

**United States Department of Interior
National Park Service**

**National Register of Historic Places
Registration Form**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900A). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

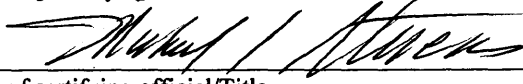
historic name "Appomattox" Shipwreck
other names/site number N/A

2. Location

street & number	150 yards off Atwater Beach	N/A	not for publication
city or town	City of Shorewood	X	vicinity
state Wisconsin	code WI	county Milwaukee	code 079
			zip code 53211

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets does not meet the National Register criteria. I recommend that this property be considered significant nationally X statewide locally. (See continuation sheet for additional comments.)



12/1/04

Signature of certifying official/Title
State Historic Preservation Officer-WI

Date

State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria.
(See continuation sheet for additional comments.)

Signature of commenting official/Title

Date

State or Federal agency and bureau

"Appomattox" Shipwreck
Name of Property

Milwaukee County
County and State

Wisconsin

4. National Park Service Certification

I hereby certify that the property is:
 entered in the National Register.
___ See continuation sheet.
 determined eligible for the
National Register.
___ See continuation sheet.
 determined not eligible for the
National Register.
___ See continuation sheet.
 removed from the National
Register.
___ other, (explain:)

Edman H. Beall

1/20/05

[Signature]

Signature of the Keeper

Date of Action

5. Classification

Ownership of Property
(check as many boxes as
as apply)

private
public-local
 public-State
public-Federal

Category of Property
(Check only one box)

building(s)
district
structure
 site
object

Number of Resources within Property
(Do not include previously listed resources
in the count)

contributing	noncontributing
1	buildings
	sites
	structures
	objects
1	0 total

Name of related multiple property listing:
(Enter "N/A" if property not part of a multiple property
listing.)

Great Lakes Shipwrecks of Wisconsin

**Number of contributing resources
is previously listed in the National Register**

0

6. Function or Use

Historic Functions

Transportation/water-related

Current Functions

Vacant/not in use

7. Description

Architectural Classification

N/A

Materials

N/A

Foundation

walls

roof

other

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

"Appomattox" Shipwreck
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Milwaukee County
County and State

Wisconsin

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for the National Register listing.)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

Archaeology/Historic-non-aboriginal

Maritime History

Architecture

Period of Significance

1896-1905

Significant Dates

N/A

Significant Person

(Complete if Criterion B is marked)

N/A

Cultural Affiliation

Euro-American

Architect/Builder

Davidson, James

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

"Appomattox" Shipwreck
Name of Property

Milwaukee County
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Wisconsin

9. Major Bibliographic References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous Documentation on File (National Park Service):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record #

Primary location of additional data:

- X State Historic Preservation Office
 - Other State Agency
 - Federal Agency
 - Local government
 - University
 - Other
- Name of repository:

10. Geographical Data

Acreage of Property 2.92 acres

UTM References (Place additional UTM references on a continuation sheet.)

1 16 0429136 4771085
Zone Easting Northing

2 16 0429502 4771362
Zone Easting Northing

3 _____
Zone Easting Northing

4 _____
Zone Easting Northing

See Continuation Sheet

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet)

11. Form Prepared By

name/title	Keith Meverden, Dr. John O. Jensen	date	8/16/04
organization	Wisconsin Historical Society	telephone	608.221.5909
street & number	816 State Street	zip code	53706
city or town	Madison	state	WI

"Appomattox" Shipwreck
Name of Property

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Wisconsin

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs Representative black and white photographs of the property.

Additional Items (Check with the SHPO or FPO for any additional items)

Property Owner

Complete this item at the request of SHPO or FPO.)

name/title	Bureau of Property Management	date	8/16/04
organization	Department of Natural Resources	telephone	608.267.2764
street&number	101 S. Webster	zip code	53703
city or town	Madison	state	WI

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects, (1024-0018), Washington, DC 20503.

