Significance through Obscurity:
An Agglomeration of Wisconsin's Submerged Archaeological Sites

Included: ***Winfield Scott, Robert C. Pringle, Transfer, Tennie & Laura, War Eagle,*** **and Freedom Mine**

State Archaeology and Maritime Preservation
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Victoria L. Kiefer, Caitlin N. Zant, Tamara L. Thomsen, Paul Reckner, and Tori L. Galloway

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Note:
At the time of publication *Robert C. Pringle* and *Transfer* are pending listing to the State and National Registers of Historic Places. Nomination packets for these shipwreck sites have been prepared and submitted to the Wisconsin State Historic Preservation Office. *War Eagle* has been listed to the State and National Registers of Historic Places. The Freedom Mine site has been listed to the State Register of Historic Places and is pending listing to the National Register of Historic Places. The *Tennie & Laura* site was listed to the State and National Register of Historic Places in 2008 and additional information has been updated. The *General Winfield Scott* site has been determined ineligible for listing to the National Register of Historic Places.

Cover photo: Freedom Mine (Leah Potts)

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ACKNOWLEDGEMENTS

The Wisconsin Historical Society's (WHS) Maritime Preservation and Archaeology Program conducted projects within this report during the 2017, 2018 and 2019 field seasons. The successful completion of this research relied heavily upon the hard work and dedication of many individuals and institutions. This research would not have been possible without hours of dedicated work conducted by volunteers and collaborators.

In 1988 the *General Winfield Scott*'s lower hull and associated debris field was relocated and documented by Wisconsin Archaeologist David Cooper in collaboration with students and faculty of East Carolina University's Department of History, Program in Maritime History and Underwater Research. In 2019, through grant funding from the Wisconsin Coastal Management Program, Society maritime archaeologists were able to host an advanced field school for avocational archaeologists from the Great Lakes Shipwreck Preservation Society (GLSPS) and WHS maritime program's summer fellow. Students participating in the *General Winfield Scott* advanced field school included Jeff LeMoine, Tim Pranke, and Tori Galloway. A special thanks to Hoyt Purinton, president of the Washington Island Ferry Line, for allowing us to use the ferry docks to tie up our boat during the project. Thanks to Wisconsin DNR for adding coordinates for Lake Michigan's shallow water shipwreck sites to Wisconsin's Lake Michigan State Water Trail and the Wisconsin Public Access Lands interactive maps.

In 2008, shipwreck hunter Steve Radovan located the remains of the tug *Robert C. Pringle.* In 2019, with assistance from Tom Crossman of Crossmon Consulting, LLC, Society maritime archaeologists collected ROV video footage and multi-beam sonar data of the site. The newly collected data from *Robert C. Pringle* site was analyzed and a National Register of Historic Places nomination was submitted for the wreck site. This project was made possible thanks to a charitable donation from the Hamilton Family Foundation.

The *Transfer* was located in 2009 by shipwreck hunter Jerry Guyer. The survey of the self-unloading schooner-barge *Transfer* was conducted during the 2019 field season with help from summer intern Tori Galloway and volunteer Chris Spoo. The project was funded through a grant from the National Park Service's National Maritime Heritage Grant Program.

The Tennie & Laura shipwreck was located by the Coast Guard Cutter *Acacia* in 1999 and the first imagery was taken the ROV onboard. In August 2005, with the assistance of the University of Wisconsin-Milwaukee Great Lakes WATER Institute's boat R/V *Neeskay,* and supporting equipment, Society archaeologists collected enough additional site information to nominate the wreck site to the National Register of Historic Places. However, more data needed to be collected. The site was revisited in June 2017 with an ROV from Marine Imaging Technologies and highly detailed video was collected. With grant funding from the University of Wisconsin

Sea Grant Institute, archaeologists visited again in May 2019 with an ROV equipped with video and multi-beam sonar from Crossmon Consulting. The data collected in 2017 and 2019 was used to update the National Register of Historic Places nomination. Thanks to Marine Imaging Technologies and Crossmon Consulting for the use of their equipment and technology to complete such a long-standing investigation.

Another thank you to Tom Crossmon of Crossmon Consulting, for his assistance in conducting the first side scan sonar survey of the *War Eagle* site in the Black River at La Crosse. With the site's notoriously poor visibility, this survey allowed us to collect a complete scan of the site as it sits on the river bottom. This was the first complete look at the shipwreck site. The sonar imagery played an integral part in the site's nomination to the National Register of Historic Places. Funding for this project came through a generous donation from Elizabeth Uihlein of U-Line Corporation.

The Freedom Mine site was a unique project for our office. This was the first time that a site has been surveyed that includes extensive terrestrial and underwater archaeological work. Thank you to Donna Georgeson and her late husband, Greg Georgeson for allowing our office access to their property and the site. Wisconsin Historical Society Museum Archaeology Program's archaeologist Paul Reckner deserves recognition for coordinating the terrestrial survey of the site. Thank you to Mark and Lynn Langenfeld, and the late Don Ginter for assisting in the research into the Freedom Mine's history and mining history of the region. A special thanks also goes to 2017 Rolex Our World Underwater North American Scholar Leah Potts for assisting in the survey. We would like to thank the Rolex Our World Underwater Scholarship Society for funding Leah's stay and facilitating her work in Wisconsin.

A special thanks goes to the WHS maritime program's summer intern Tori Galloway. Not only did Tori participate in the *General Winfield Scott* field school and she assisted in collecting imagery for the *Transfer* project, but she researched and visited scow schooners in Wisconsin and Minnesota to create a regional context of the vessel type (not published in this report). Additionally, through Tori's knowledge of photogrammetry and her access to appropriate software and robust computer systems at Indiana University, Society archaeologists were able to create 3D models of a variety of shipwrecks.

Preliminary historical research of four of the five shipwrecks examined in this report (*General Winfield Scott, Robert C. Pringle, Transfer,* and *War Eagle*) was collected by Russel Leitz, through a search of national newspaper databases. Russel deserves special recognition for his creation and continued maintenance of the newspaper database of maritime events in Wisconsin stored on the www.WisconsinShipwrecks.org website.

Special recognition goes to Tom Villand, for his dedicated work updating and organizing the ship files for the over 750 historic vessel losses in Wisconsin waters. Additionally, Tom undertakes the yeoman's work of updating entries on www.WisconsinShipwrecks.org adding additional historical research multiple times each week. Along this vein, we would like to again acknowledge the University of Wisconsin Sea Grant Institute for extended outreach opportunities through social media postings, press releases, and by hosting our website www.WisconsinShipwrecks.org.

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CHAPTER ONE
INTRODUCTION

Underwater archaeological surveys conducted by the Wisconsin Historical Society are a joint effort of several organizations and many individuals. The surveys conducted in this report are the result of a cooperative effort between the Wisconsin Historical Society, the Wisconsin Coastal Management Program, and the University of Wisconsin Sea Grant Institute. Project funding was provided by grants from the University of Wisconsin Sea Grant Institute, National Maritime Heritage Grant Program, and Wisconsin Coastal Management Program, and charitable donations from Elizabeth Uihlein of the Uline Corporation and from the Hamilton Family Foundation. The surveys were organized and staffed by the Society's Maritime Preservation and Archaeology program archaeologists and volunteers, and were conducted over the 2017, 2018, and 2019 field seasons.

The Wisconsin Historical Society is the State of Wisconsin's principle historic preservation agency and charged under state statutes (44.02 and 44.30-44.31) with the research, protection, restoration, and rehabilitation of historic properties within Wisconsin. Under Wisconsin statute 44.47, the Society is also charged with the identification, evaluation, and preservation of Wisconsin's underwater archaeological resources, including submerged prehistoric sites, historic shipwrecks, and aircraft on state-owned bottomlands. Recognizing the multiple-use value of underwater archaeological sites to scientists, historians, and recreationalists, these underwater remnants of our past are broadly termed "submerged cultural resources". Submerged cultural resource management goes beyond the scope of traditional historic preservation programs, encountering diverse multiple-use concerns such as recreation and commercial salvage.

The State of Wisconsin has additional management responsibilities for submerged cultural resources under federal law, including the National Historic Preservation Act of 1966 and the Abandoned Shipwreck Act of 1987 (Public Law 100-298). State legislation (1991 Wisconsin Act 269) and modifications to state law in adherence with federal guidelines issued under the Abandoned Shipwreck Act has provided Wisconsin with a more formalized and rational framework for underwater archaeological resource management. This legislation also authorizes the Society and the Wisconsin Department of Natural Resources to designate underwater preserves for the preservation and recreational development of underwater archaeological sites.

Created in 1988, the Society's Maritime Preservation and Archaeology Program works to survey, inventory, and evaluate Wisconsin's underwater archaeological resources, develop preservation strategies, administer field management practices, and enhance public appreciation and stewardship for Wisconsin's precious and fragile maritime heritage (Cooper 1992; 1993). The program is housed within the Society's State Historic Preservation Office.

Any initiative aimed at identifying, managing, and interpreting Wisconsin's coastal cultural resources must consider these resources at both a local and a regional level. The sheer length (approximately 860 miles) and geographical, social, and cultural diversity of Wisconsin's Great Lakes coastline makes this essential. Established in 2001, the Wisconsin's Maritime Trails Educational Initiative divides the state into five regions, the boundaries of each selected to encompass common resources within that area, and merges regional diversity into a statewide educational context.

Wisconsin's Maritime Trails Educational Initiative encourages the public to consider each of these unique properties within the broader context of Wisconsin's rich maritime history. Winding above and below the waves, the Wisconsin's Maritime Trails Education Initiative forms a trail linking historic shipwrecks, lighthouses, historic waterfronts, historic vessels, museums, and shore-side historical markers and attractions. Through the WisconsinShipwrecks.org website, interpretive materials, and public presentations the program integrates archaeological research and public education to encourage divers, snorkelers, boaters, and with this grant paddlers, to responsibly visit Wisconsin's impressive collection of maritime cultural resources. Some of the major elements of the Wisconsin's Maritime Trails include:

Archaeological Research. The documentation of Wisconsin's submerged cultural resources, primarily historic shipwrecks, is the foundation of the Maritime Trails Education Initiative. Beyond academic and resource management applications, the result of this research forms the basis of most interpretation and outreach projects.

Shipwreck Moorings. With volunteer assistance, the Society maintains permanent moorings on 28 historic shipwrecks statewide. These moorings facilitate recreational access, provide a means of interpreting the wreck sites for visitors, provide a safe point of ascent and descent for divers, and eliminate anchor damage from recreational boaters anchoring into the site.

Waterproof Guides. Designed with divers and paddlers in mind, these rugged, waterproof guides contain information that places each site in its historical context and describes the site highlighting unique features that might otherwise go unnoticed. In partnership with the University of Wisconsin Sea Grant Institute, the Society has produced guides to 48 Wisconsin shipwrecks or submerged cultural sites.

Public Presentations. Given at a variety of venues, public presentations provide a direct, personal connection between the Society and the general public. Society underwater archaeologists and volunteers have reached approximately 56,173 people via public presentations since the Wisconsin's Maritime Trails Education Initiative's inception in July

2001 and have reached over 4,000,000 viewers through media such as talk radio and public television

Interpretive Signage. As of January 2020, the Society has created shore-side informational markers for 43 historic shipwrecks and waterfronts. Utilizing an identical template that unifies the signs as attractions and information points within the statewide Maritime Trails program, the markers emphasize the broader connection between Wisconsin's many coastal historic resources.

Interpretive kiosks. Five interactive touch-screen kiosks highlighting Wisconsin's historic shipwrecks are installed at Wisconsin Historical Museum, Wisconsin Maritime Museum, both the Door County Maritime Museum at Gills Rock, the Neville Public Museum, and the Society's Madeline Island Museum. The kiosks reach an estimated 530,000 museum visitors annually and make archaeological research results available in a fun, interactive format while educating visitors on the importance of Wisconsin's coastal cultural resources.

Maritime History Geocaches. Taking participants on self-guided tours of local maritime heritage sites, or modern commercial use of the Great Lakes and their tributaries, 39 Maritime History Geocaches have been placed in the communities of Superior, Two Rivers, Manitowoc, Sheboygan, Port Washington, Milwaukee, and throughout Door County. A full listing of available geocaches under the name "WiscMaritime" can be found at www.geocaching.com.

Website. The wisconsinshipwrecks.org website, dedicated to Wisconsin's historic shipwrecks, underwater archaeology, and maritime history, ensures that the general public has access to timely and useful information. The site serves as a unified "maritime resource" information point for Wisconsin residents, state visitors, and the public at large. Unveiled in 1996 and updated in 2014, this website features a searchable database of maritime resources and Wisconsin shipwrecks. A collaborative effort between the Society and the University of Wisconsin Sea Grant Institute, the site makes underwater archaeological research results accessible to the public and features detailed information on historically and recreationally significant shipwrecks in Wisconsin waters of Lakes Michigan and Superior.

Partnerships. The Society partners with federal, state, and local agencies, chambers of commerce, private businesses, non-profits, and individuals. With core partners, dozens of volunteers, and a growing list of project-specific partners, this aspect of the initiative ensures that all of those with a stake in Wisconsin's maritime cultural resources share in their management and interpretation.

Research Design and Methodology

Nineteenth-century Great Lakes wooden ship construction and operation is poorly understood. Little is known about how vessels were built and operated during this time. As a result, much of what we know about Great Lakes merchant vessels has come from the archaeological record of vessels that now lay on the Great Lakes bottomlands. The archaeological surveys within this report were designed to provide a better understanding of historic Great Lakes commercial vessel construction and use.

Field data collection methods included traditional baseline surveys aided by digital photo and video documentation. Data from deep wreck sites was collected by a remotely operated vehicle (ROV) equipped with video and multi-beam sonar. Archaeological documentation was conducted along guidelines established by the Natural Park Service for submerged cultural resource survey and evaluation in determining site eligibility for the National Register of Historic Places. Research designs were directed toward formulating site descriptions and archaeological assessments with a package of management questions, some specific to the site itself (i.e. location, environmental parameters, integrity, extant features, and artifacts), as well as more general questions that place the site within its broader historical context (i.e. historical significance, archaeological potential, recreational potential, and management requirements).

Research objectives and methods included:

1. Determine the site location, environment, and parameters through visual survey of extant elements, features, artifacts and documentation and mapping of exposed remains using trilaterated survey points and an onsite (submerged) datum. Additionally, document the site using photographs, video, and measured sketches of those architectural and archaeological elements that are diagnostic of a) vessel type, b) vessel age, c) vessel construction style and method, d) vessel propulsion, e) vessel use, f) vessel identification, g) vessel cargo, and h) shipboard human activity broadly indicative of occupation, status, ethnicity, subsistence or other questions allied with the study of maritime anthropology and Great Lakes social and economic history.

2. Provide assessment of a site's environmental and cultural context for determining its historic significance and archaeological potential according to the National Register of Historic Places criteria, recreational potential, and management requirements.

Site evaluation and documentation was conducted using traditional scuba and closed-circuit rebreather technology as well as ROV. Documentation included digital photo mosaics, photogrammetry, measured sketches, construction schematics, digital still and video imagery, and scaled site plans for National Register-level documentation. Analysis was conducted using comparative evidence obtained from archaeological surveys of similar sites and augmented by historical documentation relating to individual sites and general Great Lakes maritime history.

Where artifacts were encountered, material culture was interpreted in the context of its relevance to shipboard activities, shipboard hierarchy, shipboard activity/use areas, and other aspects of maritime anthropology.

This submerged cultural resource survey report serves as a source document for site descriptions, analysis, interpretation, and management recommendations used in cultural resource management planning, recreational development, and public education. It also serves as the source document for eligibility determination and nomination for listing on the National Register of Historic Places. Inclusion of these sites on the National Register and state resources management plans is an important step in achieving long-term site preservation. Suggested plans for management include mooring buoys to facilitate recreational access (where appropriate) and alleviate damage caused by on-site boat anchoring. Other possibilities include site interpretation for visitors through self-guided site maps and web-based pages. Site preservation ensures availability both as a future recreational resource and as an important and nonrenewable source of scientific data relating to Great Lakes underwater archaeology, maritime history, marine architecture, and maritime anthropology.

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CHAPTER TWO
SCHOONER *GENERAL WINFIELD SCOTT*

The schooner *General Winfield Scott* was constructed in 1852 at Black River, Ohio by Master Carpenter William Jones. The vessel was first enrolled at the port of Cleveland, Ohio, District of Cuyahoga without an official number. The schooner had a square stern, plain head, and measured 114.72 feet in length, 24.95 feet in beam, and 9.92 feet in draft with a carrying capacity of 295.87 tons (Bureau of Navigation 1852).

William August Jones was the eldest son in a family of prominent shipbuilders. He was born in Old Saybrook, Connecticut in 1806 to master builder Captain Augustus Jones. Augustus moved his family to Black River in 1818 following the loss of the family's shipyard at Essex by attack of British forces on 8 April 1814. At Black River, he constructed a yard and continued his shipbuilding career. William and his four brothers, Benjamin Buel (B.B.), George Washington, Frederick Nelson, and James Monroe, learned the trade alongside their father. William took over his father's business when he retired and was the only son to stay in Black River. The other brothers took their expertise to Buffalo, Detroit, Cleveland, and Milwaukee. Over the years William built over forty-five vessels at the Jones Shipyard and became a prominent and respected member of the community. After the tragic death of Jones's brother-in-law at his shipyard, Jones sold his shipyard and went into the shipping and retail grocery trade (Jones et al. 2015; Mansfield 1899; Williams Brothers 1879).

William Jones was listed as the owner of the *General Winfield Scott* when originally enrolled. However, additional documentation for that year reported the schooner's owner as R. Winslow of Black River (*Portage Sentinel* 1852). This information is supported by the vessel's 1855 enrollment (Bureau of Navigation 1855). The shipbuilder may have not received full payment for the vessel at the time of its first enrollment therefore listed himself as the owner until payment was met in full. The schooner's master was J.H. Mather.

Very little is known about *General Winfield Scott*'s first couple of seasons. In September 1852 the schooner ran aground in Saginaw Bay, Michigan. Reports indicate that the vessel could be easily "gotten off", but no further details of the incident were located (*Portage Sentinel* 1852, *Weekly Argus and Democrat* 1852).

The enrollment document was surrendered in April 1855 for a change in ownership. N.C. Winslow, administer of the estate of R.G. Winslow, became partial owner of the schooner with other heirs of the estate (Bureau of Navigation 1855). The Winslow family was considered the foremost ship owners on the lakes. Richard Winslow was the patriarch of the Winslow family. He was a direct descendant of Kenelm Winslow, brother to Edward Winslow, one of the *Mayflower* Pilgrims and Governor of the Plymouth Colony. Richard was a wealthy party in marine and internal affairs and moved his family and wealth from Ocracoke, North Carolina to Cleveland where he established a shipping line between Buffalo and Cleveland. In 1854 Richard retired from the shipping business leaving his interest to his sons Nathan Crane

Winslow, Richard Grandy Winslow, Hezkiah Jones Winslow, Rufus King Winslow, and Edwin Newton Winslow. Ownership of the schooner went to R.G. Winslow. Richard Grandy (R.G.) Winslow was the second eldest son, born in 1814, and owner of the schooner *General Winfield Scott.* Unfortunately, R.G. Winslow died the same year he became owner of the ship, leaving the ownership of the vessel to his estate (Bureau of Navigation 1855; Holton and Holton 1888; WBPC 1884). When the enrollment document was surrendered in April of the following year, brothers Edwin and Hezkiah Winslow were listed as equal owners of the schooner; the former as managing owner. Robert Anderson was listed as master of the *General Winfield Scott* for the 1856 season (Bureau of Navigation 1856). No other information could be found for this season.

Very little documentation was found for *General Winfield Scott*'s 1857 season. The *Buffalo Commercial Advertiser* (1858) published a casualty list for the season listing two accidents associated with the schooner, both occurring in Port Colborne, Ontario. First, the vessel collided with the propeller *Western Miller* resulting in the latter to lose its mainmast head and fore topmast. Second, *General Winfield Scott* scraped its hull on stonework causing it to sink at a property loss of $900. The vessel was pumped out and taken to Port Robinson, Ontario for repairs.

On 13 May 1858 *General Winfield Scott* cleared the port of Buffalo for Saginaw, Michigan (*Buffalo Daily Republic* 1858a). The schooner arrived on 3 September in Buffalo with 181,000 board feet of lumber consigned to the merchants Patten and Mundeback (*Buffalo Daily Republic* 1858b). In October the vessel cleared Milwaukee with a cargo of wheat for Ogdensberg, New York (*Milwaukee Daily Sentinel* 1858).

By May *General Winfield Scott* had begun its 1859 season. The vessel arrived in Buffalo with 100,000 shingles from Saginaw under command of Captain Isaac D. Stedman (*Buffalo Morning Express* 1859). The enrollment document was surrendered 6 August for a change of ownership. Edwin Winslow became sole owner of the schooner (Bureau of Navigation 1859). The *General Winfield Scott* not only transported lumber cargos, but occasionally carried mail, the *Daily Milwaukee News* (1859) mentioned that the schooner brought mail to the port of Milwaukee during the summer months. In November the schooner lost its anchors and chains and suffered $120 worth of hull damage and $320 worth of damage to its cargo. No further information about the incident was located (*Buffalo Morning Express* 1860).

Very little is known about *General Winfield Scott*'s movements between 1860 and 1863. In November 1860, the schooner lost a crewmember overboard. On its way from Kenosha, Wisconsin to Buffalo, deckhand David Reed was attempting to bring the anchor aboard the ship's rail when he fell overboard. Captain Steadman immediately lowered the small boat and began rescue operations, but the man could not be located (*Buffalo Daily Republic* 1860; *Buffalo Morning Express* 1861; *Chicago Tribune* 1860). In September 1861 the vessel was recorded passing Detroit upbound (*Chicago Tribune* 1861). The destination and cargo of the vessel were not listed. Between 1860 and 1863 seasonal casualty summaries reported accidents

involving the schooner. In 1860 *General Winfield Scott* was damaged by a gale while loading cargo at Kenosha (*Buffalo Morning Express* 1861). The following year the vessel sustained damage to its rigging in Lake Huron (*Buffalo Commercial Advertiser* 1862). In 1863 the schooner was damaged in a squall on Lake Michigan (*Buffalo Commercial Advertiser* 1863). No other information about these accidents was reported.

The enrollment document for *General Winfield Scott* was surrendered on 24 April 1863 for a change in ownership. Captain Sir Francis (S.F.) Drake became sole owner of the schooner and appointed A. Morgan as Master (Bureau of Navigation 1863). S.F. Drake was born in New York in 1818 and moved to Cleveland on the steamer *Enterprise* in 1832. Soon after his arrival Drake began an apprenticeship with shipbuilders Augustus and B.B. Jones where he learned the shipbuilding trade. Later he married Augustus' youngest daughter Maria Antoinette and became the brother-in-law to William Jones, the builder of the *General Winfield Scott.* By the time of his retirement, Drake was considered one of the most prominent lake men in Cleveland (Jones 2014; Van Rensselaer Wickham 1914; WRHS 1894). For the 1863 season the *General Winfield Scott* was only reported once, clearing Chicago for Buffalo with 12,925 bushels of corn (*Buffalo Courier* 1863).

The ship's enrollment document was surrendered on 11 April 1864 for a change in ownership. John Cassidy purchased a quarter share of the vessel from Drake. Cassidy also became Master (Bureau of Navigation 1864). The following year, C.J. King purchased a share in the vessel as well. For the 1865 season King owned half of the schooner while both Drake and Cassidy owned one quarter share each and Cassidy continued in command (Bureau of Navigation 1865).

In November 1865 *General Winfield Scott* stuck a reef at Point aux Barques, Michigan. The schooner was leaving Saginaw when it ran aground. Eight thousand board feet of lumber was thrown overboard to lighten the ship and clear the shoal. Little damage occurred to the vessel, but it went into dry dock at Detroit nonetheless (*Chicago Tribune* 1865; *Cleveland Daily Leader* 1865a, 1865b).

General Winfield Scott began its 1866 season with a change in ownership. Part owner C.J. King sold his share of the vessel back to S.F. Drake making Drake majority owner with three quarter shares and John Cassidy owner with one quarter share (Bureau of Navigation 1866). On 21 September, while entering the harbor at Buffalo, the schooner struck a rock and sustained damaged. The vessel was able to reach Stockwell's Dock where it sank. The following day the schooner *Comely,* under tow of the *Levi Johnson* ran into the sunken schooner damaging several of its yards. Four days after its sinking *General Winfield Scott* was raised and its cargo of iron ore was unloaded (*Buffalo Commercial Advertiser 1867; Buffalo Courier* 1866a, 1866b; *Chicago Tribune* 1866). At the beginning of December *General Winfield Scott* took ten days to cross Lake Erie due to weather. The schooner left Port Burwell, Ontario for Cleveland with a cargo of lumber, shingles, and lath. Bad weather caused the vessel to lose its deck load of shingles and arrive in port later than anticipated (*Daily Cleveland Herald* 1866).

In April 1867 Drake's brother Morris Jackson Drake purchased John Cassidy's one quarter share in the schooner. The enrollment document was surrendered listing S.F. Drake owning ¾ shares and M.J. Drake owning ¼ share of the vessel and L.A. Jones became Master (Bureau of Navigation 1867). *General Winfield Scott* arrived at Cleveland 15 November. It is unknown what port the ship called upon or its cargo (*Daily Cleveland Herald* 1867).

Major changes occurred for *General Winfield Scott* at the beginning of its 1868 season. Its enrollment document was surrendered for a change of owner and port of hail. The vessel was moved to Chicago and owned by equal partners John J. Maypole, William Daniel, J.W. Harrison, and Robert Peany, all from Chicago (Bureau of Navigation 1868). Under command of J.W. Harrison the vessel began its 1868 season. *General Winfield Scott* was reported loading lumber at Sturgeon Bay's lower mill on 18 May and its upper mill on 29 July (*Door County Advocate* 1868a, 1868b). The schooner cleared Chicago for Kingston, Ontario with a cargo of corn on 25 August and 6 October (*Daily Milwaukee News* 1868; *Detroit Free Press* 1868). In mid-November *General Winfield Scott* was dismasted on Lake Michigan. The schooner cleared Chicago for Green Bay to pick up a load of lumber when nefarious weather made the vessel lose its mast and take shelter in Manitowoc, Wisconsin (*Chicago Tribune* 1868).

In the spring of the following year William Daniel sold his quarter share to John Maypole making Maypole half owner of the vessel, and Harrison and Peany one-quarter owners. Harrison continued on as Master (Bureau of Navigation 1869). During the 1869 season *General Winfield Scott* brought multiple cargos of lumber from Menominee, Michigan to Chicago. On 1 July, 175,000 board feet of scantling and joists were sold from the schooner;170,000 board feet of scantling and joists were sold on 29 July and 2 August (*Door County Advocate* 1869a, 1869b; *Milwaukee Sentinel* 1869). While in port at Chicago on 7 November, *General Winfield Scott* collided with the barque *Lotus* damaging its taffrail (railing at the stern of the vessel) (*Chicago Tribune* 1869; *Daily Cleveland Herald* 1869; *Milwaukee Sentinel* 1869).

Very little is known about the movements of the *General Winfield Scott* for its 1870 season. Its enrollment document was surrendered on 13 April for a change in ownership. J.W. Harrison sold his shares of the schooner to H.K. Faith, leaving Maypole as one-half owner, and Faith and Peany as one-quarter owners. Its enrollment document also assigned the official number 10225 to *General Winfield Scott* for the first time. This number is handwritten on the form (Bureau of Navigation 1870).

General Winfield Scott continued its 1871 season carrying lumber from Menominee. The vessel arrived in Chicago with 190,000 board feet of strips, boards, and lath on 4 May and 245,000 board feet of lumber and lath on 28 June (*Door County Advocate* 1871a; *Milwaukee Sentinel* 1871a).

On 7 August 1871 the *General Winfield Scott* cleared Menominee for Chicago with a load of lumber. Passing through Death's Door passage the vessel encountered a heavy sea. Captain Faith managed to make it just off Spider Island when the schooner started to take on water. The

headsails were taken in, but while the crew was attempting to reef the mainsail the vessel capsized. The crew clung to the waterlogged hull for almost twelve hours until finally rescued by the schooner *Ethan Allen.* The schooner took the crew to Menominee where Captain Faith telegraphed Chicago about the accident. The capsized hull did not sink, but floated northward in the current where it ran aground on a Hog Island Shoal west of Washington Island. As the vessel broke up, fishermen and other inhabitants from Washington Island salvaged anything of value from the schooner including its cargo of lumber. *General Winfield Scott* was declared a total loss, valued at $10,000 and insured for $8,000 (*Buffalo Commercial Advertiser* 1871*; Door County Advocate* 1871b; 1871c; 1871d; *Milwaukee Sentinel* 1871b).

Site Description

The remains of the schooner *General Winfield Scott* (47-DR-0192) lie 0.5 miles southeast of the Eastside County Park, on Washington Island, Door County, Wisconsin in the waters of Lake Michigan. Two large portions of the wreck remain extant on a lake bottom of sand and bedrock in approximately 7 feet of water. The first section was relocated in 1988 using Loran-C coordinates and a visual survey by divers. Wisconsin Historical Society and East Carolina University maritime archaeologists and volunteers surveyed it the following year. Designated the lower hull section, this feature consists of bilges, keelson, and centerboard trunk assembly with additional construction components scattered around the site.

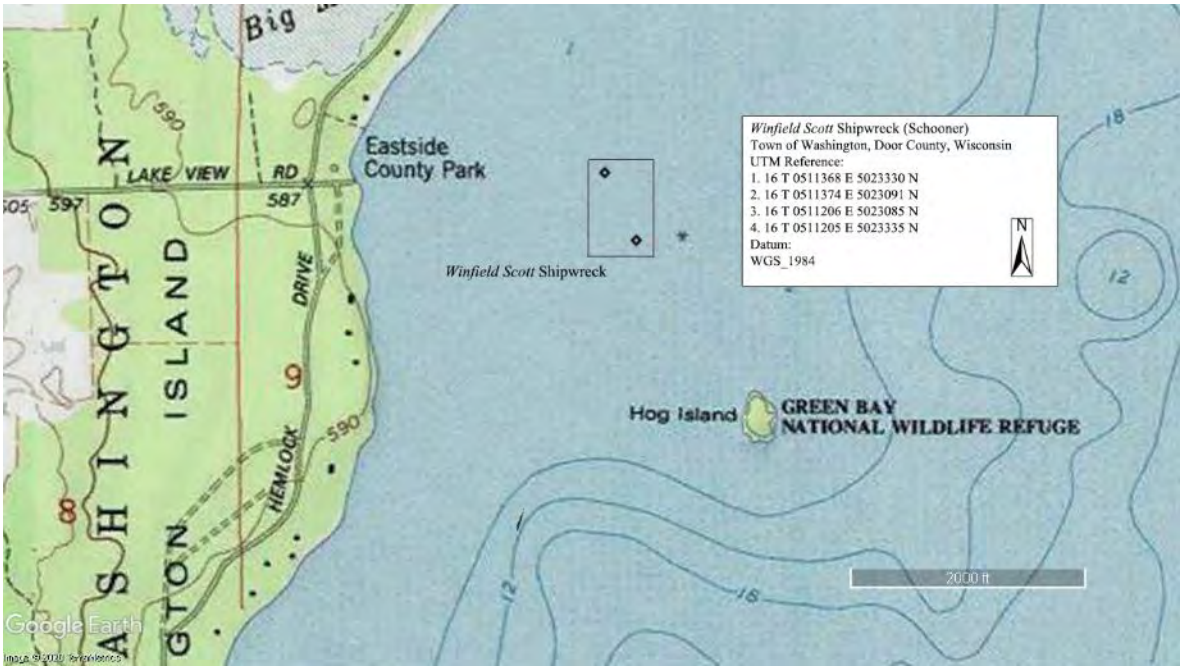

Figure 1. Location of the *General Winfield Scott* site

In October 2018 GPS coordinates for additional shipwreck pieces were reported in the area by recreational kayakers. In July 2019, a Phase II archaeological survey was conducted of the site by Society maritime archaeologists and volunteers. The Society used this opportunity to host a

field school to teach divers advanced archaeology recording techniques. This newly discovered portion consists of frames, ceiling planking, outer hull planking, and hogging arch and was identified as the starboard hull from the turn of the bilge to the bulwark. Given the wreck dimensions, location, and a comparison of previously documented material located in the vicinity, the remains of this new find were determined additional constructional components of the *General Winfield Scott* shipwreck. The lower hull portion surveyed in 1988 was revisited during the project and observations indicate that little site movement or damage has occurred since the time of the original survey.

Below is a comprehensive description of the *General Winfield Scott* shipwreck site containing information from both the 1989 and 2019 surveys. For consistency, measurements from the 1989 survey were converted from feet and inches to feet and tenth of inches. The original report from the 1989 survey was published in the report Survey of Submerged Cultural Resources in Northern Door County (Cooper 1989).

Lower hull

Figure 2. Lower hull of *General Winfield Scott* - keelson, floors, and turn of the bilge (Wisconsin Historical Society)

The lower hull section of the site lies at a northwest heading of 290 degrees in seven feet of water on a sandy bottom. The section consists of floors, keelson assembly, centerboard trunk assembly, and various debris scatter. During the 1989 survey, archaeologists installed a temporary baseline along the centerline of the ship and documented the site using measured drawings and video.

The main wreckage is double-framed with floors and frames measuring between 0.33 and 0.38 feet sided and 0.75 feet moulded. Each frame set measures 0.75 feet overall and is fastened with 0.06 feet in diameter drift pins that have been roved and peened.

The keelson assembly is extant over the majority of the site and consists of the keelson, starboard sister keelson, and two port sister keelsons. The keel of the vessel is buried in sediment so no measurement could be taken. The keelson measures 0.8 feet sided and 1.0 feet moulded. This timber extends 64.3 feet along the site and is fastened with 0.08 feet in diameter iron drift pins. One sister keelson lies to the starboard of the keelson near the bow. The timber measurse 24.0 feet long 0.45 feet sided and 1.7 feet moulded. Two sister keelsons are located on the port side of the keelson. The first port sister is located forward of the centerboard trunk closest to the keelson and measures 0.5 feet sided by 0.9 feet moulded with a length of 23.3 feet. The second port sister lies outward of the centerboard trunk and measures 1.2 feet sided, 0.5 feet moulded, and 24.3 feet in length. The two port sister timbers were used not only to provide more longitudinal support to the keelson but also to the centerboard trunk.

