTC-F10-14-013b.jpg



WTC-F10-14-014-001.jpg



WTC-F10-14-014-002.jpg



WTC-F10-14-015.jpg



WTC-FN10-FN11-026.jpg



WTC-FN12-FN13-025.jpg



WTC-FN5-FN6-029.jpg



WTC-FN7-FN8-028.jpg



WTC-FS6-FS7-031.jpg



WTC-FS9-1.jpg



WTC-FS9-2.jpg



WTC-FS9-3.jpg



WTC-FS9-4.jpg



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WTC-MISC-001c.JPG



WTC-Orlop-027-1 to 4.jpg



WTC-Orlop-027-5a.jpg



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WTC-S_SK-024.jpg



WTC-USP-001a.JPG



WTC-USP-001b.jpg



WTC-USP-002a.JPG



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WTC-WF10S-010-1.jpg



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WTC-WF10S-010-3.jpg



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WTC-WF10S-023b.JPG

Table 1 - Artifacts from the World Trade Center Ship (Grouped by Artifact #)

Artifact No	Provenience	Type	Subtype	Composition	Qty	Weight	Wt Units	Diameter	Calculated Diameter	Dia Units	Prob Caliber	Length	Width	L/W Units	Flotation	Date Found	Remarks
ADJ-032	Within or adjacent to ship	LEAD SHEETING		LEAD	1	861.000	GM									7/14/2010	LARGE PIECE OF LEAD SHEETING WITH SEVERAL SQUARE NAIL HOLES, ORIGINALLY RECTANGULAR
AOP-001-1	Above Outer Planks	GRAPE SHOT	6 OZ	IRON	1	159.0	GM	1.371		IN		0.00	0.00	0		7/28/2010	IRON GRAPE SHOT - 5.61 oz (WT INCLUDES SMALL TRIANGULAR CONCRETION). FOR SEA SERVICE 4 POUNDER
AOP-001-2	Above Outer Planks	GRAPE SHOT	4 OZ	IRON	1	58.4	GM	1.22		IN						7/28/2010	IRON GRAPE SHOT - POOR QUALITY IRON, WEIGHS 2.06 oz BUT DIAMETER IS THAT OF 4 oz. FOR SEA SERVICE 3 POUNDER
AOP-001-3	Above Outer Planks	NAIL		IRON	1	0.9	GM			IN		1.00		IN		7/28/2010	SQUARE IRON NAIL FRAGMENT, TIP IS CURLED BACK.
AOP-002	Above Outer Planks	MUSKET BALL	OUT OF ROUND	LEAD	1	13.0	GM		0.5248	IN	52					7/28/2010	MUSKET BALL - OUT OF ROUND WITH FLAT SPOT, POSSIBLY IMPACTED.
CS2_5-030	TAR	BIRD SHOT		LEAD	1	0.3	GM	0.152		IN	15				12	7/26/2010	BIRD SHOT SHAPED LIKE A TEAR DROP - MADE BY DROP TOWER.
F10-14-001	Fill from F-10 to F-14	BUTTON		PEWTER	1	4.9	GM	23.5		MM						7/28/2010	BRITISH 52nd REGIMENT OF FOOT BUTTON, SLIGHTLY BENT, NO LOOP, EXCELLENT CONDITION. STD ISSUE FOR PRIVATES.
F10-14-002	Fill from F-10 to F-14	MUSKET BALL	ROUND	LEAD	1	16.8	GM	0.563		IN	56					7/28/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
F10-14-003	Fill from F-10 to F-14	MUSKET BALL	ROUND	LEAD	1	13.3	GM	0.522		IN	52					7/28/2010	MUSKET BALL - ROUND, SLIGHT SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
F10-14-004	Fill from F-10 to F-14	MUSKET BALL	ROUND	LEAD	1	13.2	GM	0.520		IN	52					7/28/2010	MUSKET BALL - ROUND, SPRUE CUT VISIBLE
F10-14-005	Fill from F-10 to F-14	MUSKET BALL	ROUND	LEAD	1	13.1	GM	0.520		IN	52					7/28/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
F10-14-006	Fill from F-10 to F-14	MUSKET BALL	ROUND	LEAD	1	13.0	GM	0.517		IN	52					7/28/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
F10-14-007	Fill from F-10 to F-14	MUSKET BALL	ROUND	LEAD	1	11.3	GM	0.492		IN	49					7/28/2010	MUSKET BALL - ROUND, SLIGHT SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
F10-14-008	Fill from F-10 to F-14	MUSKET BALL	ROUND	LEAD	1	10.4	GM	0.477		IN	48					7/28/2010	MUSKET BALL - ROUND, STRONG SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
F10-14-009	Fill from F-10 to F-14	MUSKET BALL	WEDGE	LEAD	1	12.8	GM		0.522	IN	52					7/28/2010	MUSKET BALL - SLIGHTLY WEDGE SHAPED, SPRUE CUT AND MOLD SEAM VISIBLE - PROBABLY CRUSHED
F10-14-010	Fill from F-10 to F-14	LEAD		LEAD	1	5.6	GM	0.445		IN						7/28/2010	SMALL LEAD HEMISPHERE WITH PARTIAL LIP AROUND FLAT SPOT - NO MOLD SEAM VISIBLE. PROBABLY NOT A MUSKET BALL
F10-14-011	Fill from F-10 to F-14	CLAY MARBLE		BALL/KAOLIN CLAY	1	3.6	GM	0.544		IN						7/28/2010	KAOLIN OR BALL CLAY MARBLE
F10-14-012	Fill from F-10 to F-14	CLAY MARBLE		BALL/KAOLIN CLAY	1	3.0	GM	0.518		IN						7/28/2010	KAOLIN OR BALL CLAY MARBLE
F10-14-013	Fill from F-10 to F-14	GUN SPALL		DOVER FLINT	1	8.0	GM									7/28/2010	GUN SPALL - BLACK FLINT WITH GREY INCLUSIONS: FROM WHITE CLIFFS OF DOVER ENGLAND. WORN WITH MULTIPLE REWORKS, PROBABLY DISCARDED.
F10-14-014A	Fill from F-10 to F-14	CONCRETION		CONCRETION		17.7	GM									7/28/2010	CONCRETION WITH MUSKET BALL AND SMALL PIECE OF ANTHRACITE COAL
F10-14-014A-1	Fill from F-10 to F-14	MUSKET BALL	ROUND	LEAD	1			0.540		IN	54					7/28/2010	ENCHRUSTED MUSKET BALL - ROUND
F10-14-014A-2	Fill from F-10 to F-14	COAL		ANTHRACITE	1											7/28/2010	SMALL FRAGMENT OF ANTHRACITE COAL
F10-14-014B	Fill from F-10 to F-14	CONCRETION		CONCRETION		8.2	GM									7/28/2010	CONCRETION WITH 7 PIECES OF "BIRD" SHOT VISIBLE.
F10-14-014B-1	Fill from F-10 to F-14	BIRD SHOT		LEAD	1			0.168		IN	16					7/28/2010	BIRD SHOT IN CONCRETION
F10-14-014B-2	Fill from F-10 to F-14	BIRD SHOT		LEAD	1			0.154		IN	16					7/28/2010	BIRD SHOT IN CONCRETION
F10-14-014B-3	Fill from F-10 to F-14	BIRD SHOT		LEAD	1			0.144		IN	14					7/28/2010	BIRD SHOT IN CONCRETION
F10-14-014B-4	Fill from F-10 to F-14	BIRD SHOT		LEAD	1			0.142		IN	14					7/28/2010	BIRD SHOT IN CONCRETION
F10-14-014B-5	Fill from F-10 to F-14	BIRD SHOT		LEAD	1			0.132		IN	13					7/28/2010	BIRD SHOT IN CONCRETION
F10-14-014B-6	Fill from F-10 to F-14	BIRD SHOT		LEAD	1			0.128		IN	13					7/28/2010	BIRD SHOT IN CONCRETION
F10-14-014B-7	Fill from F-10 to F-14	BIRD SHOT		LEAD	1			0.080		IN	8					7/28/2010	BIRD SHOT IN CONCRETION
F10-14-015	Fill from F-10 to F-14	BUCK SHOT		LEAD	1	1.4	GM	0.246		IN	25					7/28/2010	BUCK SHOT IN CONCRETION WITH SPRUE CUT VISIBLE
FN10-FN11-026	Between FN10 and FN11	MUSKET BALL	HEMISPHERE	LEAD	1	11.8	GM	0.519		IN	52					7/27/2010	MUSKET BALL - HEMISPHERICAL DUE TO POOR CASTING, INSUFFICIENT LEAD TO FILL THE MOLD, FAINT MOLD SEAM

Table 1 - Artifacts from the World Trade Center Ship (Grouped by Artifact #)

FN12-FN13-025	Between FN12 and FN13	MUSKET BALL	ROUND	LEAD	1	12.8	GM	0.517		IN		52				7/27/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
FN5-FN6-029	Between FN5 and FN6	BIRD SHOT		LEAD	1	0.3	GM	0.144		IN		14			4	7/26/2010	BIRD SHOT SHAPED LIKE A TEAR DROP - MADE BY DROP TOWER.
FN7-FN8-028	Between FN10 and FN11	BIRD SHOT		LEAD	1	0.4	GM	0.164		IN		16			10	7/28/2010	BIRD SHOT SHAPED LIKE A TEAR DROP - MADE BY DROP TOWER.
FS6-FS7-031	Between frames FS6 AND FS7	LEATHER		LEATHER	1	30.4	GM									7/27/2010	LARGE PIECE OF BLACK LEATHER
FS9-1	FLOAT SAMPLE 9	BIRD SHOT		LEAD	14	2.3	GM		0.122	IN		12			9	7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER
FS9-2	FLOAT SAMPLE 9	BIRD SHOT		LEAD	31	7.7	GM		0.140	IN		14			9	7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER
FS9-3	FLOAT SAMPLE 9	BIRD SHOT		LEAD	41	13.3	GM		0.153	IN		15			9	7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER
FS9-4	FLOAT SAMPLE 9	BIRD SHOT		LEAD	23	8.7	GM		0.161	IN		16			9	7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER
FS9-5	FLOAT SAMPLE 9	BIRD SHOT		LEAD	3	1.4	GM		0.173	IN		17			9	7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. MEASURE DIA: 0.171", 0.174", 0.180"
FS9-6	FLOAT SAMPLE 9	BIRD SHOT		LEAD	3	2.0	GM		0.190	IN		19			9	7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. MEASURE DIA: 0.193", 0.194", 0.196"
FS9-7	FLOAT SAMPLE 9	BUCK SHOT		LEAD	2	1.4	GM		0.198	IN		20			9	7/26/2010	BUCK SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. MEASURE DIA: 0.197", 0.200"
FS9-8	FLOAT SAMPLE 9	BUCK SHOT		LEAD	1	0.8	GM	0.207	0.207	IN		21			9	7/26/2010	BUCK SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER
FS9-9	FLOAT SAMPLE 9	BIRD SHOT		LEAD	1	0.3	GM		0.149	IN					9	7/26/2010	BIRD SHOT SHAPED LIKE A TEAR DROP - MADE BY DROP TOWER.
MISC-001	About 25' below ground surface: about 4' south of vessel, midway from top to bottom of vessel	UNKNOWN		IRON/WOOD	1	788.900	GM									7/22/2010	VERY ENCRUSTED WOOD SPIKE WITH IRON SHEETING OVERLAY. POSSIBLE CHEVAUX-DE-FRISE, OR SIMPLY AN IRON-TIPPED PILING.
ORLOP-027-1	Beneath Orlop Deck	BIRD SHOT		LEAD	1	0.7	GM	0.196		IN		20			1	7/26/2010	BIRD SHOT - FLAT SPOT
ORLOP-027-2	Beneath Orlop Deck	BIRD SHOT		LEAD	1	0.4	GM	0.163		IN		16			1	7/26/2010	BUCK SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER
ORLOP-027-3	Beneath Orlop Deck	BIRD SHOT		LEAD	1	0.3	GM	0.153		IN		15			1	7/26/2010	BUCK SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER
ORLOP-027-4	Beneath Orlop Deck	BIRD SHOT		LEAD	1	0.2	GM	0.138		IN		14			1	7/26/2010	BIRD SHOT - IRREGULAR SHAPE
ORLOP-027-5	Beneath Orlop Deck	GUN SPALL		DOVER FLINT	1	8.3	GM						1.10	1.00	IN	7/26/2010	BLACK FLINT GUN SPALL, UTILIZED, FLINT IS FROM DOVER, ENGLAND
S_SK-024	Between Stern and Stern Knee	MUSKET BALL	ROUND	LEAD	1	10.6	GM	0.487		IN		49				7/27/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
USP-001	Under Stern Piece	CANNON BALL		IRON	1	3.720	LB	3.05		IN						7/28/2010	4 POUNDER BASED ON DIAMETER, HAS SOME ENCRUSTATION AND WOOD ATTACHED
USP-002	Under Stern Piece	POUCH		LEATHER	1	26.9	GM						8.70	3.00	in	7/28/2010	LEATHER "WALLET" OR POUCH, DIVIDED INTO 3 COMPARTMENTS VIA STITCHING (1/2 WAY FROM TOP TO BOTTOM
USP-003	Under Stern Piece	LEATHER		LEATHER	2	1.0	GM									7/28/2010	2 FRAGMENTS OF LEATHER FROM A POSSIBLE MUSKET FRIZZEN COVER OR A FRAGMENT OF A FINGER FROM A LEATHER GLOVE
USP-004	Under Stern Piece	LEAD SHEETING		LEAD	1	132.4	GM									7/28/2010	BENT LEAD SHEETING WITH SMALL SLIT, POSSIBLY FROM A KNIFE
USP-005-1	Under Stern Piece	MUSKET BALL	ROUND	LEAD	1	13.3	GM	0.560		IN		56				7/28/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
USP-005-2	Under Stern Piece	MUSKET BALL	ROUND	LEAD	1	11.1	GM	0.495		IN		50				7/28/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE. SMALL IRON SPOT, TESTED FOR WIRE INCLUSION, NON PRESENT. ONLY RUST SPOT.
USP-006-1	Under Stern Piece	BUCK SHOT		LEAD	1	1.3	GM	0.243		IN		24				7/28/2010	BUCK SHOT - ROUND WITH VISIBLE SPRUE CUT

Table 1 - Artifacts from the World Trade Center Ship (Grouped by Artifact #)

USP-006-2	Under Stern Piece	BIRD SHOT		LEAD	1	0.7	GM	0.180		IN	18				7/28/2010	BIRD SHOT - SLIGHTLY OUT OF ROUND, OVAL XSECTION
WF10S-001	Between Area West of Frame 10 and Stern	GRAPE SHOT	7 OZ	IRON OXIDE	1	69.3	GM	1.450		IN					7/26/2010	GRAPE SHOT? - DIAMETER FOR 5 1/4 LBER, BUT WEIGHT (2.44 oz) IS LOW - SHOULD BE 7oz FOR THIS DIAMETER. POSSIBLY COMPLETELY OXIDIZED
WF10S-002-1	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	26.6	GM		0.666	IN	67				7/26/2010	MUSKET BALL - CAST OUT OF ROUND, SPRUE CUT VISIBLE
WF10S-002-10	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.4	GM	0.521		IN	52				7/26/2010	MUSKET BALL - ROUND, SPRUE CUT VISIBLE
WF10S-002-11	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.1	GM	0.520		IN	52				7/26/2010	MUSKET BALL - OUT OF ROUND, SPRUE CUT AND MOLD SEAM VISIBLE
WF10S-002-12	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.4	GM	0.522		IN	52				7/26/2010	MUSKET BALL - ROUND, SPRUE CUT AND MOLD SEAM VISIBLE
WF10S-002-13	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.0	GM	0.517		IN	52				7/26/2010	MUSKET BALL - ROUND, SPRUE CUT AND MOLD SEAM VISIBLE, SLIGHT MOLD FLASHING OPPOSITE SPRUE
WF10S-002-14	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.2	GM	0.520		IN	52				7/26/2010	MUSKET BALL - OUT OF ROUND, WITH SPRUE CUT
WF10S-002-15	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.0	GM	0.517		IN	52				7/26/2010	MUSKET BALL - OUT OF ROUND, FAINT SPRUE CUT
WF10S-002-16	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.3	GM	0.520		IN	52				7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND, FAINT SPRUE CUT
WF10S-002-17	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.2	GM	0.520		IN	52				7/26/2010	MUSKET BALL - ROUND, FAINT SPRUE CUT
WF10S-002-18	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.5	GM	0.523		IN	52				7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND, STRONG SPRUE CUT, PARTIAL MOLD SEAM
WF10S-002-19	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.2	GM	0.520		IN	52				7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND, SPRUE CUT VISIBLE
WF10S-002-2	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	18.7	GM	0.592		IN	59				7/26/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
WF10S-002-20	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	10.4	GM	0.486		IN	47				7/26/2010	MUSKET BALL - ROUND
WF10S-002-21	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	10.7	GM	0.491		IN	49				7/26/2010	MUSKET BALL - ROUND, FAINT SPRUE CUT AND MOLD SEAM
WF10S-002-22	Between Area West of Frame 10 and Stern	MUSKET BALL	ANIMAL CHEWED	LEAD	1	12.9	GM	0.519		IN	52				7/26/2010	MUSKET BALL - OUT OF ROUND MOLD, SPRUE CUT AND MOLD SEAM VISIBLE - CHEWED BY A RODENT (PROBABLY A RAT) OR A FISH
WF10S-002-23	Between Area West of Frame 10 and Stern	MUSKET BALL	ANIMAL CHEWED	LEAD	1	11.2	GM	0.493		IN	49				7/26/2010	MUSKET BALL - ROUND, FAINT SPRUE CUT AND PARTIAL MOLD SEAM. SMALL TEETH MARKINGS FROM A RAT OR FISH
WF10S-002-24	Between Area West of Frame 10 and Stern	MUSKET BALL	ANIMAL CHEWED	LEAD	1	10.7	GM	0.490		IN	49				7/26/2010	MUSKET BALL - ROUND WITH FLAT SPOT - APPEARS CHEWED BY RODENT OR A FISH
WF10S-002-25	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	14.8	GM	0.550		IN	55				7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND, PARTIAL MOLD SEAM, VERY DEEP SPRUE CUT
WF10S-002-26	Between Area West of Frame 10 and Stern	MUSKET BALL	WEDGE	LEAD	1	12.9	GM	0.523	0.523	IN	52				7/26/2010	MUSKET BALL - WEDGE SHAPED, SPRUE CUT AND MOLD SEAM, POSSIBLY CRUSHED
WF10S-002-27	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.5	GM	0.531		IN	53				7/26/2010	MUSKET BALL - ROUND, VERY ENCRUSTED, CONCRETION REMOVED BY MECHANICAL ABRASION.
WF10S-002-28	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.1	GM	0.525		IN	53				7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND, VERY ENCRUSTED, CONCRETION REMOVED BY MECHANICAL ABRASION.
WF10S-002-29	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.4	GM	0.527		IN	53				7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND, VERY ENCRUSTED, CONCRETION REMOVED BY MECHANICAL ABRASION.
WF10S-002-3	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.4	GM	0.524		IN	52				7/26/2010	MUSKET BALL - ROUND, PARTIAL MOLD SEAM VISIBLE, SLIGHTLY ENCRUSTED
WF10S-002-30	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.4	GM	0.527		IN	53				7/26/2010	MUSKET BALL - ROUND, VERY ENCRUSTED, CONCRETION REMOVED BY MECHANICAL ABRASION.