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“Appomattox” Shipwreck
Milwaukee County, Wisconsin

Introduction

The *Appomattox*, the largest wooden steam bulk freighter ever to ply the Great Lakes, embodies an important period in the economic and maritime history of the Midwest. Her period of operation (1896-1905) overlapped with profound changes in the technology, organization, and scale of industrial activity in the Great Lake region. Ships such as the *Appomattox* transported industrial cargoes across the lakes efficiently and inexpensively. An increasing anomaly during her career, this wooden steamer competed successfully with larger modern steel ships. The vessel is the product of master shipbuilder and successful maritime entrepreneur, Captain James Davidson, of Bay City, Michigan. The Wisconsin wrecks of two comparable Davidson-built vessels, the steamer *Frank O'Connor* (Door County) and the giant schooner-barge *Pretoria* (Ashland County) are listed on the National Register of Historic Places. The *Appomattox* is, in terms of sheer size, Davidson's most ambitious steam bulk freighter and one of the last he built. On November 2, 1905, the vessel ran aground near Atwater beach in Milwaukee. Declared a total loss, the vessel's cargo and some of its machinery were salvaged. Today the bottom and sides of the vessel retain excellent integrity, with long areas of the bilge fully intact.

Site Description/Investigation.

Off Atwater Beach in Whitefish Bay lay the broken remains of the largest wooden-hulled steam-powered bulk freighter ever built on the Great Lakes. Resting in approximately 15 to 20 feet of water, and flattened by nearly a century of wind, waves, and ice, the *Appomattox*'s steel-strapped wooden hull is well-preserved. Built in 1896 by the well-known West Bay City, Michigan shipbuilder James Davidson, the 319-foot long *Appomattox* carried industrial commodities, predominately iron ore and coal, back and forth across the Great Lakes between 1896 and 1905.

The *Appomattox* represents a unique time and place in the economic and maritime history of the United States. Her period of operation (1896-1905) was one of profound changes in the technology, organization, and scale of industrial activity in the Great Lake region. Ships such as the *Appomattox* transported industrial cargoes across the lakes efficiently and inexpensively.

Appomattox is the work of James Davidson, a master shipbuilder credited with pushing the Great Lakes wooden bulk freighter to its highest level of achievement. Constructed to maximize carrying capacity and the rapid loading and unloading of cargo, the existing vessel elements include a long flat bilge section composed of series of multiple keelsons that provided exceptional longitudinal strength. The keelsons, which rest on a nearly solid expanse of heavy oak frames also transverse ceiling planking that provided the bed for cargo. These are among the architectural characteristics distinctive of wooden Great Lakes bulk freight carriers built between about 1880 and 1900. (Jensen 94; Jensen & Cooper 1995; Swayze 1991; Mills 2003)

Scattered across the bottom of Lake Michigan, the *Appomattox* site reveals a host of engineering details not visible on more intact wrecks. During a shipbuilding career that spanned nearly 50 years, James Davidson

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constantly refined the art of large wooden ship construction and built several of the largest wooden bulk freighters in the history of the Great Lakes, indeed some of the longest ever built in the world. The remains of *Appomattox* offer archaeologists and historians of technology an opportunity to explore the engineering methods of a master shipbuilder and ship owner, whose career successfully straddled the transformation from wood to steel shipping on the Great Lakes (Jensen and Cooper 1995).

Throughout June and July 2003, WHS archaeologists and volunteers documented the site of the *Appomattox*, lying in 15 to 20 feet of water approximately 150 yards off Atwater Beach in the village of Shorewood, Milwaukee County. Marked by a seasonal WHS mooring buoy, a 250 foot section the *Appomattox*'s lower bilge remains intact, with her bow facing southwest. A 260 foot section of the portside hull lies adjacent to the wreck, having collapsed and fallen away from the lower bilge section. The ship's boilers and engine were subsequently salvaged, but remnants of the engine beds are extant as well as a large four-bladed propeller which lies approximately 500 yards southeast of the site, likely from the *Appomattox*. A small debris field lies north and east of the bilge section, including remnants of steam pipes, iron plates and miscellaneous associated items. Little of the cargo of coal remains, some having been lightered in attempts to pull the *Appomattox* free, the remainder washing ashore over several years and collected by Milwaukee residents. Off the stern is a large wooden timber, likely remains of the sternpost and associated deadwood. With calm water and good sunlight, the *Appomattox*'s remains can be seen easily from the surface, making the site of interest to snorkelers and kayakers as well as divers. Underwater visibility ranges from zero to 30 feet depending on lake conditions, and summer water temperature ranges from 40 to 70 degrees Fahrenheit. The lake bottom consists of sand and cobble, with an increasing number of large boulders nearer the stern.