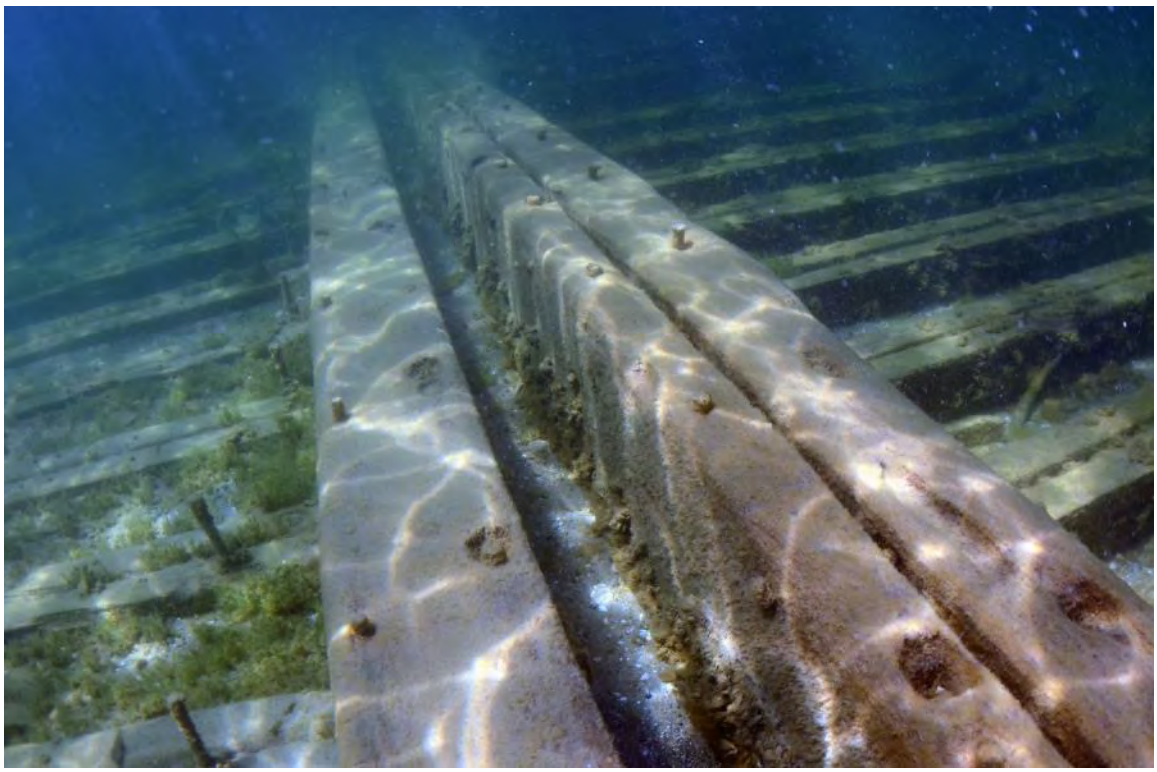

Figure 3. *General Winfield Scott*'s lower hull showing the keelson and offset centerboard trunk. (Wisconsin Historical Society)

The site contains the remains of an offset centerboard trunk. The centerboard trunk is located on the port side of the keelson and consists of a starboard pocket piece, centerboard slot, and port pocket piece and was fastened with 0.06 feet in diameter drift pins. Floors of the vessel could not pierce the centerboard trunk, so half-floors were made and fit into a notched timber called a pocket piece. The port pocket piece measures 0.9 feet sided by 1.7 feet moulded. The

centerboard slot measures 23.0 feet in length and 0.5 feet in width. The starboard pocket piece measures 0.45 sided and 1.7 feet moulded.

Figure 4. Pocket pieces on the port centerboard trunk of the *General Winfield Scott*'s lower hull. (Wisconsin Historical Society)

Ceiling and outer hull planking remain extant on site, fastened by 0.06 feet in diameter fasteners. Ceiling planking measuring between 0.6 feet and 0.9 feet in width and 0.08 to 0.13 feet in thickness. Outer hull planking varies between 0.8 and 1.5 feet in width with a thickness of 0.08 feet. A portion of the port side and stern quarters is located just south of the main wreckage aft of the mainmast step. The feature measures 22.92 feet in length and 12.67 feet in its entirety and consists of frame sets and outer hull planking.

Two mast steps are notched into the keelson. The foremast is located 13.0 feet forward of the centerboard trunk, measuring 2.2 feet in length, 0.58 feet in width, and 0.29 feet in depth. The mainmast is located 8.0 feet aft of the centerboard trunk, measuring 2.0 feet in length.

Additional structural components are scattered around the site, including the stempost and deadwood, sternpost, and possible centerboard. Approximately 50.0 feet north of the main wreckage lay the stempost and part of the bow deadwood mortised for the bow cant frames. The entire assembly measures 7.92 feet in height, vertically up the stempost, and measures 9.42 feet in length along the keel. The sternpost lies ninety-five feet northwest of the lower hull. This features measures 13.5 feet in length and contains the remains of an iron reinforcing piece or gudgeon strap. One hundred feet west of the lower hull lays a feature consisting of four edge-

joined planks likely the remains of the centerboard. The entire feature measures 22.42’ in length and 3.92’ in width. One end is cut in a curve; much like the leading edge of a centerboard while opposite this is a hole where the pivot pin would have been located. Aside from loose drift pins, no artifacts were found on site.

Figure 5. Stempost and deadwood of the *General Winfield Scott* (Wisconsin Historical Society)

Starboard Hull

Five hundred and seventy-nine feet southwest of the lower hull lays a portion of the starboard hull from the turn of the bilge to the bulwarks. During the 2019 survey, archaeologists installed a temporary baseline along the centerline of the ship, stretching 103.5 feet from the northernmost edge of the hull to the furthest extent of the remains. All measurements for the survey were taken from this baseline. The starboard hull is oriented on a heading of 20 degrees and measures 103.5 feet in length with a width of 11.0 feet and debris scatter extending 33.5 feet outward.

Thirty-eight frame sets remain extant on site. Measurements were taken at the turn of the bilge and each futtock measures 0.35 feet sided and 0.45 feet moulded. Frame sets measure a total of 0.75 feet sided and are spaces 1.2 feet apart. The frames are covered with ten outer hull planks and seven ceiling planks. The ceiling planking measures 0.2 feet thick and vary between 0.6 and 1.3 feet in width. The outer hull planking measures 0.15 feet thick and 0.6 feet wide. Planking and frames are fastened with roved and peened bolts measuring 0.1 feet in diameter.

Figure 6. Starboard hull section of the *General Winfield Scott* showing a bilge stringer, ceiling planking, lumber port, and frames. (Wisconsin Historical Society)

Figure 7. Ceiling planking, frames, and covering board (Wisconsin Historical Society)

Twenty-five bulwark timbers are placed in between the upper frame sets. The timbers measure 0.4 feet wide and 0.4 feet thick. Remains of a covering board can be seen in between the bulwark timbers atop the upper frames that measures 0.25 feet thick and 0.6 feet wide.

Figure 8. Bilge stringers located at the turn of the bilge (Wisconsin Historical Society)

Figure 9. Hogging arch located on the starboard hull. (Wisconsin Historical Society)

Multiple timbers are located near the turn of the bilge on the site. These timbers measure 0.5 feet wide, 0.55 feet thick, and between 33.0 and 33.5 feet in length. Each timber contains multiple notches to fit over other timbers. These notches are inset 0.15 feet but are not consistent in size or spacing; measuring between 0.8 and 1.1 feet in length and spaced between

2.1 and 5.8 feet apart. It is thought that these timbers may be some form of bilge stringer aiding in longitudinal support around the turn of the bilge.

Twelve feet of the vessel's hogging arch remains extant. The arch consists of two timbers and measures 0.8 feet wide and 0.4 feet thick. Two lumber ports were located on the piece. Each port measures 1.5 feet in height ,1.4 feet in width and are spaced 30.5 feet apart.

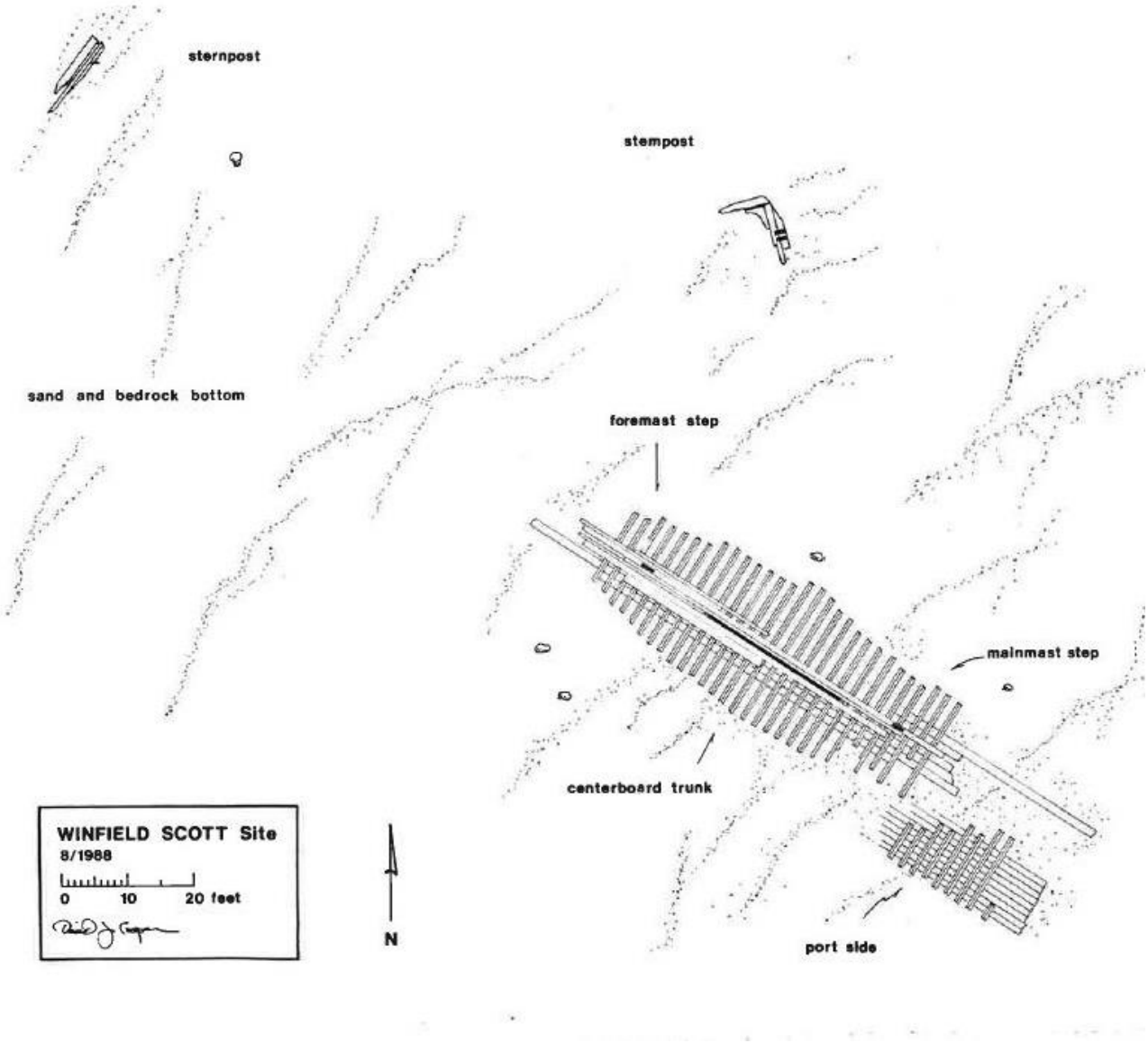

Figure 10. Site plan of *General Winfield Scott*'s lower hull created in 1988 (David Cooper, Wisconsin Historical Society)

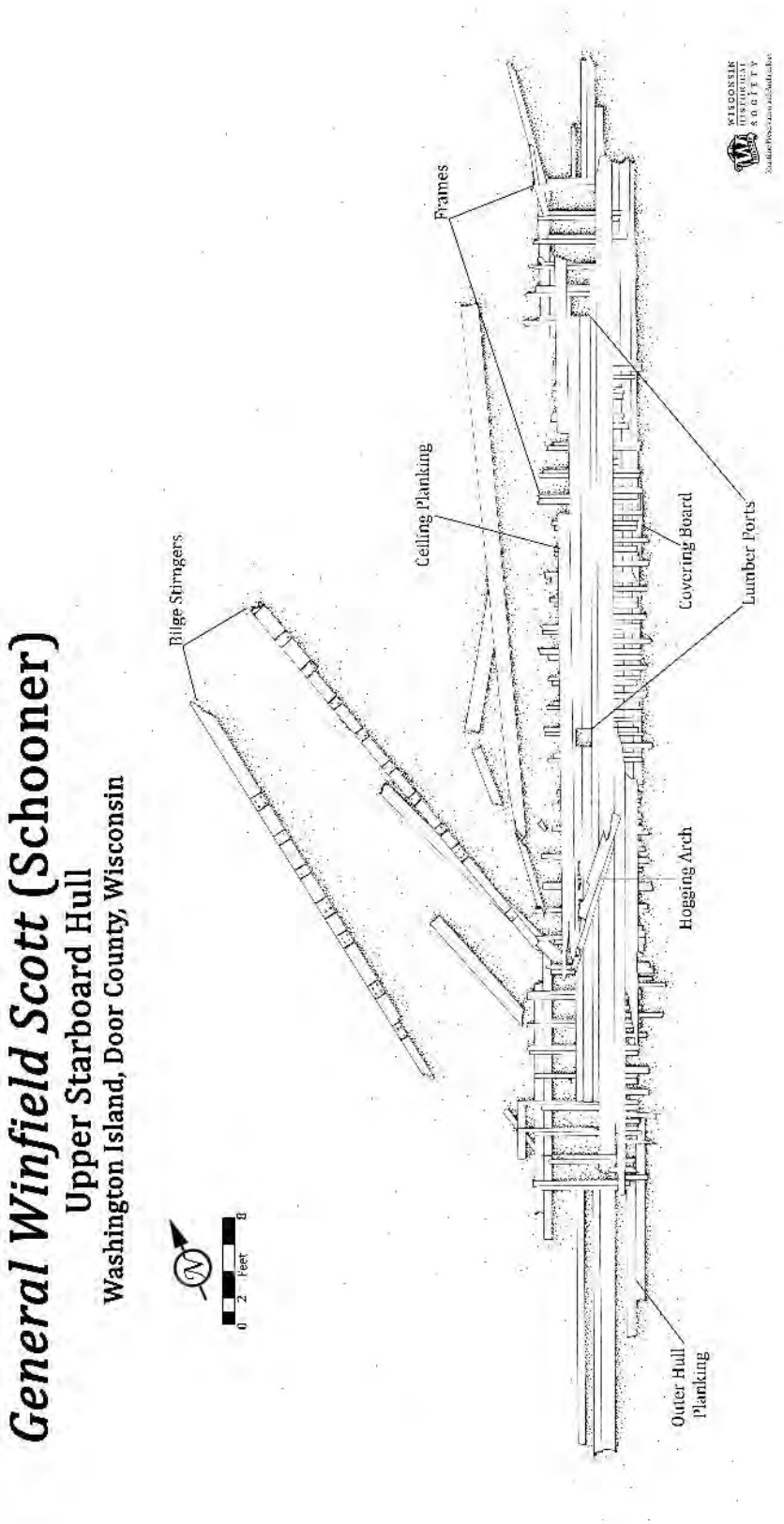

Figure 11. Site plan of *General Winfield Scott*'s starboard hull. (Wisconsin Historical Society)

CHAPTER THREE
TUG *ROBERT C. PRINGLE*

The steamer *Chequamegon* (US 127764) was launched in 1903 as Hull #1, the first ship constructed by the newly formed Manitowoc Shipbuilding & Dry Dock Company in Manitowoc, Wisconsin.

The well-respected Great Lakes shipyard was first established in 1873 as Rand & Burger. With the death of Mr. Rand in 1885, the firm became known as Burger & Burger -- run by cousins George and Henry Burger. The yard was known for its fine workmanship in the construction of wooden vessels and steamers. By mid-July 1902 a deal was struck for the purchase of the yard by Ellis Cornell and Charles West, formerly of the steel shipyard plant at South Chicago, and Thomas Prindeville, a Chicago vessel owner and insurance agent. The deal for over $100,000 also included land occupied by the Goodrich Steamship Company (on which Goodrich held a lease) and ground secured from the Wisconsin Central Railway to establish a steel plant (*Manitowoc Citizen* 1902a).

Historians argue that the *Chequamegon* may have been under construction by Burger & Burger and the contract for its construction transferred to the Manitowoc Shipbuilding & Dry Dock Company at the time the yard was sold. However, the contract for construction of the steamer was finalized by Louis Cartier representing the Chequamegon Bay Transportation Company with Manitowoc Shipbuilding & Dry Dock Company on 19 November 1902 for $26,000 (*Manitowoc Citizen* 1902b). The newly organized Chequamegon Bay Transportation Company of Ashland contracted the *Chequamegon* as the first new boat of their line to run an excursion route between Washburn, Bayfield, Ashland and Madeline Island. Banking on the interest of thousands of tourists that flocked to the area, the palatial steamer *Chequamegon* was to carry package freight and customers servicing all the principal summer resorts around the Apostle Islands in Lake Superior during the summer months and taking the place of a popular boat, *Plowboy*, which discontinued service. The company's members were Captain William Turgeon- President, Louis A. Cartier- Vice President, and Fred O. Tarbox - Secretary and Treasurer, all well-known in marine and railroad circles. The contract called for a delivery of the vessel by 1 May 1903 to meet excursion contracts held by the company (*Manitowoc Citizen* 1902b).

Despite frenzied work to meet the deadline over the winter months, *Chequamegon* was launched at 3:06 PM on Saturday, 9 May 1903. The final price was reported in the local newspapers at $30,000. Citizens lined both banks of the Manitowoc River just west of the Wisconsin Central Lift Bridge to watch the first ship of both new companies slide sideways down the ways. Christened by Eva Turgeon, daughter of Captain William Turgeon, the ship flew a Union Jack from her bow, the stars and stripes from her stern and a large banner bearing her name "*Chequamegon*" waved from a pole at amidships. Following the launch, the ship was pulled alongside the dock as company leaders and dignitaries adjourned for a luncheon (*Manitowoc Citizen* 1903a, 1903b, 1903c; *Washburn Times* 1903a, 1903b). The ship's

machinery and boilers were placed aboard on 21 May and work on the cabins and upper structures was completed the following week (*Manitowoc Citizen* 1903d).

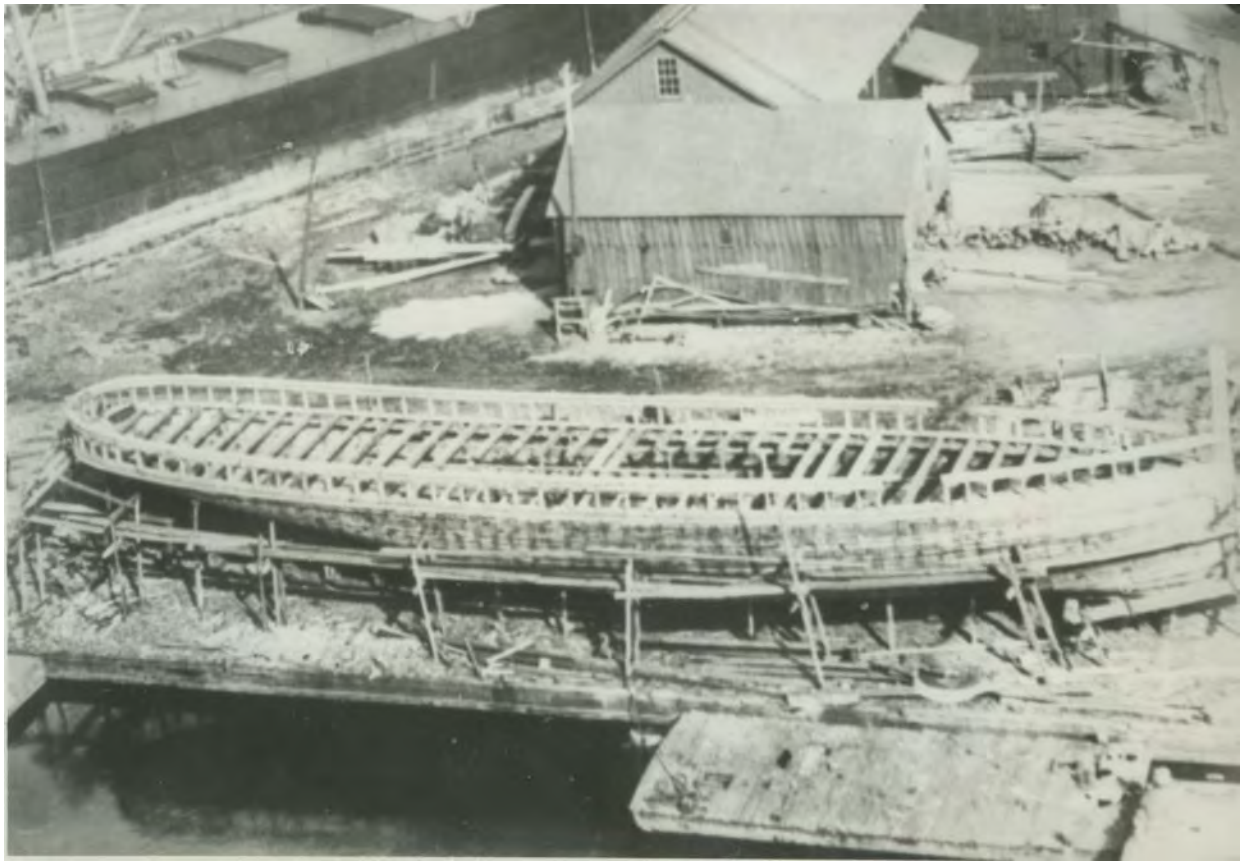

Figure 12. Historic image of the steamer *Chequamegon*'s construction at the Manitowoc Shipbuilding & Dry Dock Company in 1903. (C. Patrick Labadie Collection)

On 29 May 1903 Captain William Turgeon applied to the U.S. Customs Service for an official number and signal letters for his vessel and on 1 June 1903 Commissioner of Navigation at the Port of Milwaukee Collector's Office assigned the Official Number 127764 for the *Chequamegon.* A temporary enrollment was issued in Milwaukee on 13 June 1903 indicating the Chequamegon Bay Transportation Company was sole owner of *Chequamegon*. The document listed Ashland as her homeport and William Turgeon her Master. Although, on the same day as filing for the vessel enrollment, a change of Master was entered when Captain William Patterson took command in lieu of William Turgeon (Bureau of Navigation 1903a, 1903b).

The vessel was described as a screw steamer built of wood with two decks, no masts, a plain head, and rounded stern. She measured 101 feet long, 22.4 feet breadth, and a 9.6-foot depth of hold with a capacity under her tonnage deck of 120.45 tons and capacity of enclosures on the upper deck of 21.16 tons, for a gross tonnage of 141 tons. After deductions under the Act of 2 March 1895 of 28.66, her net tonnage was calculated at 112 tons (Bureau of Navigation 1903a, 1903b). Newspaper reports add further description of the vessel indicating that no expense was

spared in fitting her out. Her cabins were finished with oak woodwork and upholstered furniture was placed throughout; the main saloon was located on the main deck and a ladies' cabin with a piano was located on the upper deck. The dining room was located below decks forward and the crew's quarters aft. Her triple expansion engine had cylinders 12 x 9 x 32 and a 20-inch stroke and were installed by the Montague Iron Works, producing 500 horsepower and turning a 7 ½ ft. steel wheel 200 revolutions giving the boat a speed of 18 miles per hour. Steam was supplied from a Scotch boiler measuring 10.5 by 11 feet built by Johnson Bros. Co. of Ferrysburg, Michigan, which produced steam pressure of 175 pounds. The ship was fitted with both a steam steering gear and steam windlass. Electric lighting was strung throughout the vessel and a powerful searchlight was placed on her bow to enable night excursions. All lighting was powered from a dynamo furnished by Bailey & Sons of Milwaukee and installed by Wm. Meuman & Co. of Ashland. She carried two Patent anchors weighting 750 pounds each and each with 90 fathoms of 13—16 cable chain. Leading her initial crew was Captain William Turgeon, Master of Ashland; Louis A. Cartier, Purser of Ashland, and William Gribling, Engineer also of Ashland. Her carrying capacity was defined as 500 persons (Bureau of Navigation 1903a, 1903b; *Manitowoc Citizen* 1903b, 1903c).

Just days ahead of the arrival of the *Chequamegon* in Ashland, the Chequamegon Bay Transportation Company announced the purchase of the steamer *Skater* of Cleveland to add to its fleet. The vessel had been reportedly sold to Captain Brower of the *Lucile* to serve in a competitive line to the Chequamegon Bay Transportation Company steamers, but there appeared to have been a mistake in the sale, and Captain Turgeon went to Cleveland to bring the *Skater* to Ashland with a scheduled arrival of 14 June (*Washburn Times* 1903c).

After delivery of the *Chequamegon* and with temporary enrollment paperwork taken care of, *Chequamegon* departed Milwaukee immediately for Ashland. The Brotherhood of Railway Trainmen hosted the initial two excursions from Ashland to Madeline Island aboard *Chequamegon* on 21 June 1903 in honor of F.O. Tarbox who had formerly served as Assistant Superintendent of the Ashland Division of the C & NW Railroad – the fare was 50 cents (*Advocate* 1903; *Ashland Weekly News* 1903a). The patronage on the excursion trips from Ashland was so great that the steamer did not stop at Washburn to take on additional passengers as she was unable to accommodate them. That evening the boat laid at the Ashland dock where it was viewed by over one thousand visitors. The next day, 22 June, the vessel came into Superior to register W.A. Pringle as her new Master. On 23 June her temporary enrollment was surrendered at Marquette, Michigan and a new permanent enrollment was entered for the vessel (Bureau of Navigation 1903a, 1903b; *Washburn Times* 1903d).

Chequamegon began regular service along with the company's other steamer the *Mary Scott* on Chequamegon Bay making two daily trips from Ashland to Washburn, Madeline Island, and Bayfield - leaving Ashland at 9AM and 2PM, and Washburn at 935AM and 235PM. Together the two ships covered of all the excursion business in the area for summer. The *Skater*'s arrival

was further delayed. (*Ashland Weekly News* 1903b; *Manitowoc Citizen* 1903c; *Washburn Times* 1903c, 1903d).

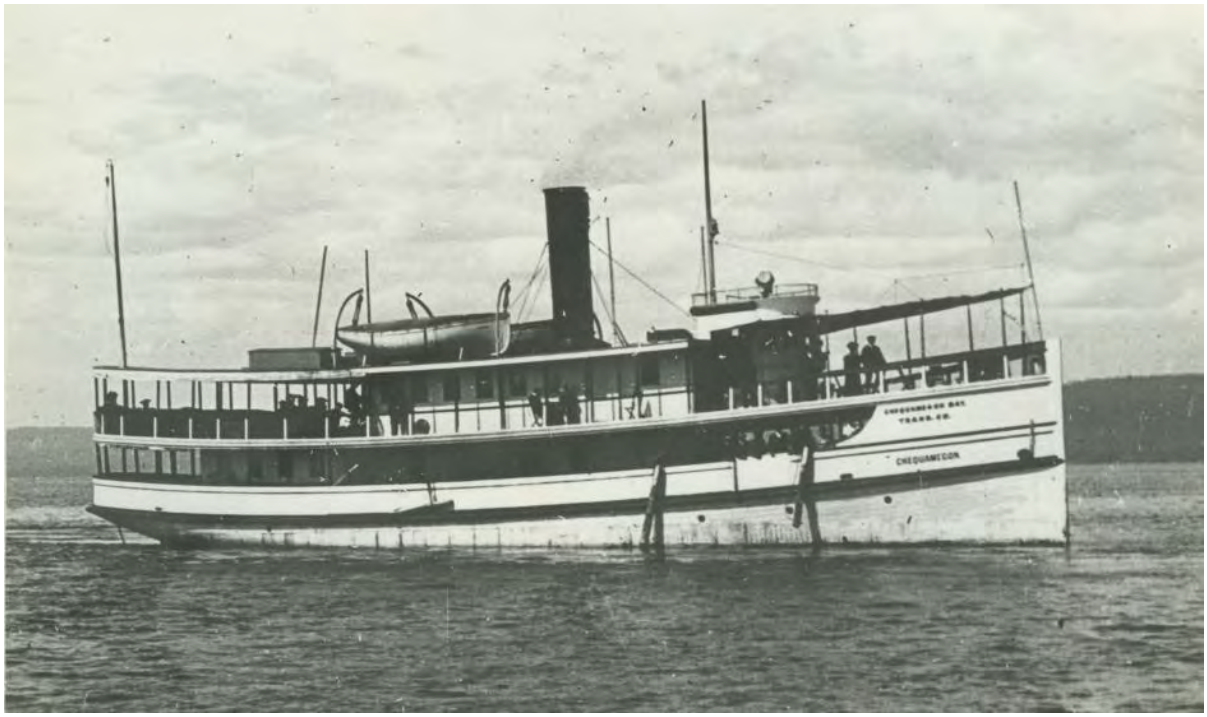

Figure 13. *Chequamegon* near Bayfield, Wisconsin circa 1903 (C. Patrick Labadie Collection)

In July 1903, several parties enjoyed excursions aboard the *Chequamegon* including The Epworth League of the Methodist Church, and The State Elks (of which Louis Cartier was State Secretary) enjoyed an excursion on the new boat at the Elks State Convention held at Ashland. The searchlight was used for night excursions and proved a hit amongst patrons. The company also explored a partnership with the Omaha Railroad to bring a "Homeseekers Excursion" from Iowa to the region at $5 per ticket to include rail transportation and sightseeing aboard the *Chequamegon* (*Washburn Times* 1903e, 1903f, 1903h, 1903i; *Manitowoc Citizen* 1903c).

At the port of Ashland on 11 July 1903 Captain Turgeon took command in lieu of W.A. Pringle (Bureau of Navigation 1903b). However, by the end of July, it was announced that *Chequamegon* would discontinue its Saturday and Sunday night trips to Madeline Island for the balance of the season. By mid-September all trips to the island were discontinued and the ship was moved to Duluth to receive a new propeller in the hopes of improving her speed (*Washburn Times* 1903g, 1903i, 1903j).

Fall excursion trips around the Apostle Islands to take in the scenery and fall colors occurred on 26 and 27 September, and 10 and 11 October. For these events the boat departed Washburn at 10:25 AM and returned at 4:30 PM with coffee served on board for a fare of fifty cents. Captain Chas H. Hale took the wheel in lieu of William Turgeon for these fall excursions (Bureau of Navigation 1903b; *Washburn Times* 1903k, 1903l).

Captain Turgeon brought the steamer *Skater* up to Ashland from Cleveland in mid-November after the courts determined that she was indeed the property of the Chequamegon Bay Transportation Company - the result of litigation entitled Brower v. Lavinge. In the spring Captain R.R. Brower secured an option to buy the steamer *Skater* to put the boat in competition with the Chequamegon Bay Transportation Company. Lavinge then agreed to sell the steamer to the Chequamegon Bay Transportation Company, but before the sale was finalized Brower secured an injunction and caused the boat to be tied up in Cleveland for the summer as he sought damages. Newspapers reported that *Skater* would be put on *Chequamegon*'s route for the 1904-season, and there was much concern about what the company would do with the *Chequamegon* (*Duluth News Tribune* 1903; *Washburn Times* 1903m).

At the opening of the 1904-season, it was announced that *Chequamegon* would be moved to Milwaukee. It was reported that the company intended to keep the boat in Milwaukee for the summer, but she would overwinter in Ashland. A final cruise was made from Ashland, Washburn and around the islands on 21 May 1904, and on 22 May, *Chequamegon* departed for Milwaukee in order to join Decoration Day celebrations in the city (*Duluth Evening Herald* 1904; *Washburn Times* 1904a, 1904b).

On 10 June 1904, Captain C.C. Fowler took command from Chas H. Hale at Milwaukee, and George Coons was appointed Mate. Fowler was renowned as the tallest Captain on the Great Lakes standing six feet, nine inches tall. Beginning in June 1904, the *Chequamegon* transported passengers during the summer months from Milwaukee's Grand Avenue Bridge to Pabst's Whitefish Bay Park, a popular resort for picnics and outdoor recreation. At the end of August 1904, E.J. Watson took over local management of the vessel and added bulwarks to her lower deck as she entered into a charter contract with the Benton Transit Company. For this new line of work, *Chequamegon* ran a daily route (excluding Saturdays) between Benton Harbor, Michigan and Milwaukee. For thirty cents passengers could leave the Benton Transit Company dock at the foot of 7th Street in Benton Harbor at 7:30 PM, or the Graham dock in St. Joseph at 9 PM and arrive at Milwaukee around 6 AM. Besides passenger service, the ship specialized in transporting fruit and package freight. The boat was said to have a carrying capacity of 40,000 fifth baskets. Shipping by boat (instead of rail) avoided damaging delays commonly caused by the bottleneck of the Chicago railyards (*Advocate* 1904a; Bureau of Navigation 1903b; *Dobbs Ferry Register* 1906; *News-Palladium* 1904a, 1904b).

Chequamegon damaged her propeller coming into Milwaukee 12 September and missed her trips the following day while repairs were made. By 8 October with difficulty securing further shipments, *Chequamegon* was tied up at Ludington and put away early for the winter months (*Herald-Press* 1904; *Advocate* 1904b).

The ship's enrollment document was surrendered on 7 April 1905 at the port of Marquette for a change in managing owner -- Louis A. Cartier became Chequamegon Bay Transportation Company's President. Captain C.C. Fowler remained at her helm and Ashland remained her homeport. All other information remained unchanged. *Chequamegon* was placed back on her

regular excursion route between Milwaukee and the Pabst's Whitefish Bay Resort for the beginning of the season. On 9 June *Chequamegon* took the grand officers, delegates and members of the Danish societies of Racine, Kenosha, Chicago, and Pullman on an afternoon cruise from Racine to Milwaukee and back as part of their triennial meeting in Racine (*Alpena Evening News* 1905; Bureau of Navigation 1905a; *Kenosha News* 1905).

At the beginning of June, Louis Cartier announced plans for a grand excursion that would take *Chequamegon* more than 17,000 miles. The ship was to leave the Great Lakes at the end of the month via the St. Lawrence River and round Cape Horn, making her way to San Diego, California were the vessel would enter into passenger and freight service between that city and Catalina Island. Planning went so far as selecting coaling stations along the South American coast and estimating expenses of the trip for a group of guests selected exclusively by the invitation of Mr. Cartier. Newspapers across the country covered the story, however the trip never happened. On 20 June, *Chequamegon*'s enrollment document was surrendered at the Port of Marquette indicating the property had changed. *Chequamegon* remained on Lake Michigan running between Milwaukee and Whitefish Bay until reentering the fruit trade at the beginning of September (*Advocate* 1905; *Alpena Evening News* 1905; Bureau of Navigation 1905a, 1905b; *Detroit Free Press* 1905; *News-Palladium* 1905; *San Francisco Examiner* 1905; *Washburn Times* 1905a, 1905b).

By mid-August Louis Cartier relocated to Ludington, Michigan. Along with St. Joseph shipping agent, J.M. Hetler, the two men arranged dock space at the McMichael Terminal at the foot of 9th Street in Benton Harbor and the E.A. Graham dock in St. Joseph and shipments from the cities to Milwaukee commenced on 3 September 1905 (*News-Palladium* 1905). The fruit business proved lucrative and ran into November. During the first week of November steamboat inspectors at Grand Haven, Michigan suspended Captain C.C. Fowler's license for sixty day after discovering that *Chequamegon* did not have a metal lifeboat as was required by law. On 10 November 1905 at Port of Marquette, Captain J.W. Bennett registered as Master (Bureau of Navigation 1905b; *Detroit Free Press* 1905).

Of note, a news story appeared in early 1906 indicating that during C.C. Fowler's term at *Chequamegon*'s helm, he operated the vessel between St. Ignace, Michigan and "The Snows" (Les Cheneaux Islands, a resort area in Michigan's Upper Peninsula). Mention of this from other sources has not been located (*Dobbs Ferry Register* 1906).

During the 1906-season, *Chequamegon* continued her excursion contract for Pabst's Whitefish Bay Resort carrying over 70,000 people between Milwaukee and Whitefish Bay. Several changes occurred at her helm throughout the season. On 28 April 1906 at the Port of Ludington, Captain Bernard J. Gellick took command from J.W. Bennett. Captain Gellick was replaced by Frank Butler at Ludington on 12 May 1906, however two days later Captain Gellick returned to command. On 13 August 1906 at the Port of Milwaukee Captain Butler became Master. *Chequamegon* finished her contract with Pabst's Whitefish Bay Resort at the beginning of

September and reentered the Michigan fruit trade (*Advocate* 1906; Bureau of Navigation 1905b).