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WF10S-002-31	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.4	GM	0.527	IN	53	7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND, VERY ENCRUSTED, CONCRETION REMOVED BY MECHANICAL ABRASION.CPARTIAL MOLD SEAM VISIBLE.
WF10S-002-32	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.3	GM	0.526	IN	53	7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND,SPRUE CUT VISIBLE , CONCRETION REMOVED BY MECHANICAL ABRASION.CPARTIAL MOLD SEAM VISIBLE.
WF10S-002-33	Between Area West of Frame 10 and Stern	MUSKET BALL	OUT OF ROUND	LEAD	1	13.2	GM	0.522	IN	52	7/26/2010	MUSKET BALL - SLIGHTLY OUT OF ROUND,STRONG SPRUE CUT VISIBLE , CONCRETION REMOVED BY MECHANICAL ABRASION.CPARTIAL MOLD SEAM VISIBLE.
WF10S-002-34	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	10.2	GM	0.489	IN	49	7/26/2010	MUSKET BALL - ROUND, VERY ENCRUSTED, CONCRETION REMOVED BY MECHANICAL ABRASION.
WF10S-002-35	Between Area West of Frame 10 and Stern	MUSKET BALL	SHORT SHOT	LEAD	1	13.6	GM	0.600	IN	60	7/26/2010	MUSKET BALL - MOLDED SHORT, HEMISPHERICAL,MOLD SEAM PARTIALLY VISIBLE, CONCRETION REMOVED BY MECHANICAL ABRASION.
WF10S-002-4	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	15.6	GM	0.552	IN	55	7/26/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE - SLIGHT ENCRUSTATION, SLIGHTLY OUT OF ROUND
WF10S-002-5	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.4	GM	0.529	IN	53	7/26/2010	MUSKET BALL - ROUND, LIGHTLY ENCRUSTED
WF10S-002-6	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.3	GM	0.524	IN	52	7/26/2010	MUSKET BALL - ROUND, SPRUE CUT VISIBLE
WF10S-002-7	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.0	GM	0.521	IN	52	7/26/2010	MUSKET BALL - ROUND, FAINT SPRUE CUT
WF10S-002-8	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.1	GM	0.522	IN	52	7/26/2010	MUSKET BALL - ROUND, SPRUE CUT AND PARTIAL MOLD SEAM VISIBLE
WF10S-002-9	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1	13.3	GM	0.525	IN	53	7/26/2010	MUSKET BALL - ROUND, FAINT MOLD SEAM AND SPRUE CUT
WF10S-003	Between Area West of Frame 10 and Stern	CONCRETION		CONCRETION		14.0	GM				7/26/2010	MUSKET BALL AND BIRD SHOT IN CONCRETION
WF10S-003-1	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1			0.519	IN	52	7/26/2010	MUSKET BALL - ROUND
WF10S-003-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.150	IN	15	7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-004	Between Area West of Frame 10 and Stern	CONCRETION		CONCRETION		13.6	GM				7/26/2010	MUSKET BALL AND BIRD SHOT IN CONCRETION
WF10S-004-1	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1			0.522	IN	52	7/26/2010	MUSKET BALL - ROUND
WF10S-004-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.140	IN	14	7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-005	Between Area West of Frame 10 and Stern	CONCRETION		CONCRETION		14.1	GM				7/26/2010	MUSKET BALL AND BIRD SHOT IN CONCRETION
WF10S-005-1	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1			0.517	IN	52	7/26/2010	MUSKET BALL - ROUND
WF10S-005-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.136	IN	14	7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-006	Between Area West of Frame 10 and Stern	CONCRETION		CONCRETION		13.6	GM				7/26/2010	MUSKET BALL AND BIRD SHOT IN CONCRETION
WF10S-006-1	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1			0.520	IN	52	7/26/2010	MUSKET BALL - ROUND
WF10S-006-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.160	IN	16	7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-007	Between Area West of Frame 10 and Stern	CONCRETION		CONCRETION		15.2	GM				7/26/2010	MUSKET BALL AND BIRD SHOT IN CONCRETION
WF10S-007-1	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1			0.518	IN	52	7/26/2010	MUSKET BALL - ROUND
WF10S-007-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.151	IN	15	7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-007-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.154	IN	15	7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE

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WF10S-007-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.154		IN	15				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-008	Between Area West of Frame 10 and Stern	CONCRETION		CONCRETION		15.6									7/26/2010	MUSKET BALL AND BIRD SHOT IN CONCRETION
WF10S-008-1	Between Area West of Frame 10 and Stern	MUSKET BALL	ROUND	LEAD	1			0.524		IN	52				7/26/2010	MUSKET BALL - ROUND
WF10S-008-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.148		IN	15				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-008-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.140		IN	15				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-008-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.151		IN	15				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-008-5	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1					IN					7/26/2010	BIRD SHOT - TOO ENCRUSTED TO MEASURE DIA
WF10S-009	Between Area West of Frame 10 and Stern	CONCRETION		CONCRETION		13.6									7/26/2010	MUSKET BALL AND BIRD SHOT IN CONCRETION
WF10S-009-1	Between Area West of Frame 10 and Stern	COIN		SILVER	1			1.096		IN					7/26/2010	SILVER COIN - TOO ENCRUSTE TO IDENTIFY TYPE
WF10S-009-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.160		IN	16				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-009-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.163		IN	16				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-009-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.160		IN	16				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-009-5	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.159		IN	16				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-009-6	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.180		IN	18				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-009-7	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.159		IN	16				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-009-8	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1			0.159		IN	16				7/26/2010	BIRD SHOT - DIA IS BEST ESTIMATE
WF10S-009-9	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1					IN					7/26/2010	BIRD SHOT - TOO ENCRUSTED TO MEASURE DIA
WF10S-010-1	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	12	3.1	GM		0.142	IN	14				7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. ENCRUSTED PIECES WERE CLEANED WITH ULTRAONIC BATH AND MECHANICALLY
WF10S-010-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	29	9.4	GM		0.153	IN	15				7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. ENCRUSTED PIECES WERE CLEANED WITH ULTRAONIC BATH AND MECHANICALLY
WF10S-010-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	19	7.4	GM		0.163	IN	16				7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. ENCRUSTED PIECES WERE CLEANED WITH ULTRAONIC BATH AND MECHANICALLY
WF10S-010-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	2	1.2	GM		0.182	IN	18				7/26/2010	BIRD SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. ENCRUSTED PIECES WERE CLEANED WITH ULTRAONIC BATH AND MECHANICALLY. Dm = 0.180", 0.184"
WF10S-010-5	Between Area West of Frame 10 and Stern	BUCK SHOT		LEAD	1	0.7	GM	0.198		IN	20				7/26/2010	BUCK SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. ENCRUSTED PIECES WERE CLEANED WITH ULTRAONIC BATH AND MECHANICALLY
WF10S-010-6	Between Area West of Frame 10 and Stern	BUCK SHOT		LEAD	1	0.8	GM	0.207		IN	21				7/26/2010	BUCK SHOT, NOT TRUE ROUND, SMALL DIMPLE, MADE FROM SHOT TOWER. ENCRUSTED PIECES WERE CLEANED WITH ULTRAONIC BATH AND MECHANICALLY
WF10S-011	Between Area West of Frame 10 and Stern	CONCRETION		RUST/WOOD	1	1.500	GM								7/26/2010	RUST CONCRETION ON WOOD.
WF10S-012	Between Area West of Frame 10 and Stern	CONCRETION		RUST/WOOD	1	0.900	GM								7/26/2010	RUST CONCRETION ON WOOD.

Table 1 - Artifacts from the World Trade Center Ship (Grouped by Artifact #)

WF10S-013	Between Area West of Frame 10 and Stern	CONCRETION		RUST/WOOD	1	0.600	GM										7/26/2010	RUST CONCRETION ON WOOD.	
WF10S-014	Between Area West of Frame 10 and Stern	CONCRETION		RUST/WOOD	1	2.000	GM											7/26/2010	RUST CONCRETION ON WOOD.
WF10S-015	Between Area West of Frame 10 and Stern	CONCRETION		RUST/WOOD	1	2.600	GM											7/26/2010	RUST CONCRETION ON WOOD.
WF10S-016	Between Area West of Frame 10 and Stern	CONCRETION		RUST	1	4.900	GM											7/26/2010	RUST CONCRETION IN A CONCAVE HEMISPHEREABOUT THE SIZE GRAPE SHOT, MISSING A PIECE OF BIRD SHOT
WF10S-017	Between Area West of Frame 10 and Stern	CONCRETION		RUST/LEAD/GLASS		23.700	GM											7/26/2010	CONCRETION WITH 8 BIRD SHOT, GLASS FRAGMENT, 1/2 SQUARE NAIL IMPRESSION AND 3 SQUARE NAIL HOLES
WF10S-017-1	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.164		IN								7/26/2010	1 OF 8 BIRD SHOT IN CONCRETION
WF10S-017-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.158		IN								7/26/2010	1 OF 8 BIRD SHOT IN CONCRETION
WF10S-017-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.126		IN								7/26/2010	1 OF 8 BIRD SHOT IN CONCRETION
WF10S-017-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.120		IN								7/26/2010	1 OF 8 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-017-5	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.143		IN								7/26/2010	1 OF 8 BIRD SHOT IN CONCRETION
WF10S-017-6	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.160		IN								7/26/2010	1 OF 8 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-017-7	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.159		IN								7/26/2010	1 OF 8 BIRD SHOT IN CONCRETION
WF10S-017-8	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.120		IN								7/26/2010	1 OF 8 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-017-9	Between Area West of Frame 10 and Stern	GLASS		GLASS	1		GM						14	0.38	0.20	IN		7/26/2010	SMALL SHERD OF GLASS - POSSIBLY WINDOW GLASS
WF10S-018	Between Area West of Frame 10 and Stern	CONCRETION		RUST/LEAD/WOOD		9.200	GM											7/26/2010	CONCRETION WITH 11 BIRD SHOT, WOOD FRAGMENT, 1/2 SQUARE NAIL IMPRESSION AND ONE HOLE FROM A SQUARE NAIL
WF10S-018-1	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.164		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION
WF10S-018-10	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.140		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-018-11	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.141		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION
WF10S-018-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.160		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-018-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.160		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-018-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.160		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-018-5	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.161		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION
WF10S-018-6	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.162		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION
WF10S-018-7	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.159		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION
WF10S-018-8	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.163		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION
WF10S-018-9	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.140		IN								7/26/2010	1 OF 11 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-019	Between Area West of Frame 10 and Stern	CONCRETION		RUST/LEAD/WOOD		6.800	GM											7/26/2010	CONCRETION WITH 6 BIRD SHOT
WF10S-019-1	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.163		IN								7/26/2010	1 OF 6 BIRD SHOT IN CONCRETION
WF10S-019-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.146		IN								7/26/2010	1 OF 6 BIRD SHOT IN CONCRETION
WF10S-019-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.150		IN								7/26/2010	1 OF 6 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED

Table 1 - Artifacts from the World Trade Center Ship (Grouped by Artifact #)

WF10S-019-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.169		IN	17				7/26/2010	1 OF 6 BIRD SHOT IN CONCRETION
WF10S-019-5	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.156		IN	16				7/26/2010	1 OF 6 BIRD SHOT IN CONCRETION
WF10S-019-6	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.150		IN	15				7/26/2010	1 OF 6 BIRD SHOT IN CONCRETION - EMBEDDED, DIA ESTIMATED
WF10S-020	Between Area West of Frame 10 and Stern	CONCRETION		RUST/LEAD		4.200	GM								7/26/2010	CONCRETION WITH 5 BIRD SHOT
WF10S-020-1	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.150		IN	15				7/26/2010	1 OF 5 BIRD SHOT IN CONCRETION
WF10S-020-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.154		IN	15				7/26/2010	1 OF 5 BIRD SHOT IN CONCRETION
WF10S-020-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.136		IN	14				7/26/2010	1 OF 5 BIRD SHOT IN CONCRETION
WF10S-020-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.160		IN	16				7/26/2010	1 OF 5 BIRD SHOT IN CONCRETION
WF10S-020-5	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.139		IN	14				7/26/2010	1 OF 5 BIRD SHOT IN CONCRETION
WF10S-021-1	Between Area West of Frame 10 and Stern	BUCK SHOT		LEAD	1	1.5	GM			IN	26				7/26/2010	BUCK SHOT - WAS IN CONCRETION, IRREGULAR SHAPE
WF10S-021-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1	0.3	GM	0.152		IN	15				7/26/2010	BIRD SHOT - WAS IN CONCRETION, IRREGULAR SHAPE
WF10S-021-3	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1	0.3	GM	0.152		IN	15				7/26/2010	BIRD SHOT - WAS IN CONCRETION, IRREGULAR SHAPE
WF10S-021-4	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1	0.4	GM	0.162		IN	16				7/26/2010	BIRD SHOT - WAS IN CONCRETION, IRREGULAR SHAPE
WF10S-021-5	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1	0.4	GM	0.161		IN	16				7/26/2010	BIRD SHOT - WAS IN CONCRETION, IRREGULAR SHAPE
WF10S-021-6	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1	0.4	GM	0.164		IN	16				7/26/2010	BIRD SHOT - WAS IN CONCRETION, IRREGULAR SHAPE
WF10S-021-7	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1	0.4	GM	0.166		IN	17				7/26/2010	BIRD SHOT - WAS IN CONCRETION, IRREGULAR SHAPE
WF10S-022	Between Area West of Frame 10 and Stern	CONCRETION		IRON/RUST/LEAD/WOOD/GLASS		85.000	GM								7/26/2010	CONCRETION OF WOOD, GRAPE SHOT, BIRD SHOT NAD WINDOW GLASS WITH 3 SUARE NAIL HOLES THAT GO ALL THE WAY THROUGH
WF10S-022-1	Between Area West of Frame 10 and Stern	GRAPE SHOT	4 OZ	IRON	1		GM	1.159		IN					7/26/2010	GRAPE SHOT IN CONCRETION - BASED ON DIA: 4 oz FOR 3 lber CANNON.
WF10S-022-2	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1		GM	0.157		IN	16				7/26/2010	BIRD SHOT IN CONCRETION
WF10S-022-3	Between Area West of Frame 10 and Stern	GLASS		GLASS	1		GM					0.28	0.10	IN	7/26/2010	SMALL SHERD OF CLEAR GLASS - POSSIBLY WINDOW GLASS
WF10S-022-4	Between Area West of Frame 10 and Stern	WOOD		WOOD	1		GM								7/26/2010	WOOD FRAGMENT
WF10S-022-5	Between Area West of Frame 10 and Stern	LEAD		LEAD	1	0.6	GM								7/26/2010	SMALL TRIANGULAR-SHAPED PIECE OF LEAD
WF10S-022-6	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1	0.4	GM	0.167		IN	17				7/26/2010	BIRD SHOT - WAS IN CONCRETION
WF10S-022-7	Between Area West of Frame 10 and Stern	BIRD SHOT		LEAD	1	0.3	GM	0.147		IN	15				7/26/2010	BIRD SHOT - WAS IN CONCRETION
WF10S-023	Between Area West of Frame 10 and Stern	GUN SPALL		DOVER FLINT	1	4.6	GM					1.04	0.77	IN	7/26/2010	BLACK FLINT GUN SPALL, SLIGHTLY UTILIZED, FLINT IS FROM DOVER, ENGLAND