Due to the *Appomattox*'s great size for a wooden vessel, her timbers and scantlings are of remarkable dimensions. Her floors consist of triple-timbered frames ranging from 13.5 – 16 inches sided by 16 inches molded. Like other Davidson vessels, triple frames devolve into double frames at the extreme bow as well as above the turn of the bilge. Double frames at the bow measure 11 inches sided by 16 inches molded. Double frames above the turn of the bilge measure 12 inches sided by 16 inches molded with a space of 10 inches.

The vessel's major longitudinals include a main keelson with multiple floor keelsons set on either side. In the midships area additional floor keelsons are placed at the turn of the bilge. The main keelson measures 17 inches sided by 18 inches molded, and is sandwiched between two 1 inch by 17 inch iron plates fastened on either side to provide additional longitudinal strength. Two wooden stringers run along the top outermost edges of the center keelson where the deck stanchions were once fastened. On either side of the main keelson are six floor keelsons. The first floor keelson is spaced 26 inches from the main keelson and measures 13 inches sided by 13 inches molded. Transverse spacers 4.5 inches sided by 16 inches molded separate the main keelson and the first floor keelson. Atop the keelson spacers several limberboards remain extant, measuring 7 inches wide by 3.5 inches thick. The remaining floor keelsons have a 19 inch space and are 12 inches sided by 12 inches molded. All floor keelsons are fastened to the floors with 1.25 inch drift pints with 2 inch clinch rings. Floor keelsons were a common addition to large wooden vessels, running the full length of the vessel providing longitudinal strength to prevent sagging and hogging of the less buoyant vessel ends.

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“Appomattox” Shipwreck
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Atop the floor keelsons are few remnants of the athwartship ceiling planks, 9 inches wide, fastened to the floor keelsons with half-inch square nails. Athwartships ceiling planking was unique to vessels with floor keelsons. Normally vessels are planked fore-and-aft above the floors, but floor keelsons allow shorter, and less expensive athwartship planking. Ceiling planks were not expected to contribute to longitudinal strength, which was provided by the multiple floor keelsons aided by the basket truss and keelson sandwich plates. It is likely these planks were more easily replaced than traditional fore-and-aft planks and therefore were more desirable at the bottom of the cargo hold, an area that received heavy wear. The athwartship ceiling planks give way to longitudinal ceiling planks above the turn of the bilge. Several hanging knees are extant for both the main and weather decks on the portside hull fragment. It is uncertain whether or not the main deck was planked, but certainly the weather deck was planked.

Outer hull planking is 4.5 inches thick and ranges from 8 inches to more than 12 inches wide. The outer hull planking is held in place with through pins and clinch rings. The pins extend through the ship's sides from the outer hull planking through the frames and ceiling planking and are fastened with a clinch ring on either end. Unusual for most Great Lakes wooden vessels, this fastening system is typical of Davidson's construction. Although more expensive than the more common fastening method of nailing the outer hull planks to the frames, the through pins no doubt were added for additional hull strength. From between the frames and the outer hull planking protrude the twisted remains of the iron cross-bracing that provided increased longitudinal strength in large wooden vessels. One-half inch thick by 5 inches wide, these iron straps are arranged in a lattice or basket weave fashion and are fastened with drift bolts at the intersection of each iron strap that penetrate the outer hull, frame, and ceiling. Other Davidson vessels commonly used a large iron or steel hogging arch that ran from bow to stern, but no archaeological evidence of a hogging arch exists at the *Appomattox* site. These hogging arches measured as much as 30 inches wide by $\frac{3}{4}$ inches thick, and typically ran between the planking and frames of the vessel's sides. It is possible the arch is hidden in the portside hull fragment, and discovery of the starboard side hull may provide further evidence.