Figure 14: Postcard of *Chequamegon* as an excursion steamer servicing the Pabst resort, circa 1909 (C. Patrick Labadie Collection)

On 22 April 1907 Louis Cartier sold *Chequamegon* to R. Floyd Clinch of the Traverse Bay Transportation Company. Her enrollment document was surrendered at the Port of Chicago for change of owner and district. R. Floyd Clinch of Chicago became sole owner and Master and Chicago became *Chequamegon*'s new homeport (Bureau of Navigation 1907). It wasn't until the middle of June that Captain Clinch delivered the boat to Traverse City. *Chequamegon*'s entry into the bay marked the first boat of the season into Traverse City and *The Traverse City Record-Eagle* called her "the finest bay boat" that ever worked their waters. On 14 June 1907 at the Port of Charlevoix, Michigan, Captain Charles A. Webb became her new Master. Her first charter out of Traverse City was for the Annual Senior Excursion to Charlevoix. The group departed at 5AM on 16 July 1907 and returned at 5AM the next day. Seventy-five seniors and friends took the trip, taking in a ball game played between the local high school and Charlevoix. Throughout the season she was run between Traverse City and Charlevoix and was finally laid up for the season at the end of the fall fruit trade during the first week in October (Bureau of Navigation 1907; *Ludington Chronicle* 1907; *St. Joseph Saturday Herald* 1908; *Traverse City Record-Eagle* 1932).

A new enrollment was issued for the ship on 28 February 1908 for an owner change when R. Floyd Clinch transferred title to the boat into the name of his company - Traverse Bay Transportation Company. On 7 March 1908 Captain Chas A. Webb took command over R. Floyd Clinch at Grand Haven. On 2 June, Captain Webb moved the boat to the shipyard at Sturgeon Bay to receive a new propeller with the hopes of increasing her speed. The new propeller was a 9.5-foot Trout wheel purchased from H.G. Trout Co. of Buffalo and was two feet larger than her old wheel. While out of the water, other repairs were made to her hull. She was out of service for nearly a week before returning to the run between Traverse City and Charlevoix (*Advocate* 1908; Bureau of Navigation 1908). Traverse Bay Transportation Company intended to keep the ship in the Michigan fruit trade in the fall, but with the failure of the season's apple crop, the *Chequamegon*'s last run of the year occurred on 20 September (Bureau of Navigation 1908; *St. Joseph Saturday Herald* 1908).

Throughout the 1909-season, *Chequamegon* stayed on the summer tourist excursion route between Traverse City and Charlevoix. Little is known of her schedule, special trips or fares. The 1909 U.S. Merchant Vessel List recorded *Chequamegon* as a passenger steamer with a crew of five persons. On 18 August 1909, the steamer's cook, Sanford M. Silver fell overboard and drowned in Northport Harbor. His body was recovered a week later by Jacob Van Atta, who had been dragging the bottom for him (Bureau of Navigation 1910; *Detroit Free Press* 1909). No reports for the vessel were located for 1910.

A new enrollment was taken out for *Chequamegon* at the port of Chicago on 16 January 1911 for a change in owner. James F. Gallaher, acting as agent for the Pere Marquette Line of Steamers, enrolled the ship as *Chequamegon* of Michigan City, Indiana and became her new Master. After permissions were granted from the U.S. Bureau of Navigation, dated 19 January 1911, on 30 January 1911 another enrollment was issued for name a change from *Chequamegon* to *Pere Marquette 7* (Bureau of Navigation 1911a, 1911b).

Newsprint indicated that the ship would be under the command of Captain W.H. Van Dyke, who previously captained the company's smaller steamer *John D. Dewar,* however at the port of Manistee on 16 March 1911 Captain August E. Anderson took over as Master from James F. Gallaher. With navigation open on Grand Traverse Bay on 20 March 1911, Captain Anderson brought the boat from Traverse City to Manistee to be fitted out for the season. Two days later Captain Van Dyke finally took command and the boat was placed on a run from Ludington to Pentwater and on to St. Joseph. During the fruit season, the ship was placed on the route between Pentwater and Milwaukee (*Advocate* 1911; Bureau of Navigation 1911a, 1911b; *Buffalo Courier* 1911; *Herald-Press* 1911).

On 30 January 1912 at the port of Manistee Gus Kitzinger, President of the Pere Marquette Line of Steamers, took command from Captain Van Dyke, and on 20 February 1912 the vessel's enrollment was surrendered at the port of Grand Haven for property and district changes. A new enrollment was issued indicating that Gus Kitzinger was sole owner and Master of the ship, and

that Manistee, Michigan was her new homeport. On 8 July 1912 at the port of Ludington, Captain W.H. Van Dyke returned to her helm (Bureau of Navigation 1912).

A new enrollment form was issued for the vessel on 20 February 1913. On 1 April 1913 Captain Michael Martin became Master in lieu of W.H. Van Dyke, however Captain Van Dyke returned to command the next day (Bureau of Navigation 1913). On 21 June 1913, the Pere Marquette Line opened the new West Shore Line between Chicago, Waukegan, Kenosha, Milwaukee and Port Washington with the steamer *Pere Marquette 6* running from Chicago to Waukegan and Kenosha connecting at Kenosha with the *Pere Marquette 7* for Milwaukee and Port Washington. It ran as a daily year-round service to accommodate express freight deliveries between the ports - leaving Chicago and Milwaukee at night and delivering freight at all ports within six hours. To work with Captain Van Dyke, Grant Minor of Sturgeon Bay was selected as Mate (*Lansing State Journal* 1913; *Herald-Press* 1913; *Sturgeon Bay Advocate* 1913).

A Wisconsin Press outing accommodated members, their wives and families for a ride on Lake Michigan on 5 and 6 August 1913. The group left Gimbel's Dock in Milwaukee at 4 PM and returned at 5:30 AM the following morning. While exiting the harbor at Kenosha on 14 August *Pere Marquette 7* churned up the body of Floyd Knickerbocker, a boy who drowned in the lake between the outer breakwater and the north pier on 10 August 1913. The steamer was recorded entering the harbor at Manistee on 2 November likely an indication of the ship returning to the fall fruit trade. A change in Masters occurred at Milwaukee on 23 December 1913 with Captain Michael Martin taking command (Bureau of Navigation 1913; *Journal Times* 1913; *Oshkosh Daily Northwestern* 1913; *Times Herald* 1913).

Figure 15. The excursion steamer as the *Pere Marquette* #7, circa 1915 (C. Patrick Labadie Collection)

By mid-February 1914 Grant Minor returned to his home in Sturgeon Bay from his season aboard the *Pere Marquette 7* to study navigation and go after a higher license (*Sturgeon Bay Advocate* 1914). The ship's enrollment was renewed at the Port of Milwaukee on 25 February 1914 and on 18 March she received a new Master when Captain W.E. Stufflebeam took command. Captain Van Dyke returned on 3 April 1914 (Bureau of Navigation 1913).

In April 1914, *Pere Marquette 7* entered the shipyard at Sturgeon Bay for overhauling and repainting (*Sturgeon Bay Advocate* 1914). Captain Michael Martin took command at Milwaukee on 8 June 1914, but Captain Van Dyke returned as Master at Milwaukee on 16 June 1914. Captain John Eble took command at Milwaukee on 25 June 1914, and Captain Van Dyke returned to her helm at Milwaukee on 7 July 1914 (Bureau of Navigation 1913). *Pere Marquette 7* was marked passing through Sturgeon Bay on 15 November. She passed through on her way north and came back through the same day – her destinations are not known (*Door County Democrat* 1914; *Sturgeon Bay Advocate* 1914).

An endorsement of renewal was filed at the Port of Manistee on 20 February 1915. One incident of note occurred on 7 May 1915. The Ludington – Pentwater Life Saving Station responded to the *Pere Marquette 7* when she stranded south of Ludington off a ravine known as King's Kanyon and assisted in refloating the stranded steamer. The report of the station noted that there were sixteen people aboard at the time of stranding, but also valued the vessel at $15,000 and its cargo at $5,000 (Bureau of Navigation 1913; U.S. Coast Guard 1915). The vessel wintered over at Manistee (*Buffalo Commercial* 1916).

Fiscal year 1915 brought the Pere Marquette company revenues of more than $18 million. Even with this profit, company debts of more than $73 million threatened the sale of the line at auction. Appeals to thwart the sale made their way to the U.S. Supreme Court. Throughout this legal battle the company sought to liquidate of some of its assets. Ultimately Pere Marquette's fleet was able to stay in service through the establishment of the Lake Michigan Carferry Association, which formed when the government consolidated rail service in 1918 at the beginning of World War I, however the *Pere Marquette 7* had already been sold by this time (Pere Marquette Railway 1915, 1916, 1918).

Little is known of *Pere Marquette 7*'s service between 1916 and 1918. Her enrollment was renewed at the Port of Manistee on 23 February 1916. On 23 June 1916 Captain Benjamin Lewis stepped in as Master and on 16 October 1916 Captain William C. Danforth replaced Lewis. Both Master changes occurred at Manistee (Bureau of Navigation 1913). An endorsement of renewal was filed at the Port of Manistee on 26 February 1917. At the end of March 1917, the *Door County Democrat*, *Escanaba Morning Press* and *Sturgeon Bay Advocate* printed articles announcing the purchase of *Pere Marquette 7* by the Escanaba & Garden Transportation Company to run on the Green Bay line. These reports were erroneous however and the ship remained the property of the Pere Marquette line. On 23 July 1917 at the port of Manistee, Captain Benjamin Lewis took command in lieu of William C. Danforth (Bureau of

Navigation 1913; *Door County Democrat* 1917; *Escanaba Morning Press* 1917; *Sturgeon Bay Advocate* 1917).

On 18 February 1918 at the port of Manistee the ship's enrollment was renewed for the year by Pere Marquette line president, Captain Gus Kitzinger and he took command of the vessel in lieu of Benjamin Lewis (Bureau of Navigation 1918). She received a Master change again at Manistee on 22 June 1918 by Captain Walter R. Pringle. Finally, an announcement of the sale of the ship to the Pringle Barge Line of Mentor, Ohio appeared in the *Sturgeon Bay Advocate* in June 1918 and Captain Pringle, acting in his capacity as Secretary of the Pringle Barge Line Co. and vessel Master moved the boat to Lake Erie where she received a rebuild of her machinery and hull at Sandusky, increasing her capability to tow barges (Bureau of Navigation 1913; *Sturgeon Bay Advocate* 1918). *Pere Marquette 7*'s enrollment document was surrendered on 19 August 1918 at the port of Sandusky for a change in property, district, rig and tonnage (Bureau of Navigation 1913; 1918a).

Figure 16. The newly converted tug *Pere Marquette #7* owned by the Pringle Barge Line, circa 1918 (C. Patrick Labadie Collection)

A new temporary enrollment was issued on 19 August 1918 at Sandusky following the vessel's rebuild. The document explained that modifications to the vessel were performed by Walter Pringle in capacity of Master Carpenter and that he was her rebuilder. The ship was placed into towing service with a crew of ten men, where Walter R. Pringle remained her Master, and her

homeport was changed to Fairport, Ohio. The ship's capacity under tonnage her deck was recalculated at 120.45 tons, with capacity of enclosures on upper deck (poop 9.10 tons and houses 12.02 tons) of 21.12 tons, for a gross tonnage equaling 141.57 tons. After deductions of 8 tons for crew space, 3.31 tons for Master's cabin, 37.22 tons allowed for 32% of gross, and 45.30 tons for propelling power (actual space), this calculated out for a deduction of 57.32 tons and a net tonnage for the vessel of 84 tons. Described spaces that were omitted included the boiler house, engine room, water closet and companionways equaling 28.16 tons, pilothouse of 4.75 tons, and light and air of 1.43 tons (Bureau of Navigation 1918a). A permanent enrollment was issued at Cleveland on 30 August 1918 as the ship arrived home (Bureau of Navigation 1918a, 1918b). The tug's Master changed at the port of Toledo on 15 September 1918 when Captain M.B. Glockle assumed command in lieu of Walter R. Pringle (Bureau of Navigation 1918b).

At this time the Pringle Barge Line Co. petitioned for the name of the vessel to be changed to *Robert C. Pringle*. The changed was permitted on 18 October 1918 and a new enrollment was issued for the ship at the port of Cleveland. The only other change to her document was a reduction in the crew number to nine. All other information remained the same (Bureau of Navigation 1918b, 1918c; *Cleveland Plain Dealer* 1918).

At the beginning of November 1918 *Robert C. Pringle* and the steamer *Normandie*, also of the Pringle line were requisitioned by the government to move large lake vessels through the Welland Canal. These vessel had been taken over by the government and deconstructed into pieces, and were being moved to the ocean for use in the war effort. This assignment was brief as Armistice Day, and the end of World War I, arrived only days later (*Sandusky Star-Journal* 1918). The U.S. Merchant Vessel Lists of 1919 and 1920 suggests that the tug's name was changed during this brief period of government service to *Henry R. Heath* commemorating Henry Roswell Heath, respected Union soldier and champion of veteran's interests from the Thousand Islands area of New York State. No other documents have been located in regard to the vessel's service during this period (Bureau of Navigation 1919; 1920, 1921).

Newspaper reports are sparse in the years following the war. *Robert C. Pringle* is listed passing Detroit up bound on 1 July 1919, her consort and destination was not reported. By September of 1919, the availability of coal cargos was lacking so that tug *Robert C. Pringle* and the Pringle-owned barges *Chattanooga* and *Iron Cliff* were indefinitely tied up. However, on 2 November 1919, *Robert C. Pringle* cleared the port of Sandusky with the schooner *Golden Age* bound to Ashtabula, Ohio to take on a cargo of coal at that port (*Buffalo Commercial* 1919; *Buffalo Enquirer* 1919; *Sandusky Star-Journal* 1919).

The *Door County Advocate* reported that a Sturgeon Bay man, Jack Anderson departed for Cleveland, Ohio at the beginning of June 1920, to work aboard the tug with his father, Captain Albert Anderson, who was in command. Captain Anderson's time at the helm was not, however, recorded on the vessel's enrollment document and no reports of passages or clearing have been located for the vessel for 1920 (*Door County Advocate* 1920).

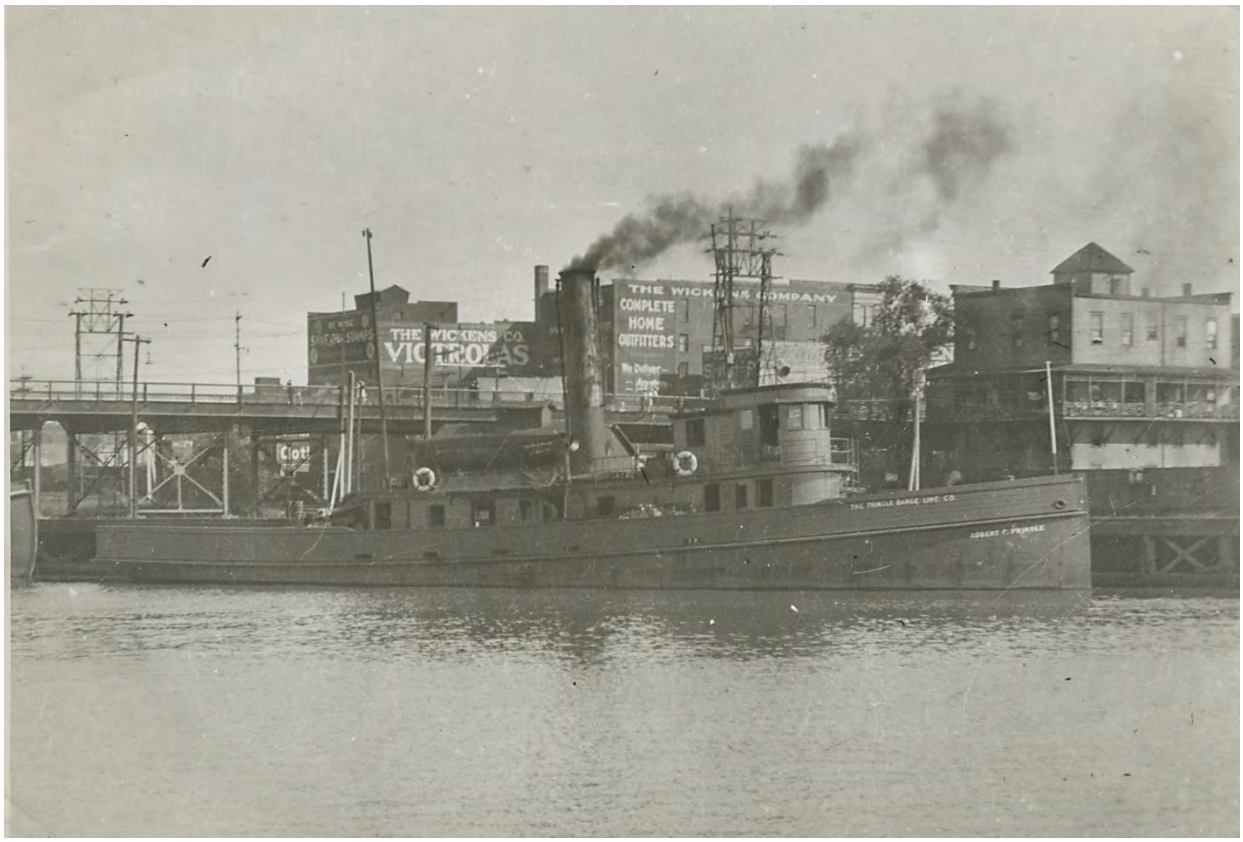

Figure 17. The tug *Robert C. Pringle* of the Pringle Barge Line, circa 1920 (C. Patrick Labadie Collection).

The 1921-season began with more promise. On 14 April 1921 *Robert C. Pringle* with *Chattanooga* and *Golden Age* in tow left Sandusky for Toledo to load coal for Port Huron. The Pringle Company indicated that Captain E.B. Senor, who commanded the sand barge *Penobscot* the previous season took command of *Robert C. Pringle.* This change in command was not recorded in the vessel's enrollment document. After several trips to Port Huron with coal, the work dried up. The barges were tied up on the St. Clair River and the tug was returned to the company docks in Sandusky before the end of the month.

By 9 May, still in search of tow work, *Robert C. Pringle* was moved to Cleveland. The tug returned to Sandusky by the end of May and took the coal barge *Iron Cliff* to an unidentified port on the upper lakes. A trip towing a dredge from Sandusky to Milwaukee was recorded in early August. The tug was reported back in Cleveland on 22 August but was moved to the company's dock in Sandusky on 25 August where she was tied up awaiting further contracts. No other information on the vessel's movement was located for the season (*Buffalo Evening News* 1921; *Sandusky Star-Journal* 1921a, 1921b, 1921c 1921d; 1921e; 1921f; 1921g).

No reports were located for the early part of the 1922-season. In June 1922, the 210-foot long steamer *Venezuela* was sold to the Pringle Company by Neff Transportation Company. *Robert C. Pringle* was sent to Milwaukee to tow the vessel to Sandusky where extensive repairs were to be made. The tug and its tow departed Milwaukee on the night of 18 June. As they passed

Sheboygan around 2 AM, the tug struck an obstruction (some reports specified floating driftwood) and filled rapidly. The men operated the pumps until water reached the boiler room and the effort was abandoned. Captain Martin Oglesbee (not listed on the ship's enrollment document) and three men took to the lifeboat and rowed to the steamer before cutting the *Robert C. Pringle* loose. Some reports indicate there were ten men taken off the sinking ship, others suggest four. After taking *Robert C. Pringle*'s crew aboard, the *Venezuela* got up her steam and delivered the shipwreck victims to the Pauly & Pauly Cheese Company dock in Manitowoc (*Buffalo Evening News* 1922; Bureau of Navigation 1918c; *Door County Advocate* 1922; *Manitowoc Herald-News* 1922; *Milwaukee Sentinel* 1922; *Racine Daily Journal* 1922; *Sheboygan Press* 1922; *Wisconsin State Journal* 1922a, 1922b).

The U.S. Steamboat Inspectors at Milwaukee were notified of the sinking of the tug and permitted the *Venezuela* to continue to Sandusky under her own steam. Reports indicated that given the depth of water where the *Robert C. Pringle* was lost, there was little chance that the tug could be raised. It was speculated that the bottom of the tug had been soft due to its wooden construction and age. Newspapers reported the tug valued between $75,000 and $80,000, and fully insured. *Robert C. Pringle*'s enrollment was surrendered on 29 June 1922, listing the "Vessel sunk 11 miles off Sheboygan, Wisc. June 19, 1922. Total Loss. No lives lost. 10 of crew on board" (*Buffalo Evening News* 1922; Bureau of Navigation 1918c; *Door County Advocate* 1922; *Manitowoc Herald-News* 1922; *Milwaukee Sentinel* 1922; *Racine Daily Journal* 1922; *Sheboygan Press* 1922; *Wisconsin State Journal* 1922a, 1922b).

Site Description

The remains of the tug *Robert C. Pringle* (47-SB-0412) lie on an 11.3-degree list to starboard in 287 feet of water, 8.0 miles southeast of the Sheboygan harbor entrance, in the town of Wilson, Sheboygan County, Wisconsin, in the waters of Lake Michigan. The vessel sits nearly parallel to shore, on a heading of 204.5 degrees, with its bow facing southwest.

The vessel remains remarkably intact on a sand and silt covered lake bottom, with little damage or deterioration. No impact crater was discernable from the multi-beam sonar data, indicating that, although the vessel was reported to have sunk quickly, it hit the lake bottom with little force. It is possible to discern that the vessel sank stern and lists to starboard, however, due to the fact that the vessel's smokestack, steam whistle, associated piping, and stern mast now lie in the silt on the starboard side of the vessel, and the vessel's stern is further imbedded into the silt than the bow, with a 6-degree list aft. Otherwise, all of the vessel's associated artifacts remain within the wreck. This site was unknown until 2008 when it was discovered by Steve Radovan. The main wreckage rises 23.7 feet off the bottom of the lake from the sand to the top of the intact pilothouse.

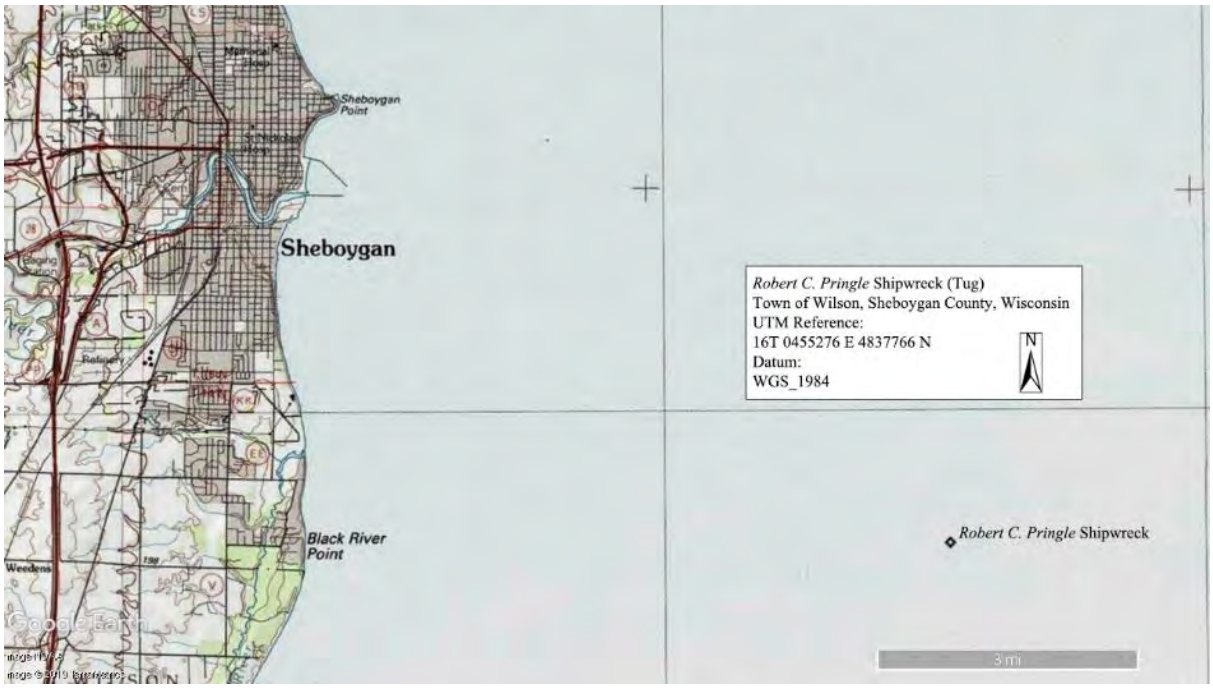

Figure 18. Location of the *Robert C. Pringle* site.

A Phase II archaeological survey of *Robert C. Pringle* was conducted in June and July of 2019 by maritime archaeologists and volunteers from the Wisconsin Historical Society. The survey was completed through a generous gift from the Hamilton Family Foundation and a partnership with Crossmon Consulting, LLC. During the survey, archaeologists used a VideoRay ROV outfitted with multi-beam sonar, piloted by Tom Crossmon. All measurements for the survey were taken from the collected multi-beam sonar data. The overall length of the wreckage, measured from the stempost to the aft edge of the stern bulwark, is 113.5 feet, and the width of the hull, measured from bulwark to bulwark, measures 20.7 feet. The vessel was reported to measure 101.0 feet long, with a beam of 22.4 feet. Although this measurement is different from the overall length measurement taken via sonar, this is not surprising. Overtime, vessel length calculations were taken from various points on the vessel, and likely did not take into account the entire extent of the vessel's rounded stern. Given the wreck dimensions, location, and comparisons to historic imagery, the remains were determined to be that of the converted tug *Robert C. Pringle*. Although covered in a thick coat of invasive quagga mussels, the cold, deep waters of Lake Michigan have kept the vessel remarkably intact, allowing for detailed observations of its construction and artifacts contained inside.

The *Robert C. Pringle*'s hull is constructed of wood, and the vessel is equipped with a narrow plumb bow. The lower hull, beginning a few feet below the rub rail, is covered by a thin layer of metal to protect the hull. The narrowness of the vessel's bow comes from its original construction as a passenger excursion vessel. Steamers of this type were meant to cut through the water and were prized for their speed. The *Robert C. Pringle*'s stempost measures 0.9 feet sided, tapering to 0.4 feet, and measuring 1.6 feet in its moulded dimension. The vessel was equipped with a metal-lined cutwater, just forward of the stempost. The lower hull planks that

are visible above the metal sheathing run longitudinally. Likewise, the planks that make up the bulwarks above the rub rail run longitudinally, however, they are of a clinched (overlapping) construction which varies from the carvel (smooth abutment) construction of the lower hull planks. Multiple small portholes can be seen in the lower section of the vessel's hull. These lead into the lower levels of the engine and boiler rooms. The portholes are all closed, and glass swing plates remain intact. These portholes are from the vessel's original construction as the *Chequamegon*.

Figure 19. Overview of the *Robert C. Pringle* looking forward (Crossmon Consulting LLC)

The vessel's lower hull remains as it was originally built in 1903, maintaining the same keel, keelson, ships lines, bulwarks and pilothouse. The upper deck cabin structure, located aft of the pilothouse, was removed following the 1918 conversion to a tug, and replaced by the captain's cabin. The lower deck cabin structure was also altered slightly in 1918, with an additional area for housing the crew being added beneath the original pilothouse, and the aft-most section of the enclosed cabin was removed to allow for an open aft deck. The engine was also replaced at this time, but the engine room, boiler room, and smokestack remain intact and in place from the original build of the vessel. The aft winch, towing bitts, and engine room skylight were added during the vessel's conversion to a tug.

The vessel's bulwarks, original to the 1903 construction, measure 2.5 feet in height, and have a rail cap that measures 0.7 feet wide. The vessel's rail cap has an additional rounded cap that measures 0.3 feet wide at the bow and the stern, forward and aft of the cabin structure. The bow rail cap extends from the stempost, 27.2 feet aft and the stern cap extends from 80.3 feet aft of the stempost all the way along the rounded stern. Located 4.1 feet below the top of the bulwarks, a single rub rail can be seen, which extends around the entire exterior of the vessel,

measuring 0.4 feet thick, 0.3 feet wide. Just above the rub rail, five rectangular scuppers extend through the bulwarks along the vessel's port and starboard sides, extending from the front of the cabin structure, to the aft end of the cabin structure. Remnants of red paint can still be seen covering the lower hull, while green paint can be seen on the bulwark planking.

Figure 20. Starboard view of hull and cabin looking forward (Crossmon Consulting LLC)

The vessel's rudder remains intact and attached to the vessel's sternpost. A single blade of the propeller is visible above the silt. A modern trawling net remains attached to the vessel's rudder and extends along the starboard side of the vessel. Other evidence of modern fishing implements can be found scattered around the silt near the vessel's stern, including additional pieces of netting and net floats. The vessel's wooden rudder now sits slightly to starboard.

The *Robert C. Pringle*'s two hawsepipes are located 2.2 feet aft of the stem. No anchor chain extends from either the port or starboard side hawsepipe. Just aft of the stempost, an air vent lays on the deck, wedged between the stempost and a single towing bitt. There is a small hole leading below deck on the vessel's starboard side just aft of the towing bitt. From analysis of historic images, we determined that this is where the air vent was originally located. The towing bitt sits on the vessel's centerline and measures 1.5 feet square. The bitt is supported by an additional cheek on its aft facing side. A metal bar extends 0.4 feet out from both the port and starboard sides of the bitt. Based on historic photographs, it is known that prior to its sinking, the *Robert C. Pringle* had an upright steering pole, located just aft of the stempost. The steering pole is no longer extant. Two anchors rest on the *Robert C. Pringle*'s foredeck, with their shafts crossed, just forward of the windlass. These metal stockless anchors do not appear to be attached to any chain leading through the hawseholes. The vessel's windlass sits just aft of the two anchors, located 12.6 feet aft of the vessel's stempost, and measures 6.6 feet by 1.5 feet

overall. The windlass appears to be similar to an Emerson, Walker & Co. patent windlass, or a more modern style, made entirely of metal. Immediately aft of the windlass sits a single bilge pimp, which measures 2.5 feet wide overall. Near the forward wall of the cabin structure, sit two large wooden cleats, one on each of port and starboard sides of the foredeck. These cleats sit atop a trapezoidal-shaped wooden pedestal, and would have been used for mooring, or securing other lines over the side of the vessel. A single metal ladder extends from the foredeck, up to the pilothouse walkway, measuring 1.8 feet wide. The metal composing the ladder measures 0.2 feet in diameter and is braced by two metal supports that extend back to the lower cabin structure's foremost wall. The ladder has seven rungs and sits on the vessel's centerline.

Figure 21. the front of the pilothouse looking aft (Crossmon Consulting LLC)

Located 21.7 feet aft of the stempost, is the vessel's pilothouse, which measures 10.1 feet wide and 10.9 feet long (forward to aft). The pilothouse's forward wall is curved, and covered with narrow, vertical planks, while the side walls of the pilothouse are covered with narrow planks that run horizontally. White paint can be seen on the pilothouse's outer planks. The pilothouse roof is supported by wooden beams that extend athwartship, measuring 0.3 feet wide, and are spaced 0.8 feet apart. The pilothouse sits one step above the narrow walkway that surrounds it. The walkway measures 2.2 feet wide and is lined with a two rung metal railing that measures 0.2 feet in diameter. The railing posts measure the same diameter and are located 3.2 feet apart, with the bottom rung measuring 1.1 feet below the top rung of the railing. This railing continues aft, enclosing the entire upper portion of the lower cabin structure.

Five rectangular sash windows measuring 1.1 feet wide line the front of the pilothouse and are spaced 0.4 feet apart. Glass remains in four of the windows; however, the sash windows are all open. The fifth and port-most sash window remains closed, but the glass is broken and no

longer extant, except for a small triangular section in the upper corner. Red paint can be seen on the window frames. Two additional small rectangular windows are located on the aft wall of the pilothouse, one on each of the port and starboard sides, above the captain's cabin roof. The glass in the port side window remains intact, while the glass in the starboard window is broken. Two doors lead into the pilothouse, each measuring 2.2 feet wide, which are located 0.9 feet aft of the windows on opposite sides of the structure, and 3.1 feet forward of the pilothouse's aft wall. Neither door remains in place in their frames; they both lie on the surrounding walkway near their respective doorways. Both doors had windows in the upper half; however, the glass is no longer extant in either door. The bottoms of the doors are solid wood, and made up of three rectangular panels, situated horizontally.

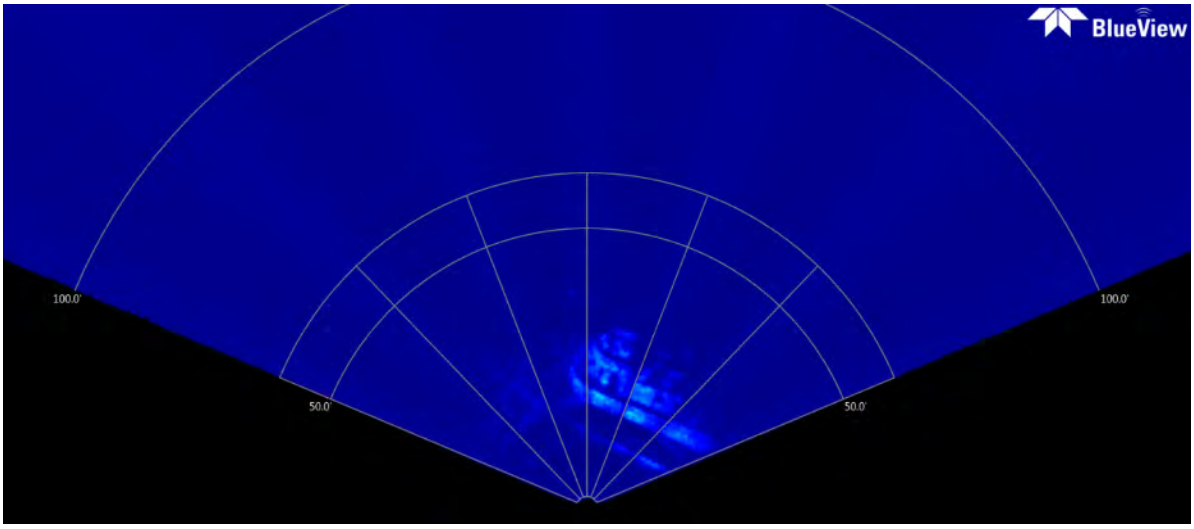

Figure 22. Multi-beam sonar image of the vessel's pilothouse on the port side (Crossmon Consulting LLC)

The interior of the pilothouse is covered in a thin layer of mussels and silt. The vessel's large wooden wheel can be seen in the center of the room, just forward of the doors, located 3.6 feet forward of the pilothouse's aft wall. The wheel measures 3.1 feet in overall diameter and 1.7 feet from the wheel's front to its standard, along the spindle and yoke. Behind this, a narrow wooden built in bench or table, measuring 1.6 feet wide, remains against the aft wall of the pilothouse. The starboard side, measuring 2.1 feet long, has its wooden top removed, revealing a small space below, which was perhaps used for equipment storage. The port side of the bench or table remains in place. In the portside aft corner of the pilothouse, sits a tall, wooden, built in set of drawers. This set of drawers measures 1.8 feet wide and 2.5 feet deep. When the wreck site was first located, this set of drawers remained closed, however, in intervening years, divers have attempted to open the drawers, resulting in damage to the drawer fronts. These drawers were used as a map case and to house small navigational tools. The topmost drawer remains closed, but the top of the set of drawers has since been pried off, allowing the inside of the top drawer to be seen. The bottom of this drawer has fallen out. The middle drawer has been pulled out and the drawer front now lies on the floor of the pilothouse. This drawer houses navigational tools. The bottommost drawer remains closed. Just forward of this, a four-legged

stool remains overturned on the port side of the wheel. The stool is painted red. On the starboard side of the pilothouse, a small square opening sits just inside the doorway. It is not known what this opening contains, but it is shallow, and was likely used for additional storage. The vessel's large brass compass remains in place on the starboard side of the pilothouse, sitting on a small ledge in front of the aft-most window. The compass is now covered in a thin layer of silt, obscuring the makings inside, but when the vessel was first located, these could be seen. A single, cylindrical brass spyglass sits on top of the compass. The pulleys for the steam whistle and the ship's bell remain extant on the ceiling of the pilothouse as well.