**TABLE 2 - SEMI-DETAILED ANALYSIS OF ARTIFACTS FROM SHIP FOUND AT WORLD TRADE CENTER SITE
GROUPED BY ARTIFACT TYPE**

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Page 1

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
Type: BIRD SHOT										
CS2_5-030	TAR		LEAD	1	0.300	GM 0.15		IN	15	7/26/2010
F10-14-014B-1	Fill from F-10 to F-14		LEAD	1		0.17		IN	16	7/28/2010
F10-14-014B-2	Fill from F-10 to F-14		LEAD	1		0.15		IN	16	7/28/2010
F10-14-014B-3	Fill from F-10 to F-14		LEAD	1		0.14		IN	14	7/28/2010
F10-14-014B-4	Fill from F-10 to F-14		LEAD	1		0.14		IN	14	7/28/2010
F10-14-014B-5	Fill from F-10 to F-14		LEAD	1		0.13		IN	13	7/28/2010
F10-14-014B-6	Fill from F-10 to F-14		LEAD	1		0.13		IN	13	7/28/2010
F10-14-014B-7	Fill from F-10 to F-14		LEAD	1		0.08		IN	8	7/28/2010
FN5-FN6-029	Between FN5 and FN6		LEAD	1	0.300	GM 0.14		IN	14	7/26/2010
FN7-FN8-028	Between FN10 and FN11		LEAD	1	0.400	GM 0.16		IN	16	7/28/2010
FS9-1	FLOAT SAMPLE 9		LEAD	14	2.300	GM	0.12	IN	12	7/26/2010
FS9-2	FLOAT SAMPLE 9		LEAD	31	7.700	GM	0.14	IN	14	7/26/2010
FS9-3	FLOAT SAMPLE 9		LEAD	41	13.300	GM	0.15	IN	15	7/26/2010
FS9-4	FLOAT SAMPLE 9		LEAD	23	8.700	GM	0.16	IN	16	7/26/2010
FS9-5	FLOAT SAMPLE 9		LEAD	3	1.400	GM	0.17	IN	17	7/26/2010
FS9-6	FLOAT SAMPLE 9		LEAD	3	2.000	GM	0.19	IN	19	7/26/2010
FS9-9	FLOAT SAMPLE 9		LEAD	1	0.300	GM	0.15	IN		7/26/2010
ORLOP-027-1	Beneath Orlop Deck		LEAD	1	0.700	GM 0.20		IN	20	7/26/2010
ORLOP-027-2	Beneath Orlop Deck		LEAD	1	0.400	GM 0.16		IN	16	7/26/2010
ORLOP-027-3	Beneath Orlop Deck		LEAD	1	0.300	GM 0.15		IN	15	7/26/2010
ORLOP-027-4	Beneath Orlop Deck		LEAD	1	0.200	GM 0.14		IN	14	7/26/2010
USP-006-2	Under Stern Piece		LEAD	1	0.700	GM 0.18		IN	18	7/28/2010
WF10S-003-2	Between Area West of Frame 10 and Stern		LEAD	1		0.15		IN	15	7/26/2010
WF10S-004-2	Between Area West of Frame 10 and Stern		LEAD	1		0.14		IN	14	7/26/2010
WF10S-005-2	Between Area West of Frame 10 and Stern		LEAD	1		0.14		IN	14	7/26/2010
WF10S-006-2	Between Area West of Frame 10 and Stern		LEAD	1		0.16		IN	16	7/26/2010
WF10S-007-2	Between Area West of Frame 10 and Stern		LEAD	1		0.15		IN	15	7/26/2010
WF10S-007-3	Between Area West of Frame 10 and Stern		LEAD	1		0.15		IN	15	7/26/2010
WF10S-007-4	Between Area West of Frame 10 and Stern		LEAD	1		0.15		IN	15	7/26/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
WF10S-008-2	Between Area West of Frame 10 and Stern		LEAD	1		0.15		IN	15	7/26/2010
WF10S-008-3	Between Area West of Frame 10 and Stern		LEAD	1		0.14		IN	15	7/26/2010
WF10S-008-4	Between Area West of Frame 10 and Stern		LEAD	1		0.15		IN	15	7/26/2010
WF10S-008-5	Between Area West of Frame 10 and Stern		LEAD	1				IN		7/26/2010
WF10S-009-2	Between Area West of Frame 10 and Stern		LEAD	1		0.16		IN	16	7/26/2010
WF10S-009-3	Between Area West of Frame 10 and Stern		LEAD	1		0.16		IN	16	7/26/2010
WF10S-009-4	Between Area West of Frame 10 and Stern		LEAD	1		0.16		IN	16	7/26/2010
WF10S-009-5	Between Area West of Frame 10 and Stern		LEAD	1		0.16		IN	16	7/26/2010
WF10S-009-6	Between Area West of Frame 10 and Stern		LEAD	1		0.18		IN	18	7/26/2010
WF10S-009-7	Between Area West of Frame 10 and Stern		LEAD	1		0.16		IN	16	7/26/2010
WF10S-009-8	Between Area West of Frame 10 and Stern		LEAD	1		0.16		IN	16	7/26/2010
WF10S-009-9	Between Area West of Frame 10 and Stern		LEAD	1				IN		7/26/2010
WF10S-010-1	Between Area West of Frame 10 and Stern		LEAD	12	3.100 GM		0.14	IN	14	7/26/2010
WF10S-010-2	Between Area West of Frame 10 and Stern		LEAD	29	9.400 GM		0.15	IN	15	7/26/2010
WF10S-010-3	Between Area West of Frame 10 and Stern		LEAD	19	7.400 GM		0.16	IN	16	7/26/2010
WF10S-010-4	Between Area West of Frame 10 and Stern		LEAD	2	1.200 GM		0.18	IN	18	7/26/2010
WF10S-017-1	Between Area West of Frame 10 and Stern		LEAD	1	GM	0.16		IN	16	7/26/2010
WF10S-017-2	Between Area West of Frame 10 and Stern		LEAD	1	GM	0.16		IN	16	7/26/2010
WF10S-017-3	Between Area West of Frame 10 and Stern		LEAD	1	GM	0.13		IN	12	7/26/2010
WF10S-017-4	Between Area West of Frame 10 and Stern		LEAD	1	GM	0.12		IN	12	7/26/2010
WF10S-017-5	Between Area West of Frame 10 and Stern		LEAD	1	GM	0.14		IN	14	7/26/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
WF10S-017-6	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-017-7	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-017-8	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.12		IN	12	7/26/2010
WF10S-018-1	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-018-10	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.14		IN	14	7/26/2010
WF10S-018-11	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.14		IN	14	7/26/2010
WF10S-018-2	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-018-3	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-018-4	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-018-5	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-018-6	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-018-7	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-018-8	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-018-9	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.14		IN	14	7/26/2010
WF10S-019-1	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-019-2	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.15		IN	15	7/26/2010
WF10S-019-3	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.15		IN	15	7/26/2010
WF10S-019-4	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.17		IN	17	7/26/2010
WF10S-019-5	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010
WF10S-019-6	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.15		IN	15	7/26/2010
WF10S-020-1	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.15		IN	15	7/26/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>	
WF10S-020-2	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.15		IN	15	7/26/2010	
WF10S-020-3	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.14		IN	14	7/26/2010	
WF10S-020-4	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010	
WF10S-020-5	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.14		IN	14	7/26/2010	
WF10S-021-2	Between Area West of Frame 10 and Stern		LEAD	1	0.300	GM 0.15		IN	15	7/26/2010	
WF10S-021-3	Between Area West of Frame 10 and Stern		LEAD	1	0.300	GM 0.15		IN	15	7/26/2010	
WF10S-021-4	Between Area West of Frame 10 and Stern		LEAD	1	0.400	GM 0.16		IN	16	7/26/2010	
WF10S-021-5	Between Area West of Frame 10 and Stern		LEAD	1	0.400	GM 0.16		IN	16	7/26/2010	
WF10S-021-6	Between Area West of Frame 10 and Stern		LEAD	1	0.400	GM 0.16		IN	16	7/26/2010	
WF10S-021-7	Between Area West of Frame 10 and Stern		LEAD	1	0.400	GM 0.17		IN	17	7/26/2010	
WF10S-022-2	Between Area West of Frame 10 and Stern		LEAD	1		GM 0.16		IN	16	7/26/2010	
WF10S-022-6	Between Area West of Frame 10 and Stern		LEAD	1	0.400	GM 0.17		IN	17	7/26/2010	
WF10S-022-7	Between Area West of Frame 10 and Stern		LEAD	1	0.300	GM 0.15		IN	15	7/26/2010	
BIRD SHOT TOTAL:				251							

Type: BUCK SHOT

F10-14-015	Fill from F-10 to F-14		LEAD	1	1.400	GM 0.25		IN	25	7/28/2010
FS9-7	FLOAT SAMPLE 9		LEAD	2	1.400	GM	0.20	IN	20	7/26/2010
FS9-8	FLOAT SAMPLE 9		LEAD	1	0.800	GM 0.21	0.21	IN	21	7/26/2010
USP-006-1	Under Stern Piece		LEAD	1	1.300	GM 0.24		IN	24	7/28/2010
WF10S-010-5	Between Area West of Frame 10 and Stern		LEAD	1	0.700	GM 0.20		IN	20	7/26/2010
WF10S-010-6	Between Area West of Frame 10 and Stern		LEAD	1	0.800	GM 0.21		IN	21	7/26/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
WF10S-021-1	Between Area West of Frame 10 and Stern		LEAD	1	1.500	GM		IN	26	7/26/2010

BUCK SHOT TOTAL: 8

Type: BUTTON

F10-14-001	Fill from F-10 to F-14		PEWTER	1	4.900	GM	23.50		MM	7/28/2010
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BUTTON TOTAL: 1

Type: CANNON BALL

USP-001	Under Stern Piece		IRON	1	3.720	LB	3.05		IN	7/28/2010
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CANNON BALL TOTAL: 1

Type: CLAY MARBLE

F10-14-011	Fill from F-10 to F-14		BALL/KAOLIN CLA	1	3.600	GM	0.54		IN	7/28/2010
F10-14-012	Fill from F-10 to F-14		BALL/KAOLIN CLA	1	3.000	GM	0.52		IN	7/28/2010

CLAY MARBLE TOTAL: 2

Type: COAL

F10-14-014A-2	Fill from F-10 to F-14		ANTHRACITE	1						7/28/2010
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COAL TOTAL: 1

Type: COIN

WF10S-009-1	Between Area West of Frame 10 and Stern		SILVER	1		1.10		IN		7/26/2010
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<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Units</u>	<u>Prob Cal</u>	<u>Date</u>
COIN TOTAL:				1						

Type: CONCRETION

F10-14-014A	Fill from F-10 to F-14		CONCRETION		17.700	GM				7/28/2010
F10-14-014B	Fill from F-10 to F-14		CONCRETION		8.200	GM				7/28/2010
WF10S-003	Between Area West of Frame 10 and Stern		CONCRETION		14.000	GM				7/26/2010
WF10S-004	Between Area West of Frame 10 and Stern		CONCRETION		13.600	GM				7/26/2010
WF10S-005	Between Area West of Frame 10 and Stern		CONCRETION		14.100	GM				7/26/2010
WF10S-006	Between Area West of Frame 10 and Stern		CONCRETION		13.600	GM				7/26/2010
WF10S-007	Between Area West of Frame 10 and Stern		CONCRETION		15.200	GM				7/26/2010
WF10S-008	Between Area West of Frame 10 and Stern		CONCRETION		15.600					7/26/2010
WF10S-009	Between Area West of Frame 10 and Stern		CONCRETION		13.600					7/26/2010
WF10S-011	Between Area West of Frame 10 and Stern		RUST/WOOD	1	1.500	GM				7/26/2010
WF10S-012	Between Area West of Frame 10 and Stern		RUST/WOOD	1	0.900	GM				7/26/2010
WF10S-013	Between Area West of Frame 10 and Stern		RUST/WOOD	1	0.600	GM				7/26/2010
WF10S-014	Between Area West of Frame 10 and Stern		RUST/WOOD	1	2.000	GM				7/26/2010
WF10S-015	Between Area West of Frame 10 and Stern		RUST/WOOD	1	2.600	GM				7/26/2010
WF10S-016	Between Area West of Frame 10 and Stern		RUST	1	4.900	GM				7/26/2010
WF10S-017	Between Area West of Frame 10 and Stern		RUST/LEAD/GLASS		23.700	GM				7/26/2010
WF10S-018	Between Area West of Frame 10 and Stern		RUST/LEAD/WOOD		9.200	GM				7/26/2010
WF10S-019	Between Area West of Frame 10 and Stern		RUST/LEAD/WOOD		6.800	GM				7/26/2010
WF10S-020	Between Area West of Frame 10 and Stern		RUST/LEAD		4.200	GM				7/26/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
WF10S-022	Between Area West of Frame 10 and Stern		IRON/RUST/LEAD/		85.000	GM				7/26/2010
CONCRETION TOTAL:				6						

Type: GLASS

WF10S-017-9	Between Area West of Frame 10 and Stern		GLASS	1		GM			14	7/26/2010
WF10S-022-3	Between Area West of Frame 10 and Stern		GLASS	1		GM				7/26/2010
GLASS TOTAL:				2						

Type: GRAPE SHOT

AOP-001-2	Above Outer Planks	4 OZ	IRON	1	58.400	GM	1.22		IN	7/28/2010
WF10S-022-1	Between Area West of Frame 10 and Stern	4 OZ	IRON	1		GM	1.16		IN	7/26/2010
4 OZ TOTAL:				2						
AOP-001-1	Above Outer Planks	6 OZ	IRON	1	159.000	GM	1.37		IN	7/28/2010
6 OZ TOTAL:				1						
WF10S-001	Between Area West of Frame 10 and Stern	7 OZ	IRON OXIDE	1	69.300	GM	1.45		IN	7/26/2010
7 OZ TOTAL:				1						
GRAPE SHOT TOTAL:				4						

Type: GUN SPALL

F10-14-013	Fill from F-10 to F-14		DOVER FLINT	1	8.000	GM				7/28/2010
ORLOP-027-5	Beneath Orlop Deck		DOVER FLINT	1	8.300	GM				7/26/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
WF10S-023	Between Area West of Frame 10 and Stern		DOVER FLINT	1	4.600	GM				7/26/2010

GUN SPALL TOTAL: 3

Type: LEAD

F10-14-010	Fill from F-10 to F-14		LEAD	1	5.600	GM	0.45	IN		7/28/2010
WF10S-022-5	Between Area West of Frame 10 and Stern		LEAD	1	0.600	GM				7/26/2010

LEAD TOTAL: 2

Type: LEAD SHEETING

ADJ-032	Within or adjacent to ship		LEAD	1	861.000	GM				7/14/2010
USP-004	Under Stern Piece		LEAD	1	132.400	GM				7/28/2010

LEAD SHEETING TOTAL: 2

Type: LEATHER

FS6-FS7-031	Between frames FS6 AND FS7		LEATHER	1	30.400	GM				7/27/2010
USP-003	Under Stern Piece		LEATHER	2	1.000	GM				7/28/2010