The vessel's starboard side, stern, and large sections of the port side hull remain unaccounted for, and may have been washed a distance away from the wreck. A large four-bladed propeller lies approximately 500 yards to the southeast of the main wreckage, and is of similar design and size to propellers used on comparable Davidson vessels. Measuring 12 feet in diameter with four blades measuring 41 inches at their widest point, this propeller possess almost the exact dimensions of the Davidson's *Frank O'Connor* propeller, which measures 12 feet 1 inch in diameter with four blades measuring 41 inches at their widest point, making it highly likely the propeller does indeed belong to the *Appomattox*. Further investigations utilizing diver searches or remote sensing equipment are necessary to search the surrounding lake bottom for missing remains of the *Appomattox*.

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Summary Paragraph

Off Atwater Beach in Whitefish Bay lay the remains of the largest wooden-hulled, steam-powered bulk freighter ever built on the Great Lakes. Resting in approximately 15 to 20 feet of water, and flattened by nearly a century of wind, waves, and ice, the *Appomattox*'s steel-strapped wooden hull is well preserved. Built in 1896 by the well-known West Bay City, Michigan shipbuilder James Davidson, the 319-foot long *Appomattox* carried industrial commodities, predominately iron ore and coal, back and forth across the Great Lakes between 1896 and 1905. The *Appomattox* embodies an era when the drive to expand industrial output and to maximize profits led to constant innovations in shipbuilding. In the *Appomattox*, we can see the unfettered power of the Industrial age as well as echoes of the Midwest's passing forest frontier. The *Appomattox* meets the registration requirements of Criteria C and D of the property type bulk freighter as described in the Multiple Property Documentation *Great Lakes Shipwrecks of Wisconsin*. (Cooper and Kriesa, 1992). The work of an acknowledged master shipbuilder and embodying the distinctive characteristics of the Great Lakes steam bulk cargo vessel, *Appomattox* is considered eligible for the National Register of Historic Places at the state under Criterion C. The remains of the largest wooden-hulled steam bulk carrier constructed on the Great Lakes, the wreck of the *Appomattox* has yielded and is likely to yield more information important in Great Lakes maritime history and is eligible at the state level under Criterion D.

Vessel History

In the decades following the Civil War, the Midwest evolved into the United States' agricultural and industrial heartland. A key element in this evolution was an integrated system of natural and man-made waterways. Navigable water provided a relatively low cost media for the transportation of industrial and agricultural bulk cargos from isolated hinterlands to large urban and industrial ports. Between 1880 and 1910, the tonnage of bulk cargo carried on the Great Lakes grew exponentially while the per-ton cost of maritime transportation fell precipitously.

The expansion of lake commerce resulted from several factors. A few elements, however, stand out including the development of the iron ore mines in the Lake Superior region, the expansion of heavy industry in Great Lakes cities, and the growth of farming on the plains states. Although several indices demonstrate the magnitude of the growth of shipping on the Great Lakes during this period, one convenient measure is the tonnage of cargo passing through the canals on the St. Mary's River, the narrow corridor that connects Lake Superior with the rest of the Great Lakes. In 1880, 1,567,741 tons of cargo passed through the canals. In 1890, that figure reached 9,041,213 tons. In 1902, nearly 36 million tons moved along this route. By this later period, the per-ton mile cost of transporting bulk cargo on the Great Lakes was probably the lowest in the World. (*Blue Book of American Shipping* 1903: 249-50).