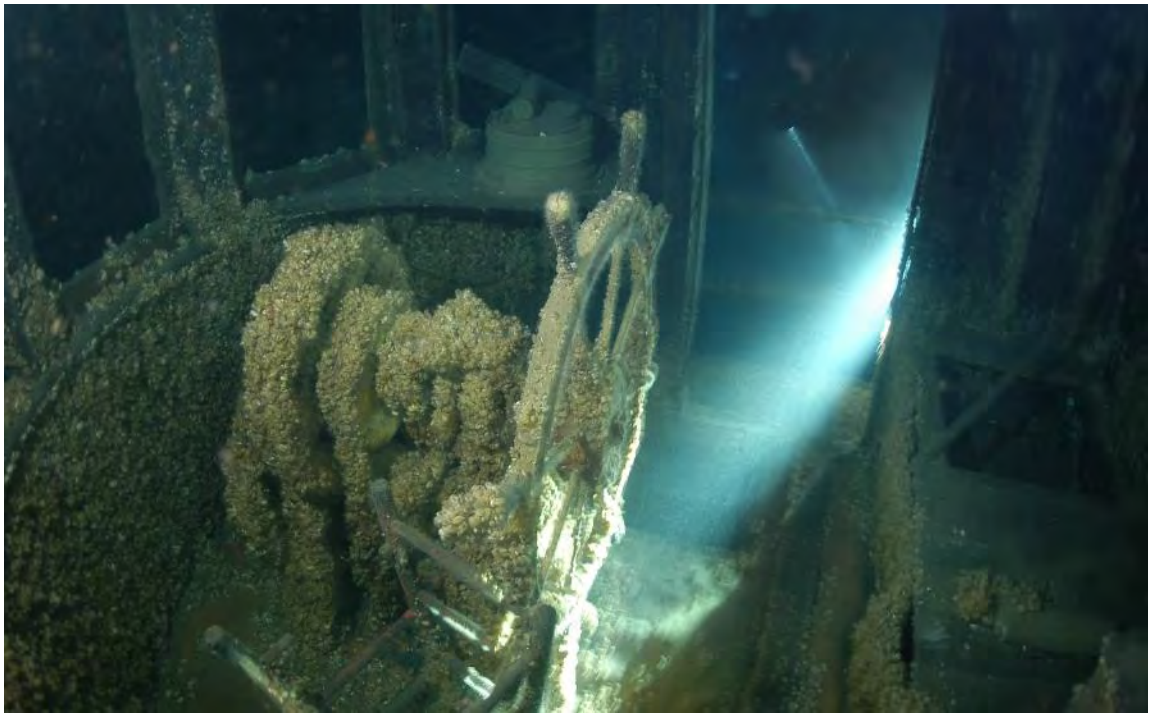

Figure 23. Ship's wheel located in the pilothouse (Tamara Thomsen)

Just aft of the pilothouse is the captain's cabin. This cabin sits slightly lower than the pilothouse, and measures 10.1 feet wide and 6.3 feet long (forward to aft). The roof of the captain's cabin is supported by wooden beams that extend athwartship, measuring 0.3 feet wide and spaced 1.0 feet apart. The captain's cabin has two windows and two doors that lead into it, a pair on the starboard and a pair on the port side. The doors measure 2.2 feet wide while the windows measure 1.5 feet wide. The doors are made entirely of wood and are made up of five panels. Both doors remain closed. The sash windows are closed, but the glass is no longer extant, allowing a glimpse of what is inside. The interior of the captain's cabin contains a bed frame along the aft wall, a porcelain sink sitting against the port side wall, between the window and the door, an upright wooden, slant front desk and chair in the forward starboard side corner of the cabin, and a small corner cabinet located in the portside aft corner. The desk sits in front of the starboard side door, and looks to have been purposefully placed there, and didn't slide there during the sinking event. The wooden chair sits neatly beneath the opened front of the

desk, which features hinges along the bottom of the desk's door. The wooden frame of the portside screen door is now off its hinges and leans up against the top of the desk.

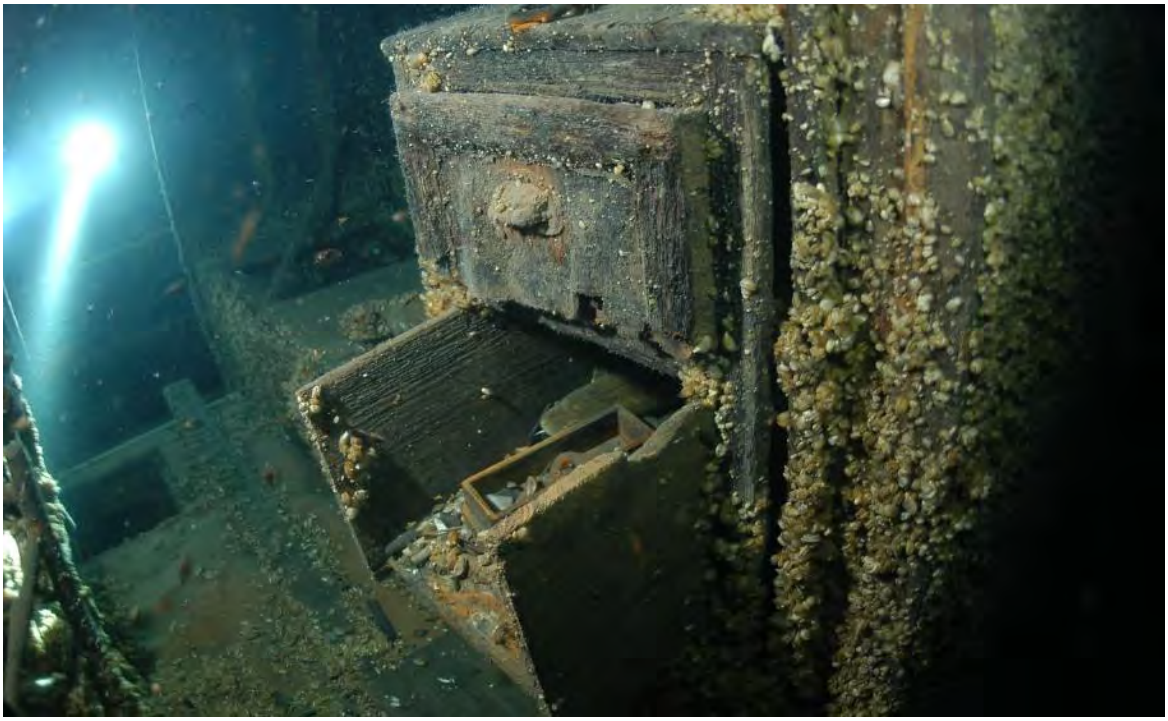

Figure 24. Set of drawers located in the pilothouse of the *Robert C. Pringle* (Tamara Thomsen)

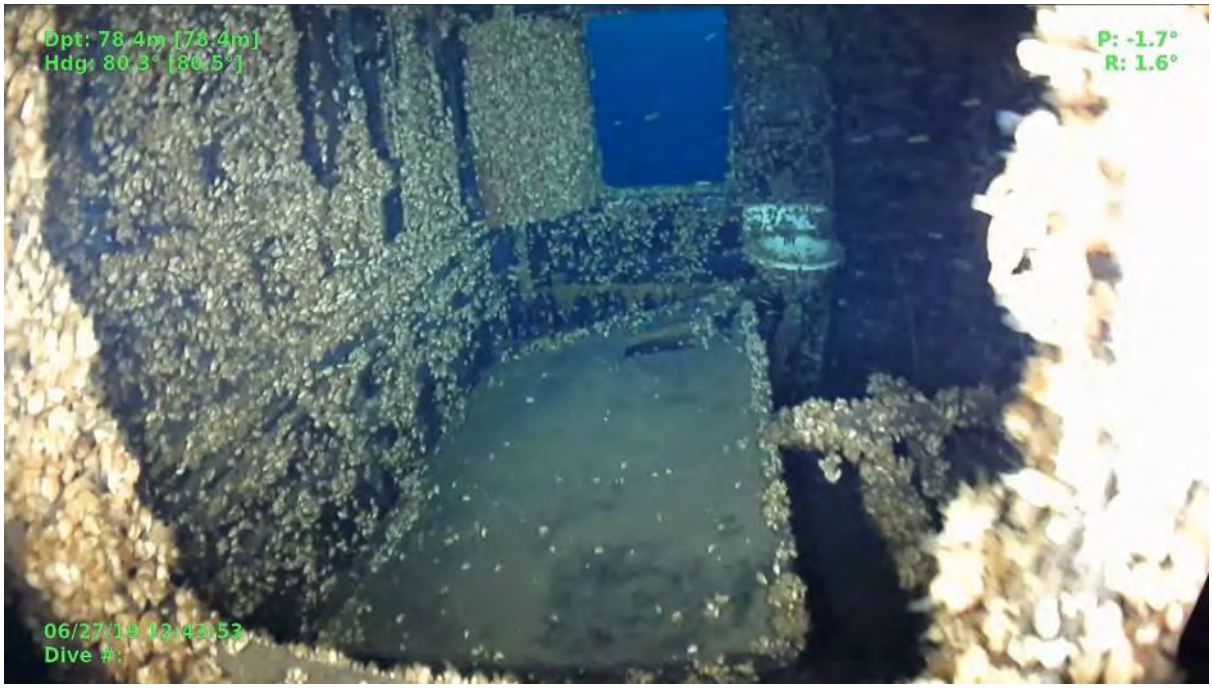

Figure 25. Captain's cabin looking from the starboard window (Crossmon Consulting LLC)

A few interesting features sit on top of the pilothouse and captain's cabin roofs. The vessel's single searchlight (or spotlight) is extant on top of the pilothouse, measuring 1.7 feet by 1.1 feet

overall. The spotlight is fully intact, with its glass in place and all wiring connected. The front of the spotlight points toward the forward starboard quarter of the ship. It sits in a “U-shaped” cradle that would have swiveled, so the light could be pointed any direction when needed. Just aft of the spotlight, the ship’s bell remains in place near the aft edge of the pilothouse roof on the starboard side. The bell hangs from a yoke measuring 1.2 feet across, which sits atop two stands, and measures 0.9 feet wide. No embossing was located on the bell. The vessel’s foremast has fallen and now lies diagonally across the pilothouse roof. The mast measures 20.5 feet in length, extending 2.0 feet aft of the pilot house and 8.5 feet forward of the pilothouse. Near its base (where it is broken), the mast measures 0.7 feet in diameter and it tapers to 0.4 feet near its upper extent. The mast originally extended from just aft of the pilothouse.

Figure 26. *Pringle*'s searchlight and bell on top of the pilothouse (Crossmon Consulting LLC)

Two masthead lights were originally attached to the mast, and the light boxes remain extant lying on top of the pilothouse. The railing surrounding this upper section measures 0.2 feet in diameter and was equipped with grating. This grating is no longer extant. The vessel’s port and starboard running lights were situated atop the captain’s cabin. Today, only a small section of the starboard side running light box remains, near the aft edge of the captain’s cabin. The light is no longer extant. The port side running light box is no longer in place. A small ladder leads from the top of the captain’s cabin to the top of the pilothouse, for crewmembers to access the spotlight when needed. Additionally, there is another ladder that leads from the roof of the captain’s cabin to the roof of the lower cabin structure. This ladder is similar to the one leading up to the front of the pilothouse, and measures 1.8 feet wide. It is attached to the rear wall of the captain’s cabin by two 0.2-foot diameter metal supports. Two lights remain extant attached to the aft wall of the captain’s cabin, one on the port side and one on the starboard side. These

lights are intact, with their glass extant. The corners of the roof combing are rounded and covered with a thin brass protective covering.

The rest of the vessel's cabin structure sits on the main deck level. Aft of the captain's cabin, however, a single cradle sits against the aft wall of the captain's cabin. This was likely a cradle for a water cask. The cradle measures 2.7 feet long, from end to end, and 1.3 feet wide overall. The wooden supports of the cradle are 0.3 feet thick and are spaced 1.1 feet apart. The cask is no longer extant. Just aft of this, on the vessel's centerline, there appears to be a small square hatch with a combing that measures 0.2 feet wide. The hatch measures 2.5 feet square and does not have a hatch cover. This does not appear to be a manway, as one of the lower cabin's roof beams passes across the opening. The hatch leads down into the boiler room. The deck planking (or lower cabin roof planking) is missing on the starboard side, revealing a series of the lower cabin structure's roof support beams. These measure 0.3 feet wide and are spaced 1.0 feet apart. Just forward of these missing planks, the metal railing that encircles this entire open upper deck is broken and hangs outward, away from the starboard side of the captain's cabin, and pilothouse wall.

Located 5.4 feet aft of the captain's cabin is the original location of *Robert C. Pringle*'s smokestack. The smokestack itself has fallen to the starboard side of the vessel, having broken off at the roof of the lower cabin structure, just above the shell of the boiler. The hole measures 3.3 feet in diameter and sits on the vessel's centerline. There is a small hole in the deck just forward of this on the starboard side. An air vent would have likely sat here. That air vent is now located in the debris off the starboard side of the vessel, near the fallen smokestack. The smokestack had the vessel's steam whistle attached to its forward face and a steam escape pipe attached to its aft face. Both of these remain attached to the boiler although they have come detached from the smokestack. They both measure 0.4 feet in diameter and are now bent over the starboard side of the ship. They are located 3.3 feet apart.

Located 12.2 feet aft of the back wall of the captain's cabin is the vessel's engine room skylight. Skylights were used to allow natural light into interior areas of the ship. The engine room skylight measures 8.7 feet wide and 21.5 feet long, stretching almost the entire remaining length of the lower cabin structure. It rises 1.5 feet above the cabin roof and is located 2.7 feet from the edge of the lower cabin roof on the port, starboard, and aft sides. The skylight contains five small rectangular windows on the port and starboard sides. These were hinged at the top and could be opened to allow additional airflow into the engine room. The glass no longer remains in these windows; however, most of the window frames are in place. The middle window on the port side remains open slightly, while the aft-most window frame has fallen outward and now lies on the roof near its original location.

A length of chain extends across the lower cabin and engine room skylight, from port to starboard, disappearing into the debris off the starboard side of the vessel. This is likely one of the smokestack stays that would have helped secure the smokestack in place and provided support. Additionally, the railing that extends around this upper deck area is broken near the

stern edge and an 8.8-foot long section of the railing lies across the skylight and hangs over the aft starboard side of the lower cabin. Another ladder leads from the roof of the lower cabin to the main aft deck. This ladder measures 1.8 feet wide and is located on the aft-most wall of the lower cabin, on the vessel's port side. A single lifeboat chock sits atop the engine room skylight; the forward-most lifeboat chock of two. The lifeboat itself is no longer extant as it recovered the crew during the sinking event. The chock measures 5.3 feet wide overall and is made of wood measuring 0.4 feet thick. The cradle (where the lifeboat would have sat) measures 2.6 feet wide near its base.

Located 21.7 feet aft of the stempost, the vessel's lower deck cabin structure extends 56.6 feet in length, and measures 14.5 feet wide, ending 34.7 feet forward of the vessel's stern. The lower cabin structure is located 3.9 feet away from *Robert C. Pringle*'s bulwarks on both the port and starboard sides. The cabins are largely intact with horizontal planking covering all but the curved forward wall and are comprised of five or six major areas (from bow to stern): crew's quarters, boiler room, engine room, head / storage closet. The crew's quarters are located in the forward-most section of the cabin structure, and measure 8.1 feet in length. The port side door remains closed, as does the sash window, although the glass is no longer extant, allowing a view of the interior. The room is composed of a set of wooden bunks that are painted white, that sit against the internal wall, and a single chair located near the forward section of the room. A dresser or shelf is located along the aft wall. Remnants of white paint cover the wood-paneled walls and ceiling of the room. Additional crew's quarters are located on the other side of the internal wall, on the starboard side of the vessel. Just aft of the crew's quarters on the starboard side is an access stairway that leads to the lower deck of the ship. The door to this stairway longer sits on its hinges, and now leans on the starboard bulwarks just outside of the cabin structure.

Figure 27: Bunks located within the crew's quarters (Crossmon Consulting LLC)

Aft of the crew's quarters is the boiler room. The boiler room is largely comprised of the vessel's single boiler. There are two doors leading into the boiler room, one on the port and one on the starboard side, located near the aft wall of the room. These doors are no longer in place but sit in debris piles on the deck. From analysis of historical images, it is possible to identify these doors as having two sections that could open independently, one on top of the other. Additionally, four windows look into the boiler room, the aft-most windows are rectangular and measure 2.0 feet wide, while the forward windows are square in shape and measure 3.1 feet wide. Both sash windows are open and no longer contain glass. Steam pipes can be seen in front of the port side forward window. Remnants of white paint can be seen covering the walls of the boiler room. Near these windows, wooden window coverings rest on the vessel's deck. These would have been used to cover the windows in inclement weather.

Located aft of the boiler room is the vessel's engine room. The room measures 15.5 feet in overall length, and is largely comprised of the vessel's compound engine, which measures 7.8 feet in length. The engine is surrounded by metal catwalks. In the starboard side aft corner of the room, a set of metal stairs can be seen leading down to the lower hull, and the lower sections of the vessel's engine room. Intact gauges can be seen on both sides of the engine, with the brass coverings, and glass still intact. Two doors lead into the engine room, one on the port side and one on the starboard side, both located at the forward end of the engine room. Additionally, two windows adorn the room just aft of each door. These measure 2.1 feet in width and both sash windows are open. The glass is no longer within the port side window, although it is extant in the starboard side window. A single white porcelain sink is located in the forward port corner of the room.

Aft of the engine room, the vessel's head is located on the starboard side. The room's door is no longer in place and lies on the deck. A single toilet can be seen inside, with its lid up. The room measures only 3.1 feet wide. Another door is in the same location on the port side of the vessel, and it remains closed, so it was not possible to determine what is located inside during the 2019 survey. It is possible that this is a second head, or a storage room for deck equipment, as it is very close to the machinery located on the vessel's aft deck.

A wide combing with remnants of green paint lines the top of the lower cabin structure. The corners of this combing are rounded, and covered with a bronze cap. Additionally, the entire lower cabin structure is lined with bare bulb lighting fixtures attached to metal-lined power cables. On the vessel's starboard side, these light fixtures have fallen to the deck, but the bulbs remain intact. Additionally, there is a single throwable round life-ring within the debris pile on the starboard side of the vessel located between the head and the engine room door. At the time of the 2019 survey, it was covered in a thick layer of quagga mussels. A single metal bench vice is attached to the port side railing just outside of the boiler room.

Robert C. Pringle's aft deck is open and largely empty, covered in a thin layer of quagga mussels and silt. The deck extends from the aft wall of the lower cabin structure 34.7 feet to the furthest extend of the rounded stern and sits a step above the rest of the main deck. This single

step is located at the aft end of the lower cabin structure. The main feature of the aft deck is the large steam winch located just aft of the cabin structure on the vessel's centerline. The winch measures 10.9 feet long and 6.5 feet wide overall. The two main spur wheels (on either side of the barrel) measure 3.5 feet in diameter and measure 0.6 feet wide. The barrel measures 2.1 feet in diameter and 3.6 feet long (measured between the two main spur wheels). Two small spur wheels sit on either side of the main spur wheels, near the deck, and measure 1.8 feet in diameter and 0.4 feet wide. Wire rope measuring 0.25 feet in diameter remains wrapped around the barrel and extends from the winch over the starboard side bulwark and into the sand, extending 11.2 feet from the winch to the bulwarks diagonally. The winch's clutch lever is located just aft of the main barrel, and two cylinders can be seen, one on the port and one on the starboard side. Aft of the winch are two bitts connected by a metal cross piece. The bitts measure 0.7 feet square, are spaced 1.8 feet apart, and stand 2.4 feet off the deck. Similar to the bitt located on the vessel's forward deck, these bitts are supported by an additional cheek on their aft facing sides. These measure 0.4 feet thick.

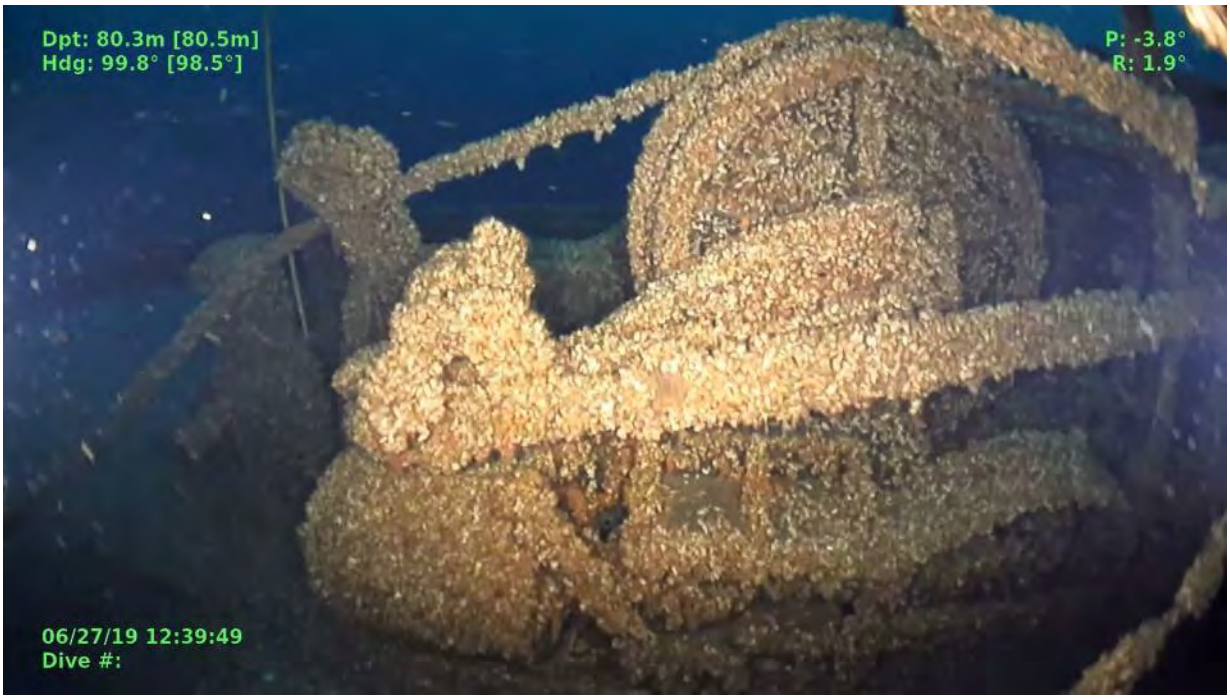

Figure 28: Steam winch located on the aft deck (Crossmon Consulting LLC)

A single circular hole can be seen on the port side of the aft deck, located 15.6 feet forward of the stern, and 5.2 feet from the port side railing. It measures 0.7 feet in diameter. It is possible that this was the location of another air vent; however, one cannot be seen in this location in the analysis of historic images. Likewise, two unidentified objects sit at the very aft edge of the stern deck covered in quagga mussels.

The vessel's aft mast is located just aft of the lower cabin structure. The mast has broken above the top of the stern cabin roof, but its lower portion remains in place, to the starboard side of the vessel's centerline. The mast appears to have both green and white paint extant. The mast

measures 0.8 feet in diameter at the break. The rest of the stern mast has fallen to the starboard side of the vessel and now lies propped against the hull of the ship. Near its end, the mast measures 0.4 feet in diameter. A single intact lightbulb can be seen attached to the mast near what would have been its top extent. This broken section of the aft mast measures 8.4 feet in length. This would have been one of the vessel's masthead lights.

The debris field around *Robert C. Pringle* is very small, as most of the artifacts remain inside the wreckage. The vessel's debris field is largely contained to the starboard side of the vessel near midship. Here, the vessel's smokestack has fallen and now lies partially crushed on the sand, parallel to the vessel's hull. The fallen section of the smokestack measures 16.8 feet long and 4.6 feet wide (slightly flattened). Forward of the smokestack and lying perpendicular to the wreck is one of the vessel's air vents. There is a short section of the upper railing just forward of the smokestack as well. This section of railing measures 4.6 feet in length. Additional steam pipes are scattered throughout this debris section. The modern fishing net that is snagged on the vessel's rudder extends to this debris pile, along the starboard side of the vessel. A section of the net is held up by a net float, approximately 10.1 feet off the starboard side of the wreck, just outside of the debris field.

Two additional anomalies were located on the multi-beam sonar data but were not identified during the investigation of the site. Located on the port side of the vessel, next to the hull, is a square depression seen in the sonar data measuring 4.2 feet by 1.5 feet. A line leads over the port side bulwarks near this location, which measures 0.3 feet in diameter. This may be one of the wooden window coverings or part of a door from the lower cabin structure that fell off the vessel when it hit the bottom of the lake. Additionally, an unidentified object was located 78.5 feet forward of the bow on the vessel's starboard side. The object measures 0.9 feet by 2.8 feet. It is possible that this is one of the missing air vents from the vessel's deck. It is not likely an anchor, as there is no chain coming from either of the vessel's hawsepipes.

It is not likely additional components of *Robert C. Pringle*'s hull structure remain on the site or nearby; however, additional artifacts and components of the vessel's construction may remain obscured inside the wreck. With the intact nature of the wreckage, most of the artifacts remain protected by a thick layer of silt within the hull. Data already gathered on the site has increased our understanding of early small passenger steamer construction and its subsequent conversion to a large lake tug. This information allows archaeologists to study how old wooden steamers could be used and repurposed for additional use. Since its discovery, even with the site's depth, the wreck site has been visited by many divers, and has already experienced some damage, however, much of *Robert C. Pringle* remains as it did the day the vessel sank.

CHAPTER FOUR
SELF-UNLOADING SCHOONER-BARGE *TRANSFER*

The self-unloading schooner barge *Transfer* began its career as the schooner barge *William McGregor*. The *William McGregor* was launched in 1872 at the Linn & Craig shipyard in Gibraltar, Michigan. The vessel was first enrolled at the port of Detroit, Michigan and assigned the official number 80268. The schooner barge was described as having one deck and three masts measuring 200 feet in length, 33.9 feet in beam, and 13.7 feet in draft, with a carrying capacity of 732.94 total tons of which 695.32 tons capacity were under the tonnage deck and 37.62 tons capacity were between and above decks (Bureau of Navigation 1872).

Master Builders John Craig and R.W. Linn founded the Linn & Craig Shipyard in 1866. The company not only contained a shipyard, but also consisted of a general store and a sawmill. The company built more than one million dollars' worth of vessels before Craig moved the company to Trenton, Michigan in 1883. It then became known as J. Craig & Sons (Blume 2012; R.L. Polk & Co 1875).

Figure 29: Bow of the *William McGregor* (C. Patrick Labadie Collection)

William McGregor was built for the Northwestern Transportation Company of Detroit (Bureau of Navigation 1872). The Northwestern Transportation Company was established in 1869 by Elihu M. Peck and Robert J. Hackett; with stockholders Henry Hackett, William McGregor, David Cotter, Duncan McLaughlin, James Morton, and Andrew Hackett. The company operated a variety of vessels in the marine freight business focusing on the transportation of iron ore and coal as well as passenger services along the lower Great Lakes (Bersey 1900; Henry Taylor & Co 1909; Hilton 2002). A major achievement of the company was the construction of the steamer *R.J. Hackett*. *R.J. Hackett* is known to be the first Great Lakes bulk freighter. This vessel was not only the prototype for modern bulk freighter construction, but its use in towing one or more schooner barges in the coal trade demonstrated the economic benefit of using the consort system (Bersey 1900; Cooper and Kriesa 1992). *William McGregor* was purpose-built to be towed in this type of consort and throughout its career was primarily towed by the *R.J. Hackett.* These factors express the vessel's significance in Great Lakes maritime and economic history.

Very little is recorded for the first few years of *William McGregor's* career. On 20 August 1872, the schooner barge cleared Detroit with 1,184 tons of iron ore (*Detroit Free Press* 1872). On 16 October, under tow of the propeller *Forest City,* the schooner barge ran aground while entering the St. Clair Flats. Three other vessels were reported aground on the flats as well, all headed down-bound. Tugs were assisting the other vessels while the *Forest City* continued to Cleveland, Ohio to obtain a hawser to pull the *William McGregor* free (*Cleveland Morning Daily Herald* 1872a). In early December it was reported that the *Forest City* and *William McGregor* did not arrive at Cleveland as expected. No other reports were found explaining the consort's tardiness (*Cleveland Morning Daily Herald* 1872b). On 6 November 1873 it was reported that the schooner barge cleared the port of Buffalo, New York (*Detroit Free Press* 1873).

In 1875 Captain J. Campbell of the *William McGregor* joined three other captains to publish a notice complaining to other mariners of the shallowness of Cleveland Harbor and the dangers of vessels with drafts of thirteen feet or more in entering it. In this notice Captains P.C. Bassett, James Davidson, John Pringle, and Campbell all complained that the harbor was too shallow and vessels could run aground on calm days. They warned other mariners to take notice of the danger and urged the city's mayor to take action by securing the riverbed from erosion by "piling up the bed of the river preparatory to seeding down or planting with potatoes" (*Ashtabula Weekly Telegraph* 1875; *Detroit Free Press* 1875).

At the beginning of the 1876-season Captain Campbell was replaced by Captain J. Sanders (Bureau of Navigation 1872; *InterOcean* 1876a). Captain James M. Sanders (also written as Saunders) was born in 1861 in Kingston, Ontario. He began his maritime career at the age of eighteen and started on the *William McGregor* as a seaman (Mansfield 1899b). On 12 June the schooner barge cleared Chicago for Buffalo, New York with 50,000 bushels of corn (*Chicago Daily Tribune* 1876; *InterOcean* 1876b). On 22 June the *William McGregor* discharged corn at

Buffalo from Chicago. The load was 52 bushels short of the agreed upon payment and publications called this overrun of invoice weight "an outrageous shortage and downright thieving" (*InterOcean* 1876c; *Milwaukee Daily Sentinel* 1876). There were no other reports of this type of behavior, although the response from the news media indicated that this was a reoccurring event in the grain trade. The schooner barge arrived in Chicago two more times during the season. The first was from Erie, Pennsylvania with coal on 30 June and the second was from Marquette, Michigan on 6 October, however the cargo was not reported (*InterOcean* 1876d, 1876e). At the end of November *William McGregor* was readied for winter layup in Cleveland but transported to Milwaukee, Wisconsin where it joined 139 other vessels in winter quarters (*Buffalo Commercial* 1876; *Daily Milwaukee News* 1876; *Detroit Free Press* 1876).

The schooner barge began its 1877-season with a change in ownership. The Northwestern Transportation Co. Secretary Robert Hackett was succeeded by George Ceufrie. Since the secretary of the company was listed as the owner of the vessel, the enrollment was updated to show this change. There was a rumor that *William McGregor* and the steamer *Forest City* were sold to another owner, but this report was disproven (Bureau of Navigation 1877; *InterOcean* 1877a). On 11 June the schooner barge arrived in Chicago from Marquette and cleared two days later to return to that city (*InterOcean* 1877b, 1877c). On 27 November *William McGregor* arrived in Chicago from Milwaukee under tow of the steamer *R.J. Hackett* (*InterOcean* 1877d).

William McGregor began its 1878-season undergoing repairs. In early May as the schooner barge was towed by *R.J. Hackett* through the St. Mary's River, it ran aground on Topsail Island Reef. The vessel was able to stay afloat with the help of a steam pump aboard. When it arrived at Cleveland, *William McGregor* was unloaded of its cargo, taken to Globe Iron Works, and put into dry dock for repairs at a cost of $700 (*InterOcean* 1878; *Milwaukee Daily Sentinel* 1878). The schooner barge arrived in Chicago from Marquette on 29 June and cleared Chicago for Marquette 17 July. No other reports were found for the vessel's movements (*Chicago Daily Tribune 1878; InterOcean* 1878b). On 16 September an Endorsement of Change of Master listed that Captain Henry Sanders temporarily replaced James Sanders as captain of the vessel. James Sanders returned to his post as Master on 1 October. Henry Sanders again took command on 4 October. In Cleveland on 23 October Captain Joseph Sanders became Master of the *William McGregor* (Bureau of Navigation 1877). Although these three gentlemen share a last name, no documents could be found to determine if the men were related.

The *Milwaukee Daily Sentinel* (1879) reported that the *R.J. Hackett* and consort *William McGregor* would spend the 1879-season in the ore trade plying between Marquette and Lake Erie ports. Although little documentation supports this statement, the schooner barge was recorded arriving in Marquette on 12 June. The vessel also arrived in Marquette on 25 August and cleared the same day (*InterOcean* 1879a, 1879b). *William McGregor* finished its season with a change in Master. Henry Sanders again took command of the schooner barge on 4 November (Bureau of Navigation 1877).

During the 1880-season the schooner barge cleared Escanaba, Michigan on 1 June, 7 September, and 18 October and cleared Cleveland for Escanaba on 30 August (*Chicago Daily Tribune* 1880a, 1880b, 1880c; *Detroit Free Press* 1880a, 1880b). By 6 December *William McGregor* was laid up in Cleveland for the winter (*InterOcean* 1880).

The *William McGregor* began its 1881-season under tow of *R.J. Hackett* and was chartered by the North Chicago Steel & Iron Works to transport iron ore from Escanaba to Chicago at $1 per ton (*Chicago Daily Tribune*1881a). No other information was found indicating the length of time the vessels were chartered. The schooner barge arrived in Marquette on 5 June and again on 18 June and cleared the same day (*Chicago Daily Tribune* 1881b; *InterOcean* 1881a). The vessel arrived in Marquette at the beginning on July (*InterOcean* 1881b). On 11 August *William McGregor* arrived in Marquette and cleared the following day (*InterOcean* 1881c, 1881d). The vessel was also recorded clearing Marquette 24 September and 26 October (*Chicago Daily Tribune* 1881d, 1881e). The schooner barge arrived in Marquette 8 November and cleared on 15 November; likely ending the 1881-season (*Chicago Daily Tribune* 1881f, 1881g).

Figure 30: Stern lettering "*William McGregor* of Detroit" (C. Patrick Labadie Collection)

The 1882-season began with repairs for both *R.J. Hackett* and *William McGregor* at a cost $3,000 for the former and $1,000 for the latter (*Detroit Free Press* 1882a). It is unknown whether these repairs were in response to an accident or just part of routine maintenance. The

enrollment document for the schooner barge was surrendered on 14 April for a change in owner. E.M. Peck became secretary of the Northwestern Transportation Company. As agent for the company, he became owner of the vessel. Captain Joseph Sanders was listed as 'present master' of *William McGregor* (Bureau of Navigation 1882). Reports indicated that *William McGregor* arrived in Marquette on 21 July, 19 September, and 2 October (*Chicago Daily Tribune* 1882d; *Detroit Free Press* 1882c, 1882e; *InterOcean* 1882b, 1882e). The vessel cleared Marquette on 8 June, 22 June, 22 July, 9 August, 22 August, 28 August, and 3 November (*Chicago Daily Tribune* 1882a; 1882b, 1882c, 1882e; *Detroit Free Press* 1882b, 1882d, 1882g; *InterOcean* 1882a, 1882c, 1882d). On 4 September Captain Henry Sanders replaced Joseph Sanders as Master (Bureau of Navigation 1882). On 17 October *William McGregor* unloaded lumber in Detroit harbor near the Michigan Central Wharf (*Detroit Free Press* 1882f).

The *William McGregor* frequented the ports of Chicago, Escanaba and Marquette during its 1883-season. In June the vessel made two trips to Chicago. The first was on 1 June transporting a cargo of coal from Buffalo. It left light the following day. The second was 26 June with a cargo of coal from Cleveland. It left the same day light for Ashtabula, Ohio (*InterOcean* 1883a, 1883b, 1883c). The schooner barge arrived in Escanaba on 7 July. Clearings from Escanaba were reported on 15 May, 10 July, 23 September (*Chicago Daily Tribune* 1883a, 1883b, 1883c, 1883d). It is noted that the vessel arrived in Escanaba and cleared the same day on 30 August, 11 September, and 9 November (*Detroit Free Press* 1883a, 1883b, 1883d; *InterOcean* 1883d). *William McGregor* arrived in Marquette on 7 October and 27 October (*Chicago Daily Tribune* 1883e; *Detroit Free Press* 1883c). On 23 October Captain Joseph Sanders replaced Henry Sanders as Master (Bureau of Navigation 1882).