LEATHER TOTAL: 3

Type: MUSKET BALL

WF10S-002-22	Between Area West of Frame 10 and Stern	ANIMAL CHEWED	LEAD	1	12.900	GM	0.52	IN	52	7/26/2010
WF10S-002-23	Between Area West of Frame 10 and Stern	ANIMAL CHEWED	LEAD	1	11.200	GM	0.49	IN	49	7/26/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
WF10S-002-24	Between Area West of Frame 10 and Stern	ANIMAL CHEWED	LEAD	1	10.700	GM 0.49		IN	49	7/26/2010
ANIMAL CHEWED TOTAL:				3						
FN10-FN11-026	Between FN10 and FN11	HEMISPHERE	LEAD	1	11.800	GM 0.52		IN	52	7/27/2010
HEMISPHERE TOTAL:				1						
AOP-002	Above Outer Planks	OUT OF ROUND	LEAD	1	13.000	GM	0.53	IN	52	7/28/2010
WF10S-002-1	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	26.600	GM	0.67	IN	67	7/26/2010
WF10S-002-11	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.100	GM 0.52		IN	52	7/26/2010
WF10S-002-14	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.200	GM 0.52		IN	52	7/26/2010
WF10S-002-15	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.000	GM 0.52		IN	52	7/26/2010
WF10S-002-16	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.300	GM 0.52		IN	52	7/26/2010
WF10S-002-17	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.200	GM 0.52		IN	52	7/26/2010
WF10S-002-18	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.500	GM 0.52		IN	52	7/26/2010
WF10S-002-19	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.200	GM 0.52		IN	52	7/26/2010
WF10S-002-25	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	14.800	GM 0.55		IN	55	7/26/2010
WF10S-002-28	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.100	GM 0.53		IN	53	7/26/2010
WF10S-002-29	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.400	GM 0.53		IN	53	7/26/2010
WF10S-002-31	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.400	GM 0.53		IN	53	7/26/2010
WF10S-002-32	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.300	GM 0.53		IN	53	7/26/2010
WF10S-002-33	Between Area West of Frame 10 and Stern	OUT OF ROUND	LEAD	1	13.200	GM 0.52		IN	52	7/26/2010
OUT OF ROUND TOTAL:				15						
F10-14-002	Fill from F-10 to F-14	ROUND	LEAD	1	16.800	GM 0.56		IN	56	7/28/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Prob Date</u>
F10-14-003	Fill from F-10 to F-14	ROUND	LEAD	1	13.300	GM 0.52		IN	52	7/28/2010
F10-14-004	Fill from F-10 to F-14	ROUND	LEAD	1	13.200	GM 0.52		IN	52	7/28/2010
F10-14-005	Fill from F-10 to F-14	ROUND	LEAD	1	13.100	GM 0.52		IN	52	7/28/2010
F10-14-006	Fill from F-10 to F-14	ROUND	LEAD	1	13.000	GM 0.52		IN	52	7/28/2010
F10-14-007	Fill from F-10 to F-14	ROUND	LEAD	1	11.300	GM 0.49		IN	49	7/28/2010
F10-14-008	Fill from F-10 to F-14	ROUND	LEAD	1	10.400	GM 0.48		IN	48	7/28/2010
F10-14-014A-1	Fill from F-10 to F-14	ROUND	LEAD	1		0.54		IN	54	7/28/2010
FN12-FN13-025	Between FN12 and FN13	ROUND	LEAD	1	12.800	GM 0.52		IN	52	7/27/2010
S_SK-024	Between Stern and Stern Knee	ROUND	LEAD	1	10.600	GM 0.49		IN	49	7/27/2010
USP-005-1	Under Stern Piece	ROUND	LEAD	1	13.300	GM 0.56		IN	56	7/28/2010
USP-005-2	Under Stern Piece	ROUND	LEAD	1	11.100	GM 0.50		IN	50	7/28/2010
WF10S-002-10	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.400	GM 0.52		IN	52	7/26/2010
WF10S-002-12	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.400	GM 0.52		IN	52	7/26/2010
WF10S-002-13	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.000	GM 0.52		IN	52	7/26/2010
WF10S-002-2	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	18.700	GM 0.59		IN	59	7/26/2010
WF10S-002-20	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	10.400	GM 0.49		IN	47	7/26/2010
WF10S-002-21	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	10.700	GM 0.49		IN	49	7/26/2010
WF10S-002-27	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.500	GM 0.53		IN	53	7/26/2010
WF10S-002-3	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.400	GM 0.52		IN	52	7/26/2010
WF10S-002-30	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.400	GM 0.53		IN	53	7/26/2010
WF10S-002-34	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	10.200	GM 0.49		IN	49	7/26/2010
WF10S-002-4	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	15.600	GM 0.55		IN	55	7/26/2010
WF10S-002-5	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.400	GM 0.53		IN	53	7/26/2010
WF10S-002-6	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.300	GM 0.52		IN	52	7/26/2010
WF10S-002-7	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.000	GM 0.52		IN	52	7/26/2010
WF10S-002-8	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.100	GM 0.52		IN	52	7/26/2010

<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
WF10S-002-9	Between Area West of Frame 10 and Stern	ROUND	LEAD	1	13.300	GM 0.53		IN	53	7/26/2010
WF10S-003-1	Between Area West of Frame 10 and Stern	ROUND	LEAD	1		0.52		IN	52	7/26/2010
WF10S-004-1	Between Area West of Frame 10 and Stern	ROUND	LEAD	1		0.52		IN	52	7/26/2010
WF10S-005-1	Between Area West of Frame 10 and Stern	ROUND	LEAD	1		0.52		IN	52	7/26/2010
WF10S-006-1	Between Area West of Frame 10 and Stern	ROUND	LEAD	1		0.52		IN	52	7/26/2010
WF10S-007-1	Between Area West of Frame 10 and Stern	ROUND	LEAD	1		0.52		IN	52	7/26/2010
WF10S-008-1	Between Area West of Frame 10 and Stern	ROUND	LEAD	1		0.52		IN	52	7/26/2010
ROUND TOTAL:				34						
WF10S-002-35	Between Area West of Frame 10 and Stern	SHORT SHOT	LEAD	1	13.600	GM 0.60		IN	60	7/26/2010
SHORT SHOT TOTAL:				1						
F10-14-009	Fill from F-10 to F-14	WEDGE	LEAD	1	12.800	GM	0.52	IN	52	7/28/2010
WF10S-002-26	Between Area West of Frame 10 and Stern	WEDGE	LEAD	1	12.900	GM 0.52	0.52	IN	52	7/26/2010
WEDGE TOTAL:				2						
MUSKET BALL TOTAL:				56						

Type: NAIL

AOP-001-3	Above Outer Planks		IRON	1	0.900	GM		IN		7/28/2010
NAIL TOTAL:				1						

Type: POUCH

USP-002	Under Stern Piece		LEATHER	1	26.900	GM				7/28/2010
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<u>Artifact #</u>	<u>Provenience</u>	<u>Subtype</u>	<u>Composition</u>	<u>Quantity</u>	<u>Weight</u>	<u>Measured Diameter</u>	<u>Calc Dia</u>	<u>Dia Units</u>	<u>Prob Cal</u>	<u>Date</u>
POUCH TOTAL:				1						
<hr/>										
Type: UNKNOWN										
MISC-001	About 25' below ground surface: about 4' south of vessel, mi		IRON/WOOD	1	788.900	GM				7/22/2010
UNKNOWN TOTAL:				1						
<hr/>										
Type: WOOD										
WF10S-022-4	Between Area West of Frame 10 and Stern		WOOD	1		GM				7/26/2010
WOOD TOTAL:				1						
GRAND TOTAL:				347						

**TABLE 3 - SUMMARY ANALYSIS OF ARTIFACTS FROM SHIP FOUND AT WORLD TRADE CENTER SITE
GROUPED BY ARTIFACT TYPE AND SUBTYPE**

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Page 1

<u>Type</u>	<u>Subtype</u>	<u>Quantity</u>
BIRD SHOT		251
BUCK SHOT		8
BUTTON		1
CANNON BALL		1
CLAY MARBLE		2
COAL		1
COIN		1
CONCRETION		6
GLASS		2
<hr/>		
GRAPE SHOT	4 OZ	2
GRAPE SHOT	6 OZ	1
GRAPE SHOT	7 OZ	1
		<hr/>
	GRAPE SHOT TOTAL:	4
<hr/>		
GUN SPALL		3
LEAD		2
LEAD SHEETING		2
LEATHER		3
<hr/>		
MUSKET BALL	ANIMAL CHEWED	3
MUSKET BALL	HEMISPHERE	1
MUSKET BALL	OUT OF ROUND	15
MUSKET BALL	ROUND	34
MUSKET BALL	SHORT SHOT	1
MUSKET BALL	WEDGE	2
		<hr/>
	MUSKET BALL TOTAL:	56
<hr/>		
NAIL		1
POUCH		1
UNKNOWN		1
WOOD		1
<hr/>		
	GRAND TOTAL:	347

EXPERIMENT: DETERMINING THE MANUFACTURING METHOD FOR SMALL LEAD BIRD SHOT

by Daniel M. Sivilich
November 30, 2010

In July of 2010, a 32' fragment of a wooden sailing vessel was found in the subsoils of The World Trade Center site in Lower Manhattan. 346 artifacts were found that had the potential of being 18th-century military. I was retained to identify and possibly determine the age of them. 251 of the artifacts were identified as bird shot - lead shot with diameters ranging from 0.08" to 0.20" inclusively. Only 8 buck shot were found. Buck shot, 0.21" - 0.36" diameter lead shot, is typically made from a 2 part mold. The casting usually leaves an imprint of the mold seam and a clip mark of where the sprue was attached to the ball.



Figure 1 - 1776 mold (Courtesy of Monmouth County Historical Association, Freehold, NJ)



Figure - buck shot with sprue cut (WTC-USP-006-1)

However, all of the birdshot that was examined lacked these characteristics and were "apple" shaped with a concave dimple:



Figure 3 - Bird shot (WTC-FS9-5)

Since the bird shot were clearly not made in a mold, the next possibility was that they were made from a "shot tower". In 1782, William Watts, a plumber from Bristol, England, was awarded a patent for making lead shot that was "solid throughout, perfectly globular in form, and without the dimples, scratches and imperfections, which other shot, heretofore manufactured, usually have on their surface." Watts determined when molten lead is dropped as a small droplet from a great enough height, the lead will become spherical and will harden enough not deform when hitting the water surface (Minchinton, 1990). In the earlier shortdrop method the water cooled and hardened the shot. The earliest shot tower build in the US was erected in 1808 by John Bishop, Thomas Sparks and James Clement in Philadelphia (Spivak 2007).

In an attempt to identify the type and rough time period of manufacture, I designed a preliminary experiment. Using available materials, I took some 40/60 tin/lead solder in approximately 1/8" diameter wire form. Using a propane torch while standing, I melted several droplets off into a container of cold tap water which was on the floor. The drop height was approximately 5'. The results are shown in Figure 4. The lead did not have sufficient time to solidify. I therefore increased the height to 7' by standing on a chair. These results are shown in Figure 5. Nearly the opposite effect than expected was achieved. The lead splatter was worse. Clearly significantly less height would be needed.



Figure 4 - drop height of 5'



Figure 5 - drop height of 7'

I found that as I got closer to the water, the more spherical/apple-shaped the drops became and began developing the desired concave dimple. I reduced the height to less than 1/4" from the water. The resulting shot produced are shown in Figure 6 next to actual shot recovered from the ship remains.



Figure 6 - experimental shot to the left, actual shot (FS9-3) to the right

The results clearly show a concave dimple. All of the experimental samples produced were weighed and found to be 0.2 - 0.3 grams which is consistent with the largest quantities of bird shot found on the ship. My experimental shot were more flat/less spherical than the actual shot. This was to be expected. The amount of heat per unit mass to change a liquid to a solid is known as the latent heat of fusion. The amount of heat required is equal to the value of the latent heat of fusion times the change in temperature. Tin has a latent heat of fusion of 26 Btu/lb and lead 10 Btu/lb (Rohsenow and Hartnett 1973: 3-18). This means that pure lead will take less time to cool in the water and thus pure lead droplets using this method will become more spherical. Using hot water will also allow the droplet to cool slower and become more spherical. I conclude that the shot recovered from the ship was most likely made using this earlier method with hot water. This was most likely before the Sparks shot tower built in 1808 in Philadelphia.

Further evidence that this method was used was when the lead alloy was being melted, a tear drop formed if the heat was not applied uniformly. Figure 7 shows a tear drop that was produced during the experiment (left) and one found on the ship (right).



Figure 7 - Experimental shot on left and actual shot on right

It was concluded through the results of this experiment that:

1. The shot from the World Trade Center ship was manufactured using this short height drop method.
2. The resultant shot can be improved by dropping molten pure lead into hot water.

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Curriculum Vitae

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Summary of Qualifications

30+ years field experience in prehistoric and historic archaeology. Conducted numerous Phase I and II surveys. One of the founders of the concept of electronic battlefield archaeology, and developed many new methods, both in field techniques and data analysis. Developed and published the formula for determining the diameter of a non-spherical musket ball (Sivilich Formula). Conducted numerous surveys at battlefield sites.

Education

New Jersey Institute of Technology, B.S., Chemical Engineering, 1971

New Jersey Institute of Technology, Post-graduate courses in Computer Science

Publications

Sivilich, D.M. 1996. Analyzing Musket Balls to Interpret a Revolutionary War Site. *Historical Archaeology* 30(2):101-109

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Presentations/Papers

- 2004 **History Channel** - Prominently featured in "Battlefield Detectives - the Battle of Monmouth", a television series on battlefield archaeology.
- 2003 **Discovery Channel** - Featured in "Moments in Time - Valley Forge the Crucible" demonstrating battlefield archaeology.
- Sivilich, D.M., 1995. The Archaeology of the Battle of Monmouth: Chapter 2 - The Repulse of the British 3rd Brigade. Paper presented at the Conference on Underwater and Historical Archaeology, Society for Historical Archaeology, Washington, DC.
- Sivilich, D.M., 1996. Interpreting the Site of General Anthony Wayne vs. the British Grenadiers at the Battle of Monmouth Using Computer Aided Design (CAD) Software. Paper presented at the Conference on Underwater and Historical Archaeology, Society for Historical Archaeology, Washington, DC.
- Sivilich, D.M., 1997. "The Ladies from Hell" - Archaeology of the Battle of Monmouth: The Repulse of the British 3rd Brigade. Paper presented at the Conference on the Revolutionary War, sponsored by Council of American Revolutionary War Sites, Philadelphia, PA.
- Sivilich, D.M., 1997. Conducting Effective Archaeological Projects with Limited Resources. Paper presented at the Fourth National Conference on Battlefield Preservation, sponsored by The American Battlefield Protection Program, Charleston, SC.
- Sivilich, D.M., 1997. Using Modern Electronic Technology to Excavate, Analyze and Interpret Large Disturbed Battlefield Sites. Paper presented at the 1999 Annual Meeting of the Council for Northeast Archaeology, St. Mary's City, MD.
- Sivilich, D.M., 2004. Revolutionary War Musket Ball Typology - An Analysis of Lead Artifacts Excavated at Monmouth Battlefield State Park. Paper presented at the American Battlefield Protection Program 7th National Conference on Battlefield Preservation, Fields of Conflict III Session, Nashville, Tennessee.
- Sivilich, D.M., 2005. *Evolution of Macro-Archaeology of the Battle of Monmouth - 1778 American Revolutionary War*. "Battlefields Annual Review", Pen and Sword Books LTD, South Yorkshire, Great Britain, pp. 72 - 85.
- Sivilich, D.M., 2006. Accuracy Testing of Hand-Held GPS Units and Other Methods of Measuring Spatial Data. Poster presented at the Fields of Conflict Project, 4th International Conference, Leeds, England.
- Sivilich, D. M., 2006. *What the Musket Ball Can Tell You: Monmouth Battlefield State Park, New Jersey*. "Fields of Conflict" edited by Douglas Scott, Lawrence Babits and Charles Haecker, Praeger Security International Press, West Port, CT, Vol 1:84 - 101.

Sivilich, D.M., 2008. The Battle of Monmouth: the Archaeology of Molly Pitcher, the Royal Highlanders, and Colonel Cilley's Light Infantry. Paper presented the Annual Middle Atlantic Archaeology Conference (MAAC), Ocean City, MD.

Sivilich, D.M., 2009. Following the Evidence From Valley Forge to the Battle of Monmouth: A Study of Musket Balls and Their Uses by Soldiers in the Continental Army. Paper Presented at the Conference on Underwater and Historical Archaeology, Society for Historical Archaeology, Toronto, Ontario, Canada.

Sivilich, D.M., 2010. HEAR THE CANNONS ROAR! 20 Years of Metal Detecting at a Revolutionary War Site or Electronic Archaeology at Monmouth Battlefield State Park, Freehold/Manalapan, NJ. Paper Presented at the Conference on Underwater and Historical Archaeology, Society for Historical Archaeology, Amelia Island, Florida.

Sivilich, D.M., Stone, G.W., 2001. Monmouth Battlefield Update: Interpreting a Disturbed Site. Joint paper presented at the 2001 Annual CNEHA (Council for Northeast Historical Archaeology), Niagara Falls, Ontario, Canada.

Sivilich, D.M., Stone, G.W., 2009. *The Archaeology of Molly Pitcher*. "American Revolution", American Revolution Association, Camden, SC, pp 11-14 and cover.

Grants

New Jersey Council for the Humanities - 2006

For the purchase of two Molly Pitcher wayside exhibits at Monmouth Battlefield State Park by BRAVO: \$2,750

New Jersey Historical Commission - 2003

For the acquisition of a total station laser transit by BRAVO: \$9,000

New Jersey Historical Commission -1997

For the conservation of ferrous artifacts excavated by Deep Search Metal Detecting Club at Monmouth Battlefield State Park: \$8,000

Significant Sites Excavated

Aug. 15-16, 1689	Battle of Zboriv, Ukraine
Dec. 8, 1776	Battle of Two Bridges, Branchburg, NJ
1776 -	Raritan Landing British/American Encampment, Piscataway, NJ
1776 - 1777	Continental Arms Factory at Pickering Creek, East Pikeland, PA
1777	Fort Montgomery, Ft Montgomery, NY
Jan. 3, 1777	Battle of Princeton, Princeton, NJ
March, 1777	American Barracks burned by the British, Peekskill, NY
June 26, 1777	Battle of Short Hills and Oak Tree Pond, Edison, NJ
July 7, 1777	Battle of Hubbardton, Hubbardton, VT
Sept. 3, 1777	Battle of Cooch's Bridge, Newark, DE and Glasgow, DE
Sept. 11, 1777	Battle of Brandywine, Birmingham Township, PA.

Sept. 11, 1777	Sandy Hollow section of the Battle of Brandywine, PA
Sept. 21, 1777	Paoli Battlefield/Massacre Site, Malvern, PA
1777	Wayne's Brigade encampment site, Washington Valley Park, NJ
1777 - 1778	Valley Forge Encampment, Valley Forge, PA and Lower Providence Twp., PA
June 28, 1778	Battle of Monmouth, Freehold/Manalapan, NJ
1778 -	Revolutionary War artillery road between West Point and New Windsor, Cornwall, NY
1778 -	Redoubt #3 and #4, United States Military Academy, West Point, NY
1778 - 1779	American Revolutionary War artillery school and encampment, Pluckemin, NJ
1779 - 1780	Jockey Hollow Encampment at Saint Mary's Abbey, Morristown, NJ
June 7, 1780	Battle of Connecticut Farms, Union, NJ
June 23, 1780	Battle of Springfield, Springfield, NJ
Aug. 19, 1782	Battle of Blue Licks, Mt. Olivet, KY
1862 - 1864	Camp Vredenburg, Manalapan, NJ
1933 - 1942	Bass River State Park CCC camp site, New Gretna, NJ
1933 - 1942	Voorhees State Forest CCC camp site, Glen Gardner, NJ

Community Service Awards

- Volunteer Recognition Award by the State of New Jersey, Department of Parks and Forestry.
- Recipient of the 1999 New Jersey State Historic Preservation Award in the field of archaeology
- Recipient of the 1999 American Association of State and Local History Award of Merit in the field of archaeology
- Recipient of a State of New Jersey General Assembly Resolution for work done in archaeology at Monmouth Battlefield.
- Commissioned as a member of the Honorable Society of Kentucky Colonels by the Governor of Kentucky for the work at Blue Licks Battlefield State Resort Park.