Underlying these figures is a series of technological advancements in shipbuilding and cargo handling. This transformation began in the late 1860s and early 1870s, a time when enlarged canals and deepened harbors allowed for the transit of increasingly larger vessels. Responding to new opportunities, most shipbuilders

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continued to produce wooden schooner-rigged vessels—albeit ones of larger dimensions. Increasing numbers of builders, however, also began launching a new type of vessel—the steam powered bulk carrier (Cooper 1989). The first steam bulk carrier, the *R.J. Hackett*, built in 1869, was just slightly over 200 feet in length. The vessel exhibited features that gradually became standard on subsequent generations of bulk carriers: a high pilothouse placed at the extreme bow, a long open hold, a series of standardized cargo hatches, and an engine at the extreme after end of the vessel. Despite such standardized features, bulk carriers displayed considerable variability depending upon the date of construction and the engineering preferences of builders.

Between 1869 and 1910, bulk carriers grew in size and the materials used shifted from wood to iron (briefly) and then to steel. The *Appomattox*, built in West Bay City, Michigan in 1896, represents an intermediate step in this evolution. The 319 foot-long oak hull made the *Appomattox* the largest wooden bulk steamer ever constructed on the Great Lakes and, possibly, anywhere in the world. The selective inclusion of steel cross bracing and keelson plates and arches, along with the installation of a triple expansion steam engine and other first class marine equipment underscore that this wooden ship was a thoroughly modern vessel by the standards of 1896. (Cooper and Jensen 1995; Jensen 1994)

The *Appomattox* is one of a series of remarkable vessels built on the Great Lakes by Captain James Davidson of West Bay City, Michigan. Ship captain, maritime entrepreneur and innovative shipbuilder, James Davidson’s career spanned seven decades. During his lifetime (1841-1929), Great Lakes shipping went from the age of schooners and sidewheel steamers to become the most efficient industrialized waterway in the world. As an orphan in the busy Great Lake’s port of Buffalo, New York, Davidson began his career ferrying sailors back and forth from commercial vessels. As a teenager, Davidson sailed the lakes and reportedly had his first command, a small schooner, before the age of twenty. Davidson learned shipbuilding by working at Bidwell and Banta, one the most important yards on the Great Lakes during the 1840s and 1850s. Driven towards self-improvement, Davidson also attended a local business college and during the early 1860s sailed before the mast on the large trans-Atlantic sailing packet ships. The first known Davidson vessel, the three-schooner *Laura Bell*, came off the stocks in 1870. Taking advantage of the crest of the shipbuilding boom, Davidson launched two more schooners and a large steamer before the national economy collapsed in 1873 and brought shipbuilding on the Great Lakes to a halt. (Jensen 1994)

Resuming active shipbuilding in 1880, Davidson turned out over 100 vessels over the next twenty-five years. The most impressive of these craft were the large steam bulk carriers and schooner-barges, several of which exceeded three hundred feet in length. During his long shipbuilding career, Davidson observed the transformation of the typical Great Lakes cargo vessel from small two- and three-masted schooners constructed from wood, to giant steel-hulled steamers that exceeded 600 feet in length. Davidson excelled in reading economic trends. He appears to have thrived during these times of economic and technological transportation. From the mid-1870s through the early 1890s, Davidson built many of the largest vessels serving on the Great Lakes. When most other major shipbuilders retired or shifted to steel construction in the 1890s, Davidson continued building and operating wooden vessels. The *Appomattox*, launched in 1896, is a milestone in

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Davidson’s shipbuilding career. At 319 feet in length, it was longest wooden steam-powered bulk carrier ever launched on the Great Lakes. (Jensen 1994; Swayze 1991; Mills 2003).

By mid-1890s, James Davidson owned and operated the largest fleet of wooden ships on the Great Lakes. Self-insured, owning his own tugs, a well-equipped wooden shipyard and large stands of ship timber allowed the Davidson Steamship Company to profit even when freight rates were low. Simply put, for a significant period of time Davidson’s wooden fleet of ships cost less to maintain and operate but offered a level of performance comparable to the new generation steel cargo ships proliferating on the Great Lakes. (Jensen 1994).