The schooner barge began its 1884-season at the Detroit Dry Dock Company. Although not explicitly stated, this was likely this was for general maintenance and overhaul (*Detroit Free Press* 1884a). *William McGregor* was reported at Sandusky, Ohio on 23 June. The ship brought in a cargo of ore from Marquette and cleared light for the Marquette the same day (*Cleveland Herald* 1884). The schooner barge arrived in Cleveland on 6 July, 11 October, 3 November, and 15 November, each time with a cargo of iron ore from Marquette (*Chicago Daily Tribune* 1884a; *InterOcean* 1884a, 1884d, 1884e). Although it was noted only once that the vessel cleared the same day of arrival, it was common practice for *William McGregor* to arrive in port and clear light the same or the following day (*InterOcean* 1884d). The schooner barge cleared Marquette on 28 July under tow of *R.J. Hackett*. The consort was reported passing Detroit down bound on 3 August. No other information about its destination was located, but it is believed that the vessels were transporting goods to Cleveland (*InterOcean* 1884b, 1884c). The consort also arrived at Marquette on 23 September and on 10 November (*Chicago Daily Tribune* 1884b, 1884c; *Detroit Free Press* 1884b).

Along with the usual ports *R.J. Hackett* and *William McGregor* shipped cargo to Milwaukee. The consort transported coal from Buffalo to Milwaukee on 10 June at 65 cents per ton

(*Chicago Daily Tribune* 1885a). On 13 June the schooner barge transported 1,500 tons of coal to Milwaukee (*InterOcean* 1885b). It arrived in Milwaukee from Buffalo with coal again on 17 June, 25 July, and 3 August (*InterOcean* 1885c, 1885d, 1885e). The consort arrived in Marquette on 23 May, 7 July, 10 September and 5 November, subsequently clearing the same day (*Chicago Daily Tribune* 1885a, 1885b, 1885d, 1885i; *InterOcean* 1885a). *William McGregor* arrived in Cleveland with iron ore from Marquette on 23 July and 11 November and cleared light for Ashland, Wisconsin on 14 October (*Chicago Daily Tribune* 1885c, 1885h; *InterOcean* 1885f). The vessel also transported cargo to Ashtabula. It was reported that the ship arrived in harbor with ore from Marquette on 26 September and cleared light for Marquette on 18 September and 29 September (*Chicago Daily Tribune* 1885e, 1885f, 1885g).

At the beginning of the 1886-season *William McGregor* passed through the locks at Sault Saint Marie, Michigan up bound on 4 May. The schooner barge was reported passing the Soo locks down bound on 21 May and arrived in Cleveland three days later with a load of iron ore from Marquette. The vessel cleared for a return to Marquette on the same day (*InterOcean* 1886a, 1886b, 1886c). *William McGregor* travelled down bound through the Soo Locks on 3 June and arrived 6 June at Lorain, Ohio with Marquette iron ore (*Chicago Daily Tribune* 1886a, 1886b). On 23 June the schooner barge passed through the Soo Locks up bound under tow of the steambarge *Minneapolis* (*Chicago Daily Tribune* 1886c; *InterOcean* 1886d). *William McGregor* was listed as *Minneapolis*' consort for much of the season. On 29 June the schooner barge arrived in Lorain with iron ore from Marquette. At this port, Captain Henry Sanders replaced Joseph Sanders at the helm (Bureau of Navigation 1882; *Chicago Daily Tribune* 1886d). The *Minneapolis* and *William McGregor* cleared Marquette on 8 July and arrived in Cleveland on 24 July clearing light for Marquette the following day (*Chicago Daily Tribune* 1886e*; InterOcean* 1886e, 1886f). The consort cleared Marquette on 16 August and was down bound through the Soo Locks on 17 August at 7:30PM. Neither the cargo nor the destination was documented (*Chicago Daily Tribune* 1886g; *Detroit Free Press* 1886). On 11 October the steambarge and schooner barge were reported traveling through the Soo Locks down bound. It is believed they were destined for Cleveland as the consort was documented clearing that port light for Marquette on 17 October (*InterOcean* 1886g, 1886h). The consort was also reported traveling down bound on 4 August and 14 November, although no further information on the destination was documented (*Chicago Daily Tribune*1886f, 1886h).

The 1887-season began with an Endorsement of Change of Master. At the port of Erie, Captain Henry Sanders took command of the vessel replacing Captain J.C. Perry on 11 April. No information could be found about when Perry became Master of the schooner barge (Bureau of Navigation 1882). *William McGregor* arrived in Lorain on 13 May. The vessel transported ore from Marquette to Cleveland, arriving in port on 24 May and clearing light for Marquette the following day (*Chicago Daily Tribune* 1887a, 1887b; *InterOcean* 1887a). The *Minneapolis* and *William McGregor* were reported passing the Soo Locks up bound on 24 June (*InterOcean* 1887b). The schooner barge arrived in Cleveland on 29 June with a cargo of iron ore from

Marquette (*Chicago Daily Tribune* 1887c; *InterOcean* 1887c). The vessel probably cleared light the same day because it was reported heading up bound at the Soo Locks on 4 July (*Chicago Daily Tribune* 1887d).

On 3 August the vessel arrived in Cleveland from Marquette. Interestingly, instead of iron ore, *William McGregor* carried blocks of stone. The schooner barge cleared light the same day and arrived back in Marquette seven days later (*InterOcean* 1887d, 1887e). The *Minneapolis* and *William McGregor* passed the Soo Locks down bound on 25 August arriving in Cleveland with ore on 27 August. The consort cleared light for Marquette the same day (*Chicago Daily Tribune* 1887e; *InterOcean* 1887f). On 13 September the schooner barge was reported clearing Cleveland light for Marquette (*InterOcean* 1887g). The steambarge and schooner barge were documented passing through the locks four more times this season. The consort passed down bound on 22 September, 7 October, 20 October, and 5 November (*Chicago Daily Tribune* 1887f, 1887g, 1887h; *Detroit Free Press* 1887; *InterOcean* 1887h, 1887i).

The 1888-season began in May when *William McGregor,* under tow of steambarge *R.J. Hackett,* arrived at Marquette for iron ore (*InterOcean* 1888a). Reports indicate that *R.J. Hackett* towed the schooner barge for the entire season. The consort arrived in Cleveland on 25 May with iron ore and cleared for Marquette the following day (*InterOcean* 1888b, 1888c). The vessel was noted passing through the Soo Locks down bound on 3 June and arrived three days later in Fairport, Ohio (*InterOcean* 1888d, 1888e). On 21 August the consort cleared Cleveland light for Marquette. Five days later the steambarge and schooner barge cleared Marquette with ore and arrived at Cleveland on 10 October (*Chicago Daily Tribune* 1888c; *InterOcean* 1888g, 1888h). Documents indicate that *R.J. Hackett* towed *William McGregor* through the locks five additional times that season. The consort passed down bound on 28 June, 19 July, and 28 October and up bound on 12 June and 7 November (*Chicago Daily Tribune* 1888a, 1888b; *Duluth News-Tribune* 1888; *InterOcean* 1888f, 1888i).

The vessel's enrollment document was surrendered at the beginning of the 1889-season with a "change of officers of company" (Bureau of Navigation 1889). E.M. Peck became President of the Northwestern Transportation Company and the vessel's registration was updated accordingly. *William McGregor* began its season earlier than usual, arriving light in Grand Haven, Michigan on 16 April. Records indicate that the schooner barge arrived in Georgian Bay, Ontario with 40,000 bushels of corn. It is believed that since it went into service earlier in the season, it was chartered to transport corn between the two locations before the ore trade opened on Lake Superior (*Chicago Daily Tribune* 1889a; *InterOcean* 1889a, 1889b). *R.J. Hackett* and *William McGregor* passed through the Soo Locks down bound on 7 July (*InterOcean* 1889c). On 3 September the schooner barge was chartered to transport coal from Buffalo to Milwaukee at 50 cents per ton (*InterOcean* 1889d). The consort arrived in Cleveland on 21 September with a cargo of coal and cleared the same day for Marquette. They passed through the Soo Locks up bound on 24 September (*Chicago Daily Tribune* 1889b; *Detroit Free*

Press 1889). The ship arrived in Cleveland again on 29 October from Marquette (*InterOcean* 1889e). On 12 November the vessel was once again chartered to transport coal from Buffalo to Milwaukee, this time for 60 cents per ton (*Chicago Daily Tribune* 189c).

In January the *InterOcean* (1890a) published seasonal schedules for some of the Great Lakes fleet. In the document, *William McGregor* was listed as consort to the steamer *Boyce* and that it would spend the season in the iron ore trade between Lake Superior and Lake Erie ports. On 2 June the consort was passed through the Soo Locks down bound. They were also recorded passing down bound on 21 July (*InterOcean* 1890b, 1890c). The schooner barge arrived in Cleveland on 31 August, 21 September, 4 October, and 31 October and in Lorain on 21 October (*Chicago Daily Tribune* 1890; *InterOcean* 1890d, 1890f, 1890h, 1890i, 1890j). The vessel passed Detroit 14 September and 2 October (*InterOcean* 1890e, 1890g).

William McGregor began its 1891-season hauling iron ore for the owner of the company. E.M. Peck, the president of the Northwestern Transportation Company, had a particular interest in Cleveland's mills and Michigan's Upper Peninsula mines. In early May the company's vessels *Forest City* and *William McGregor* were used by the owner to transport cargo that he personally purchased (*Detroit Free Press* 1891a, 1891b). On 18 May the consort passed Detroit down bound (*InterOcean* 1891a). At that time trouble was brewing at the Lake Erie docks that caused some shipping delays. One document reported that the company's vessel, *E.M. Peck,* was lying-in-wait at the southern mouth of the Detroit River in Amherstburg, Ontario waiting for the troubles to clear up. As other vessels were heading down bound, it was unknown whether the ships would continue to their destination or be rerouted to other locations (*Detroit Free Press* 1891c). Very little is documented about the ports called on by the *William McGregor,* but the schooner barge continued to travel between Lakes Erie and Superior. Records indicate the vessel passed up bound on the Detroit River 10 June, 10 July, 18 July, 8 August, and 19 August and down bound on 14 August (*Detroit Free Press* 1891d; *InterOcean* 1891b, 1891c, 1891d, 1891e, 1891f). The *Forest City* towed the schooner barge up bound through the Soo Locks on 21 August (*Detroit Free Press* 1891e).

Few records were located for the schooner barge's 1892-season. *William McGregor* ran around at Point Iroquois, Michigan near the end of April. The vessel reportedly sustained no damage and on 30 April was lightered for salvage (*Detroit Free Press* 1892a). The schooner barge passed up bound through the Soo Locks on 5 August (*Detroit Free Press* 1892b). By early December *William McGregor* was laid up in Detroit for the winter (*Chicago Daily Tribune* 1892; *InterOcean* 1892). The permanent enrollment for the ship was surrendered on 15 September for a change of owners. Unfortunately, the additional documentation explaining this change was lost (Bureau of Navigation 1889). It could be that 1893 was the year *William McGregor*, along with other vessels from the Northwestern Transportation Company, were sold to the Vulcan Transportation Company. However, very few documents of this transaction exist

outside of a mention of the 'Vulcan fleet' in a *Detroit Free Press* (1896d) article that indicated the fleet consisted of *Forest City, R.J. Hackett, H.H. Brown* and *William McGregor*.

For its 1894 and 1895-seasons, the schooner barge plied between Lake Erie and Lake Superior ports and the *Forest City* towed the vessel throughout both seasons. In 1894 the ship passed down bound through the Soo Locks on 3 July and arrived at Cleveland and Ashtabula in late August. It cleared Cleveland on 17 October (*Chicago Daily Tribune* 1894a, 1894b; *Detroit Free Press* 1894; *InterOcean* 1894a, 1894b). In 1895 the vessel was cleared Marquette on 4 May (*Detroit Free Press* 1895a). The schooner barge passed Detroit up bound on 24 August and returned down bound on 31 August, arriving in Fairport the same day (*Chicago Daily Tribune* 1895; *Detroit Free Press* 1895b, 1895c).

William McGregor passed Mackinaw City, Michigan up bound on 2 June. On 10 June the schooner barge arrived in Cleveland towed by *Forest City* (*Detroit free Press* 1896a, 1896b). On 22 June the consort cleared Marquette for Lake Erie ports (*Detroit Free Press* 1896c). At the end of June, it was recorded that a new grain elevator was under construction in Manitowoc, Wisconsin, and as a result the Wisconsin Central Branch Line was added. Negotiations were in progress to secure the Vulcan fleet to transport grain from the new elevator to Buffalo (*Detroit Free Press*1896d). Further reports of these negotiations could not be found, and *William McGregor* continued between Lake Superior and Lake Erie. The vessel passed Detroit up bound on 11 September (*Detroit Free Press* 1896e). Very little is known about *William McGregor*'s 1897-season. The schooner barge was recorded passing through the Soo Locks down bound on 29 November (*Chicago Daily Tribune* 1897).

In June the schooner barge arrived in the Duluth, Minnesota-Superior, Wisconsin harbor (*Chicago Daily Tribune* 1898a). It is not known whether the vessel was loading or unloading cargo. The vessel passed through the Soo Locks up bound on 23 July and returned two days later heading down bound (*Detroit Free Press* 1898a). Although it was not explicit on this trip, *R.J. Hackett* was probably towing *William McGregor* as the consort was reported passing through the Straits of Mackinac down bound on 28 July (*Chicago Daily Tribune* 1898b). The consort was recorded arriving in Cleveland on 5 September and at Duluth-Superior five days later (*Chicago Daily Tribune* 1898c; *Detroit Free Press* 1898b; *InterOcean* 1898a). *William McGregor* passed through the Soo Locks on 27 September, although it is not indicated which direction the vessel was headed (*InterOcean* 1898b). The enrollment document for the *William McGregor* expired at the port of Ogdensburg, New York in October. The vessel was issued a temporary enrollment on 26 October. This document listed the owner of the schooner barge as James Findlater, Secretary of the Vulcan Transportation Company, and Captain Ben Tripp as Master (Bureau of Navigation 1898).

In 1898, during the Spanish-American War, there was a great need for shipping along the East Coast. The Atlantic Transportation Company of New York chartered a fleet of 40 to 50 Great

Lakes vessels, including schooners and small steamers, to transit through the St. Lawrence Riverway and participate in East Coast shipping for a contract period of three years with the option of purchase. Chartering began in September. By the end of the Great Lakes shipping season most vessels had traveled through the St. Lawrence. A few of the chartered vessels were delayed due to low water levels and *William McGregor* was among them (Hilton 2002; Mansfield 1899a).

On 20 November 1898, the schooner barge became hung up at the St. Lawrence Rapids and the chartered vessels were required to overwinter until they could be floated over the rapids the following spring. This extended their charter by six months and the vessels that were stuck in the St. Lawrence returned to their owners (Hilton 2002). The Atlantic Transportation Company propositioned the vessel owners to call off the charter price until the ships could be freed in the spring, but none of the owners accepted the terms. By 20 November no terms had been agreed upon and the company was required to pay the charter fees. Before the next shipping season was fully underway, the Atlantic Transportation Company folded in June of 1899 (*Detroit Free Press* 1898c).

At the beginning of the year the *Marine Review* (1899) published the line-up for the Vulcan Transportation Company's 1899-season with included the *Forest City* under command of Captain Joseph Sanders, the *R.J. Hackett* under command of Captain Thomas Sanders, and *William McGregor* under command of Captain Alex Glen. *William McGregor* remained in the St. Lawrence River near Ogdensburg, New York so its temporary enrollment was surrendered and replaced with a permanent enrollment listing the same owners but naming Captain Alexander Glen as Master (Bureau of Navigation 1899a). On 17 May the schooner barge arrived back in the Great Lakes. Upon returning home, a new enrollment document was issued on 19 May at the port of Detroit. The vessel's first destination was Cleveland, then it was put on route to Marquette for iron ore (Bureau of Navigation 1899b *Detroit Free Press* 1899a). The few reports show *William McGregor* passed down bound through the Soo Locks on 10 July and passed up bound towed by the *R.J. Hackett* on 3 August (*Chicago Daily Tribune* 1899a; *Detroit Free Press* 1899b). The schooner barge cleared Cleveland light for Marquette on 8 August and 22 November (*Chicago Daily Tribune* 1899b; *InterOcean* 1899a). It traveled up bound on the Detroit River on 22 September (*InterOcean* 1899b).

The 1900-season was full of erratic accounts of *William McGregor's* whereabouts. Reports indicate the schooner barge was towed by *R.J. Hackett* between Lake Superior and Lake Erie ports. The consort was observed heading up bound in the Detroit River on 8 May and 11 September (*Detroit Free Press* 1900a; *InterOcean* 1900b). The vessels also passed through the Soo Locks heading up bound on 31 August (*Detroit Free Press* 1900b). The consort was documented at Marquette on 20 August, at Cleveland on 23 September, and at Ashtabula, Ohio on 3 July (*Buffalo Commercial* 1900; *Chicago Daily Tribune* 1900; *InterOcean* 1900a). On 19 October *William McGregor* joined a fleet of ships in Harbor Beach, Michigan taking refuge

from heavy winds. The collection of vessels sheltered in port overnight and through most of the following morning (*InterOcean* 1900c).

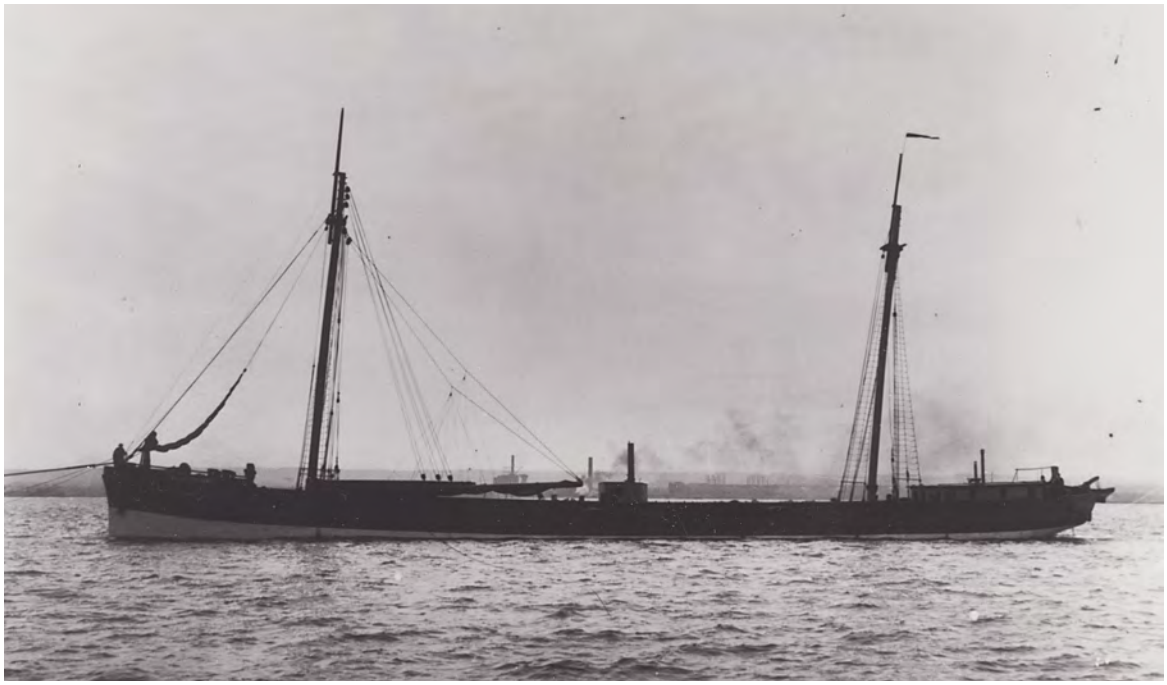

Figure 31. *William McGregor* under tow, circa 1904 (C. Patrick Labadie Collection)

William McGregor continued to call on Lake Erie and Lake Superior ports for its 1901-season. The vessel arrived in Cleveland from Marquette on 5 July and cleared the port heading up bound on 22 July (*Detroit Free Press* 1901a, 1901b). The vessel arrived in Ashtabula on 34 September and Toledo on 7 December; both times clearing light for Lake Superior (*InterOcean* 1901a, 1901e). The vessel was recorded traveling down bound on the Detroit River on 4 October and 18 October. The schooner barge was towed by *R.J. Hackett* on the former trip and by the steambarge *A.G. Lindsay* on the latter trip. *William McGregor* was documented passing through the Soo Locks down bound under tow of *R.J. Hackett* (*Detroit Free Press* 1901c, 1901d; *InterOcean* 1901c). On multiple occasions the consort ws met with dangerous weather and had to seek shelter. On 16 October the vessels sought refuge in Marquette. On 29 November they again found themselves seeking shelter; this time in Escanaba (*InterOcean* 1901b, 1901d).

For the next three seasons *William McGregor* continued its usual route between Lake Superior and Lake Erie. The earliest report for the 1902-season occurred with the schooner barge's arrival at Marquette on 20 April (*InterOcean* 1902a). Although documentation is inconsistent, reports indicate that the vessel's route must have been a constant one. On 12 May *William McGregor* was recorded passing through the Soo Locks twice in one day. The schooner barge passed through up bound at 1PM and passed down bound at 10:40PM (*InterOcean* 1902b). The vessel passed through the locks once more that year down bound in August 1903 (*InterOcean*

1903a). *William McGregor* was recorded passing up bound on the Detroit River in July 1902, October 1903, and July and September 1904 (*Detroit Free Press* 1902, 1903, 1904a. 1904b). The schooner barge's main destination was Cleveland, arriving in port once in October 1903 and four times in September and October 1904 (*Chicago Daily Tribune* 1903, *Detroit Free Press* 1904c, 1904d; *Duluth News-Tribune* 1904a, 1904b; *InterOcean* 1904b). Other stops included a Marquette arrival on 27 October 1902, a clearing of Escanaba on 16 August 1903, and an arrival at Green Bay on 29 June 1904 (*Chicago Daily Tribune* 1902; *InterOcean* 1903a, 1903b, 1904a). In October 1904 Captain William McDonald temporarily replaced Alexander Glen as Master until Captain Glen returned on 26 November (Bureau of Navigation 1899b).

The 1905-season brought major changes for *William McGregor.* Captain H.C. McCallum of Detroit purchased the *R.J. Hackett* and *William McGregor*. Captain G.W. Manual became Master, but *William McGregor*'s homeport remained Detroit. The enrollment document for the schooner barge was surrendered on 10 April and the consort was put in the "general carrying" trade. This included the transportation of iron ore and coal, but the *R.J. Hackett* was also fit out with derricks to handle salt and general merchandise (*Advocate* 1905; Bureau of Navigation 1905; *Detroit Free Press* 1905a). On 27 May the consort passed up bound on the Detroit River (*Detroit Free Press* 1905). On 11 June the vessels arrived in Cleveland and cleared on 15 June for Milwaukee (*Duluth News-Tribune* 1905a, 1905b; *InterOcean* 1905a). On 27 June the schooner barge arrived in Escanaba (*Detroit Free Press* 1905c). On 14 July *William McGregor* cleared Manitowoc for Escanaba (*InterOcean* 1905b). At the end of the 1905 season the steambarge *R.J. Hackett* was lost in a fire. In the years that followed this loss *William McGregor* saw a stream of ownership changes and inconsistency in work. This may have been influence by the loss of the schooner barge's primary means of propulsion.

At the beginning of the 1906-season reports were published indicating that *William McGregor* was purchased by Fritz Reinbenach of Alpena, Michigan (*Advocate* 1906; *Detroit Free Press* 1906a). By the first of April, the schooner-barge was fitted out and staffed at Detroit (*Buffalo Morning Express* 1906). On 19 April the vessel's enrollment document was surrendered for a change in owner. The owner listed on the document was John G. Doyle of Detroit, not Reinbenach. Captain Daniel Kelly took *William McGregor*'s helm, and its homeport remained Detroit (Bureau of Navigation 1906a). During the month of August, the schooner barge passed up bound in the Detroit River on the 11th and 29th (*Detroit Free Press* 1906b, 1906c). Around this time Captain Gormand Hansen replaced Kelly as Master (Bureau of Navigation 1906a).

On 1 October *William McGregor* once again changed ownership. Its enrollment document was surrendered listing Captain James E. Sheehan of Detroit as sole owner and Master of the ship. Six day later, the document was amended naming Captain Gormand Hansen as Master of the vessel in lieu of Sheehan (Bureau of Navigation 1906b). On 2 October *William McGregor* arrived at Toledo. On its up bound trip, the vessel took shelter at Harbor Beach, Michigan on 13 October (*Detroit Free Press* 1906d, 1906e). The last reports for the season recorded the

schooner barge clearing Cleveland on 5 November (*Detroit Free Press* 1906f).

Only one account of the vessel's movements could be found for the 1907-season. On 3 October *William McGregor* arrived light at Sandusky from Detroit (*Sandusky Star-Journal* 1907). The schooner barge was towed by the steamer *Norseman*. This was a temporary arrangement as the barge *Sophia Minch* was purchased to be the steamer's consort and *William McGregor* was used until the *Sophia Minch* could be fitted out (*Detroit Free Press* 1907).

For the 1908-season, *William McGregor*'s first arrival was reported at Chicago from Ontario (*Duluth News-Tribune* 1908). The vessel was tow by the steamer *Oregon* from Chicago to St. Ignace, Michigan for a load of pulpwood. After its return, the schooner barge was put in dry dock for repairs. After the repairs were completed, finding work for the schooner barge became difficult. The *Advocate* (1908) reported that, "the tow-barge McGregor, which was last week released from the boxes after repairs, is still at the shipyard, having been unable to get a load". Finally, on 16 July, the vessel cleared Cleveland for the Soo Locks. It was towed along with fellow barges *J. Godfrey* and *J.B. Lozen* by the steamer *Charles A. Street*. On the return trip on Lake Huron, the *Charles A. Street* caught fire (*Detroit Free Press* 1908a, 1908b). The crew managed to escape the blaze, but no other accounts of the steamer's loss and post fire actions of the barges could be located. *William McGregor* was observed passing up bound through the Soo Locks on 13 November. It is unknown what vessel was towing the schooner barge or to which port it was destined (*Detroit Free Press* 1908c).

William McGregor began its 1909-season with a change in Master. To prepare for the upcoming season Captain J.E. Cornwall replaced G. Hansen on 19 May (Bureau of Navigation 1906b). The early months were busy for the schooner barge. The vessel was recorded passing up bound through the Soo Locks on 12 June, 10 July, and 21 July. It was also noted passing Detroit down bound on 24 June. These records indicate movement between Lakes Erie and Superior, but the destinations, cargoes, and towing vessels are unknown (*Detroit Free Press* 1909a, 1909b, 1909c, 1909d). At the end of July Captain Sheehan, owner of the schooner barge, replaced Captain Cornwall as Master (Bureau of Navigation 1906b). In August *William McGregor* passed Detroit down bound on the 26th heading for Lake Erie ports (*Detroit Free Press* 1909e). On 14 September the vessel's enrollment document was surrendered for a change in district. James Sheehan moved the schooner barge's homeport from Detroit to Buffalo. Sheehan remained the sole owner and Master (Bureau of Navigation 1909). *William McGregor* continued on the same route between Lake Superior and Lake Erie through the end of November; passing Detroit up bound on 3 October and down bound on 24 November (*Detroit Free Press* 1909f, 1909g). The schooner barge was taken to Buffalo at the end of the season for winter lay up (*Buffalo Commercial* 1910a).

In the spring Captain Sheehan purchased the steamer *Montana* to tow the *William McGregor* for the 1910-season (*Buffalo Evening News* 1910). Captain Alfred C. Landen temporarily replaced

Sheehan as Master (Bureau of Navigation 1909). On 14 May the vessel was reported clearing Buffalo. On the 21 May the ship passed Detroit up bound and arrived in Duluth on 11 June (*Detroit Free Press* 1910a, 1910b, 1910c). On 6 July *William McGregor* passed Detroit down bound and arrived in Cleveland the same day. Seven days later the vessel cleared Cleveland with coal for Port Huron and passed Detroit on the evening of 16 July (*Buffalo Commercial* 1910b; *Detroit Free Press* 1910d, 1910e; *Duluth News-Tribune* 1910). On 12 August *William McGregor* arrived in Milwaukee. This was the vessel's last trip on the lakes. Upon its arrival at Milwaukee, its enrollment document was surrendered listing the schooner barge as 'abandoned' (Bureau of Navigation 1909; *Detroit Free Press* 1910f). However, that was not the final day for the thirty-eight-year-old schooner barge.

In 1911 *William McGregor* was purchased by the Milwaukee-Western Fuel Company of Milwaukee. The vessel was converted into a tow barge and renamed *Transfer*. The ship was used specifically on the city's rivers to transport coal. As the vessel would no longer travel on the open waters of the Great Lakes it did not require documentation, hence the 'abandoned' status of *William McGregor*'s last enrollment. A side effect of a career in this new service is there is very little documentation describing the movements of this type of craft.

Figure 32. Self-unloading schooner-barge *Transfer* at dry dock (Rail and Wire1919)

In the early 1900s Milwaukee was the second largest coal-receiving port on the Great Lakes, only surpassed by Duluth-Superior. To manage the vast amount of coal coming into the port, the Milwaukee-Western Fuel Company was organized in 1901 by the consolidation of five smaller companies, including the B. Uhrig Coal Company, R.P. Elmore Company, H.M.

Benjamin Coal Company, F.R. Buell Company and George S. Eastman Company, to create the largest coal enterprise in the northwest. The Milwaukee-Western Fuel Company was a wholesale dealer and retail supplier of coal, receiving bulk cargos and selling to local industries as well as out-of-state consumers. The city contained six coal yards and twenty-nine coal-receiving plants within the harbor. To handle this volume of cargo the Milwaukee-Western Fuel Company employed two large river tugs and two barges, the *Transfer* (formerly the *William McGregor*) and the *Transport* (formerly the schooner *C.C. Barnes*) (Milwaukee Harbor Commission 1914: Volmert and Hatala 1991).

By 1914 *Transfer* was equipped with self-unloading machinery that was used to transfer coal directly into bins connected to the city's powerhouses. The *Transport* was not equipped with advanced machinery and was used to transport coal from one yard to another as needed (Milwaukee Harbor Commission 1914). The *Transfer* became the name and icon for the company's safety bulletin in November 1914 (Transfer 1914). The monthly newsletter focused on safety practices and news from across all of the company's coal yards. Some safety issues pertained to the barge *Transfer.* In March crane operator Edward Sutton suggested that the company change the system of exhausting the steam from the winch engines to decrease the possibility of burns and scalding to those nearby. On 15 May one bargeman cut his right hand while pulling cable on the barge (Transfer 1915).

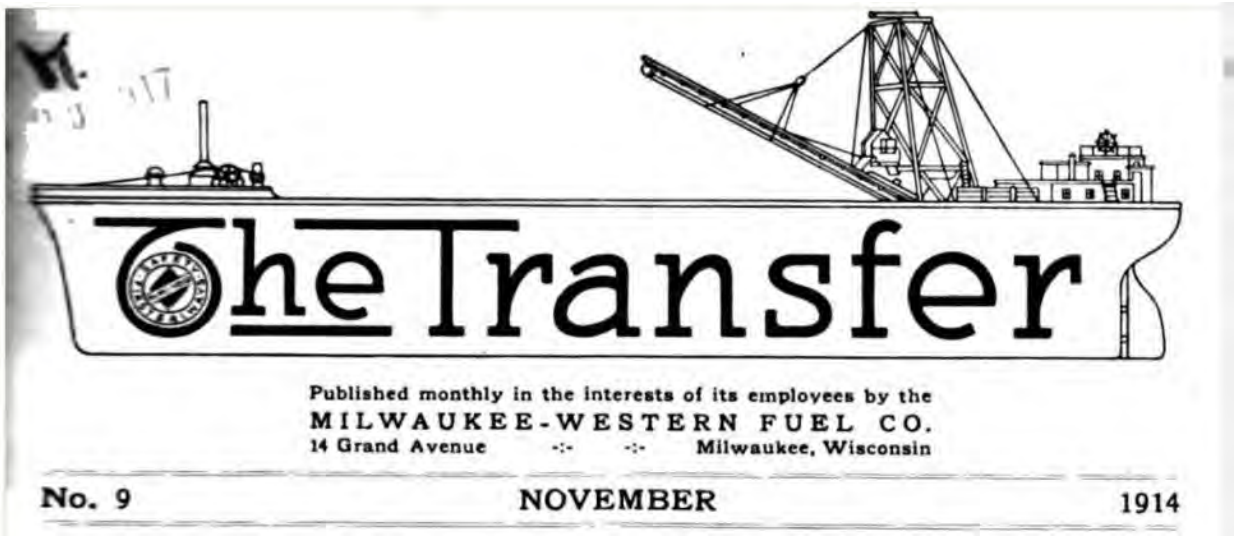

Figure 33. Title header for the Milwaukee-Western Fuel Co.'s safety newsletter (Transfer 1914)

In 1915 *Transfer* was purchased by The Milwaukee Electric Railway and Light Company (TMER&L Co.). TMER&L Co. was organized in 1896 out of a series of company mergers and consolidations. The company provided almost all of the commercially available electrical power in the city of Milwaukee, including street lighting and the electric trolley system (Rucker 1998). Between 1915 and 1923 the company used a fleet of self-unloading barges to transport coal from various yards to TMER&L Co. powerhouses: Oneida Street house, Commerce Street house, and Commonwealth Street house. These vessels include *Transfer, Collier,* and *E.M.B.A.*

that were all towed by the tug *Lorena* (Rail and Wire 1923a).

To cater to the company's demand for coal, *Transfer* contained self-unloading machinery capable of unloading 200 tons of coal per hour. The machinery included a double hopper hold that extended the entire length of the ship. The hoppers filed cargo to two conveyor belts, one on each side that carried the coal to two elevators, which discharged the cargo onto another conveyor located on a boom for easy movement and unloading. Interestingly, the vessel did not produce its own power, but would plug into the powerhouses to power the machinery (Rail and Wire 1915). By June 2016 *Transfer* made 400 trips transporting a total 6000,000 tons of coal (Rail and Wire 1916).

Transfer continued in this capacity until 6 December 1923 when she was replaced by the newly purchased schooner-barge *E.M.B.A* (Rail and Wire 1923a). *Rail and Wire* mentioned preparations for the vessel's abandonment, but no details could be found. Images from the newsletter show that the boom and tower were removed from the vessel before abandonment. Hank Ehmke, Captain and manager of all of the TMER&L Co. fleet, stove in the barge's windows with an axe to assist in its sinking. The sixty-year old vessel was towed six miles east of the harbor entrance. When finally set adrift on Lake Michigan, the barge was rammed by a tug three times near its starboard bow. *Transfer* quickly took on water and slid beneath the waves where it was abandoned in 120 feet of water. During its twelve-year service as a coal barge *Transfer* made 1,525 round trips between the coal docks and powerhouses carrying a total of 1,830,000 tons of coal (Rail and Wire 1923b).