Professional Memberships:

- Archaeological Society of New Jersey
- Council for Northeast Historical Archaeology
- Past Vice Chairman - NJ Living History Advisory Council
- Society of Historical Archaeology
- Mid Atlantic Archeology Conference

Appendix E: Flotation Analysis by Justine McKnight

Report on the Analysis of Flotation-recovered Archeobotanical Remains from the VSC World Trade Center Ship Site, New York, New York.

INTRODUCTION

Archaeological investigations recently conducted at the World Trade Center (WTC) site by AKRF, Inc., revealed the remains of a partially intact eighteenth century sailing vessel. A series of flotation samples taken from contexts associated with the buried ship yielded a collection of well-preserved plant remains associated with food, fuel and naval architecture. Archeobotanical information secured from the WTC ship contributes to our understanding of vessel construction, operation, and abandonment. In addition, the macro-botanical dataset augments the interpretation of landscape form and function of lower Manhattan Island in the late eighteenth century, including the development of made land.

A total of 12 soil samples were selected for study, and submitted to archeobotanical consultant Justine McKnight at her Severna Park, Maryland laboratory for processing and analysis. Table 01 provides a summary of the samples.

Table 01: Summary of Flotation Samples.

Sample No.	Volume (liters)	Soil Chemical	description
1	4.25	yes (2)	2 bags. Sticky dark grey clay, organic conglomerate. From beneath orlop deck
2	1.5	yes (2)	FN9 and FN10
3	1.25	yes (2)	Between FN2 and FN3
4	1.25	yes (2)	Between FN7 and FN8
5	1.25	yes (2)	FN17 and FN18
6	2.25	yes (2)	clay, shell. Clay sample from east side of timber wall btw T3 and T4
7	1.25	yes (2)	Between FN14 and FN15
8	1.25	yes (2)	FN22 and 23
9	1	yes (2)	fine sediment around keel and apron. Oily, petroleum smell
10	0.025	yes (1)	very tiny sample. Oily. From between FN5 and FN6.
11	~1	yes (1)	two fragments worked wood in oily matrix
12	0.5	yes (2)	tar
12 samples	15.775		

METHODS

A small vial (approximately 30 ml) of sediment was removed for future soil chemical analyses from each of the 12 soil samples submitted for flotation. The remainder of each soil sample was thoroughly air dried and sample volumes were recorded. Flotation samples were individually

processed using a Flote-Tech flotation system equipped with 0.325mm fine fraction and 1.0mm coarse fraction screens. The Flote-Tech system is a multi-modal flotation system which facilitates the separation and recovery of plant materials from the soil matrix via agitation in water. Processing resulted in two size fractions (heavy and light). The oily nature of many of the flotation samples necessitated periodic clean-outs of the flotation tank during processing to prevent the adhesion of small particles to the interior of the machine or the occlusion of screens with oil and/or tar residues. Recovered floated portions were air dried.

Dried flotation fractions were passed through 5mm and 2mm geological sieves, producing standard size divisions to aid analysis. Organic preservation within the sampled features was excellent, and both carbonized and non-carbonized botanical remains associated with the historic operation and abandonment of the ship were preserved. All botanical remains were included in the analysis, but their state (carbonized/non-carbonized) is in all cases clearly noted. All greater than or equal to 2mm archeobotanical specimens were examined under low magnification (10X to 40X) and sorted into general categories of material (i.e. wood, seed, nutshell, miscellaneous plant material, etc.). Description, count and weight were recorded for each category of the greater than or equal to 2mm carbonized material. The less than 2mm size fractions were examined under low magnification and the remains of seeds and cultivated plants were removed for identification and quantification.

Identifications were routinely attempted on all seed, nut, and miscellaneous plant remains, and on a sub-sample of 20 randomly selected wood charcoal fragments and 20 randomly selected non-carbonized wood fragments from each sample containing *more* than twenty specimens, in accordance with standard practice (Pearsall 2000). Identifications of all classes of botanical remains were made to the genus level when possible, to the family level when limited diagnostic information was available, and to the species level only when the assignment could be made with absolute certainty. All identifications were made under low magnification (10X to 40X) with the aid of standard texts (Edlin 1969; Kozlowski 1972; Hoadley 1990; Martin and Barkely 1961; Panshin and deZeeuw 1980; Schopmeyer 1974) and checked against plant specimens from a modern reference collection representative of the flora New York. Specimen weights were recorded using an electronic balance accurate to 0.01 grams.

RESULTS

The 12 individual samples flotation-processed for the recovery of plant macro-remains yielded a total of 1.72 grams of charcoal and 628.855 grams of non-carbonized archaeological plant material. Ninety-two percent of the analyzed samples contained archaeological plant remains (none were preserved in Sample Number 2 from FN9 and FN10). Identified plant remains include wood charcoal, non-carbonized wood fibers, non-carbonized bark, non-carbonized shavings or wood chips, nutshells, and seeds (representing a variety of plant foods including field crops, orchard and garden products, as well as ruderal weeds), and miscellaneous materials including deciduous leaf fragments and moss. An inventory of flotation-recovered plant remains is presented by Sample Number in Table 02.

In addition to the archeobotanical remains, the flotation samples contained an array of small artifacts and natural materials. Table 03 details the non-botanical materials observed in the analyzed samples.

TABLE 02													totals		
sample number	1	2	3	4	5	6	7	8	9	10	11	12			
description	beneath orlop deck	FN9 and FN10	Between FN2 and FN3	Between FN7 and FN8	FN17 and FN18	Between T3 and T4 clay from east side of timber wall	between FN14 and FR15	FN 22 and FN23	around keel and apron	between FN5 and FN6	2 pieces of wood in oily matrix	CS 2/5	12 samples		
initials of excavator	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
date of excavation	7/26/10		7/26/2010	7/26/2010	7/26/2010	6/30/2010	7/27/2010	7/27/2010	7/28/2010	7/28/2010	7/28/2010	7/28/2010	7/28/2010	1	0.5
volume (l)	4.25	1.5	1.25	1.25	1.25	2.25	1.25	1.25	1	0.025	1	0.025	1	0.5	16.775
weight carbonized plant remains (grams)	0.21	0	0.61	0.12	0.04	0.21	0.26	0	0.06	0	0	0	0.21	1.72	
weight non-carbonized plant remains (grams)	11.605	0	25.27	20.65	10	15.43	5.79	34.91	29.23	6.91	443.5	25.56	628.855		
WOOD CHARCOAL (n of)	11	0	48	12	2	13	61	0	2	0	0	12	161		
total weight (grams)	0.21	0	0.61	0.12	0.04	0.21	0.26	0	0.06	0	0	0.21	1.72		
<i>Carya</i> spp. (hickory)			4		1	1	19						25		
<i>Pinus</i> spp. (pine)	5		8	6	1							11	31		
<i>Quercus</i> spp. (white oak group)	5		6	6		1			1				13		
<i>Quercus</i> spp. (oak)			8										8		
ring porous	1					1			1				3		
diffuse porous							1					1	2		
coniferous													5		
unidentifiable													5		
charcoal fragments identified	11	0	20	12	2	13	20	0	2	0	0	12	92		
NON-CARBONIZED WOOD (n of)	435	0	729	571	241	0	337	792	591	179	2	1105	4982		
total weight (grams)	11.6	0	25.11	20.62	9.92	0	5.77	34.88	29.02	6.83	443.5	25.04	612.29		
<i>Pinus</i> spp. (pine)	20		17	8			2		2		2 (dimensions 22cmx12.5cm and 14cmx6cm)	20	71		
<i>Quercus</i> spp. (red oak group)			6	3									9		
<i>Quercus</i> spp. (white oak group)				5			18	13	14	20			70		
<i>Quercus</i> spp. (oak)			3	12				6					21		
ring porous taxa			6										6		
deciduous taxa								1	4				5		
non-carbonized wood fragments identified	20	0	20	20	20	0	20	20	20	20	2	20	182		
NON-CARBONIZED WOODY BARK (n of)	0	0	0	0	0	594	0	0	0	0	0	0	594		
total weight (grams)	0	0	0	0	0	14.49	0	0	0	0	0	0	14.49		
NON-CARBONIZED WOOD SHAVINGS or CHIPS (n of)	0	0	0	0	7	149	0	0	0	5	0	0	161		
total weight (grams)	0	0	0	0	0.06	0.92	0	0	0	0.03	0	0	1.01		
<i>Pinus</i> spp. (pine)					7	20				3			30		
<i>Quercus</i> sp. (oak)										2			2		
non-carbonized wood shaving fragments identified					7	20				5			32		
NUTS, NON-CARBONIZED (n of fragments)	0	0	1	0	0	0	0	0	0	0	0	0	1		
total weight (grams)	0	0	0.08	0	0	0	0	0	0	0	0	0	0.08		
<i>Carya illinoensis</i> (pecan)			1										1		
MISCELLANEOUS, NON-CARBONIZED (n of)	0	0	1	2	0	0	0	0	0	2	0	0	5		
total weight (grams)	0	0	0.03	0.02	0	0	0	0	0	0.03	0	0	0.08		
POACEAE (grass) stem fragment			1										1		
moss				1									1		
deciduous leaf fragment				1						2			3		
NON-CARBONIZED SEEDS (n of specimens)	1	0	16	7	14	9	7	15	36	6	0	34	145		
total weight (grams)	0.005	0	0.05	0.01	0.02	0.02	0.02	0.03	0.21	0.02	0	0.52	0.905		
<i>Amaranthus</i> spp. (pigweed)			1										1		
<i>Cucumis</i> sp. (melon or cucumber)			1										1		
<i>Cucurbita</i> sp. (squash) fragment												1	2		
<i>Datura stramonium</i> (jimsonweed)			5	2	6		7	4	1	4		5	33		
<i>Panicum/Setaria</i> (panic/foxtail grass)			1										1		
<i>Phytolacca americana</i> (poke)										1			1		
<i>Polygonum</i> sp. (knotweed)									1				1		
<i>Potentilla</i> sp. (cinquefoil)			1					2					3		
<i>Prunus persica</i> (peach)			1										1		
<i>Prunus</i> sp. (cherry)													1		
nearly complete fragment									2				6		
<i>Pyrus malus</i> (apple) seed coat fragments					1				7				6		
<i>Rubus</i> sp. (blackberry/raspberry) fragment			4	2	7		5		3				6		
<i>Sambucus canadensis</i> (elder) seed			1					1					1		
<i>Vitis</i> sp. (grape) entire fragment			1						13				14		
CUCURBITACEAE (squash family) fragment								1					1		
UMBELLIFERAE (carrot family) fragment					1								1		
POACEAE (grass family)												1	1		
POLYGONACEAE (knotweed family)							4					1	5		
SOLACEAE (nightshade)	1												1		
unidentifiable seed fragments				2									2		
unidentifiable seed coat fragments										1			1		

Wood Remains

Wood charcoal was present in 67 percent of the flotation samples analyzed. A total of 161 fragments of wood charcoal weighing 1.72 grams was recovered. Of this total, 92 fragments (a maximum of 20 fragments per sample) were randomly selected for identification. The subsample was composed of pine species (*Pinus spp.*) (31 fragments or 34 percent of the subsample selected for identification); hickory (*Carya spp.*) (25 fragments or 27 percent), white oak (*Quercus spp.*) (13 fragments or 14 percent), oak (*Quercus spp.*) (eight fragments or nine percent), coniferous (five fragments or five percent), unidentifiable (five fragments or five percent), ring porous (three fragments or three percent) and diffuse porous (two fragments or two percent). See Figure 01.

Table 03: Non-botanical materials observed in the WTC Ship samples.

sample number	sample location	details	artifacts observed
1	beneath orlop deck	abundant organic conglomerate, heavy clay	brick, mortar, coal, lead shot**, coal, barnacle*, small snails, fish scale, insect body parts
2	FN9 and FN10	organic conglomerate, no heavy fraction material recovered	insect body parts
3	Between FN2 and FN3		sandstone, barnacles, iron conglomerate, oyster spat, snails, bone, insect parts, sponges
4	Between FN7 and FN8		leather**, brick, coal, small bivalves*, small gastropods*, insect parts, lead shot**
5	FN17 and FN18	fibrous peaty material, organic conglomerate	fish scale, pink foam (modern)***, coal, shell, brick, small clams*, small gastropods*
6	Between T3 and T4	clay from east side of timber wall, shell, leaves, dense deposit not ship related, organic/peaty conglomerate	quartzitic gravel, brick, glass*, ant body parts, clay peds, crushed shell, large oyster shells**, fish bone
7	between FN14 and FR15		brick, iron, insect parts, small gastropods, mica flecks, small clay peds
8	FN 22 and FN23	organic conglomerate	crab claw, coal, small bivalve, periwinkle-like gastropod*, spat*, small snails*, quartzitic gravel, oyster spat
9	around keel and apron	fine sediment, oily sample, strong petroleum smell	abundant lead shot**, coal, bone, cutlery handle**, shell, bone
10	between FN5 and FN6	oily soil	small gastropods*, brick, insect parts, crab claw, lead shot**
11	outer hull	2 pieces of wood in oily matrix	fine gravel
12	CS 2/5	tar	tarred rope**, tarry/fibrous conglomerate**, hair**, woven fabric**, fish scale, lead shot**, crab claw, brick, coal, bone

* sample of artifact separated

**all of artifact type separated

*****used by the archaeologists
during ship removal**

Fragments of non-carbonized wood were abundant and ubiquitous, being present in 83 percent of the analyzed flotation samples and totaling 4,982 fragments weighing 612.29 grams. Of this total, 182 (a maximum of 20 fragments per sample) were randomly selected for identification. Pine (*Pinus spp.*) (71 fragments or 39 percent of the subsample selected for identification) and white oak (*Quercus spp.*) (70 fragments or 38 percent) were the most common non-carbonized wood types encountered. Also identified were oak (*Quercus sp.*) (21 fragments or 12 percent), red oak (*Quercus spp.*) (nine fragments or five percent), ring porous (six fragments or three percent) and deciduous (five fragments or three percent) (see Figure 02).

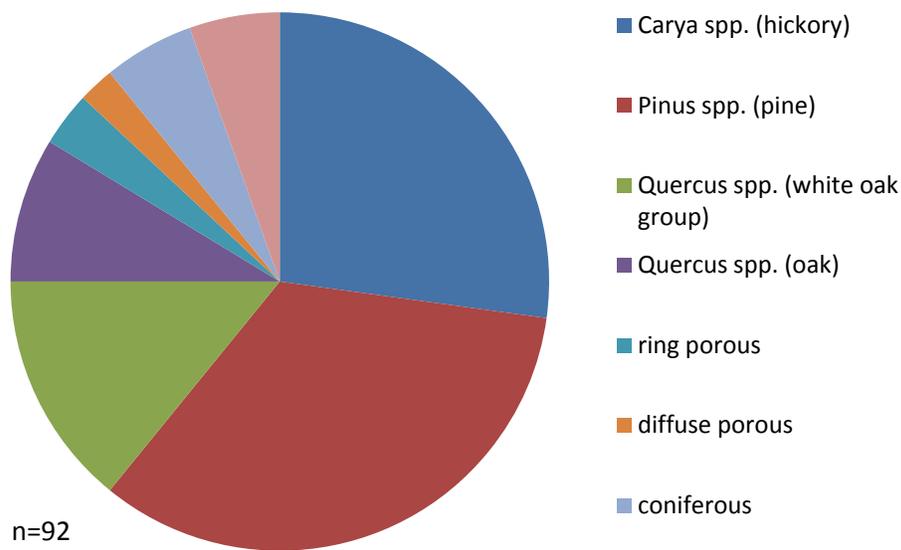


Figure 01: Composition of identified wood charcoal types.

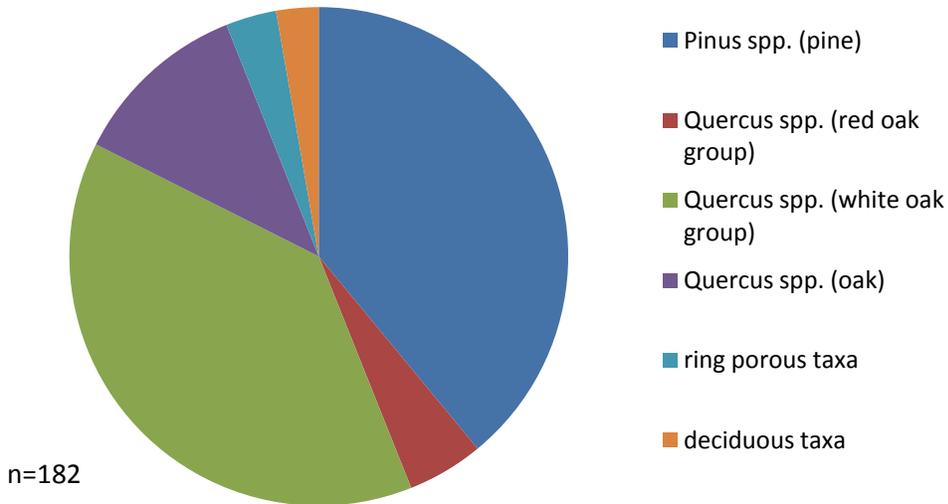


Figure 02: Composition of identified non-carbonized wood types.