An 1896 article in *Cassier’s Magazine*, written by Joseph R. Oldham, a senior naval architect from Great Britain, describes Great Lakes shipping and shipbuilding during the year of the *Appomattox*’s launch. A 30-year veteran in the repair of iron and steel ships, Oldham’s chief interest was the remarkable expansion in the size and efficiency of Great Lakes ships. Oldham, however, makes some observations that help explain why Davidson continued launching and operating wooden steamers and schooner barges. The smaller vessels, Oldham explained could load cargo efficiently at the many older and smaller docks. More important in terms of the bottom line, Oldham suggested that a steamer and barge combination (such the *Appomattox* her various consorts) required just two-thirds of the effective horsepower needed by a larger single vessel capable of carrying the same amount of cargo (Oldham 1897). In a fiercely competitive high volume industry, the smallest expense margins made the difference between large profits or major losses. For their time, the Davidson vessels were inexpensive to build and to operate. They remained profitable from many years. (Jensen 1994; Cooper and Jensen 1995).

Although increasingly viewed as anachronistic in the 1890s, Davidson’s wooden steamers still attracted the attention of the shipbuilding world. The opening article of the June 1898 issue of *Marine Engineering*, a New York-based trade journal, featured Davidson’s handiwork. The six-page feature “Details of Largest Wooden Steamship in Commission in the World” provide a detailed engineering description of vessel purported to be the *Thomas Cranage*. Davidson, however, built the *Cranage* in 1893, and the vessel was just 305 feet long--significantly shorter than the *Appomattox*. The ship described in the article seems to be a conflation of the *Cranage* and the *Appomattox*, with details of both vessels intermixed and confused by the author. Collectively, however, the article provides an excellent description of the methods and materials used in constructing these giant wooden ships as well as details about their performance. Even as steel supplanted wood, the Oldham article demonstrates that the Davidson steamers remained impressive vessels. What is unclear, however, is whether Davidson continued improving the design of his later vessels. The limited and conflicting information in existing written accounts underscore the importance of archaeological sites such as the *Appomattox*.

Whatever their merits, the end of the wooden ship era on the Great Lakes was in sight by the time the *Appomattox* splashed into the water in 1896. Three generations of intensive logging and the construction of thousands of ships depleted the supply of good shipbuilding timber. Only Davidson’s foresight in earlier purchases of large stands of trees allowed him to continue building out of wood into late nineteenth and early

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twentieth century (Jensen 1994).

The *Appomattox*'s operational career was relatively short for a Davidson vessel. From August of 1896 through September of 1899, the Davidson Steamship Company operated the vessel. Davidson initially enrolled the vessel at the port of Port Huron, Michigan. The Davidson Steamship Company reorganized as a Minnesota corporation sometime in the late 1890s and in the spring of 1899, the *Appomattox*'s port of enrollment shifted to Duluth, Minnesota. Her captain, at least for part of this time, was James Davidson's son-in-law G.A. Tomlinson. Tomlinson was also a vice president of the Davidson Steamship Company and fast becoming a major force in the Great Lakes Shipping Industry (*Duluth Vessel Enrollment no. 35. 3/28/1899*).

Late that season, the Boston Coal Dock and Wharf Company, a New Jersey-based firm that operated out of Duluth, purchased the *Appomattox*. Her function, however, did not change. Managed by Pickands, Mather, and Company, the *Appomattox* continued to carry Lake Superior iron ore on her eastward voyages and cargoes of coal back to the west. The steamer's iron ore capacity exceeded 3,000 tons and, like the other large Davidson steamers, she generally towed a large wooden schooner barge. Under the ownership of Boston Coal Dock and Wharf, the *Appomattox* towed the 324-foot long Davidson-built schooner-barge *Santiago*. Working in tandem the two vessels could carry between 7,500 and 8,000 tons of iron ore, significantly more than the larger and more expensive steel bulk carriers of the period. The cost of building a Davidson steamer and consort in the late 1890s, however, was perhaps 50% to 70% of constructing steel vessel with a comparable cargo capacity. Their operating costs were, as discussed above, theoretically lower. The (*Duluth Vessel Enrollment no. 9. 9/5/1899*; Havighurst 1958; Oldham 1897; *Marine Review* 6/15/1899; *Blue Book of American Shipping* 1903; Jensen 1994)