Figure 34. *Transfer* equipped with self-unloading machinery transfers coal to the Commonwealth powerhouse (Rail and Wire 1916)

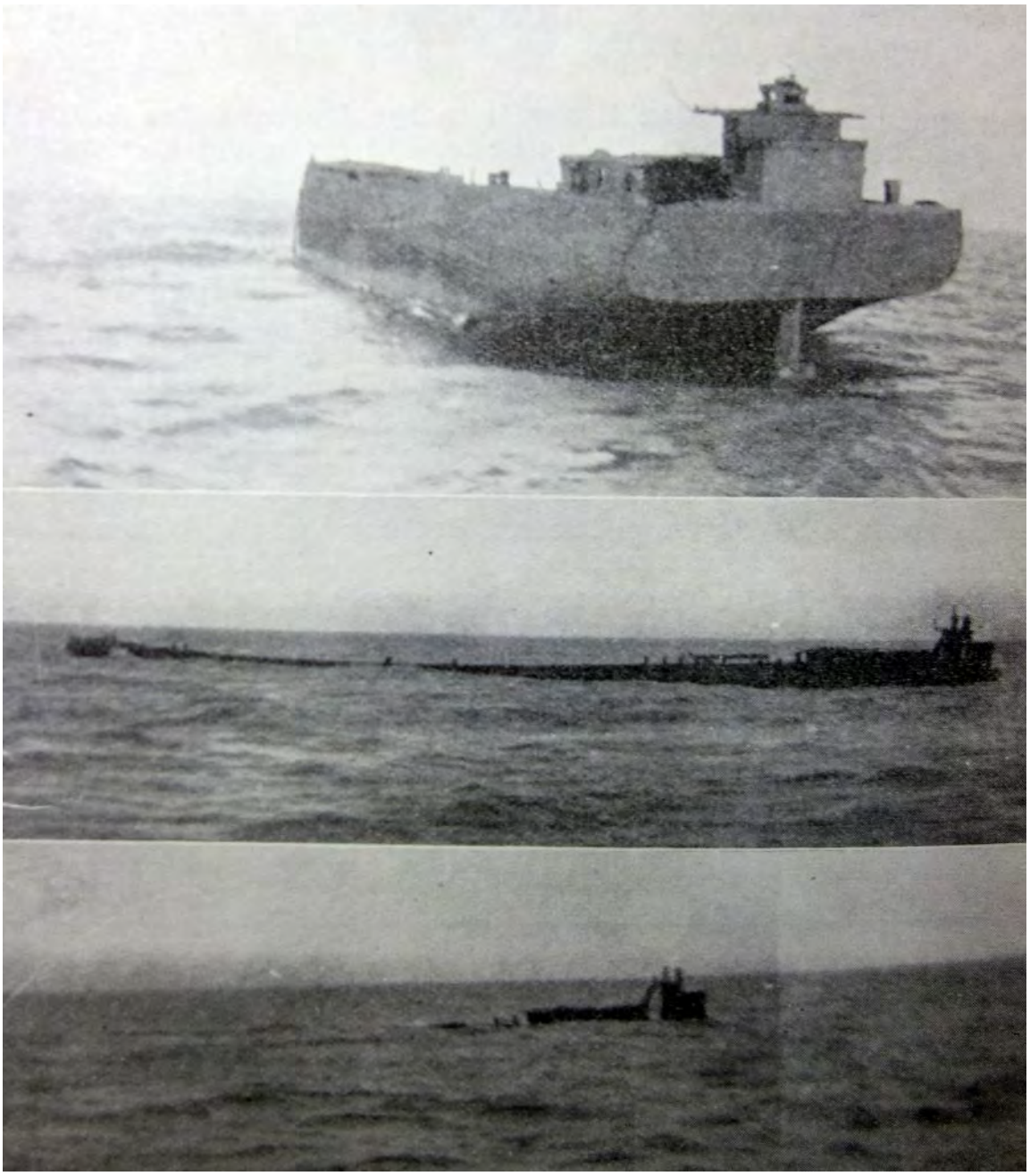

Figure 35. Images capturing the abandonment of the *Transfer* outside of Milwaukee (Rail and Wire 1923)

Site Description

The remains of the self-unloading barge *Transfer* (47MI-0554) lie broken on an even keel in 120 feet of water, 6.0 miles southeast of the main Milwaukee harbor entrance in the waters of Lake Michigan, in the town of Milwaukee, Milwaukee County, Wisconsin. The vessel sits nearly perpendicular to shore, on a heading of 85.1 degrees, with its bow facing southwest. The vessel remains broken, although most of its construction components and artifacts remain within its broken hull. No impact crater was discernable around the wreck indicating that the

ship hit the lake bottom with little force. The site was discovered in 2009 by shipwreck hunter, Captain Jerry Guyer. The wreckage rises only 11.0 feet off the lakebed measured from the sand to the top of the broken sternpost.

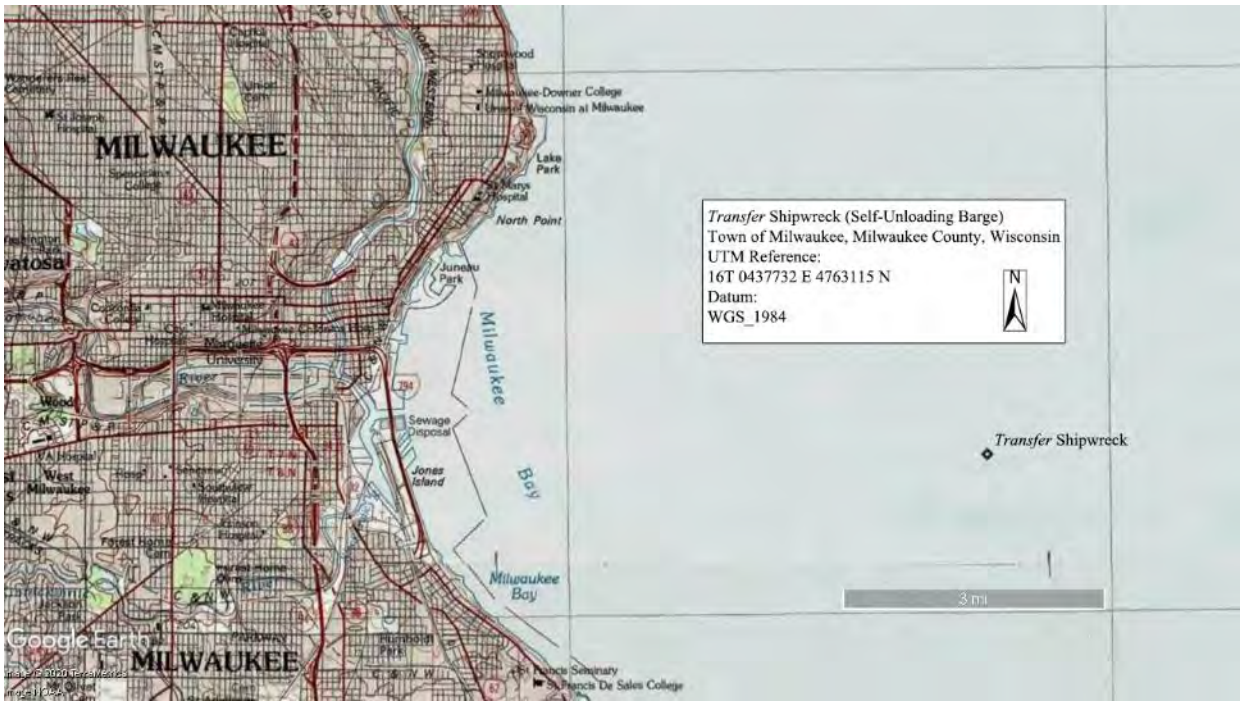

Figure 36. Location of the *Transfer* shipwreck site

A Phase II archaeological survey of *Transfer* was conducted in August of 2019 by maritime archaeologists and volunteers from the Wisconsin Historical Society. During the survey, archaeologists installed a temporary baseline along the centerline of the ship, stretching 196.1 feet from bottom of the broken stempost to just above the deadwood at the stern. All measurements for the survey were taken from this baseline. The overall length of the wreckage is 200.6 feet. The width of the hull, measured at its widest point, is 57.2 feet. At the time of its build, the vessel was reported to measure 200.0 feet long, with a beam of 33.9 feet. Given the wreck dimensions, location, comparisons to historic imagery, and the self-unloading equipment located within the hull, the remains were determined to be that of the self-unloading barge *Transfer*. Although the vessel now lies broken on the lake bottom and covered in a thick coat of invasive quagga mussels, most of the its components and artifacts remain within the footprint of its hull allowing for detailed observations of its construction and self-unloading equipment contained within.

The *Transfer*'s hull is constructed of wood, with its lower hull covered by sections of thin metal sheathing, measuring 0.02 feet thick and 2.3 feet wide. Most of this sheathing remains attached to the vessel's outer hull, however, some rectangular sections are scattered on the lake bottom just to the port side of the wreckage. The hull structure has completely collapsed; the port side hull has fallen inward, into the vessel's hold, and the starboard side has fallen outward. The

outer hull planking measures 0.65 feet wide and 0.25 feet thick while the ceiling planking measures 0.7 and 0.8 feet wide and 0.2 feet thick. The vessel's frames can be observed near where the ship is broken at the turn of the bilge. The frame sets have a sided measurement of 0.9 feet (with each futtock measuring 0.45 feet wide), a moulded dimension of 0.7 feet, and are spaced 1.1 feet apart. Most of the large timbers now lie on the starboard side of the shipwreck. Given the position of the timbers and the hull sides, the vessel hit the lake bottom starboard side first.

Near the bow, the port side outer hull is broken. The forward 28.2 feet of the port side hull is splayed outward. It is likely that this break is where *Transfer* was rammed three times by a tug in an attempt to sink the ship. The vessel's stempost is broken 3.4 feet above the scarph joint where the stem meets the keel. The stempost measures 2.5 feet moulded and 1.8 feet sided and has a 2-degree pitch forward. The remainder of the stempost is attached to the fallen section of the port side hull.

Figure 37. View of *Transfer*'s broken portside bow (Wisconsin Historical Society)

The breasthook remains intact and attached to the fallen starboard side hull. It measures 3.5 feet in overall width. A single, wooden hogging arch extends from the breasthook, and continues aft along the length of the starboard side hull, until it becomes obstructed by debris 60.3 feet aft of the stempost. The arch measures 1.0 feet square. No metal hogging arches, or strapping were located on the vessel's hull.

The forecastle deck remains mostly intact, although it now lies upside down, 12.5 feet forward of the broken stempost. This deck is triangular in shape, and measures 16.4 feet long and 25.2 feet wide, measured at what would have been its aft most edge. The deck planking of forecastle deck measures 0.5 feet wide and is supported by deck beams measuring 0.7 feet wide and 0.6 feet thick, which are spaced 1.2 feet apart.

The starboard side bulwarks are broken and largely missing, while the port side bulwarks remain intact on site, 10.4 feet off the vessel's port side. These bulwarks measure 3.8 feet tall. One set of bitts is located near the stern end of this port side section of bulwarks. The bitts each measure 1.2 feet square and are spaced 2.0 feet apart. Additional single bitts line the bulwarks forward. These are unevenly spaced, and each measure 1.0 feet square. As a result of the ship's collision with the lake bottom the interior structural components of the vessel lie haphazardly within the hull.

Figure 38. *Transfer*'s keelson structure and triangular support (Wisconsin Historical Society)

Transfer's keelson remains intact along the length of the vessel, with both the forward and aft ends of the wreckage resting on an even keel. As a result of the numerous broken deck beams and other timbers within the hull, the keelson is only visible at certain points along the ship's length. Although obscured in most places, *Transfer*'s keelson is visible from 60.1 feet to 153.2 feet along the baseline. The keelson measures 1.5 feet wide and 1.8 feet thick. Two sister keelsons flank the keelson and measure 0.7 feet wide. A triangular wooden support was located at 113.6 feet along the baseline. It is made of four timbers, 6.9 feet long, each larger than the other that measure 1.1 feet wide near the ceiling planking and taper to 0.4 feet wide. The

purpose of these timbers is not known; however, it is possible that this was a repair to the keelson or additional support for the keelson structure installed as the vessel aged.

A single mast step was located at 102.2 feet on the baseline. The mast step measures 2.5 feet long and 1.2 feet wide. The location of this mast step, near the center of the wreckage, indicates that this was the mainmast step. During *Transfer*'s conversion, the vessel's masts were removed, however, it is clear that that was the extent of the alterations to the hull structure of the vessel and the keelson remained completely intact during conversion.

Evidence of the vessel's foremast was located on the site. Although the foremast step is obscured by scattered timbers, a large, rounded timber, measuring 1.5 feet in diameter and 5.8 feet in length, lies on its side 31.2 feet aft of the stempost. This timber has a flat top (cut), and a tenon at its base, which measures 1.0 feet in length that is similar in size to the mortise located at the mainmast step. This tenon would allow the mast to be stepped into the keelson. Although it was reported that *Transfer*'s masts were removed during its conversion to a self-unloader, it seems that the foremast was merely cut down at the height of the deck, and the lower section remained stepped into the keelson. The vessel's self-unloading hoppers and conveyer systems would not have extended as far forward as the foremast, making its complete removal unnecessary.

Figure 39. *Transfer*'s stanchions with support knees (Tori Galloway)

The ship's many stanchions remain extant, although fallen to the starboard side of the wreck and broken into multiple sections. These stanchions measure 0.7 feet square and are spaced approximately 1.2 feet apart. The base of each stanchion is equipped with a standing knee with each arm measuring 1.1 feet long, and 0.7 feet wide. The knees are attached to the aft-facing

side of the stanchions and extend along the vessel's centerline. The knees were likely added at the time of *Transfer*'s conversion to lend additional support to the stanchions in order to hold the weight of the hoppers and coal cargo. A single timber measuring 0.8 feet square remains attached on the port and starboard sides of a section of stanchions. This longitudinal timber would have supported the top of the hoppers. A similar timber is located along the starboard side hull, just beneath the vessel's hanging knees. The *E.M.B.A.* shipwreck site has a hopper support timber like this that remains fully intact. A 20.2-foot section of stanchions, with the hopper support timber attached, is located from 60.0 to 82.2 feet along the baseline on the starboard side of the keelson. Given that all of the vessel's stanchions lie on the starboard side of the hull, this is another indication that the vessel struck the lake bottom starboard side first.

During its conversion to a self-unloader, most of *Transfer*'s deck planking was removed to allow coal to be piled high above the vessel's bulwarks. Since the ship never traversed the open lake after its conversion, heavy waves were not a concern, and the deck planking was not needed to keep the vessel's interior dry. The ship's deck beams, deck shelf, and knees, however, were left in place. The deck beams were made up of two timbers; one single timber that extended across the entire width of the vessel, and a shorter timber, located at the vessel's centerline where the stanchions met with the deck beams. The deck beams measure 0.8 feet thick and 0.9 feet wide. The shorter deck beams measure 0.6 feet thick, 0.9 feet wide, and 5.2 feet in length. As a result striking the lake bottom, no deck beams remain in place and all are scattered throughout the wreckage.

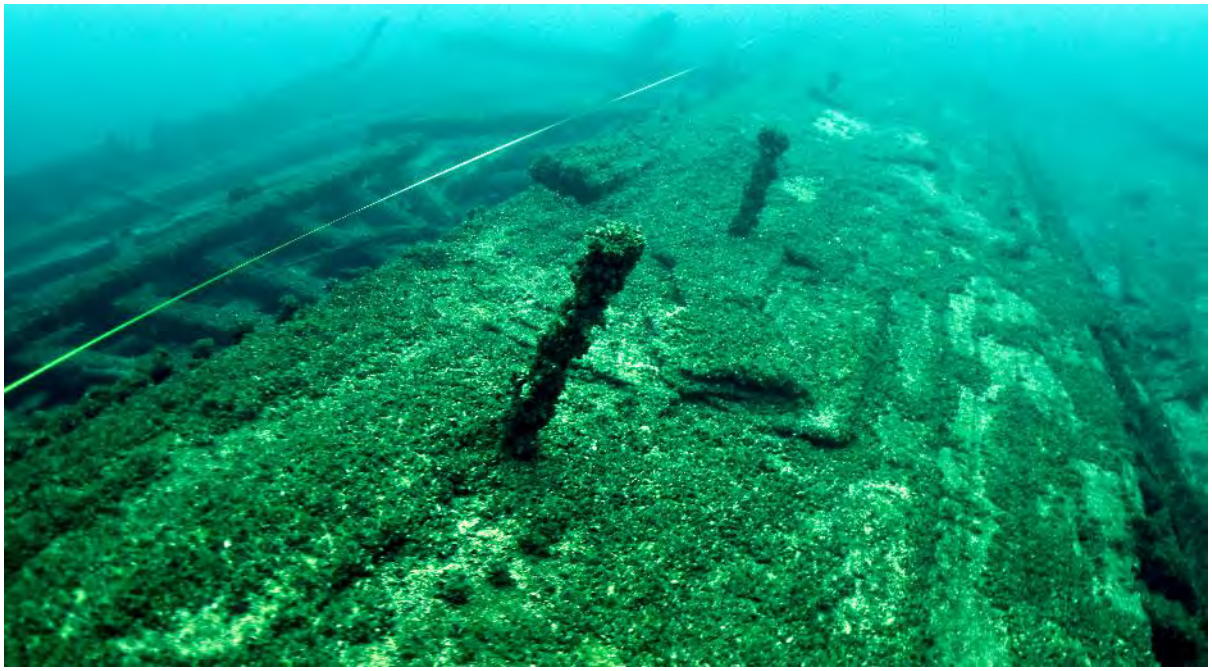

Figure 40. *Transfer*'s tie rods and portside metal sheathing (Wisconsin Historical Society)

The deck shelf is visible on the starboard side of the vessel. The deck shelf measures 0.4 feet thick and 1.5 feet wide. Deck beams would have rested atop this timber. The vessel's hanging

knees are extant on the starboard side hull. These measure 4.3 feet in overall length, and 0.7 feet wide. The top arm of the knees measures 2.4 feet long and 1.1 feet thick at the widest point, tapering to 0.5 feet thick at each end.

The vessel was equipped with numerous metal tie rods that extended across its width. These tie rods measure 0.3 feet in diameter and are secured to the hull, just beneath the deck shelf. They extend through the hull structure and are fastened on the exterior of its hull. These were likely added to *Transfer* during its conversion into a self-unloader for additional hull support to allow the vessel to carry more coal cargo without putting as much stress on the vessel's hull. With the collapse of the hull sides, the tie rods became detached; some remain attached to the starboard hull and extend upwards, while some are bent beneath the fallen port hull section. Near the bow, a series of five tie rods have been forced completely though the port side hull and extend 1.0 to 2.5 feet above the fallen hull section.

Figure 41. *Transfer*'s transom, stern, and intact rudder (Wisconsin Historical Society)

The vessel's sternpost remains upright, rising 11.2 feet off the lake bottom. The sternpost measures 1.2 feet square. The sternpost is curved on its aft-facing side, to allow for the rudder to pivot. The stern deck remains remarkably intact, although it rests 25.1 feet aft of the sternpost, on the starboard side of the vessel. Wreckage extends up to 60.0 feet aft of the sternpost. The stern bulwarks and railing are intact. The rail cap measures 1.5 feet wide. A 12.2 feet long section of starboard bulwark remains connect to the transom by a small, triangular brace. The brace measures 1.5 feet wide and 0.5 feet thick. The port side bulwark is no longer attached to the transom. The fashion timber is attached to the port side bulwark and both rest on

the lake bottom off the port side of the wreckage. The fashion timber measures 0.6 feet wide and 0.5 feet thick.

The rudder lies beneath the fallen stern deck. It measures 23.7 feet in overall length and remains completely intact. The rudder blade itself measures 14.2 feet tall, 5.0 feet wide, and 1.2 feet thick. It is composed of multiple pieces of wood fastened together and reinforced with metal. The rudderpost extends through the bottom hull structure. The rudderpost measures 1.9 feet in diameter and has two small metal attachments near its top that measure 0.66 feet in overall width. Near the rudder's base, a small metal eye remained where the preventer chain would have attached. The chain is not extant. Metal strapping remains attached to the sternpost.

Remnants of the vessel's steering apparatus remain where the rudderpost extends through the stern deck. The ship's wheel is not extant, but the spindle, or worm gear, remains and lies in the silt aft of the transom. The crosshead measures 2.5 feet in overall width, the spindle gear measures 0.35 feet in diameter, and the yoke measures 1.5 feet in length and 1.4 feet wide. This mechanism would have been attached to the top of the rudderpost and would have allowed the rudder to rotate when the ship's wheel was turned. The entire apparatus was housed inside a wooden box that measures 4.5 feet wide and 2.5 feet in height.

Figure 42. *Transfer*'s steering apparatus and top of rudderpost (Wisconsin Historical Society)

From historic images, it is possible to determine that the ship's wheel was located above this apparatus (not in front of it) and a wooden frame supported the ship's wheel. One side of this wooden frame remains on site and measures 3.0 feet by 2.3 feet overall and is composed of timbers measuring 0.65 feet square. This was likely added to *Transfer*'s stern to position

wheelsman above the large piles of coal rising up from within the vessel's hull. Two light sockets were located near the base of the wooden "wheelhouse", along with an insulated conduit that contained two wires. Although the ship was not equipped with electricity, when unloading, the vessel could connect to the powerhouse where it was delivering coal, to power these lights along with the self-unloading machinery onboard.

From historic images and documents, it is known that *Transfer* possessed a self-unloading boom and a bucket elevator. It is probable that these features were taken off prior to the vessel's abandonment, as evidence of these two items is not extant on the site. Despite the broken nature of the wreckage, several components of the self-unloading machinery are visible. All of the internal components of the *Transfer*'s self-unloading machinery appear to be extant. The vessel was equipped with parallel cable conveyers running the length of the ship's hull, beneath wooden hoppers lined with thin sacrificial wooden planking. Small doors or slots would have opened in the bottom of the hoppers for the coal to funnel into the cable conveyer. The cable conveyer would transport the coal aft within the hull to the vessel's athwartship scraper conveyer, which would transport the coal to the bucket elevator. The bucket elevator would deposit the coal on to the self-unloading boom, which could rotate to deliver coal over the side of the vessel's hull.

Figure 43. *Transfer*'s longitudinal, Cable Conveyer and the Jeffery Manufacturing Co. Cable Conveyer (Wisconsin Historical Society, Jeffery Manufacturing Co.)

Remains of the vessel's cable conveyer are visible on both sides of the keelson. The cable conveyer ran longitudinally along the length of the ship and is composed of a series of circular

disks measuring 0.6 feet in diameter, mounted at intervals on a steel cable measuring 0.2 feet in diameter. The cable and disk ran in a curved, U-shaped steel trough that measures 1.1 feet wide. Many manufacturing companies produced cable conveyers. It was not possible to determine which company designed the conveyers found on *Transfer* specifically, however, many of the components look very similar to the Jeffery Manufacturing Co. Steel Cable Conveyer.

Another component of the cable conveyer is the gapped sheave wheels. These wheels operate similarly to regular gears, but they have gaps cut out for the circular disks to align in order to turn the cable conveyer at its end and keep the conveyer rotating. One of these gapped wheels remains near *Transfer*'s bow, on the port side of the keelson at 28.8 feet on the baseline. It is not attached to the cable conveyer and appears to be broken; however, it is similar in design to the "Jeffery Gapped Sheave Wheels".

Figure 44. *Transfer*'s bevel gears and athwartship conveyer, with sprocket gear and roller chain (Wisconsin Historical Society)

An additional component of the longitudinal cable conveyers are bevel gears located at *Transfer*'s stern. These gears measure 2.2 feet in overall diameter with teeth measuring 0.5 feet long. The gears sit on wooden supports that measure 2.5 feet square. These are located at 169.0 feet on the baseline on both the port and starboard sides of the hull and would have kept the conveyer system running. An additional gear is located inbound of the port side bevel gear. It rests on its side and is propped up against the bevel gear's wooden support. This gear measures 3.4 feet in overall diameter and was likely a part of the bucket elevator conveyer, that brought coal up to the main unloading boom.

Figure 45. Close up of *Transfer*'s metal scraper conveyer (Wisconsin Historical Society)

The vessel's athwartship conveyer is relatively intact on the port side of the ship at 165.0 feet on the baseline. This appears to be a metal scraper conveyer, which is made up of small, metal dividers that progress along a wooden support structure, advanced by roller chains (similar to a large modern bicycle chain), that was advanced by sprocket gears, located near the vessel's hull walls. This scraper conveyer measures 2.1 feet in overall width, and each divided section measures 1.2 feet long. The metal dividers measure 0.5 feet tall and 0.05 feet thick. Each link of the roller chain measures 0.2 feet wide by 0.3 feet long. The sprocket gear for the port side athwartship conveyer rests on top of the conveyer and measures 1.2 feet in diameter. Roller chain remains loosely draped across the entire stern section of the vessel. No evidence of the vessel's starboard side athwartship conveyer was located during the 2019 survey.

Although *Transfer*'s bucket elevator was removed prior to the ship's abandonment, some evidence of it remains on site. The elevator boot was located along the centerline of the vessel near the its stern and 157.7 feet aft of the stempost. This metal boot measures 2.9 feet wide and 4.7 feet long. An elevator boot was commonly installed at the base of bucket elevators and would have been located just beneath where the athwartship conveyer met with the bucket elevator. The boot is comprised of two flat sides to port and starboard, and a curved middle section that followed the curve of the bucket elevator. The boot remains upright and largely intact, with the exception of a triangular piece that is missing from the forward-facing side of the boot. Additionally, a single, V-shaped bucket remains on the site near the vessel's portside bow at 20.7 feet along the baseline. This metal bucket measures 0.05 feet thick, 2.3 feet wide, 1.4 feet long, and 1.0 foot deep. Since no other buckets were located on the site, it is not known

if this was originally part of the bucket elevator, or used for something else, however, it's design and shape match many elevator bucket designs from the time period.

Figure 46. A single V-shaped bucket located in *Transfer*'s bow (Wisconsin Historical Society)

Figure 47. The thin sacrificial planking from *Transfer*'s hoppers (Wisconsin Historical Society)

Due to the flattened appearance of the vessel and the widely scattered timbers within its hull, *Transfer*'s hoppers are not readily visible, however, they remain on site. *Transfer*'s hoppers were made of wood, lined with thin wooden sacrificial planking. This planking can be found in

piles along the length of the keelson; each plank measures 0.1 feet thick. The hoppers themselves were made of wood timbers that measure 0.5 feet wide and 0.3 feet thick, and were spaced directly next to one another, with no opening in between. A section of the starboard side hopper wall is located at 136.8 feet on the baseline that includes 28 timbers. The mechanism for delivering coal from the hoppers to the cable conveyer was not located during the 2019 survey, however, a single rectangular metal combing was located at 21.2 feet aft of the stempost on the vessel's port side. The combing is made of metal 0.25 feet wide and 0.1 feet thick, and measures 1.5 feet by 2.0 feet overall. The internal measurement of the combing measures 1.0 feet by 1.5 feet. There is no clear indication of what this was used for, but it resembles the combings located around the hopper openings for another self-unloading vessel, *Adriatic*.

Figure 48. Transfer's starboard wooden hopper (Wisconsin Historical Society)

Additional artifacts scatter the *Transfer* site. Thin, insulated wire is located throughout the vessel; it measures 0.15 feet in diameter. It is likely that this was used to power the machinery onboard once the vessel reached TMER&L Co. powerhouses. Additionally, a large collection of metal sheathing, gears, and roller chain are located within the elevator boot. The roller chain and sprocket gear match those that are associated with the port side athwartship conveyer. It is likely that these components are a part of the non-extant starboard side athwartship conveyer and deposited in the boot before the ship's abandonment.

Figure 49. Transfer's elevator boot and artifacts (Wisconsin Historical Society)

Figure 50. A view of *Transfer*'s stern, looking forward, including the remains of the cabin roof (Wisconsin Historical Society)

Transfer's cabin no longer remains on site, but the cabin roof is extant. It lies diagonally across the stern section of the vessel from 133.2 feet to 170.1 feet on the baseline. The section of cabin

roof measures 18.5 feet in overall width, and 12.6 feet in overall length. The planks covering the roof measure 0.3 feet thick and 0.5 feet wide. A single square hole is located in the cabin roof on the starboard side. This was likely the opening for a stovepipe. A single metal turnbuckle was located within the vessel's hull, at 130.8 feet along the baseline on the port side. This turnbuckle is comprised of two different sections, one of which measures 0.1 feet in diameter and the other measures 0.25 feet in diameter. It is likely that other artifacts are located within the debris of the vessel's hold and have fallen beneath the port side hull or within the bow.

Figure 51. Site plan of Transfer (Indiana University, Wisconsin Historical Society)

CHAPTER FIVE
SCOW SCHOONER *TENNIE & LAURA*

The scow schooner *Tennie & Laura*, official number 145115, was built in Manitowoc, Wisconsin in 1876. The ship was built by Norwegian immigrant Gunder Jorgensen for owners Otto A. Bjorkgnist and Ole Osmondson of Port Washington, Wisconsin. Over its twenty-seven-year career *Tennie & Laura* was owned by a variety of shipowners, mostly Norwegian immigrants, and continued on in the coastal lumber trade. On Saturday, 1 August, the scow schooner cleared Muskegon, Michigan with a load of slab wood for Milwaukee, Wisconsin and with a skeleton crew of two, Captain Sather and Charles Nordback. By the evening a gale had picked up threatening to swamp the vessel. For hours, the two men took turns between the wheel and the bilge pump. The vessel was battered by wind and waves until 5 o'clock the next morning when the scow capsized in a large wave. The two men took to their yawl boat and drifted next to their swamped vessel until the passing steamer *Mark B. Covell* saw them and attempted their rescue. Capt. Sather was saved, but in the attempt, Nordback capsized the yawl boat. He was too exhausted to hold on and sank under the waves (Meverden and Thomsen 2005).

Figure 52. Historic image of the *Tennie & Laura.* Date and location unknown (Wisconsin Maritime Museum)

Lost through history, *Tennie & Laura* was relocated in 1998 during the search for the sunken fish tug *Linda E*. An archaeological survey of the wreckage of the wooden scow schooner *Tennie & Laura* was conducted in August 2005 and the site was listed to the National Register of Historic Places on April 11, 2008. The 2005 survey was conducted using a video-equipped Remotely Operated Vehicle (ROV) contracted through University of Wisconsin – Milwaukee Great Lakes WATER Institute and launched from the R/V *Neeskay*. Due to the standing foremast and large quantity of rigging off the starboard side of the *Tennie & Laura*, the ROV operator was uncomfortable exploring more than the port side outer hull to avoid risk of entanglement for the ROV. Additionally, the research vessel's captain was unable to establish a 3-point mooring for the vessel over the site, so the vessel swung wildly on its single anchorage and pulled the ROV away from the shipwreck more than it allowed detailed observation.

Due to these and other challenges of working in depths below 300 feet, the initial survey of the *Tennie & Laura* site produced limited archaeological data on scow schooner construction, however sufficient data was gathered to write a site description. The nomination form expressed the potential for gathering additional information on scow schooner construction and shipboard life from the site as deep-water exploration technology advanced. The full history of the *Tennie & Laura*, as well as the previous investigations and descriptions are located in the Maritime Preservation Program's 2005 field report "Wisconsin's Cross-Planked Mosquito Fleet: Underwater Archaeological Investigations of the Scow Schooners *Iris, Ocean Wave,* and *Tennie & Laura* (Meverden and Thomsen 2005)

In June 2017, Wisconsin Historical Society archaeologists partnered with Marine Imaging Technologies and Crossmon Consulting, LLC to revisit the site with the prototype cinematographic ROV *Pixel*. *Pixel* shot high quality stereo imagery of the wreck but did not have sonar capability to enable measurement of the various components. In June 2019, Society archaeologists returned again to the wreck through funding from the University of Wisconsin Sea Grant Institute with Crossmon Consulting's VideoRay ROV and collected time-stamped video and multi-beam sonar data. As a result of advances in technology, new information has been gathered and further documentation enabled necessitating the nomination document to be updated.

Site Description

The scow schooner *Tennie & Laura* (47-OZ-0354) lies in 307 feet of water, nine miles southeast of Port Washington, Wisconsin, on a heading of 070 degrees. Her deck sits at 301 feet. The vessel remains upright and mostly intact, with the exception of the deck and stern cabin, which no longer remain extant. While previously reported to be buried up to the load line, the lower hull of the *Tennie & Laura* is exposed. The Society revisited the site in June 2017, with Marine Imaging Technologies, Woods Hole Oceanographic Institution and Crossmon Consulting, LLC with the prototype cinematographic ROV *Pixel*. The Society again visited the site in June 2019 with an ROV equipped with video and multi-beam sonar from Crossmon Consulting, LLC. All images of the site were taken by the ROV *Pixel* and all measurements included in this site description were taken from the multi-beam sonar data. A thick layer of quagga mussels coats the exposed surfaces of the wreck. The vessel's integrity, along with the presence of the ship's rigging and operational deck implements, offers a wealth of information for archaeologists and researchers.

Figure 53. Location of the *Tennie & Laura* shipwreck site

The hull measures 77.8 feet in overall length with a beam of 19.2 feet, and the hull rises 6.0 feet above the silt. Most of the vessel's deck planking is no longer extant, except a section near the bow which extends approximately 18.2 feet aft of the bow. Also, a small section is located just aft of where the vessel's mainmast was originally located and measures 7.1 feet long and 6.9 feet wide. This section of deck planking is located near the former location of the cabin, 57.4 feet aft of the bow. With most of the deck planking missing, the deck beams are readily visible. Along most of the deck, the beams have a spacing of 11.1 feet and measure 1.1 feet wide. At the stern, however, the deck beam spacing decreases to 1.1 feet. The deck beams are notched into a covering board and sit on top of a deck shelf.

The bulwarks remain intact except on the starboard side's aft quarter, and the vessel's transom is no longer intact. A broken section of the bulwarks, measuring 17.0 feet in length, now lies in the silt on the vessel's starboard side, 2.2 feet outbound of the hull. Two wooden bitts are attached to this section of bulwarks, near its stern end. A heavy covering board, measuring 1.2 feet wide, was fastened atop the hull planks, and the bulwark was recessed from the outer hull by several inches. Bulwark stanchions likely passed through the covering board, evidenced by the recessed hull, through bolts, and clinch rings. The bulwark is comprised of three planks plus a rail cap. Remnants of white paint were visible during the 2005 survey but are now covered by quagga mussels. Through bolts with clinch rings are visible along the outer hull planking on the portside, similar to the scow construction seen in designs that utilize bulwark stanchions. The bulwark stanchions measure 0.4 feet square and are spaced 1.2 feet apart. On the outer hull, along the deck-hull joint is a single rub rail that runs along the length of the hull on both port and starboard sides.

Figure 54. Port side of the vessel looking aft, showing deck beams, centerboard trunk, bulwarks and rubrail (Marine Imaging Technologies)

The vessel's bow ramp is cross-planked, joined to the longitudinal side-planking by framing timbers. The bow curves upward sharply from the bottom and appears to be constructed of two separate panels. These panels are joined together to create a V-shaped bow that extends 1.6 feet forward of the framing timbers where it connects at the stempost and is reinforced by a breasthook. The bowsprit and jibboom split the bulwark and rest on top of the stempost and gripe; a rail cap runs over the top of the two. A single piece of the bulwark planking is missing on the outer hull on the starboard side just below the rail cap. Notched into a timber set atop the bow rail cap are four fairleads, two on either side of the bowsprit-jibboom assembly. At the forepeak, inside the rail is a triangular deck hook, decking that perhaps acted as a spray skirt or weather deck for the operation of the windlass in foul weather.

Confirmed in the 2017 video, the vessel was constructed with a chine log and kingposts as a portion of the chine log was exposed and clear of quagga mussels near the portside bow. At the stern, the bottom hull planking of *Tennie & Laura* is visible, running athwartship from the keelson and deadwood to the sides of the hull. As in most other Great Lakes scow schooners, the vessel did not have athwartship floors and frame sets, but instead was equipped with longitudinal floor keelsons running parallel to the keelson. These provided athwartship support that functioned as floors and futtocks would function in a traditional schooner. Single and double cross-keelsons sit on top of these longitudinal timbers, extending from the keelson to the hull sides. As with floors and futtocks in traditional schooners, these cross-keelsons supported the ceiling planking.

Near the bow, the vessel's windlass remains in place 5.1 feet aft of the stempost. The windlass measures 9.5 feet long overall and 1.9 feet in diameter. The warping ends, or gypsy heads, measure 1.2 feet long, and 0.9 feet in diameter. Several wraps of anchor chain encircle the whelps. Just forward

of the windlass, the vessel's Samson post remains intact, measuring 1.2 feet square. An iron crosshead for manual operation of the windlass is mounted on the forward side of the Samson post with rods running along both sides. The pawl remains braced into the rim, however the windlass' strongback is missing. The combing for the forecastle hatch is located at 8.0 feet aft of the bow and aft of the windlass. Aft of this, a single action bilge protrudes through the deck.