The remains of tree bark were found in concentration within Sample Number 6 (between T3 and T4, from the east side of timber wall). The bark material totaled 594 fragments weighing 14.49 grams.

Wood shavings or wood chips (not carbonized) were found in 25 percent of the flotation samples (Sample Numbers 5, 6, and 10). These totaled 161 \geq 2mm fragments weighing 1.01 grams. Of this total, 32 (a maximum of 20 fragments per sample) were randomly selected for identification, revealing a predominance of pine (*Pinus spp.*) (30 fragments or 97 percent) with some oak (*Quercus spp.*) (two fragments or three percent).

Nutshell Remains

Flotation-recovered nut remains were limited to a single fragment of non-carbonized pecan shell (*Carya illinoensis*) from Sample Number 3 (secured from between FN2 and FN3).



Figure 03: Fragment of pecan hickory (*Carya illinoensis*)
Sample No. 3 (between FN2 and FN3).
Scale: 1 mm grid

Miscellaneous plant remains identified within the assemblage included three deciduous leaf fragments, moss, and a grass stem fragment.

The archeobotanical assemblage from the WTC ship site included an abundance of non-carbonized seed remains (a total of 145 specimens). Twenty-one discrete taxa were identified, representing a variety of growth environments and cultural applications (orchard tree fruits and vine fruits, garden produce, weeds, wild edible fruits). Table 04 presents the seed types identified by cultural application and growth environment. Seeds were recovered from 83 percent of the flotation samples analyzed, but were most abundant within Sample Numbers 9 and 12.



Figure 04: Melon or cucumber seed (*Cucumis sp.*) seed recovered from Sample No. 3 (Between FN2 and FN3). *Scale: 1 mm grid*



Figure 05: Squash (*Cucurbita sp.*) seed fragment recovered from Sample Number 9 (around keel and apron). *Scale: 1 mm grid*



Figure 06: Peach (*Prunus persica*) seed fragment s a common seed recovered from Sample No. 3 (Between FN2 and FN3). Scale: 1 mm grid

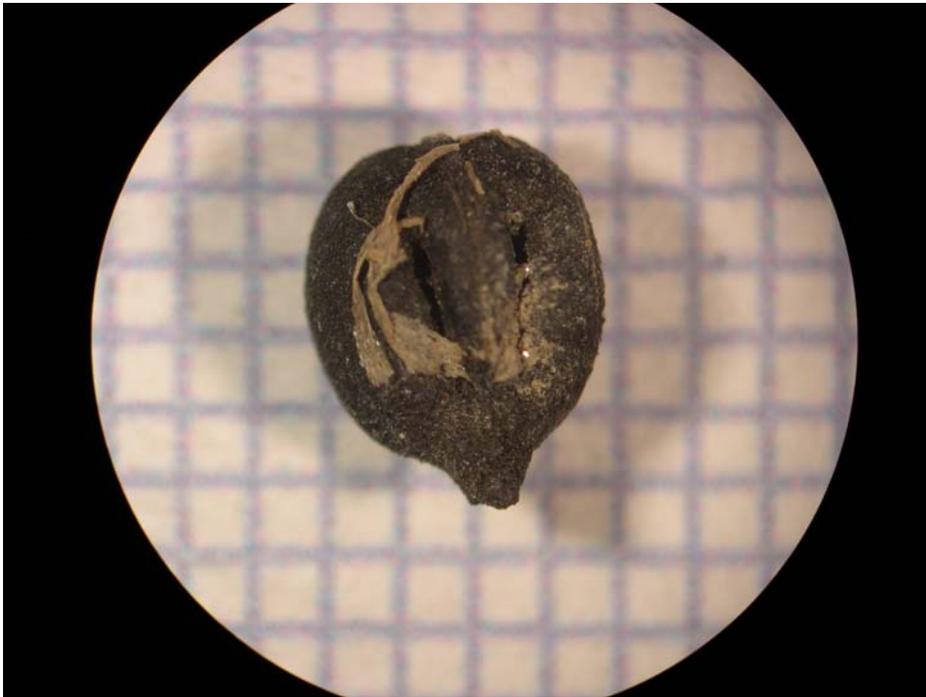


Figure 07: Grape (*Vitis sp.*) seed recovered from Sample No. 3 (Between FN2 and FN3). Scale: 1 mm grid



Figure 08: Raspberry (*Rubus spp.*) was the most abundant seed type encountered (n=34). Photographed specimens recovered from Sample No. 3 (Between FN2 and FN3). Scale: 1 mm grid



Figure 09: Apple (*Pyrus malus*) seed from Sample Number 9 (around keel and apron). Scale: 1 mm grid

Garden-grown vegetables are represented in the WTC ship assemblage by the presence of melon or cucumber (*Cucumis sp.*) (one seed), and squash (*Cucurbita sp.*) two seed fragments.

The remains of orchard tree fruits and vine fruits within the assemblage total 88 specimen. Peach (*Prunus persica*) (one seed fragment), cherry (*Prunus spp.*) (23 specimens), apple (*Pyrus malus*) (nine specimens), blackberry or raspberry (*Rubus spp.*) (35 fragments) and grape (*Vitis spp.*) (20 specimens) were identified.

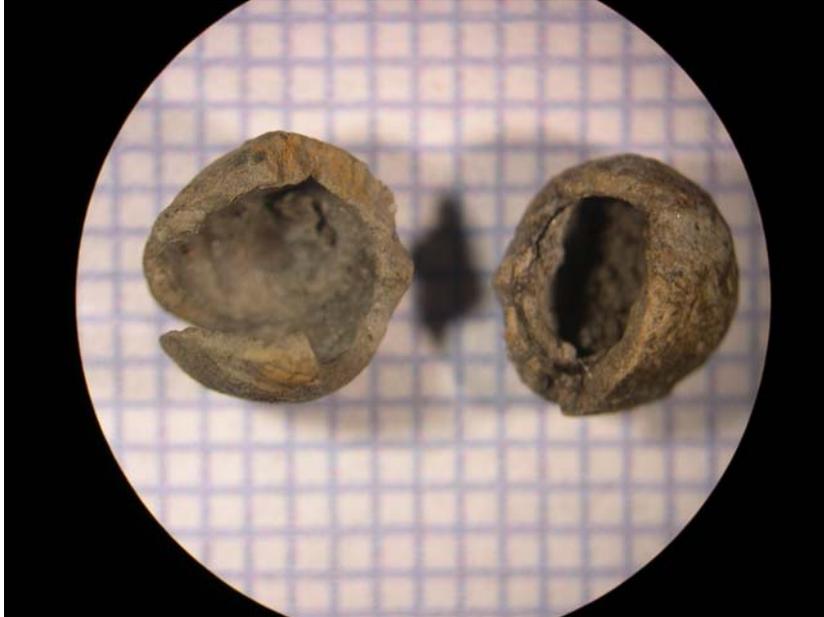


Figure 10: Cherry (*Prunus spp.*) seeds recovered from Sample No. 3 (Between FN2 and FN3). Scale: 1 mm grid

The remains of wild-gathered foods are indicated by the presence of elder (*Sambucus canadensis*) (two seeds) from two separate samples (Number 3 between FN2 and FN3, and Number 8 between FN22 and FN23).

Weedy plant taxa that thrive in disturbed settings were ubiquitous and abundant across the sampled areas of the ship site. Pigweed (*Amaranthus spp.*), jimsonweed (*Datura stramonium*), panic or foxtail grass (*Panicum or Setaria sp.*), poke (*Phytolacca americana*), knotweed (*Polygonum sp.*), cinquefoil (*Potentilla sp.*), carrot (*UMBELLIFERAE*), grass (*POACEA*) and knotweed family (*POLYGONACEAE*) were identified. Some of these taxa produce edible greens in the early springtime, long before the plants produce the mature seeds found archaeologically at the WTC site. It is the opinion of the analyst that the weedy plant seeds recovered through flotation do not represent the remains of food.

Table 04: Recovered comestibles arranged by application and growth environment.

	Total number of specimens	146
	Total weight seeds (grams)	0.985
garden crop	<i>Cucumis sp. (melon or cucumber)</i>	1
	<i>Cucurbita sp. (squash) fragment</i>	2
	<i>CUCURBITACEAE (squash family) fragment</i>	1
orchard tree or vine fruit	<i>Carya illinoensis (pecan)</i>	1
	<i>Prunus persica (peach)</i>	1
	<i>Prunus sp. (cherry)</i>	23
	<i>Pyrus malus (apple) seed coat fragments</i>	9
	<i>Rubus sp. (blackberry/raspberry)</i>	35
	<i>Vitis sp. (grape)</i>	20
	<i>Sambucus canadensis (elder) seed</i>	2
weed	<i>Amaranthus spp. (pigweed)</i>	1
	<i>Datura stramonium (jimsonweed)</i>	33
	<i>Panicum/Setaria (panic/foxtail grass)</i>	1
	<i>Phytolacca americana (poke)</i>	1
	<i>Polygonum sp. (knotweed)</i>	1
	<i>Potentilla sp. (cinquefoil)</i>	3
	<i>UMBELLIFERAE (carrot family) fragment</i>	1
	<i>POACEAE (grass family)</i>	1
	<i>POLYGONACEAE (knotweed family)</i>	5
	unknown	<i>SOLACEAE (nightshade)</i>
unidentifiable seed fragments		2
unidentifiable seed coat fragments		1

DISCUSSION

The archeobotanical materials were recovered through soil flotation from 12 discrete contexts directly associated with a partially intact eighteenth century sailing vessel excavated from the WTC site. Plant macro-remains recovered from the ship reveal details of shipboard life and the organization and use of space. Specifically, the excavated contexts yielded information relating to diet, cargo, vessel construction and the historic landscape.

The sampled contexts contained both carbonized and non-carbonized plant remains. Non-carbonized seeds occurring within archaeological soil samples from open-site environments are usually considered to be modern specimens (Minnis 1981; Keepax 1977; Smith 1985). However, anaerobic, water-saturated soil conditions such as those at the WTC ship site constitute an exception to this rule. Organic preservation was excellent, and a wide range of non-carbonized plant elements were preserved and identifiable.

The recovered archeobotanical assemblage provides valuable information about food plants associated with the ship. It is unclear whether the recovered comestibles represented the remains of shipboard dining or the remains of produce hauled as cargo. Abundant vine, orchard and garden seeds attest to an emphasis on fruit, nut and vegetable products to the economy of the

vessel. The remains of elder allied with cultivated plant foods suggest that wild foods also made a contribution to the palate of plant foods associated with the ship. The remains of edible plants were recovered from 10 of the 12 flotation samples analyzed from the WTC ship, and they were found in concentration within Sample Number 3 (between FN2 and FN3), Sample Number 9 (around the keel and apron), Sample Number 12 (CS 2/5) and Sample Number 8 (FN 22 and FN 23). The remains of edible plants do not appear to be centralized within one portion of the ship. Rather, comestible plant remains are found from the ship's stern to the eastern limits of the ships remains (amidships). This pattern of distribution suggests that seed and nut remains might have been somewhat evenly distributed throughout the vessel. Alternatively, these minute plant artifacts may have been subjected to movement by water at the time the ship was scuttled and in the early years following ship abandonment or during constant hosing of the vessel by the archaeologists to keep it from drying out until the ship timbers could be removed.

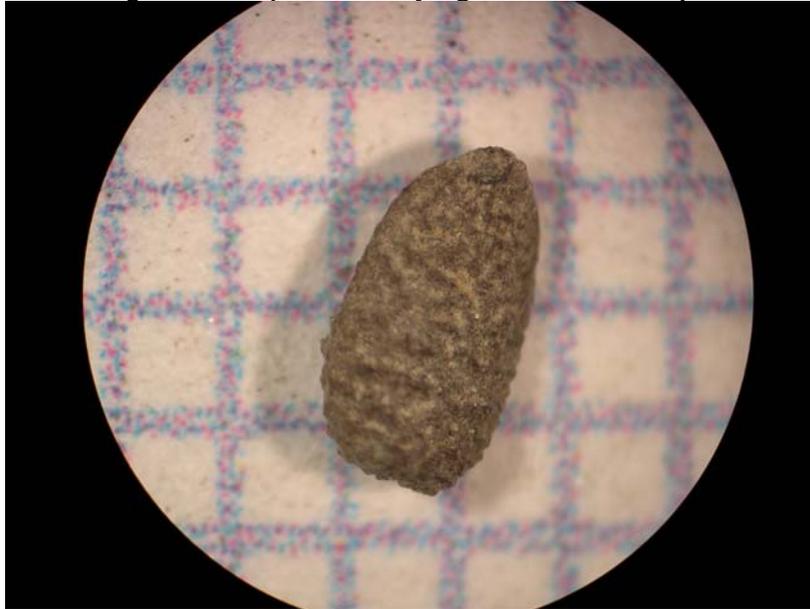


Figure 11: Elder (*Sambucus canadensis*) seed recovered from Sample No. 3 (Between FN2 and FN3). Scale: 1 mm grid

Archeobotanical remains can provide strong markers for seasonality and the data from the WTC ship site suggest some seasonal patterns. Most of the food plants represented in the seed assemblage would have been available for consumption or processing during the summer and early autumn. However, determining seasonality of archaeological fill is difficult, as almost all of the comestible plant remains documented at the site constitute readily storable foods, and the specimens recovered from archaeological contexts may represent preserved foods used at any time of the year.

Examining the density of recovered plant remains by context, some clear patterns emerge (see Figures 12 and 13). Carbonized plant remains are most abundant (based on the measure of grams of carbonized material per liter of fill floated) within Sample Number 3 (between FN2 and

FN3) and Sample Number 12 (Ceiling Plank South 2/5). Non-carbonized archeobotanical materials were most dense with Sample Number 10 (between FN5 and FN6) and Sample Number 11 (the outer hull).

With the exception of Sample Number 2 (FN9 and FN10) all 12 of the flotation samples produced macro-botanical artifacts. The remains of edible plants were recovered from 83 percent of the analyzed samples (none were recovered from Sample Number 1 (beneath the orlop deck) and Sample Number 2 (FN9 and FN10)). Sample Numbers 3, 9, 12 and 8 were particularly food-rich. Sample Number 6 (between T3 and T4) was unique in that it contained a concentration of woody bark in association with pine wood shavings.

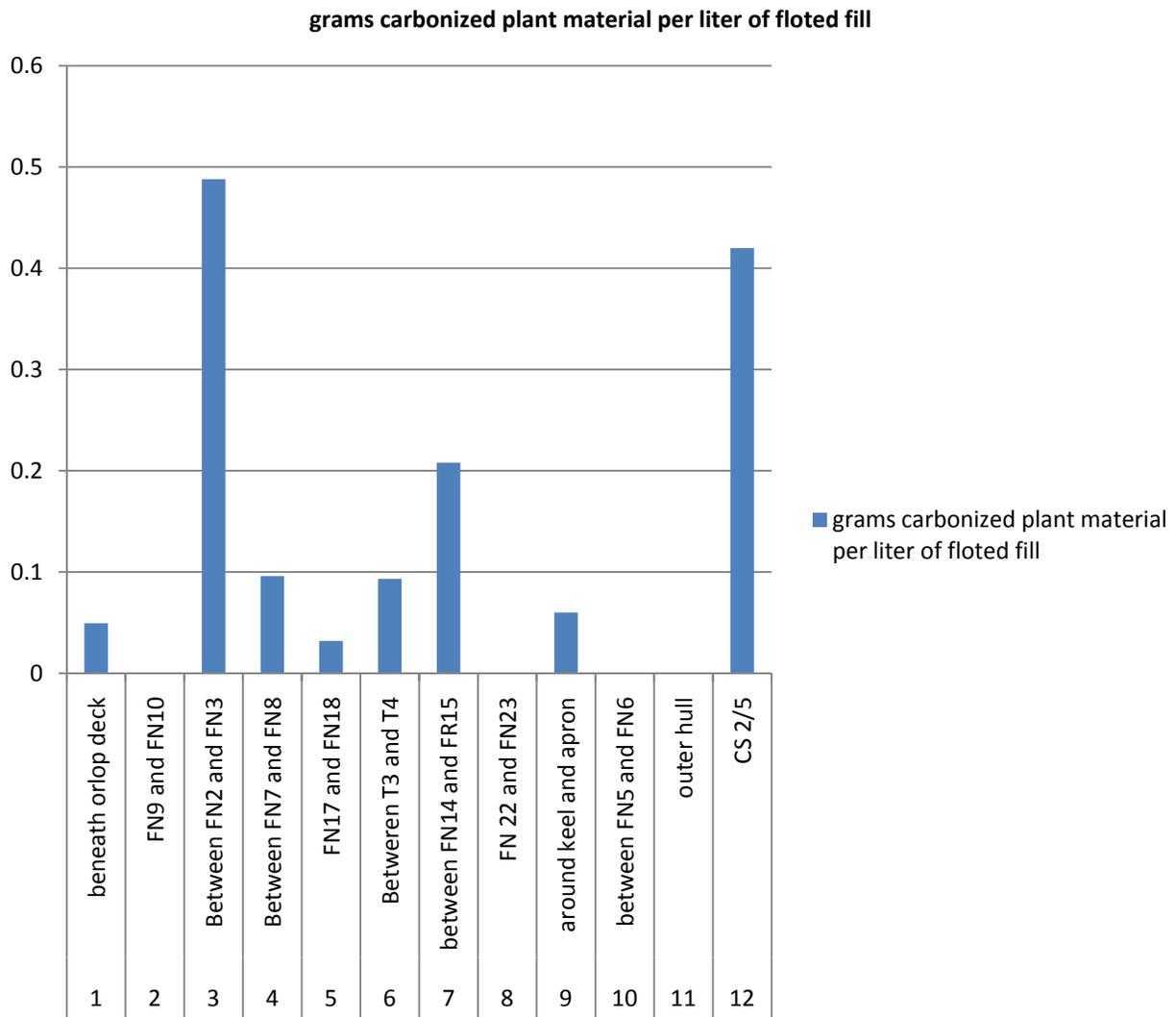


Figure 12: Density of carbonized plant remains from sampled contexts.