The steamer/schooner-barge consort system had one significant drawback. Safely maneuvering two large vessels connected by a single line proved challenging—sometimes impossible. In early August of 1905, the *Appomattox/Santiago* team was involved in a serious accident on the narrow St. Clair River. Traveling in light fog the *Santiago* veered off course and smashed into the schooner-barge *Fontana*. The *Fontana* immediately sank, taking the life of one of her crew. (*Saginaw Courier Herald* 8/5/1905)

On November 2, 1905, poor visibility contributed to another accident involving the pair. Proceeding southward along the west shore of Lake Michigan with loads of coal, the *Appomattox* and *Santiago* encountered a dark bank of dense industrial smoke. This combination of fog and industrial smoke obscured the range lights on the north end of Milwaukee. The vessels' nighttime course brought them in too close to shore, and they went aground along with a third vessel, the *Iowa*, on a rocky bottom near North Point. Immediate assistance by tugs, a Revenue Service cutter, and crews from the U.S. Lifesaving Service Station led to the quick release of the *Santiago* and *Iowa*. The *Appomattox*, however, had gone the hardest aground and suffered considerable bottom damage. During the morning, the weather worsened substantially and the sea state—according the lifesaving station log--went from moderate to high. This compounded the vessel's injuries. For the next 13 days the wrecking crews, assisted by the U.S. Lifesaving Service fought to salvage the vessel. The damage, however,

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proved too severe. The *Appomattox*'s bottom had broken in several places and despite several pumps; the vessel would not float. The wreckers abandoned her on November 15, 1905. Two years later, the Reid Wrecking company removed her machinery, leaving the broken but well-preserved hull where she lies today. (*U.S. Lifesaving Service Annual Report* 1906; *U.S. Lifesaving Service Station Log*, Milwaukee, 11/2/1905-11-15/1905; *Milwaukee Sentinel* 11/2/1905, 11/16/1905; *Door County Advocate* 9/26/1907; Von Briesen: n.d).

Architectural Significance

As the largest wooden steamer to ever sail the Great Lakes, and possibly the world, the *Appomattox* embodies construction techniques at the zenith of wooden ship construction. At a time when most ships were built of steel, master builder James Davidson pushed the accepted size limits for wooden vessels. Unique construction techniques that allowed these immense wooden vessels to be built are easily identified in the remains of the *Appomattox*. Remarkably well intact, the *Appomattox* provides a classroom for historians, archaeologists, and divers to study the most advanced wooden ship construction techniques. The *Appomattox*'s lower bilge remains almost entirely intact, illustrating the use of closely-spaced, heavy-timbered framing, multiple floor and bilge keelsons, iron keel reinforcements, athwartship ceiling planking and diagonal cross-bracing. A large portion of the portside hull is extant, complete with diagonal cross-bracing, heavy-timbered frames, and remains of both decks. The Davidson shipyard produced many of the world's largest wooden vessels. Most of Davidson's records have not survived, leaving the remains of his vessels as the only insight into this innovative shipyard and individual. The *Appomattox* has already provided a wealth of architectural information on what made the construction of these large vessels possible. Both standing alone or combined with other Davidson vessels wrecked in Wisconsin waters, the *Appomattox* has the potential to yield a wealth of further information.

Registration Requirements

As the largest wooden-hulled steam-powered vessel on the Great Lakes, and possibly in the world, the *Appomattox* meets the registration requirements for Criteria C and D, as established in the multiple property listing *Great Lakes Shipwrecks of Wisconsin*. Though broken into two major sections, the *Appomattox* still possesses excellent architectural integrity. The bilge is almost entirely intact as well as a large section of the portside hull. The architecture appears characteristic of late wooden bulk carriers. *Appomattox*, one of the final and largest wooden steamers built on the Lakes, embodies some of the most advanced wooden vessel architecture produced in the United States during the late nineteenth and early twentieth century and is eligible at the state level under Criterion C. The fact that no records from James Davidson's shipyard appear to have survived makes this site particularly significant. These craft competed successfully with modern steel bulk carriers well into the twentieth century. The techniques employed in their construction and the economic rationale behind their design and operation are not fully understood today. Archaeological data from the *Appomattox*, combined with data from two similar Davidson vessels wrecked in Wisconsin waters, the *Pretoria* and *Frank O'Connor*, have the potential to yield vast amounts of information on the zenith of wooden bulk carrier construction. The *Appomattox* is therefore eligible at the state level under Criterion D, as her surviving