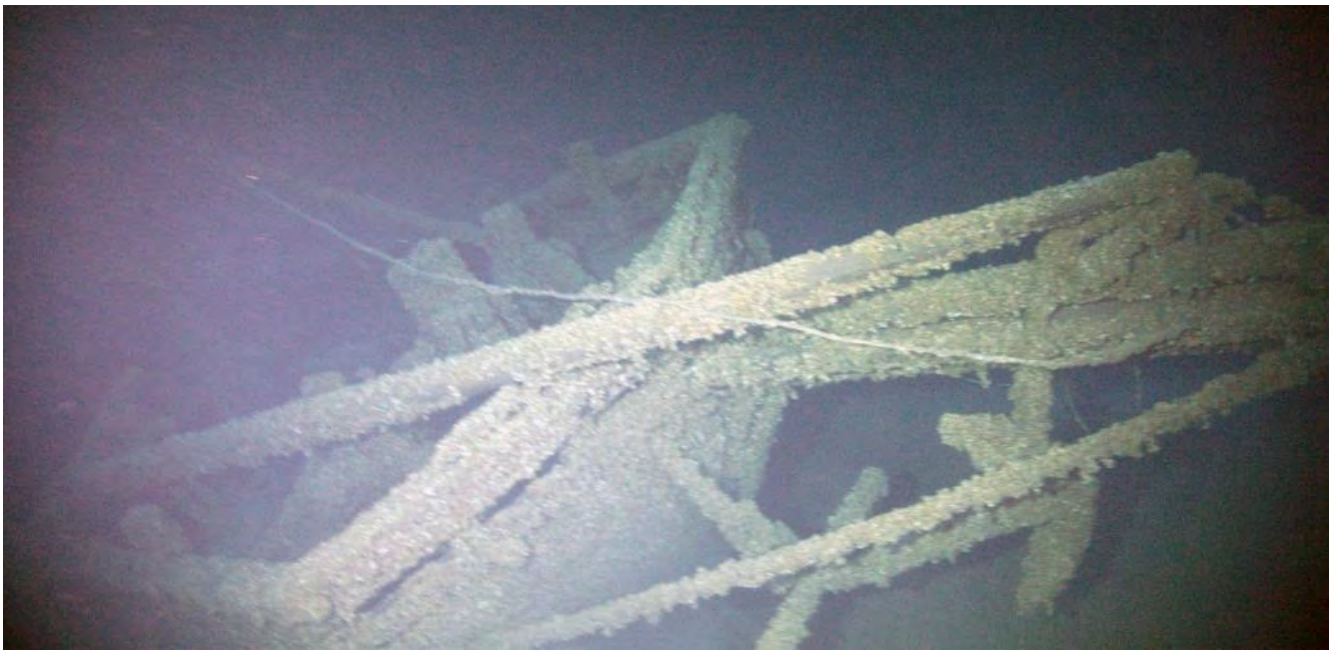

Figure 55. *Tennie & Laura's* V-shaped bow, windlass, jibboom, and anchor (Marine Imaging Technologies)

Two single bitts are located on the port and starboard sides of the vessel, measuring 0.5 feet square. These are located 4.6 feet aft of the bow ramp. A single strand of wire rigging is draped over the bulwark just aft of the bitt on the port side and extends into the silt.

Tennie & Laura's jibboom remains intact and in place fastened atop the bowsprit and secured with by a bowsprit cap. The jibboom and bowsprit extend 31.1 feet forward of the bow, and measures 0.9 feet in diameter. The bowsprit is stepped into the base of the Samson post at the deck level. A U-shaped iron bail is attached to the top of the jibboom that would have served as the attachment point for a traveler likely for the jib. Other remnants of the vessel's head rigging remain attached to the jibboom in two places, the inner jibboom guys and martingale stays remain attached at 7.6 feet, and the outer jibboom guys and jib stay at 1.0 feet from the end of the jibboom. The loose ends of this head rigging are piled on the silt just under and off the starboard side of the jibboom. Bowsprit stays run back from either side of its forward end and attach near the outbound corners of the bow ramp. Two remnant pieces of the inner and outer bobstay rigging hang into the sand from the lower center of the stempost at the V of the bow. The fallen foretopmast, with is squared lower terminus, is braced across the bow and rests at an angle to the jibboom. This spar measures 25.1 feet long and has a diameter of 0.7 feet. A small white object, likely a ceramic cup, was identified off the port side in the sand under the bowsprit.

Just below the bowsprit, the vessel's starboard iron stock anchor remains in place, fastened to the bowsprit by its arm, and also fastened to the stempost with its arms and flukes facing forward. Anchor chain runs through a hawsepipe in the bow's starboard bulwarks. The port side hawsepipe is evident, but no chain protrudes through to the outside of the ship. In the 2005 survey, a chain was reported to be visible lying on the silt on the starboard side of the bowsprit, identified as either an anchor chain or a bobstay. It was also reported that a second iron stock anchor was lying on the lakebed, near the chain. This anchor and the chain were not visually identified in the 2017 or 2019 site visits; however, an unidentified object was seen via sonar, lying approximately 50.0 feet away from the bowsprit, forward and on the starboard side.

Figure 56. The vessel's intact centerboard trunk (Marine Imaging Technologies)

The vessel's centerboard trunk remains upright and intact, located 23.6 feet aft of the bow, and measures 18.5 feet long and 1.5 feet wide. Five boards of the trunk are exposed above the silt. The covering board of the trunk has been torn away, however the centerboard itself and its position is obscured by the presence of quagga mussels. The chain that would have been used to raise and lower the centerboard is draped over the aft end, starboard side, of the trunk. The centerboard trunk is stabilized between deck beams located at the forward and aft end of the trunk and with a set of tie rods located aft of the leading edge of the trunk.

The vessel's stern cabin is missing, likely dislodged from the hull in the wrecking event. The cabin combing measured 11.3 feet long and 11.5 feet wide. Various artifacts remain exposed in the area associated with the contents of the cabin; a small stove, a bucket of coal, a large crock, pieces of other kitchen ceramics, and several small cooking utensils. These were all identified during the 2005 survey; however, the stove is now broken in several pieces. Under the deck, forward of the cabin along the port side of the vessel, remains a portion of the ship's cargo of stacked cordwood; below the cordwood is lath. The vessel's rudder sticks into the lakebed, where it is mostly exposed and intact, turned hard to starboard. The rudderpost measures 0.7 feet square.

Figure 57. The stern and rudder of the *Tennie & Laura* (Marine Imaging Technologies)

Three foremast chainplates with deadeyes, measuring 0.5 feet in diameter, are visible on the port side of the hull as well as two other rigging fasteners mounted on the rail cap. The chainplates have 1.0 foot spacing between them. Forward of the chainplates, a large wire rope is draped over the bulwark, running directly over the port side nameboard. The nameboard was illegible in previous ROV survey; it was not seen during the 2019 survey. The hull is intact from the nameboard forward, as is the lower port side of the bow ramp.

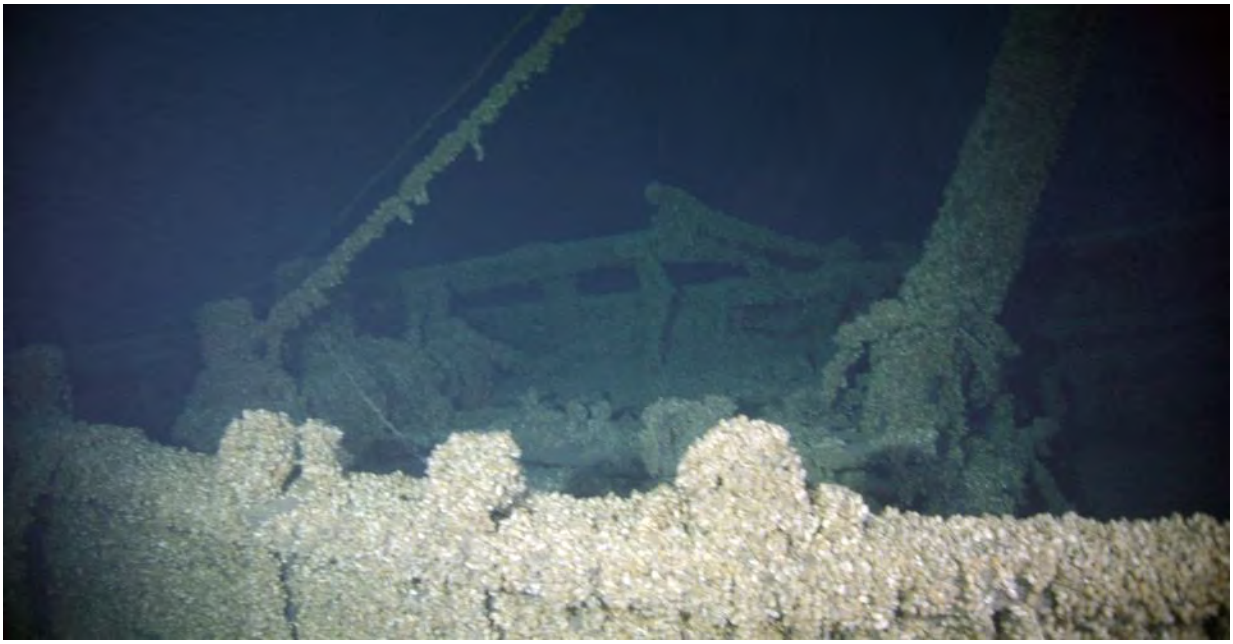

Figure 58. The port side of the vessel looking starboard, showing the foremast, foremast chainplates, and windlass (Marine Imaging Technologies)

The ship's foremast remains standing although leaning slightly aft and to starboard; standing rigging is extant forward and on the port side of the foremast which helps to maintain its upright position. The rigging measures 0.2 feet in diameter. The foremast has been pulled aft from the mast hole in the deck, damaging the deck aft of its original location. A shroud of rigging hangs from the trestletree. A shear-pole, the pole that is secured across the tops of the deadeyes that forms the terminus of the shrouds to prevent the deadeyes from twisting under load, remains attached to its lower end. The top of the foremast reaches a depth of 281 feet, with suspended standing rigging running from the mast to the starboard side of the ship. The foremast has a diameter of 1.9 feet at its top. Fragments of the mast table encircle the foremast's base with belaying pins in place in several locations.

Figure 59. *Tennie & Laura's* foremast trestletree (Marine Imaging Technologies)

Several of the mast table's stanchions remain attached although torn from the deck. The trestle-tree measures 10.2 feet wide and is located 4.4 feet from the top of the mast. The timbers of the trestle-tree measure 1.2 feet thick. It is supported by both cheeks. Only four narrow pieces of the trestle-tree's decking remain attached to its crosstrees. A tangle of fishing line is wrapped around the trestletree likely a reason for its deteriorated condition. The foretopmast is no longer attached. Additional rigging lies on the lakebed off of the starboard side. The foremast boom with intact jaws is propped on the starboard rail and measures 21.1 feet long and has a diameter of 0.9 feet. The boom retains a block that hangs near its end above the sand. The boom is nestled between the three starboard side foremast chainplates which retain their deadeyes. A gaff with intact jaws lies below the boom, measuring 19.5 feet long and 0.7 feet in diameter. Some wire rigging remains draped over the hull in this area.

Sets of three chainplates with extant deadeyes are located along both port and starboard rails mark the location where the mainmast would have stood, 29.0 feet forward of the stern. Remnants of wire rigging remain associated with the starboard side chainplates. The mainmast is no longer associated with the site. Approximately 65.0 feet off the vessel's starboard side, an unidentified linear object was briefly seen via sonar, and was glimpsed as a shadow in video data. It is possible that this is the vessel's mainmast, but this was not confirmed during the 2019 survey

CHAPTER SIX
SIDEWHEEL STEAMSHIP *WAR EAGLE*

Steamboating on the Upper Mississippi River

Discussion of Wisconsin's maritime economy often centers on the Great Lakes and the influential East-West transportation of goods between Wisconsin's coastal communities and eastern Great Lakes ports. Another arm of navigation that greatly affected the development of Wisconsin and the nation is transportation on inland waterways like the Mississippi River. Traditionally, the discussion of river navigation includes the Mississippi river as a whole. However, this content outlines the historical context of navigation on the upper Mississippi River between St. Paul, Minnesota and St. Louis, Missouri. This portion of the river is unique in its topography, as well as cultural and economic history that played a key role in the development of the region. This content does not layout the detailed history and evolution of the region but provides a general understanding appropriate for this context.

Before the steamboating days took place along the Mississippi, unpowered craft provided early transportation of people and goods. Prior to the European invasion, indigenous people were navigating the Mississippi River and other inland waterways using birch bark and dugout canoes, known as pirogues. Powered by oar, these vessels were lightweight, strong, and easy to transport and maintain.

Early European transportation on the upper Mississippi River consisted of the fur trade and military expeditions. Between the 1670s and early 1800s the fur trade was the dominant industry in the region (Jensen 1992). Trappers and frontiersmen would travel the region and create connections to acquire furs to send eastward for a profit. Early scientific expeditions and frontier commerce was conducted by military personnel to observe the land for potential opportunities, resources, and military posts. St. Paul trade in government supplies exceeded that of supplying goods to settlers (Peterson 1968). All of these excursions involved the use of various unpowered vessels.

Native American canoes were adapted for the fur trading industry growing to be up to 50 feet in length and with the ability to hold up to 40 tons (Erwin 1994; Jensen 1992). The bateaux vessel-type also became popular on the river. Bateaux were flat-bottomed with tapered ends and no keel. These vessels were steered by an oar or tiller and could be poled, rowed, or sailed. The bateaux was used heavily during the French and Indian War to transport soldiers and military goods (Erwin 1992; Jensen 1992).

The Louisiana Purchase in 1803 greatly opened up virgin territory with the acquisition of the Louisiana territory. This initiated westward migration with the hope of new settlements and resources to be exploited. As settlers began traveling west, flat boats became a common vessel on the river. Flat boats were rectangular rafts that were inexpensive and easy to build. Settlers would construct these rafts from unseasoned wood and travel downstream with their entire

family, all of their belongings, including farm animals and equipment. Upon reaching their desired destination, the family would dismantle the craft and sell the lumber (Custer and Custer 1997; Erwin 1994; Jensen 1992).

In the later years of early navigation, the keelboat was introduced into inland waterway transportation. A keelboat was a vessel with a keel and frames that contained a planked hull completely enclosed by a cabin and cargo box. These were used heavily in the exploration of virgin waterways and transportation of settlers (Jensen1992). Throughout the height of the steamboat era, unpowered vessels persisted well into the nineteenth century. These vessels were used from small coastal transportation and single owner use. Keelboats were later used as safety barges and auxiliary vessels for steamboats. They were first used as auxiliary vessel because of the high frequency of steamboat explosions but were important to the evolution of steamboats because they demonstrated the benefit of flat-bottomed boats on upper Mississippi rapids (Petersen 1968). These boats then were adapted into the standard barge vessel type seen on the river today.

The first river steamboat, *New Orleans,* was built in 1811 at Pittsburgh, Pennsylvania for use on the Ohio River. The upper Mississippi River would not see steam navigation for another decade and not until the steamboat age was well underway on the lower Mississippi. In 1823, during a period of high water, the steamboat *Virginia* was the first to steam up the river carrying military supplies (Erwin 1994; Jensen 1992). The lack of steamboat navigation was due in part to the landscape of the river north of St. Louis. The upper Mississippi can be described as rocky and shallow with more rapids than its southern counterpart. This, along with snags, sandbars, and other obstructions from unimproved channels, allowed navigation during times of high water (Custer and Custer 1997).

The design and construction of early steamboats also contributed to difficulties in upper Mississippi navigation. Similar to seagoing vessels, early steamboats were short, blunt, and round-bottomed. These vessels were heavily constructed with projecting keels and a large draft (Erwin 1994; Jensen 1992). For ocean or open lake crafts, this type of construction was necessary to combat large external forces by currents and wave. However, for river navigation, the heavy build and large draft decreased the vessel's carrying capacity and increased the opportunity for strandings.

Steamboat shipping was driven by the discovery of lead and subsequent mining operations established in Galena, Illinois in the 1820s. Petersen's book Steamboating on the Upper Mississippi he wrote, "No other single factor during the quarter century between 1823 and 1845 was so important in developing steamboating on the upper Mississippi as the shipment of lead" (1968). Prior to mining operations, steamboats visitations were small and infrequent, but the immense production and exportation of lead increased steamboats in the area, some of which engaged solely in the lead trade. Galena became the most widely known town in the region and the population grew from 100 to 453 people between 1835 and 1836. This industry was immensely influential to the development in the region in many ways. The opportunity for

employment and profit brought settlers to the region, therefore extending the frontier line. More settlers and production of goods created a need to import and export goods and supplies. This first introduction into shipping and transport, lead to more established steamship navigation in the region which prepared the shipping industry for future waves of immigration and the subsequent increase in the import and export of goods (Custer and Custer 1997; Erwin 1994; Petersen 1968).

Between 1847 and 1859 steamboating on the upper Mississippi reached its heyday. In 1849 Congress organized the Minnesota Territory inducing further waves of immigration west to settle the area (Jensen 1992). The ever-growing influx of people and transport of goods led to an era of scheduled steamboat service for passengers, freight, and U.S. Mail began. Early steamboat navigation was conducted by single owner boats and furthered by individual competition. The creation of the Minnesota Packet Company in 1854 became the period of large packet companies that single owners could not out compete (Erwin 1994; Jensen 1992).

This was also the time steamboat design and construction reached the point of perfection. Steamboat hull design changed rapidly, decreasing the vessels weight and machinery. These boats did not need to endure extreme external forces the way ocean and lake going vessels did, so they lost their keel and became flat-bottomed, while their superstructures were built larger and lighter (Erwin 1994). There was a large variety in early vessel designs, but after the 1840s, standardization was gradually accepted.

The increased demand for steamboat shipping coupled with little to no regulation shaped a period of prolonged heavy competition (Jensen 1992; Petersen 1968). Freight rates would fluctuate drastically between routes so much that one trip's profit could pay for the original cost of the vessel while another trip would allow a vessel to break even. Without regulations, packet companies relied on reputation to produce profits. The late 1830s brought the phase of the "fashionable tour." These tours were grand recreational excursions to advertise the natural beauty of the region. As these became popular, vessel owners were motivated to focus more on luxurious accommodations and cater to the comfort of the passengers (Petersen 1968).

The professionalism of the crew, luxuriousness of the cabin, and cost of passage were factors that contribute to profit, but the best and most used form of promotion was speed in the form of steamboat races. Steamboats of various lines would race to be the first to various ports. This sport brought good opinions from potential passengers but was conducted for more economical reasons. During the winter the upper Mississippi would ice up closing navigation. By the opening of navigation northern cities like St. Paul would be in need of goods from the south and full of passengers awaiting transport. The first into St. Paul would usually take on a larger number of passengers and their money. Steamboat navigation was so important to the city the winner of the race would also receive a docking slip for free for the year saving money on docking charges. Unfortunately, these competitions could be risky and even fatal. The greater speed and concentration on one's opponent increased the chance of a vessel running aground or

hitting snags. Another major cause of fatality was boiler explosions. Many times during races to gain speed a vessel's boiler would be run at an extremely high rate of pressure. High pressure would on many occasions lead to catastrophic failure (Erwin 1994; Jensen 1992).

In the mid-1850s the railroad came to the upper Mississippi connecting the east and west via rail. Certain towns along the eastern shore of the river became western terminals for the railway and gateways to the virgin territory of the western frontier. Steamboating was so strongly ingrained in the cultural and economic life of the upper Mississippi, the industry persisted and flourished primarily. The fast, affordable, and easy transportation produced by rail lead to another wave of immigration. Contracts were made between the larger packet companies and rail companies to run regular services transporting rail passengers and freight north and south where lines were not yet established (Erwin 1994; Jensen 1992; Petersen 1968).

Figure 60. 1861 Map indicating railways in the Midwestern region (Lloyd 1861)

The number of vessels on the upper river peaked in 1858. In 1866 the large amount of traffic influenced legislation to permit the Army Corps of Engineers the ability to dredge a four-foot

channel in the Mississippi River north of St. Louis and continue with consistent river management and improvement (Custer and Custer 1997; Erwin 1994; Jensen1992). However, river navigation could not compete with the rail lines, were surpassed and became the optimal means of passenger transportation by the 1870s. Even with regular river maintenance and development, transportation by rail was faster, more reliable, more affordable, and available year-round (Custer and Custer 1997; Erwin 1994; Jensen1992).

From the late 1880s to the second half of the 20th century the steamboat industry saw a shift in economic focus. Small steamboat lines could not afford to continue and either sold their assets or consolidated with larger companies. By 1909 only four passenger steamboats ran the upper river and were gone ten years later (Jensen 1992). Although passenger service was taken up by rail, steamboats persisted in the transport of bulk cargo through towing. Early settlers were producing large amounts of lumber and grain that were towed down river to various markets by small and powerful sternwheel steamboat (Jensen 1992).

The height of the lumber trade spanned the late 1880s through the 1930s. Steamboats were used to transport large log and lumber rafts up and down the river. These strings consisted of either roughly cut logs or manufactured lumber that were strapped together in rafts measuring sixteen feet in width by up to 400 feet in length. Many considered this type of lumber shipping a distinctly upper Mississippi River industry. As the timber resources fell, the industry decreased steadily until it was nonexistent (Custer and Custer 1997; Erwin 1994; Jensen 1992)

The grain trade began in the 1850s and originally shipped using keel boats and other forms of unpowered transportation. By the peak of the grain trade, 1870 to1890, steamboats were towing keelboats and barges of the bulk cargo (Erwin 1994; Pedersen 1968). Keelboat construction evolved into the boxy, shallow-drafted barges that continue to be used, carrying bulk cargos such as sand, gravel, cement, sugar, and flour (Erwin 1994).

Around the late 1950s steamboats carried an air of nostalgia. The occasional excursion steamboat could be seen paddling the water, while others were laid up as museum ships. Today barges still inhabit the upper Mississippi navigated by tugs while people still continue to enjoy the river using smaller recreational vessels.

Milwaukee Road Depot at La Crosse

Although the focus our survey was to evaluate the steamboat War Eagle for listing to the National Register of Historic Places, it is deemed necessary to include a brief history of the Milwaukee Road Depot. The depot played a significant role in the development of the city of La Crosse as well as the region. Artifacts recovered from the site did not belong only to the *War Eagle* but were attributed to the warehouse deposited either during or after destruction of the depot in the 1870 fire, or from everyday routines conducted at the deport during its multiple decades of use.

La Crosse, Wisconsin was founded in 1842 and early steam navigation along the Mississippi River helped establish the city. By the 1850s La Crosse was well-known as an important location for settlement, manufacturing, and retail (Butterfield 1881). La Crosse had been the epicenter of county government and business as well as an established hub for river traffic making the city a good option for the westward terminus of rail transportation (WLRB 1989).

In 1852 a group of railroad promoters formed the Milwaukee & La Crosse Railroad Company and started construction of the Milwaukee & La Crosse Railroad, first laying tracks in Milwaukee. The railroad was not completed for several years and the final tracks were laid at La Crosse in the spring of 1858. La Crosse was not only the terminus of the La Crosse & Milwaukee Railroad, but quickly became the threshold to the west for the Dunleith & La Crosse Railroad, and the Mineral Point & La Crosse Railroad (*La Crosse Independent Republican* 1857; Sanford and Hirshheimer 1951).

Figure 61. Map of the La Crosse and Milwaukee Railroad, 1853 (Colton & Co. 1853)

As the final tracks were laid at La Crosse a railroad depot was constructed at the confluence of the Black, La Crosse, and Mississippi Rivers. The cornerstone of the depot was laid on 31 July 1858. The building was 45 feet by 100 feet in dimension with 1400 feet of riverfront for steamboat access (Boszhardt 1986; *La Crosse Independent Republican* 1858e, 1858h, 1858i).

Through 1858 and 1859 debates and complaints about the location of the depot resounded in the area. The local newspapers published many reports and opinions that disagreed with the location of the depot north of the city proper. An amalgamation of these reports argued that the location was said to be chosen for the profit of corrupt pockets disregarding the convenience of the railroad company and city inhabitants. The depot land was a desolate swamp located too far away from La Crosse and only accessible by water causing challenges in commuting for travelers and delays in the shipment of freight (*La Crosse Independent Republican* 1858d, 1859b). The city of La Crescent, a Minnesota city located across the Mississippi, also entered the argument claiming that a depot located at the Root River in La Crescent would be a better location for the railroad depot. Their arguments claimed that steamboats would not stop at the current location for the depot and that there were better shores for ferry services across the river (*La Crosse Independent Republican* 1858g; *La Crosse Daily Republican*1859a).

During the time of constant complaints, the depot continued to be constructed, along with a bridge across the La Crosse River connecting the city to the depot. This bridge was completed in the spring of 1859 (*La Crosse Independent Republican* 1858f, 1859d). The completion of the bridge did not stop the criticisms. One report suggested that the depot land was continually flooded, and citizens of La Crosse were seriously considering a plan to move it (*La Crosse Independent Republican* 1859c). Another reported the bridge was already in bad condition shortly after its completion (*La Crosse Daily Republican* 1859b). The harsh opinions of the La Crosse citizens did not change until the winter after the depot, railway, and bridge were completed. Steamboat navigation closed every winter when the river became covered in ice. The railroad was not affected by winter conditions and with the addition of the railroad and depot at La Crosse transportation across the state could continue year-round. The *La Crosse Daily Republican* (1860) reported the effects by stating that “this thriving young city has never before transacted so large and profitable a winter business”

In 1867 the Milwaukee & St. Paul Railroad connected with La Crosse. In 1874 this railroad merged with the St. Paul & Chicago Railroad becoming the Chicago, Milwaukee & St. Paul Railroad, later known as the “Milwaukee Road”. This consolidation of railways led to La Crosse’s terminal being referred to as the Milwaukee Road Depot (Boszhardt 1986; Kaysen 1937; Kooiman 1997).

By 1870 the depot consisted of a grain elevator, two storage warehouses, a main warehouse and depot, and express freight building, 5 acres of platform, and boat docking facilities (Boszhardt 1986; *Wisconsin State Journal* 1870a). The same year, the depot was lost in the great conflagration that also took the *War Eagle.* The depot was reconstructed immediately and in service again by fall of 1870 (Boszhardt 1986; La *Crosse Daily Republican* 1870; *La Crosse Evening Democrat* 1870a; *La Crosse Morning Leader* 1870a, 1870b; *Memphis Daily Appeal* 1870). A birds-eye view image produced in 1873 shows the Milwaukee Road Depot in working order with finished structures (Ellsbury 1873). Although the immediate rebuild of the depot indicated the importance of the structure to the region, boat traffic on the Mississippi at the time

was declining. A railroad bridge across the Mississippi River was constructed in 1876 dealing another blow to steamboat transportation (WLRB 1989).

Figure 62. 1867 Bird's Eye View of La Crosse including the railroad depot in the lower left corner (Wisconsin Historical Society)

By 1878 rail transportation had greatly increased, surpassing waterway travel. The Cameron House, a three-story hotel and railroad depot, was constructed at Second and Vine Streets in downtown La Crosse in 1880 terminating the use of the Milwaukee Road Depot for passenger services (*Eau Claire News* 1880; *La Crosse Tribune and Leader-Press* 1927*;* Follmar 1992).

Very little is documented about the former Milwaukee Road Depot after the construction of the Cameron House and depot. A map published in 1878 shows tracks extending across the La Crosse River to the Cameron House and depot. This document indicates that two elevators and a warehouse owned by the Chicago, Milwaukee, & St. Paul Railroad Company were located on the former depot land (Snyder, Van Vechten & Co 1878). Various Sanborn Fire Insurance Maps and county atlases show these three structures on the depot land and the railroad tracks to the Cameron House until the early 1900s (Biddenback 1898; G. A. Ogle & Co. 1906; Roth and Johnson 1913; Sanborn 1887; Wellge 1887). By 1930 the land of the former depot was purchased by the government and listed in the county atlas as government lots one and two (W.W. Hixon & Co. 1930). By the 1940s the Wadhams Oil Company had purchased the land and built a pier on the river. The pier and property later became the Socony-Mobil Oil Co. Terminal (Army Corps of Engineers 1940, 1958).

Figure 63. 1873 Bird's Eye View of the railroad depot and La Crosse from the river (Ellsbury 1873)

War Eagle Operational History

In the book Old Times on the Upper Mississippi (1909), Captain George Merrick mentions that steamboat owners and captains had no trouble naming new ships after former vessels of the same name and how the reuse of a name may cause confusion. The subject of this report is no exception. The name *War Eagle* was a favorite to owners along the western rivers. Merrick mentions that "…. *War Eagles* [the name] were worked overtime, to the great confusion of any one attempting to localize a disaster that had happened to one of that name in times past. It was possible to read today of the total loss of the *War Eagle,* for instance; yet a month or more hence you might hear of the arrival of the *War Eagle* at St. Paul with a full cargo and passenger list...the boats might go to the bottom, but the names go on forever."

A total of five sidewheel steam packets named *War Eagle* were constructed in the 19th century, all of which served a portion of the Mississippi River. The first of these vessels was built by brothers Daniel S. "D.S." and R. Scribe "R.S." Harris in 1845 for the Galena & St. Peters trade. This *War Eagle* measured 152 feet in length, 24 feet in beam, and 4.5 feet in draft with a carrying capacity of 155 tons. It ran between various ports along the upper Mississippi for Captain Daniel Harris until it was sold in 1848. By 1851 the vessel was dismantled and converted into a barge (Merrick 1909; Way 1983). The subject of this report, the 1854 *War Eagle*, not only shared the same name, but also the same owner, original captain, and transportation route. It is easy to distinguish between these two vessels because the 1854 *War Eagle* was launched three years after, and possibly as a response to, the first vessel's

conversion. Two others easily dismissed vessels were the *War Eagle* built in 1876 for the Keokuk Northern Line Packet Company and the *War Eagle* built in 1899 for the Eagle Packet Company. These vessels were constructed after the 1854 *War Eagle* was lost in 1870 (Way 1983).

One other sidewheel steam packet with the name *War Eagle* was constructed in Cincinnati, Ohio in 1858 creates difficulties with the historical research. The 1858 *War Eagle* measured 225 feet in length, 35 feet in beam, and 6 feet in draft with a carrying capacity of 446 tons. This packet caught fire and was lost at St. Louis, Missouri in 1869 one year before the loss of the subject of this text. On occasion the 1858-built vessel was referred to as the new *War Eagle*, but otherwise it made for a difficult task of differentiating which vessel was described in historic accounts. Preliminary research on the 1858 *War Eagle* indicates that it spent its career on the Missouri, lower Mississippi, and occasionally the Ohio Rivers (Way 1983). By comparing the trail of port arrivals and clearings, with changes in ownership and masters recorded in historical documents, every effort has been made to achieve accuracy in this account. Only records believed to belong to the upper Mississippi packet *War Eagle* built in 1854 were included. However, where ambiguities in the historical narrative remain, these uncertainties are noted.

War Eagle was a sidewheel steamship launched in Fulton, Ohio in 1854. The vessel measured 220 feet in length, 29 feet in beam, and 5 feet in draft. It possessed a carrying capacity of 297 tons and was powered by three, fourteen-foot long boilers (Butterfield 1881; Gould 1889; Lloyd 1856; Merrick 1909; Petersen 1968; Way 1983). Fulton, Ohio was a village along the Ohio River to the east of Cincinnati, Ohio and named after the famous Robert Fulton, inventor of the steamboat. This village was considered the seat of the shipbuilding industry along the Ohio River until 1854 when Fulton was annexed into Cincinnati proper (Cincinnati 1943). Various books, business directories, and maps of the time list three established shipbuilders of Fulton: John Lithurbury, Samuel F. Hambleton, and the Cincinnati Marine Railway & Dry Dock Company while also mentioning as many as five other companies who were involved in lumber and construction of some iteration without specifications in ship construction (Emerson 1847; Greyson 1929; Titus 1869; W.W. Reilly & Co. 1853). Although it is known that the *War Eagle* was built in Fulton, no enrollment documents could be found for the vessel so information on the shipbuilder and location of the shipyard is unknown.

During the fall of 1853, while the *War Eagle* was under construction, the Minnesota Packet Company and another rival company were consolidated to form the Galena & Minnesota Packet Company with Captain Orrin Smith as President and J.R. Jones as Secretary. M.W. Lodwick and R. Blakeley originally organized the Minnesota Packet Company in 1847 with packet services between Galena, Illinois and St. Paul, Minnesota. The Harris brothers captained vessels of an opposing line between these two ports. Emerson W. Gould states in his book Fifty Years on the Mississippi (1889) that the competition for packet companies on the Mississippi “was regarded as a very lively one, if not very profitable, and almost everyone in Galena, Dubuque and St. Paul took sides”. The strong competition allowed for passengers to haggle their fees

drastically decreasing the profits made for each company. Consequently, the Minnesota Packet Company and the Harris' company decided to consolidate with *War Eagle* as one of their new steamboats (Folsom 1888). This halted the competition between these two packet companies but did not fully cease all competition on the upper Mississippi as is evident in *War Eagle's* continued history (Gould 1889; Blakeley 1898).

Figure 64. Map of Hamilton County, Ohio showing the town of Cincinnati. Highlighted in red is the village of Fulton where the *War Eagle* was constructed, 1847 (Emerson 1847)

War Eagle was built for passenger and package transportation on the upper Mississippi River for the Galena & Minnesota Packet Company where it ran between Galena, Illinois and St. Paul, Minnesota under the command of Captain D.S. Harris. The steamboat contained 46 staterooms and was described as having all the modern improvements of that time including a barber shop, velvet carpets, and other luxurious amenities. The vessel was also praised for its timely schedule and the service of its gentlemanly captain and officers (*Burlington Tri-weekly Hawk-eye* 1854; Merrick 1909; *Minnesotan* 1854; *Poughkeepsie Journal* 1854).

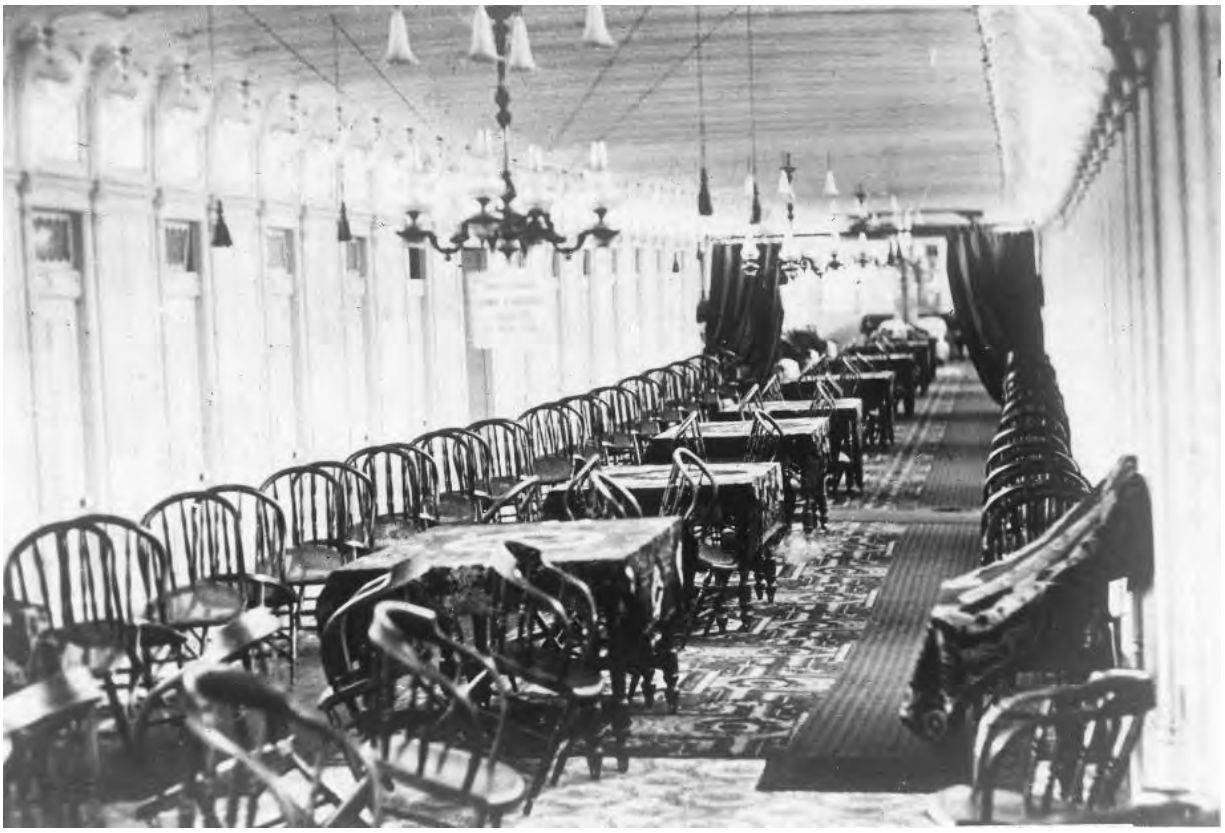

Figure 65. Image believed to be the interior of *War Eagle's* cabin (Way Collection)

Captain D.S. Harris was born in Courtright, New York in 1808. He traveled with his family to Galena on the keelboat *Col. Bomford* in 1823. Harris attended frontier schools and engage in lead mining until 1836. At this time, D.S. partnered with his brother R.S. Harris to build the steamboat *Frontier* and started a career as a steamboat man.