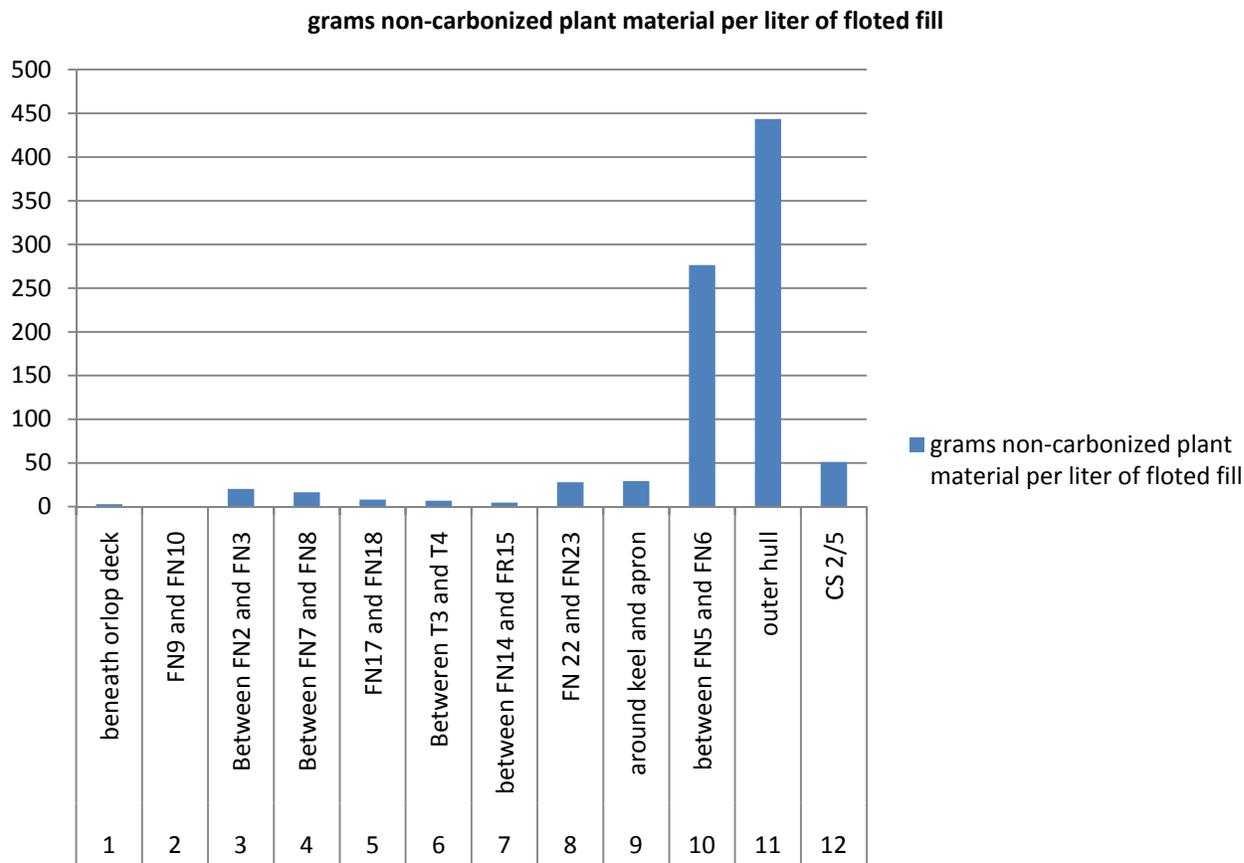


Figure 13: Density of non-carbonized plant remains from sampled contexts.

The flotation-recovered wood assemblage reveals a predominance of non-carbonized pine and white oak woods and carbonized hickory and white oak species. The recovered wood shavings/chips were predominantly pine. The wood types documented within the flotation samples concur with the results of analysis of ships timbers (Blanchette 2010). All woods identified from the WTC ship site have a wide natural distribution and could have been obtained locally on the Hudson River, or far afield.

Other markers for local environmental conditions provided by the flotation-recovered assemblage include an array of common ruderal weeds (pigweed, jimsonweed, panic or foxtail grass, poke, knotweed, cinquefoil, carrot, grass and nightshade). These taxa are common plants in the middle Atlantic region, growing aggressively in disturbed areas such as the edges of wetlands, floodplains, forests and commonly in anthropogenic habitats such as urban land, house yards, agricultural fields and gardens. The plant taxa documented archeobotanically are highly adaptive, and none provide evidence of *specific* environmental conditions at the site at the time the ship was abandoned.

SUMMARY

Plant macro-remains recovered through soil flotation from 12 discrete contexts directly associated with the eighteenth century sailing vessel excavated at the World Trade Center site provide important information about the vessels operation and abandonment in the late eighteenth century. A rich floral dataset provides evidence of an array of edible plant resources in addition to carbonized and non-carbonized wood remains. While it is not possible to fully interpret the nuances of shipboard dining or the ship's cargo based on these archeobotanical data, there is abundant evidence of the importance of garden and orchard products onboard. Details of ship architecture are revealed in the flotation-recovered wood assemblage (white oak, pine, unspecified oak) and in the wide array of minute non-botanical artifacts recovered through the flotation process. Weedy herbaceous taxa indicative of disturbed habitats are well-represented in the non-edible seed assemblage and provide some general information about the local environment at the time of the ship's abandonment.

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**Appendix F: Timber Species Identification by
Dr. Robert Blanchette**

University of Minnesota

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<http://forestpathology.cfans.umn.edu>

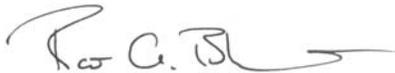
September 9, 2010

Warren Riess
Research Assoc. Professor
History & Marine Sciences
University of Maine
193 Clarks Cove Road
Walpole ME 04573

Dear Warren,

Attached is a table showing the identification of the woods sent from the Manhattan ship. Twenty samples were received and all of these were identified. The wood types include white oak, spruce, hard pine (similar to southern yellow pine) and hickory. If you have questions please let me know.

Sincerely,



Robert A. Blanchette
Professor

Manhattan ship wood samples received August 19, 2010 from Carrie Atkins Fulton and Warren Riess.

Sample	Notes	Wood Species
CN 2/4		<i>Picea</i> sp. (Spruce)
CN 4/4		<i>Quercus</i> sp. (White oak group)
CN 1/7		<i>Pinus</i> sp. (Hard pine, southern or western species, not red pine.)
CS 1/3		<i>Quercus</i> sp. (White oak group)
NN 1/1		<i>Quercus</i> sp. (White oak group)
OP 11		<i>Picea</i> sp. (Spruce)
OP 9/1		<i>Picea</i> sp. (Spruce)
SN-1	Soft sample	<i>Picea</i> sp. (Spruce)
ODB 1/1		<i>Quercus</i> sp. (White oak group)
FN 5		<i>Quercus</i> sp. (White oak group)
FN 21	Surface, hard timber	<i>Quercus</i> sp. (White oak group)
FN 7	Hard timber w/ soft spots	<i>Quercus</i> sp. (White oak group)
FS 10-2/1	Deteriorating	<i>Quercus</i> sp. (White oak group)
Keelson	Surface	<i>Quercus</i> sp. (White oak group)
ST-2	Interior	<i>Quercus</i> sp. (White oak group)
AP-3	Surface	<i>Quercus</i> sp. (White oak group)
PS 3-2 B	Interior	<i>Quercus</i> sp. (White oak group)
PN 8-2	Surface	<i>Quercus</i> sp. (White oak group)
Keel A (East)	Surface	<i>Carya</i> sp. (Hickory)
Keel B (West)	Interior	<i>Carya</i> sp. (Hickory)

Manhattan Ship Wood Identification

Samples received August 19, 2010

The identification of wood samples from the Manhattan Ship were made based on micromorphological characteristics observed under magnification using both a stereo and compound microscope. The samples were identified to the generic level and include 2 softwoods (*Picea* sp. [spruce] & *Pinus* sp. [pine]) and 2 hardwoods (*Carya* sp. [Hickory] & *Quercus* sp. [White oak group]). The microscopic features used to differentiate the samples can be found in Hoadley 1995, InsideWood 2004, Panshin and de Zeeuw 1970, and Schweingruber 1990. Microscopic comparisons were also made with modern woods to confirm the identity. The specific anatomical characteristics used to identify the wood types that were found are as follows:

Carya sp. (Hickory)

Growth ring boundaries distinct
Wood ring-porous to semi-ring-porous
Simple perforation plates
Intervessel pits alternate
Tyloses common
Axial parenchyma vasicentric
Axial parenchyma in narrow bands or lines up to three cells wide
Axial parenchyma in marginal or in seemingly marginal bands
Ray width 1 to 3 cells
Larger rays commonly 4 - to 10 seriate
All ray cells procumbent

Quercus sp. (White oak group)

Wood ring-porous
Vessels exclusively solitary (90% or more)
Simple perforation plates
Intervessel pits alternate
Large vessels, $\geq 10 \mu\text{m}$
Tyloses common
Larger rays commonly > 10 -seriate
Rays of two distinct sizes

Picea sp. (Spruce)

Resin canals rare
Cross field pitting piceoid
Ray tracheids with *Picea* type I pits
Large bordered pits on radial walls of tracheids seldom paired

Pinus sp. (Hard pine, southern or western species, not red pine)

Resin canals common
Pinoid cross field pitting
Dentate ray tracheids

Manhattan Ship Samples

Sample	Notes	Wood Species
CN 2/4		<i>Picea</i> sp. (Spruce)
CN 4/4		<i>Quercus</i> sp. (White oak group)
CN 1/7		<i>Pinus</i> sp. (Hard pine with anatomy similar to wood from 2-3 needle pines such as southern yellow pine. However, the wood is not from red pine which has different characteristics)
CS 1/3		<i>Quercus</i> sp. (White oak group)
NN 1/1		<i>Quercus</i> sp. (White oak group)
OP 11		<i>Picea</i> sp. (Spruce)
OP 9/1		<i>Picea</i> sp. (Spruce)
SN-1	Soft sample	<i>Picea</i> sp. (Spruce)
ODB 1/1		<i>Quercus</i> sp. (White oak group)
FN 5		<i>Quercus</i> sp. (White oak group)
FN 21	Surface, hard timber	<i>Quercus</i> sp. (White oak group)
FN 7	Hard timber w/ soft spots	<i>Quercus</i> sp. (White oak group)
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PN 8-2	Surface	<i>Quercus</i> sp. (White oak group)
Keel A (East)	Surface	<i>Carya</i> sp. (Hickory)
Keel B (West)	Interior	<i>Carya</i> sp. (Hickory)

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**Appendix G: Dendrochronology Analysis by the
Lamont-Doherty Earth Observatory**

Tree-Ring Dating Results for
World Trade Center Vessel
Timbers

Lower Manhattan, New York City

By

Dario Martin-Benito
Neil Pederson
Laia Andreu
Edward R. Cook



Tree-Ring Laboratory, Lamont-Doherty Earth Observatory
Columbia University

May 11th, 2011

Introduction

A significant portion of a wooden vessel was discovered during excavations at the World Trade Center site in July 2010. The World Trade Center (WTC) vessel was thought to have been built in the mid- to late-18th century. Because of the potential historical significance of the timbers and WTC site, Molly McDonald contacted the Tree Ring Laboratory of Lamont-Doherty Earth Observatory and Columbia University on behalf of AKRF to determine the feasibility of dating some of the timbers using tree-ring dating techniques. A total of 23 samples were collected and brought to the Tree Ring Laboratory (TRL) for analysis.

The provenance of the ship was unknown. Given that Manhattan was an important economic center, the ship could have been built in either Europe or North America. Therefore, determination of a calendar date for the ship's timbers at the outset seemed potentially difficult if not potentially impossible. However, preliminary analysis by a maritime historian suggested that the vessel was a merchant ship that would have mostly been delivering cargo along the eastern seaboard of North America. Wood identification analysis indicated that the keel was made of hickory (*Carya* spp.), which suggested that the vessel was from temperate eastern North America if the keel and other timbers were from the same location. Hickory is a major tree species in only eastern North America and eastern Asia. Hickory is found from southern New England to the Gulf Coast of North America and inland to the eastern edge of the Great Plains. This improved the possibility that we could successfully identify a cutting date for the timbers that compose the vessel as the TRL likely has the most extensive collection of tree-ring chronologies in eastern North America.

We report on the results to date the timbers in this report.

Tree-Ring Analysis Results

The 23 samples collected from the WTC vessel were slowly dried prior to analysis. All samples were wet with some being waterlogged. So, slow drying at cooler temperatures was necessary to avoid splitting and cracking associated with rapid shrinking. Further splitting and cracking could impair sample analysis. Another potential issue with dating submerged, historical samples is that the wood could have decomposed to such a degree that the structure of the wood would be too compromised for processing. Therefore, some of the more decayed pieces were glued onto wood boards in order to facilitate processing. After drying, the samples were sanded with progressively-finer sandpaper until tree rings were clearly visible. After sanding, all samples were identified as belonging to locally available broadleaf species. Most of the samples appear to be white oak (*Quercus alba*). The hickory of the keel seems most likely to be shagbark hickory (*Carya ovata*). None of the samples belonged to conifer species. Having multiple samples of the same species for comparison improves the likelihood of dating archaeological timber samples of unknown site origin.

Photographs of the 23 sanded timber samples are shown in **Figure 1**. Samples are identified in **Table 1**. In order to identify the period of construction, we need to determine the year the trees used for these timbers were felled. To do this with certainty requires that the waney edge, or bark edge, of the timber be present. One condition that would hinder identification of waney edge dates is that some have been squared for use in construction. The squaring process reduces the number of available rings for dating and often eliminates the waney edge or the last formed ring. If present, the last ring of formation will correspond to the year of felling.

There are several limitations to the dating of the WTC vessel timbers. First, the keel, keelson, and seven other timbers were squared off prior to construction (Figure 1). Because of this, there is only a small chance that a waney edge is present on these timbers. Second, although eight samples show signs of curvature and sapwood rings, which is indicative of the outer surface of a tree stem, no samples were found to have waney edges with intact bark. Bark is commonly lost after long periods of submersion under water. Third, the sapwood rings, the growth rings located just inside the bark on a stem of a tree, were either extremely narrow or wide with little change in year-to-year growth (**Figure 2**). The patterns of these rings reduced our ability to date the outermost available rings to the level of statistical certainty that we would prefer. Finally, some samples did not have enough rings to adequately identify a calendar date on the sample. Samples with 100 rings are highly desirable as the minimum number of rings for cross-dating historical or archeological samples in the eastern United States. One sample had no discernable rings and was not analyzed.

After sanding, growth rings along two radii of each sample were carefully measured to ± 0.001 mm precision where possible. Measurements were then compared to master dating chronologies for the appropriate species using the defacto standard computer program to identify potential calendar dates, COFECHA (Holmes, 1983). COFECHA statistically compared the WTC vessel ring measurements to regional master chronologies.

Table 1 provides the tree-ring dating results. Nine of the dated samples had at least 100 annual rings in them, while 10 had fewer rings than 100 rings. The strongest evidence for the tree felling date prior to construction can be found in sample FN-16-1 as it has the most-recent date of all dated samples, 1773. Also, FN-16-1's outermost sapwood rings indicate a close proximity to missing bark. The t-statistic for FN-16-1 versus the eastern Pennsylvania master chronology is 3.7 while it is 4.0 versus the Philadelphia master. A 't' statistic equal to 3.5 has a probability of about 1 in 1000 of being incorrect. Thus, while these two t-statistics are lower than what we'd prefer, the results indicate that the date for FN-16-1 is unlikely to be incorrect.

A date of 1773 supports the hypothesis of a mid- to late-18th century construction date (Table 1). Further supporting this hypothesis, four other samples have outer rings between 1769 and 1770. Therefore, the felling period seems no earlier than 1773. Dates in other samples are harder to understand. For example, Out-8 has a much earlier outer date (1732) and sapwood rings, inconsistent with a 1773 felling period date. This date could suggest an earlier period of construction, repair of the vessel or reuse of older timbers.

The 19 dated oak series from the WTC vessel are strongly correlated with one another (Spearman rank correlation (0.458; $t < 0.001$)). The spaghetti plot of these series reflects a strong, interannual agreement (Figure 3). Quite notably, all series drop in ring width in concert during the late-1690s, recover to above-average ring width and then fall in concert again during the 1710s. The strong agreement in ring width variation, especially around the turn of the 18th century, suggests a common geographic origin for the WTC vessel timbers. According to maritime historian Norman Brouwer, assembly of the WTC vessel suggests construction in a "small, rural shipyard", not a large shipyard (WYNC.org, 2010).