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"Appomattox" Shipwreck
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remains have the potential to provide archaeological insights into the final phase of wooden bulk carrier construction on the Great Lakes.

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Boundary Description

Site location is anchored by two endpoints. The first endpoint is the main wreckage site, a circle with a 400-foot diameter centered on the UTM grid coordinates: 0429136 Easting, 4771085 Northing, Zone 16.

The second endpoint is the propeller, laying approximately one quarter mile northeast of the main wreckage site, a circle with a 25-foot diameter centered on the UTM grid coordinates: 0429502 Easting, 4771362 Northing, Zone 16.

The two endpoints are connected via a narrow path one foot wide that does not contain significant contributing resources.

Boundary Justification

The boundaries were drawn to encompass the extent of thewrecksite and associated artifacts.

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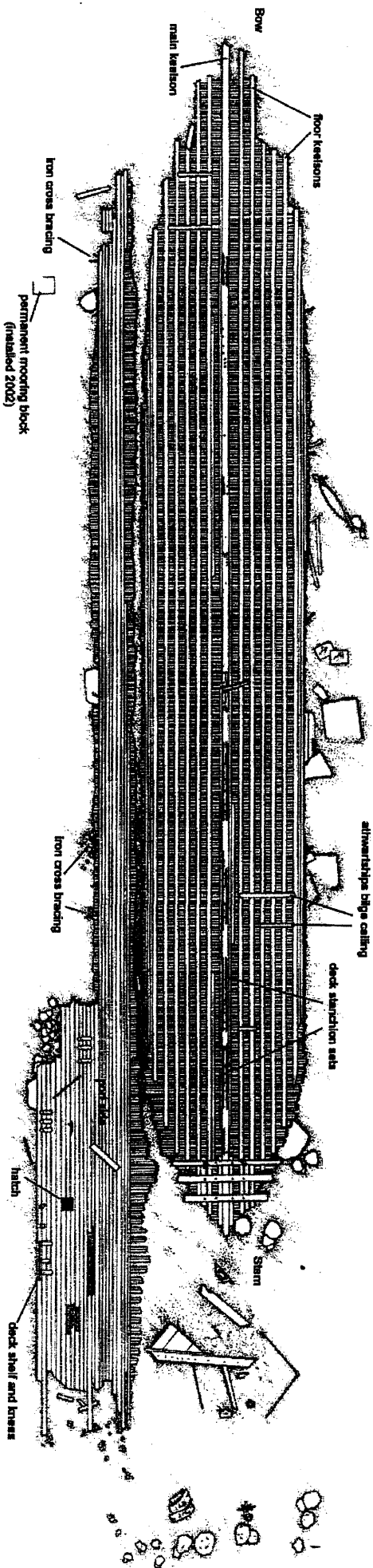
**"Appommattox" Shipwreck
Milwaukee County, Wisconsin**

Photographic Materials - Identification

Photo 1 of 2
Appommattox Shipwreck
Milwaukee County
Photographer unknown
Circa 1900
Copy of negative at Wisconsin Historical Society
Historic photograph
Appommattox, port side

Photo 2 of 2
Appommattox Shipwreck
Milwaukee County
Photographer Russell Green
August 12, 2003
Negative at Wisconsin Historical Society
Appommattox bow, current condition

St.s. APPOMATTOX
August 2003



St. Appomattox Shipwreck
Milwaukee County, Wisconsin

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Wisconsin Historical Society
Maritime Preservation and Archival Program