To further investigate the dating of the WTC vessel oak dates, all measured ring-width series were standardized and converted into an average-annual, radial growth chronology. The World Trade Center vessel oak was compared to independent master chronologies from eastern Pennsylvania, New Jersey and southern New York State (Tables 2 & 3). The strongest correlations and t-statistics are found with the Philadelphia, eastern Pennsylvania and central

New Jersey oak chronologies (Tables 2 & 3). Over the 280-year overlap, the Spearman rank correlation is highly significant ($r=0.52-0.53$, $p<0.001$).

Correlations versus other oak chronologies from northern New Jersey and the mid-Hudson River Valley, while significant, are weaker when compared to the Philadelphia, eastern Pennsylvania and central New Jersey chronologies. The correlation matrix among the independent chronologies shows that the Philadelphia area chronologies are more strongly correlated with one another and have weakening correlations moving north. The geographic pattern of correlation for the WTC chronology to the independent chronologies resembles the pattern of the Philadelphia area chronologies. These results indicate that it is most likely that the timbers from the WTC vessel come from eastern PA or central New Jersey and, perhaps, near Philadelphia. Closer examination of the WTC and Philadelphia master in **Figure 4** shows a simultaneous drop in ring width in the late-1690s indicating that the World Trade Center vessel came from timbers in the Philadelphia area. The strong agreement during an abrupt drop in growth during the late-1690s supports this hypothesis. Shipbuilding was an important industry in the eastern Pennsylvania and Philadelphia as soon as 1693 and was very active in the 1770's (Scharf and Westcott 1884, pp 2336).

Finally, the hickory keel was compared to the master chronology built from the oak WTC vessel samples and dated to 1724. While there is some confidence of this date, the statistics for this date are weak and the date should be considered provisional until a hickory chronology can be developed for the area.

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Table 1. Dendrochronological dating results for all samples taken from the excavated vessel at the World Trade Center site, New York City. For WANEY, +BE means the bark edge was present or thought to be recovered at the time of sampling; -BE means that the bark edge was not recovered or was completely missing on the timber. All correlations (Correl) are Spearman rank correlations of each series against the oak master chronology from the Philadelphia area. The keel was dated against the chronology developed from the WTC oak samples. See **Figure 1** for photographs of these samples and **Figure 3** for a summary plot of the dating results for the five eastern hemlock samples.

sample	Species	Waney	First year	Last year	N. years	Correl	Observations
FN-16-1	oak	-BE	1663	1773	111	0.533	sapwood rings
FS-11-2	oak	-BE	1571	1770	200	0.290	sapwood rings
FS-13-2	oak	-BE	1688	1770	83	0.365	sapwood rings
FS-15-2	oak	-BE	1682	1770	89	0.198	sapwood rings
FN-15-1	oak	-BE	1627	1769	143	0.224	sapwood rings
FN-15-1/1	oak	-BE	1662	1764	103	0.251	sapwood rings
FS-10-2	oak	-BE	1689	1762	74	0.388	sapwood rings
FS-9-2	oak	-BE	1680	1743	64	0.339	sapwood rings
Keelson	oak	-BE	1639	1740	102	0.306	squared
OUT-8	oak	-BE	1641	1732	92	0.213	sapwood rings
CN-3-1	oak	-BE	1662	1732	71	0.330	
FS-12-2	oak	-BE	1600	1723	124	0.270	squared
OUT-W	oak	-BE	1660	1721	62	0.353	
PS-1-1	oak	-BE	1665	1716	52	0.456	squared
CN-6-1	oak	-BE	1644	1705	62	0.136	squared
PS-2-1	oak	-BE	1602	1687	86	0.403	squared
PN-2-1	oak	-BE	1559	1685	127	0.215	squared
CN-3-10A	oak	-BE	1542	1681	140	0.434	squared
CN-1/1	oak	-BE	1494	1650	157	0.155	
CN-5-1	oak	-BE	No date	No date	Not analyzed		No discernable rings
OUT ?	oak	-BE	No date	No date	83		
FN-11-1/1	oak	-BE	No date	No date	99		squared
Keel	hickory	-BE	1581	1724	144	0.253*	squared

*dated against WTC oak chronology

Table 2. Correlation matrix of the WTC vessel oak chronology versus long oak chronologies from eastern Pennsylvania (e. PA), Philadelphia (Phil), central New Jersey (cNJ), northern New Jersey (nNJ) and the mid-Hudson River Valley of NY State (mHV) from 1650-1750. Correlation value is Spearman correlation.

Chronology	WTC	e. PA	Phil	cNJ	nNJ	mHV
WTC	-					
e. PA	0.52	-				
Phil	0.53	0.81	-			
cNJ	0.52	0.70	0.59	-		
nNJ	0.45	0.65	0.50	0.68	-	
mHV	0.44	0.60	0.45	0.61	0.76	-
South → North						

Table 3. T-statistic matrix of the WTC vessel oak chronology versus long oak chronologies from eastern Pennsylvania (e. PA), Philadelphia (Phil), central New Jersey (cNJ), northern New Jersey (nNJ) and the mid-Hudson River Valley of NY State (mHV).

Chronology	WTC	e. PA	Phil	cNJ	nNJ	mHV
WTC	-					
e. PA	6.3	-				
Phil	6.2	23.0	-			
cNJ	5.6	14.1	7.7	-		
nNJ	4.8	11.6	8.7	10.9	-	
mHV	5.0	11.4	7.7	10.8	15.7	-
South → North						

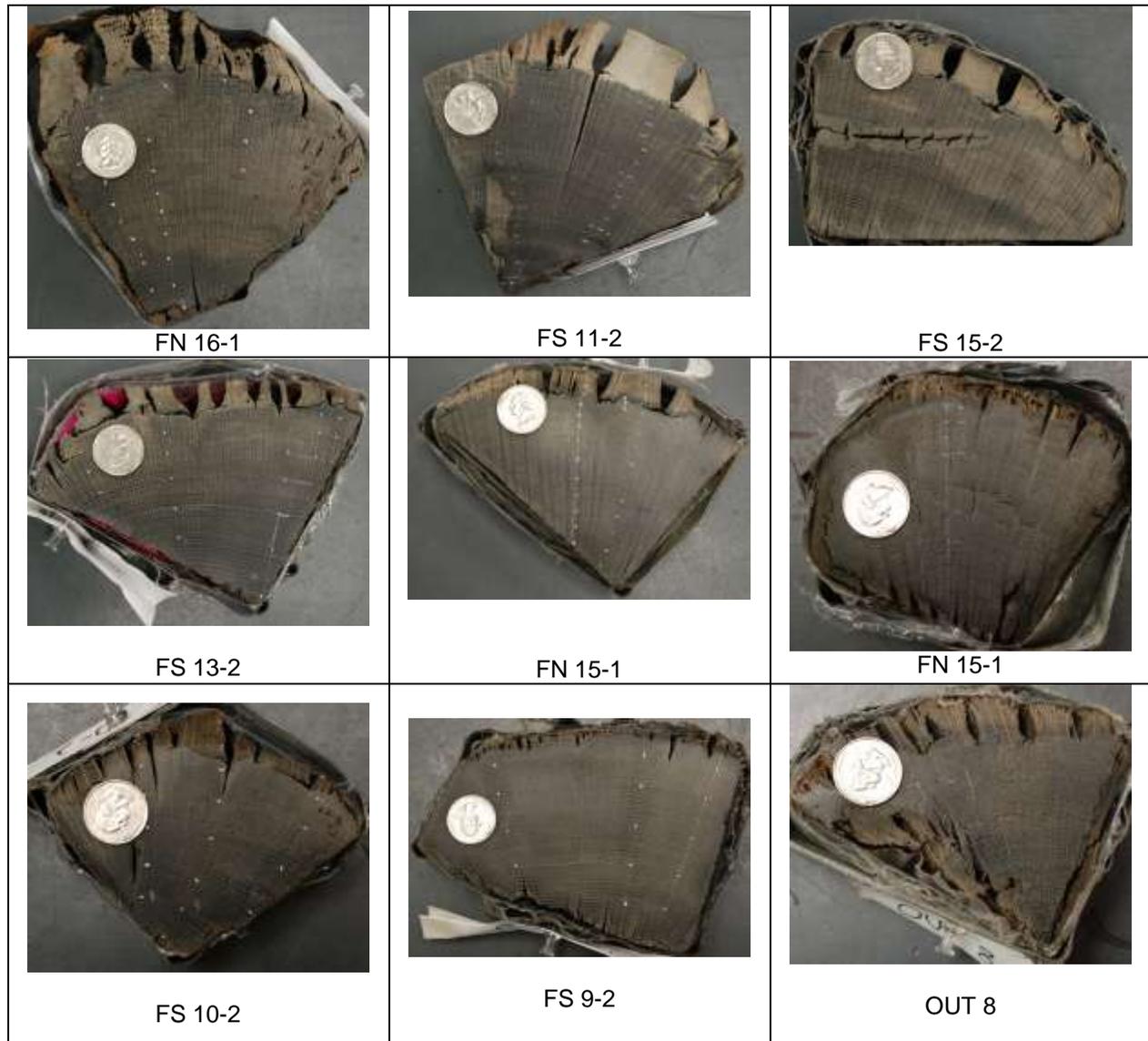


Figure 1. Photographs of the 23 WTC vessel timber samples analyzed by tree-ring analysis. Refer to **Table 1** for the wood species and dates of the samples.



Figure 1 (continued). Photographs of the 23 WTC vessel timber samples analyzed by tree-ring analysis. Refer to **Table 1** for the wood species and dates of the samples.

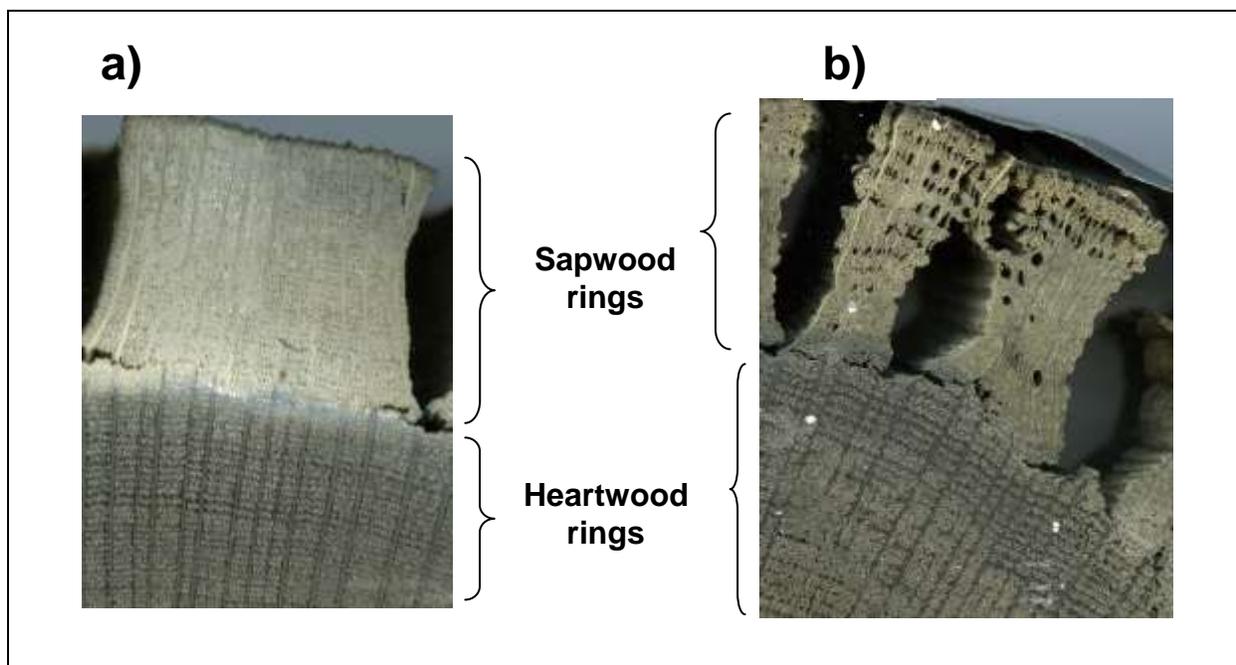


Figure 2. Detail of collapsed (a) and expanded (b) sapwood rings which hindered the exact dating of the last available tree rings. The outer rings of FN 16-1 are shown in (b).

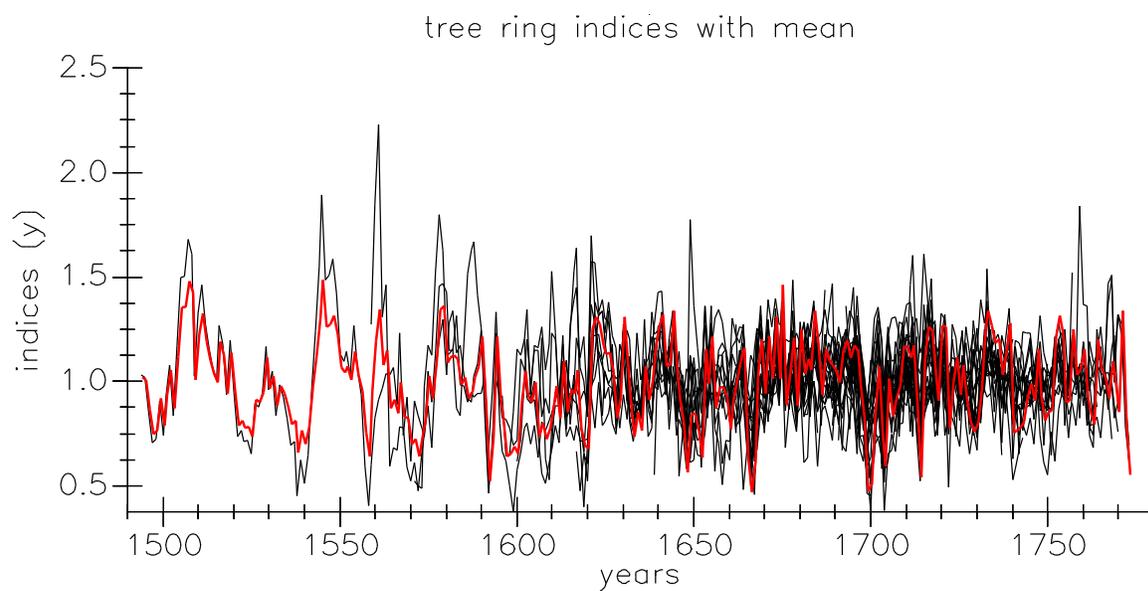


Figure 3. The spaghetti plot of the 19 ring-width indices from the World Trade Center vessel oak timbers and their mean (280 years; time span: 1494-1773). The strong mean interseries Spearman rank correlation (0.458; $t < 0.001$) suggests a common geographical origin for all the timbers.

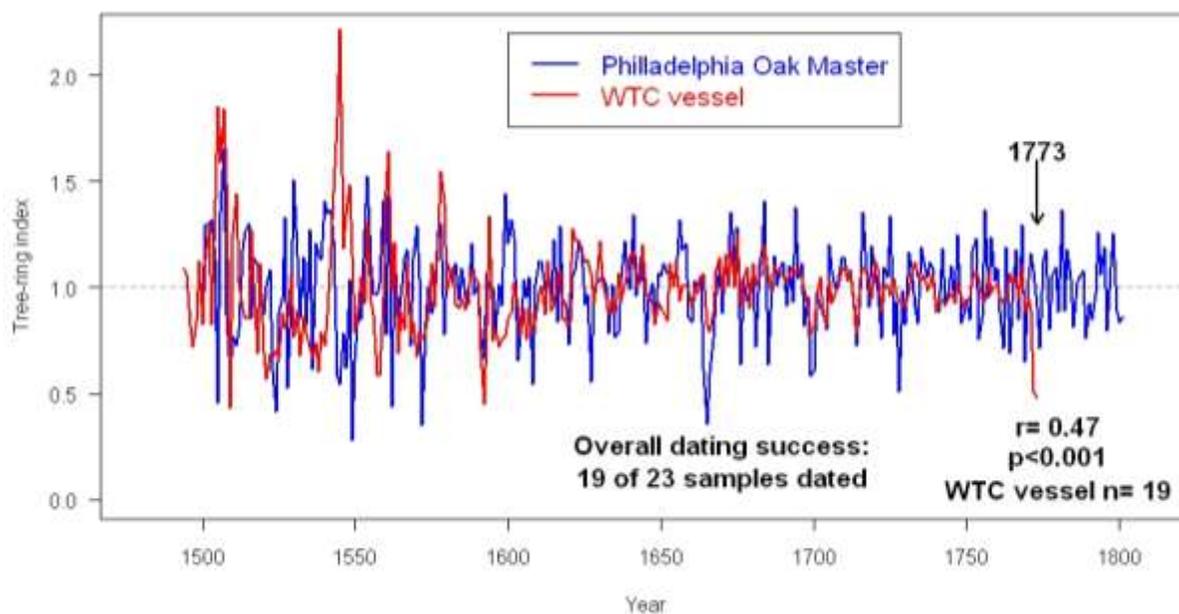


Figure 4. Comparison of the ring-width index of the World Trade Center vessel oak chronology (19 samples cross-dated) against the Philadelphia area oak master chronology based on living trees and independent archaeological samples. The Spearman rank correlation between the series ($r=0.47$) is highly significant ($p<0.001$) with an overlap of 280 years. This strong match suggests that the origin of the oak logs used in the World Trade Center vessel was from the Philadelphia area.