Throughout the years he built, owned, and/or captained approximately 20 vessels including the first *War Eagle* built in 1845. Harris's most beloved vessel was the steamboat *Grey Eagle.* He loved the packet so much that when it struck the Rock Island Bridge and sank in May 1861 the captain retired from the steamboating profession (Gould 1889; Merrick 1909; Wisconsin Historical Society 1912).

War Eagle began its first season along the Mississippi River in the spring of 1854. On 5 June it was reported that many passengers of the steamboat had the privilege of witnessing a ball of light falling from the sky. What was claimed to be so unusual about the experience is that unlike most shooting stars the tail of this phenomenon was not fiery and instant, but a trail of dense white smoke that stayed in the sky for approximately ten minutes (*New Orleans Crescent* 1854). Likely they experienced St. Elmo's fire, a phenomenon caused by an electrical gap between static electricity aboard the ship and a weather event (thunderstorm).

Figure 66. Historic image of *War Eagle* owned by the North Western Line, date and location unknown (Way Collection)

The *War Eagle* participated in a major excursion on 9 June 1854. The Chicago & Rock Island Railroad Company had successfully connected the Atlantic to the Mississippi via rail. To celebrate, the company invited over a thousand guests to travel from Chicago, Illinois to Rock Island, Illinois by rail then by boat to St. Paul making stops at Galena and La Crosse. The guest list consisted of the most important and renowned statesmen, jurists, scientists, and artists of the time. The steamboats *War Eagle* and *Galena* of the Minnesota Packet Company joined the St. Louis Line packets *Golden Era, G.W. Sparhawk,* and *Lady Franklin* in the excursion (Blakely 1898; Petersen 1968). On 5 October the steamboat *Nominee* struck a log and began to sink in the channel sixteen miles from La Crosse, Wisconsin. One man perished while the others were taken aboard the *War Eagle*. The steamboat landed at La Crosse to offload over 60 passengers described as mostly new settlers (Butterfield 1881; *La Crosse Independent Republican* 1854).

On 7 April 1855, routes for the upcoming season were determined and published for the upper Mississippi packet lines. *War Eagle,* along with the steamboats *Galena* and *City Belle,* ran from Galena to St. Paul with various stops at ports in between (*Rock Island Argus* 1855). Although the seasonal routes were set, St. Paul could not be reach. The *War Eagle,* while carrying 635 passengers arrived at Lake Pepin to discover it covered with ice (*Milwaukee Daily Sentinel* 1855). Lake Pepin is a naturally occurring lake at the widest part of the Mississippi River approximately 60 miles downstream from St. Paul stretching between Bay City and Pepin, Wisconsin. The ice on the lake usually took two weeks longer to clear than the ice on the upper

and lower rivers. During this time it was common for freight to be unloaded at Reeds Landing, Minnesota south of the lake and transported over land to Wacouta, Minnesota at the head of the lake and once again transferred onto a steamboat for the final journey (Merrick 1909). It is unknown if the passengers and freight on this trip were let off at the foot of the lake or were returned to Galena. *War Eagle* made its first arrival at St. Paul on 17 April (Blakeley 1898). The packet continued this route until November when it was laid up at Galena for the winter (*Wisconsin State Journal* 1855).

War Eagle was the first steamship through Lake Pepin on 17 April 1856 (Folsom 1888; *Quad City Times* 1858b). During the winter the Illinois Central Railroad was completed to Dunleith, Illinois and an arrangement was made to add a Dunleith connection to the route. As the season began, the line was advertised as the Galena, Dunleith, & Minnesota Packet Company consisting of the steamboats *War Eagle, Galena, Northern Belle, Golden Era, Lady Franklin, Ocean Wave, City Belle, Granite State,* and *Alhambra* (Blakeley 1898; Folsom 1888; Gould 1889). A regular advertisement was placed in the *Rock Island Argus* comprising the vessels and locations of the Galena, Dunleith, & Minnesota Packet Company; *War Eagle* was listed first under the command of Captain Harris (1856a, 1856b, 1856c, 1856d, 1856e, 1856f, 1856g, 1856h, 1856i, 1856j, 1856k, 1856l, 1856m). On 20 May *War Eagle* was reported taking on passengers at Dunleith for Winona, Minnesota at fifty cents per person. This report also emphasized both the location of the new connection in Dunleith and that the fare for passage was reduced, although the amount of fare reduction was not specified (*Freeport Daily Journal* 1856). On 14 June *War Eagle* left seventy-five barrels of flour with the company agents to be sold at Winona, Minnesota. The following day twenty-five barrels of the flour were sold by the agents, but that night the remaining fifty barrels of flour were rolled into the river. Fifteen of these barrels were recovered by Sunday, but the product inside was damaged. The *La Crosse Independent Republican* (1856) reported that the vandalism of the property was allegedly because of competition between the Galena, Dunleith, & Minnesota Packet Company and other packet lines more favorable to the venders of Winona (*La Crosse Independent Republican* 1856).

During the 1857 season *War Eagle* continued to run for the Galena, Dunleith, & Minnesota Packet Company under command of Captain A.T. Kingman. Kingman was employed as captain of the *Excelsior* for the Dubuque & St. Paul Packet Company the previous year (Merrick 1909; Blakeley 1898; *Rock Island Argus* 1857a, 1857c; Wisconsin Historical Society 1912). The steamboat was first recorded on 3 April heading upriver to Rock Island then to St. Paul, although the latter could not be reached until the opening of Lake Pepin at the beginning of May. *War Eagle* was the second to arrive at St. Paul for the season following the packet *Galena* of the same line. Both vessels were damaged by breaking ice through the lake (*Rock Island Argus* 1857a, 1857b, 1856f). *War Eagle* continued to run regular trips between Galena, Dunleith, Dubuque and St. Paul. An advertisement for the packet line ran in the *Rock Island Argus* daily newspaper depicting the vessels and routes between April and December (*Rock Island Argus* 1857c, 1857d, 1857e, 1857g, 1857h, 1857i, 1857j, 1857k, 1857l, 1857m, 1857n,

1857o, 1857p, 1857q, 1857r, 1857s). On 24 July *War Eagle* provided an excursion that made at least one passenger very unhappy. Under the command of Captain Harris, *War Eagle* transported approximately 500 people down to Fulton, Illinois. A passenger from that particular trip wrote to the *Chicago Tribune* comparing the excursion to hell (*Chicago Tribune* 1857a). It is not known what events occurred to account for such a report. On 19 November the crews of the *War Eagle* and the *Isaac Shelby* got into a fistfight at the wharf at St. Paul. One of the *Isaac Shelby* crew was hit with a piece of wood and died while several others were wounded. No other reports of this nature could be found (*Chicago Tribune* 1857b).

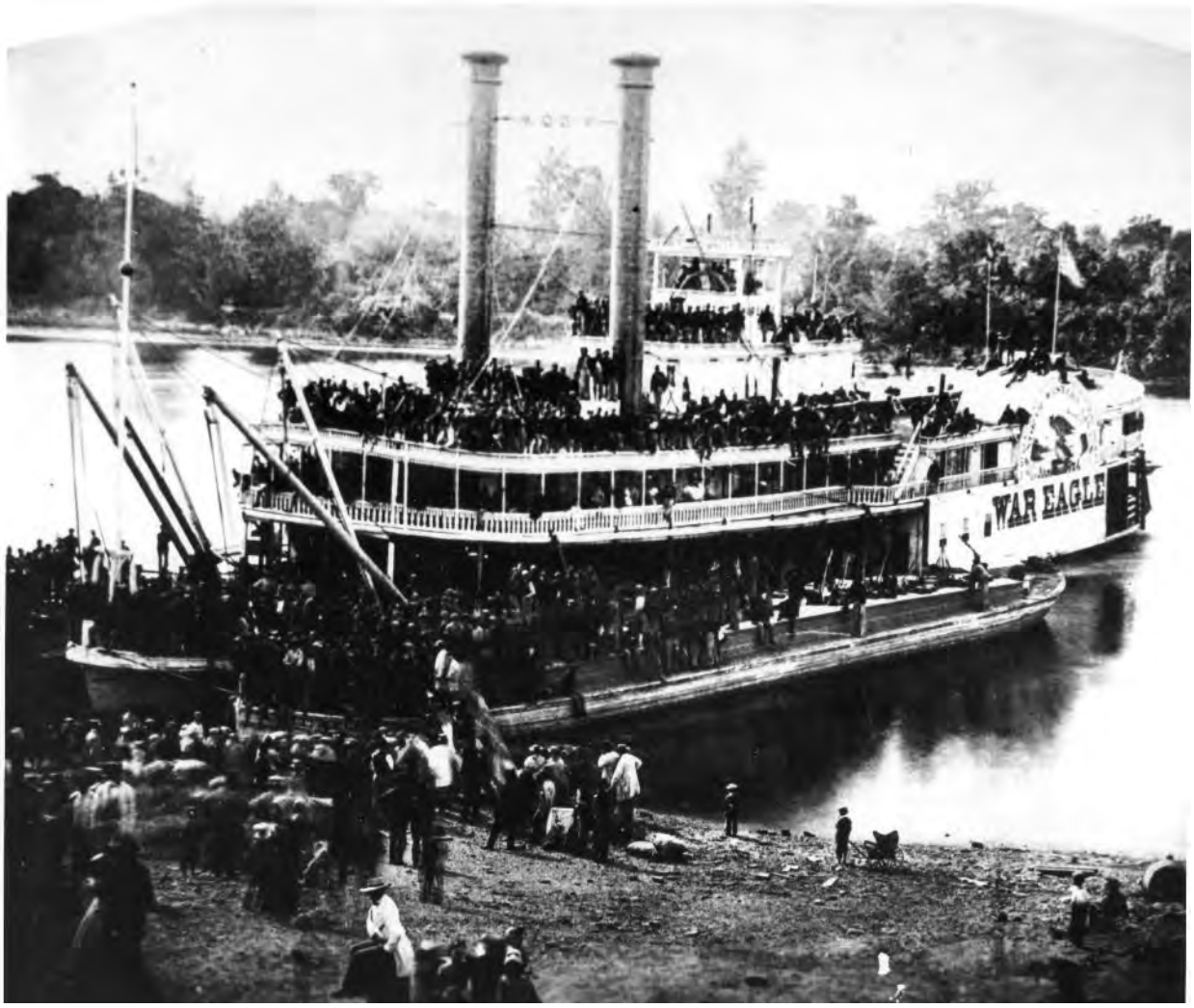

Figure 67. Historic image of *War Eagle* of the North Western Line taking on passengers, date and location is unknown (Way Collection)

Increasing profits generated during prior seasons persuaded the board of the Galena, Dunleith, & Minnesota Packet Company to have three new vessels built in Cincinnati in 1857. The Dubuque & Minnesota Packet Company, an opposing line, felt the same way and commissioned the construction of two new vessels, also from Cincinnati. Each company thought that their new vessels would claim control of the trade and were kept secret from one another. Unfortunately,

once each company discovered their competitor's new additions each realized that they could not hold a monopoly and consequently decided to consolidate to become the Galena, Dubuque, Dunleith, & Minnesota Packet Company with Captain Orrin Smith as President, J.P. Farley as Vice President, J.R. Jones as Secretary, and Captain R. Blakeley as general agent at Dunleith. The 1858 season commenced under the new name, running upwards of ten steamboats of which five were new. With so many vessels under one company, satellite lines were formed to allow consistent routes and equal representation of vessels. The first was the Prairie du Chien & St. Paul Packet Line. This line connected packets with the Milwaukee & Prairie du Chien Railroad terminus at Prairie du Chien, Wisconsin and consisted of the steamboats *Northern Light, Itasca,* and *Ocean Wave. War Eagle* and the rest of the company vessels continued the usual run on the upper Mississippi (Blakeley 1898; Gould 1889).

The 1858 seasonal arrangements were first published in March advertising the line as the Galena, Dubuque, Dunleith, & Minnesota Packet Company (Blakeley 1898; Gould 1889; *Rock Island Argus* 1858a; *Quad-City Times* 1858a). Advertisements listing the vessels, captains, and routes of the line were placed in the newspapers *Rock Island Argus* and the *Quad City Times* (Davenport, Iowa). For the 1858 season, *War Eagle* ran between Galena and St. Paul under Captain William H. Gabbert (*Rock Island Argus* 1858a, 1858b, 1858c, 1858d, 1858e, 1858f, 1858g, 1858h, 1858i, 1858j, 1858k, 1858l, 1858m, 1858n; *Quad City Times* 1858a, 1858b, 1858c, 1858d, 1858e, 1858f, 1858g, 1858h, 1858i, 1858j, 1858k, 1858l).

Captain Gabbert was born in Memphis, Tennessee in 1823. He began his river career as a bartender on the *Yankee* in 1846 and worked his way up to captain by 1849 (Wisconsin Historical Society 1912). *War Eagle's* advertised route was from Galena and Dunleith to St. Paul with stops at Stillwater and Hudson, Minnesota. Reports also indicate stops at the city of La Crosse. *War Eagle's* arrivals and departures at La Crosse were recorded with the vessel steaming upriver to St. Paul on 14 April, 18 April, 20 April, 11 May, 18 May, and 25 May; and downriver to Galena on 16 April, 12 May, and 19 May (Blakeley 1898; Gould 1889; *La Crosse Independent Republican* 1858a, 1858b, 1858c).

For the 1859 season *War Eagle,* under Captain Gabbert, was put on the company's express line with the vessels *Grey Eagle, Itasca, Alhambra, City Belle, and Flora* of the same line. The *Rock Island Argus* advertised for the express line reporting that the packet would run between St. Louis, Galena, and Dubuque for the purpose of making the quickest trips on the river (*Quad City Times* 1859m, 1859y; *Rock Island Argus* 1859a, 1859f, 1859j, 1859m, 1859n, 1859r, 1859s, 1859u, 1859w, 1859x, 1859y, 1859z, 1859ab, 1859ac). Upon further research it seems that *War Eagle's* main route was from St. Louis to Dubuque stopping at Davenport, Iowa and Rock Island, Illinois just across the Mississippi River. The packet was recorded arriving in Davenport and Rock Island from St. Louis and departed for Dubuque the same day on 23 April, 23 March, 31 March, 9 May, 20 May, 26 May, 4 June, 11, June, 13 June, 18 June, 26 June, 6 July, 12 July , 24 July, 31 July, 9 August, 14 August (*Daily Leader* 1859a, 1859c; *Morning Democrat* 1859; *Quad-City Times* 1859a, 1859e, 1859g, 1859i, 1859j, 1859p, 1859q, 1859s,

1859t, 1859v, 1859w, 1859z, 1859aa; *Rock Island Argus* 1859b, 1859g, 1859s, 1859t, 1859u). On 1 May, 19 May, 26 May, 3 June, 5 July, and 1 August *War Eagle* was recorded departing Davenport and Rock Island destined for St. Paul and various other upper Mississippi River ports (*Quad-City Times* 1859f, 1859h, 1859k, 1859l; *Rock Island Argus* 1859j, 1859o, 1859r, 1859x, 1859y, 1859aa). On the return trip from the upper Mississippi *War Eagle* was recorded at Davenport and Rock Island destined for St. Louis, Missouri on 2 April, 26 April, 4 May, 11 May, 13 June, 20 June, 28 June, 19 July, and 3 August (*Daily Leader* 1859b; *Quad-City Times* 1859o, 1859r, 1859u, 1859x; *Rock Island Argus* 1859h, 1859i, 1859l, 1859v, 1859w, 1859z). Occasionally the steamboat made short trips from St. Louis to Davenport and back. These occurred on 9 April, 10 April, 1 May, and 28 May (*Quad-City Times*1859b, 1859c; *Rock Island Argus* 1859k; 1859q).

During the 1859 season *War Eagle* witnessed its fair share of unpleasantness that interfered with its daily run. The first week of April high winds kept *War Eagle* and the steamboat *Lucie May* laid up at the Davenport levee. After a day of waiting the vessels were able to continue on to St. Louis (*Daily Leader* 1859b). The morning of 9 April *War Eagle* collided with the steamboat *Henry Clay.* Each boat received damages of approximately $1,000; however, neither vessel was considered at fault. *War Eagle* was still able to arrive at Davenport the following day and then head to St. Louis for repairs. The steamboat spent nine days on the ways before continuing on its express route (*Quad-City Times* 1859c, 1859d).

War Eagle stranded on a sand bar at Davenport while crossing the river to Rock Island on 26 May. The packet was pulled off quickly with no harm done. The same day the body of a man was reportedly found in the river. A passenger ticket for the *War Eagle* was found on the body indicating that the man was a passenger aboard the steamboat (*Rock Island Argus* 1859p). On 1 April the *Ben Campbell* ran ashore in a snowstorm. *War Eagle* attempted to pull it free but was unsuccessful (*Rock Island Argus* 1859d). Through all the misfortune, *War Eagle* was still considered by many to be the finest and fastest boat on the river with the most accommodating and gentlemanly captain (*Quad-City Times* 1859d; *Rock Island Argus* 1859a).

The fine opinion of the vessel and crew encouraged prominent men to travel on the *War Eagle*. On 27 March the English statesman Richard Cobden traveled to Rock Island on the vessel. This was exciting for the citizens of Rock Island for Cobden was a distinguished man with ties to parliament (*Rock Island Argus* 1859c). In early May the packet was selected to be the venue of a Grand Masonic excursion planned to take 80 to 100 people on a two-day trip to Dubuque and Galena (*Rock Island Argus* 1859e). *War Eagle* once again became an excursion vessel on 4 July when 25 couples attended a two-day excursion between Davenport, Galena and Dubuque (*Quad-City Times* 1859q). Reports were published during the second week of June congratulating the steamboat on its fast running time between St. Louis, Davenport and Rock Island. The packet managed to make the trip in 32 hours and 30 minutes, which was considered unprecedentedly fast, especially for its age (*Quad-City Times* 1859n; *Rock Island Argus* 1859s). On 9 November the Iowa State Supreme Court heard a case between the *War Eagle* and a

person named Russ in Dubuque County. Further details of this court case could not be located (*Quad-City Times* 1859ac). By the end of the season news from La Crosse reported that *War Eagle* was relieved from the express line and put on the normal company route that would include stops at La Crosse. By 27 August *War Eagle* was laid up waiting for work. The packets *Northern Light* and *Grey Eagle* joined the wait soon afterwards (*Quad-City Times* 1859ab).

It is important to point out that the competition between upper Mississippi River steamboat lines had grown so large that companies were losing money on passenger tickets. On 5 June, the *Quad-City Times* (1860m) reported that

> "It is as good as a circus, to stand on the steamboat landing, and hear the agents spout and blow, for their several boats. At the present time, there is three regular Packet Lines, between this city and St. Louis below, and Dubuque and St. Paul above… Passengers are allowed to name their own prices in purchasing tickets, and if there happens to be two opposition boats here at the same time, they must not be at all troubled about getting it too low; for money is no object to a steamboat. We have seen passengers ticketed through to St. Paul, in the Cabin, for two dollars. At these figures it is much cheaper for a person to travel than to stay at home. The various lines of steamboats running on the upper Mississippi, have been curtailing their expenses, which is all very well; but we think they would have done much better if they had spent a moderate sum in advertising."

Because of the extreme competition, all of the packet lines were losing money. To combat this, in 1860 The Minnesota Packet Company and its competitor, the Northern Line, came to an operating agreement to allow equal representation at ports between St. Paul and St. Louis. Five of the Minnesota Packet line's boats and seven of the Northern Line's packets would run specified routes on stated days equally splitting the business and profits among all parties involved (Blakeley 1898; Gould 1889; Toole 1964).

The arrangement is evident in the 1860 advertisement for the Daily Packet Line of the Northern Line Steamboats listing the Minnesota packets *War Eagle, Gray Eagle, Northern Light, Itasca, Key City* and Northern Line packets *Northerner, Canada, Metropolitan, Sucker State, Pembina, W.L. Ewin,* and *Hawkeye State*. As advertised, the *War Eagle* continued under the command of Captain John B. Davis to be used on the upper Mississippi between St. Louis and St. Paul with stops at intermediate ports (*Louisville Daily Courier* 1860a, 1860b; *Rock Island Argus* 1860a, 1860b, 1860c, 1860d, 1860e, 1860f, 1860g, 1860h, 1860i, 1860j, 1860k, 1860l, 1860m, 1860n, 1860o, 1860p, 1860q, 1860r, 1860s, 1860t, 1860u, 1860v, 1860w, 1860x, 1860y; *Quad-City Times* 1860a). Captain Davis began his river career at the age of 19 on the Ohio River. He captained *War Eagle* and *Northern Light* for the company and later was employed by the Diamond Jo Line (Blakeley 1898; Wisconsin Historical Society 1912).

The first record of *War Eagle's* 1860 season was its departure from Davenport for St. Paul on 21 April (*Quad-City Times* 1960a, 1860b). The packet was recorded departing Davenport for St.

Paul on 4 May, 8 May, 21 May, and 4 June and returning to Davenport on its way to St. Louis on 26 April and 28 May. Although little is known about the steamboat's arrivals and departures at St. Paul or St. Louis, these reports indicate that a trip from Davenport to St. Paul and back took roughly one week (*Daily Milwaukee News* 1860; *Morning Democrat* 1860a; *Quad-City Times* 1860c*,* 1860d, 1860e, 1860f, 1860g, 1860h, 1860j). After departing Davenport heading downriver, the packet made stops at Montrose, Iowa on 20 August, 31 August, and 1 September (*Quad-City Times* 1860m, 1860n, 1860o).

War Eagle suffered many hardships during the 1860-season. On 30 May while en route to St. Paul deckhands James Morely and John Doran got into a argument that turned deadly. It started when Morely began teasing Doran about his immoral actions with a certain lady passenger. Morely became more and more verbally abusive while Doran increasingly got angrier. Doran then attacked punching Morely in the head until he fell. He continued to kick him and struck him with a capstan bar. Passenger Edward McNellis witnessed the event and tried to stop Doran, but to no avail. After realizing what he had done, Doran attempted to revive Morely without success. Morely eventually arose but his wounds were fatal, and he died later in his bunk (*Daily Milwaukee News* 1860; *Quad-City Times* 1860i).

In early June *War Eagle* was struck by a tornado while on its way to St. Paul from Galena. The tornado blew the vessel ashore, carried away the smokestacks, pilothouse and Texas deck, and destroyed the main cabin forward of the paddlewheels. Damages were estimated between $3,000 and $5,000. Luckily the vessel was insured. Captain Davis dislocated his shoulder in the storm, but no others were injured (*Burlington Weekly Hawk-Eye* 1860; *New Orleans Crescent* 1860; *Quad-City Times* 1860k; *Watertown News* 1860). Later that month *Quad-City Times,* a Davenport newspaper, reported that Captain Davis was leaving *War Eagle* to take command of the packet *Northern Light* (*Quad-City Times* 1860l). The article did not give the name of the person who replaced Davis and no other records for the 1860 season indicated the change. In late August *War Eagle* and steamboat *Henry Clay* ran aground on a sand bar near Campbell Island, north of Davenport. They were stranded there for several days until finally pulled off. Unfortunately, while backing from shore *War Eagle* broke its paddlewheel shaft and was forced to return downriver for repairs (*Morning Democrat* 1860b; *New Orleans Crescent* 1860).

The agreement between the Minnesota Line and Northern Line did not continue during the 1861 season for competition between the companies had cooled during the early stages of the Civil War (Toole 1964). *War Eagle,* under command of Captain Charles L. Stephenson was put on the packet line between St. Paul and Prairie du Chien. The vessel joined packets *Itasca, Milwaukee,* and *Golden Era* in making daily trips directly from St. Paul to Prairie du Chien to connect with the Milwaukee & Prairie du Chien Railway (Blakeley 1898; *Prescott Transcript* 1861a, 1861b, 1861c; Wisconsin Historical Society 1912; *Wisconsin State Journal* 1861). Stephenson was captain of the steamboat *Henry Clay* prior to his command of the *War Eagle.* He was later appointed Supervising Inspector of Steamboats at St. Paul where he continued in office for over twenty years (Wisconsin Historical Society 1912). The most prestigious event

that occurred in the steamboat's season was its involvement with the transportation of the 1st Minnesota Volunteer Regiment. After President Lincoln's call for troops at the beginning of the Civil War, Minnesota's 1st Regiment gathered at St. Paul for training. On 22 June the regiment left St. Paul for Harrisburg, Pennsylvania. For the first stage of their journey the steamboats *War Eagle* and *Northern Belle* were commissioned to take the regiment to La Crosse and Prairie du Chien to meet their respective railroad connections. Colonial Willis A. Gorman accompanied companies F, G, H, I, and K on *Northern Belle,* and Lieutenant Colonial Stephen Miller accompanied companies B, C, D, and E on *War Eagle*, as they were transported to La Crosse to continue their journey on the La Crosse & Milwaukee Railroad. Both parties came together in Janesville, Wisconsin and continued onward arriving in Chicago on 23 June (G.D.D. & Minnesota Packet Company 1861; Lochren 1890; *St. Cloud Democrat* 1861; *Wisconsin State Journal* 1861).

Figure 68. Historic image of *War Eagle* loaded with passengers and wood, date and location unknown (Way Collection)

Although tensions between the Northern Line and the Minnesota Packet Company had settled the latter found itself in a rate war with the Davidson Line between La Crosse and St. Paul. To

the surprise of many of the Minnesota company's minority stockholders, when navigation opened in the spring of 1861 the *War Eagle* and *Northern Belle* were advertised as part of the Davidson Line. Upon further inquiry it seemed Captain William F. Davidson had organized a new company called the La Crosse & Minnesota Steam Packet Company. The Minnesota Packet Company agreed to sell two of its steamboats to the new company for half of its shares in stock. The Davidson Line agreed and in turn sold its four small vessels to the new line as well. This was thought to equalize the competition.

After navigation on the river closed in 1861, one by one, five of the seven principal owners of the Minnesota Packet Company sold their shares in the company and moved away leaving the future of the company and its vessels to B.H. Campbell and Nathan Corwith (principle owners), a variety of minority stockholders, and Orren Smith, R.S Harris and Meeker Harris as managers. By the end of 1861, company managers R.S. and Meeker Harris moved to St. Paul. Campbell and Nathan Corwith, the last remaining principal stockholders of the Minnesota Packet Company, took the liberty to sell the company stocks. Investors William E. Wellington and George A. Blanchard purchased all available stock and soon held the majority interest in the line. By November 1863 official reports were published in various newspapers discussing the dissolution of the Minnesota Packet Company at an estimated cost of $150,000 and the organization of the North Western Packet Company owned by Wellington and Blanchard. Unfortunately, the new steamboat line was only in service for one year before Captain William F. Davidson of the Davison Line purchase it (Blakeley 1898; Butterfield 1881; *Daily Milwaukee News* 1863b; Gould 1889; *Semi-Weekly Wisconsin* 1863; Toole 1964). Very little was documented pertaining these company changes. This may be due in part to events of the Civil War.

In March 1862 *Quad-City Times* printed the routes for the Minnesota Packet Company, listing the *War Eagle* as joining two other packets in servicing the Dunleith, Dubuque, and St. Paul (*Quad-City Times* 1862a). In May 1862, it was noted in many publications that the government needed fifty more vessels for the war effort. The Minnesota Packet Company sent the steamboats *City Belle, Alhambra,* and *Golden Era* south to undergo refit for war use (*Morning Democrat* 1862b; *Quad-City Times* 1862b, 1862c*)*. On 16 May *War Eagle* was observed at Red Wing, Minnesota heading downriver towing a barge. Both vessels were loaded with wheat (*Goodhue Volunteer* 1862).

War Eagle was advertised as the one of the steamboats put on the Prairie du Chien route for the 1863 season. The packet, along with *Milwaukee, Key City, Itasca* and *Northern Light* made direct connections with eastern railways at Red Wing and Prairie du Chien (*Goodhue Volunteer* 1863a, 1863b, 1863c, 1864d, 1863e, 1863f, 1863g, 1863h, 1863i, 1863j). On 21 July 1863 it was recorded that the water level of the river was so low that many vessels could not traverse the rapids north of La Crosse to call at St. Paul. The *War Eagle* was one of those steamboats. The steamboat's freight and passengers were unloaded at La Crosse and transferred to another vessel with smaller draft. This was usual at times such as these. When the water was low, the

Northern Line packets would be split up with half on one side of the low water obstacle and half on the other with a plan to transfer freight and passengers from one boat of the same line to another (Gould 1889; *Daily Milwaukee News* 1863a). It is hypothesized that the Davidson Line flourished in the shadow of the Minnesota Packet Company because of its use of shallow draft vessels and the ability to cater to low water levels and small river tributaries (Army Corps of Engineers 1987). On 14 August, *War Eagle* was stopped at the levee at Red Wing, Minnesota when a German immigrant fell overboard and drowned leaving behind a wife, two children, and $500 in gold and silver (*Goodhue Volunteer* 1863e; *St. Cloud Democrat* 1863).

Between 1861 and 1863 the operational history of the *War Eagle* is vague and intermittent. Many historians have accredited the *War Eagle* with its heroic involvement in the front lines. However, the scarcity of the vessel's operations and a Missouri River steamboat with the same name also plying the riverways at that time creates ambiguity within the historical content.

The first ambiguous history occurred between 19 and 26 of December 1862. A steamboat named *War Eagle* joined the steamboat *Empress,* and two gunboats to carry the Wisconsin's 1st Artillery and Indiana's 49th Regiment from St. Louis to Vicksburg, Mississippi. A letter written by Lieutenant Daniel Webster of Wisconsin's 1st Artillery, published in Where Rivers Meet: An Educator's Guide to the History of La Crosse, Wisconsin (LCGEEC 2003) discusses the details of that journey. Since the letter was located in La Crosse, the author of the letter was from Wisconsin's 1st Artillery, and there was a steamboat named *War Eagle* that serviced the area at that time, it could be (and has been) assumed that the 1854 *War Eagle* was the subject (LCGEEC 2003; Webster and Cameron 1907). In 1868, the House of Representatives published an Executive Document for Congress listing the vessels bought, sold, and chartered on the western rivers from 1861-1865. This publication explained that from 14 December 1862 to 24 February 1863 the government chartered a sidewheel steamboat named *War Eagle*. The tonnage of the *War Eagle* listed in the document measured 428 tons (House of Representatives 1868). The 1854 *War Eagle* a tonnage of 296 tons. The 1858 *War Eagle* was built with a tonnage of 446 tons (Ways 1983). Although the tonnage of the latter vessel and that of the one listed in the Executive Document is not an exact match, it is more likely that the 1858 *War Eagle* was the vessel used in this consort.

Other ambiguous accounts have been associated with the *War Eagle.* The first was the movement of Wisconsin's 9th Infantry from Helena, Arkansas to Memphis, Tennessee between 11 and 12 November 1863. The second was the transportation of the 8th Infantry by a steamboat named *War Eagle* on 2 through 8 September 1864 on the White River (Arkansas) (Williams 1890). The Executive Documents lists the 428-ton *War Eagle* as chartered for both of these trips as well (House of Representatives 1868).

The most famous account attributed to the *War Eagle* was that of an attack on the Tennessee River on 11 March 1862 (Ways 1983; Army Corps of Engineers 1987; Taunt 2000). Newspapers reported that the steamboat *War Eagle* took on rebel fire while transporting troops and supplies from St. Louis to Savannah, Tennessee. Many of the soldiers suffered wounds; the

boat received a shot through its smokestack, and some of the provisions transported on the boat were stolen (*Morning Democrat* 1862a; *Smokey Hill and Republican* 1862; *Wyandotte Commercial Gazette* 1862). No mention of the vessel's owner, captain, or tonnage was ever reported making it difficult to identify which *War Eagle* participated in the action. The *Daily Union Appeal* of Memphis, Tennessee listed the vessel as the "new" *War Eagle*, implying that the 1858-built steamboat was the subject of the reports (1862). This, along with the supporting evidence mentioned previously, lends to the argument that the 1858 *War Eagle* was involved.

These arguments in addition to the newspaper advertisements and reports placing the 1854 *War Eagle* in service on the upper Mississippi River suggest that although the subject of this study did have some small involvement during the Civil War, the steam packet *War Eagle,* built in 1858 for use on the Missouri River, was used extensively on the lower Mississippi, Missouri, Ohio, and Tennessee Rivers during the war and was the vessel described in these heroic reports.

When navigation began in 1864, William Davidson consolidated his former vessels and new purchases to form the Northwestern Union Packet Company. The officers included William Davidson as President, John Lawler as General Manager, George Blanchard as Secretary, William Rhodes as Treasurer, and William Wellington and Peyton Davidson as Superintendents. The company utilized the following steamboats: *Moses McLellan, Ocean Wave, Itasca, Key City, Milwaukee City, Belle, War Eagle, Phil Sheridan, S.S. Merrill, Alex Mitchell, City of St. Paul, Tom Jasper, Belle of La Crosse, City of Quincy,* and *John Kyle*. Each vessel was adorned with white collars around their smokestacks lending to the nickname "White Collar Line" (Butterfield 1881; Folsom 1888; *Semi-Weekly Wisconsin* 1863).

For the 1864 season *War Eagle* was first recorded on 9 April heading for St. Paul with the hope that the ice was off Lake Pepin (*Semi-Weekly Wisconsin* 1864). On 29 July, after going on strike at Dubuque, the deckhands of the *War Eagle* were awarded higher wages of $75 per month (*Morning Democrat* 1864). On 11 August 1864 while the packet was in port at Dubuque a German passenger walked overboard and drowned (*Quad-City Times* 1864). On 24 September the *War Eagle* had the privilege to transport distinguished Commodore Charles Wilkes and his family to St. Paul (*Burlington Weekly Hawkeye* 1864).

On 21 March 1865, the Northwestern Union Packet Company published their appointments for the year listing Captain A. Mitchel as the Master of the *War Eagle*. They also remarked that repairs and maintenance were being completed for all the vessels including an overhaul of their interiors to make them ready and comfortable for passenger transportation upon the opening of navigation for that year (*Quad-City Times* 1865a, 1865b). On 1 July the *War Eagle* was laid up at Davenport for several hours waiting out a massive storm (*Quad-City Times* 1865c). *War Eagle* began its 1866 season in the first week of April with its first stop at Prairie du Chien (*Quad-City Times* 1866; *Semi-Weekly Wisconsin* 1866). No other information was found for this season, or the following season.

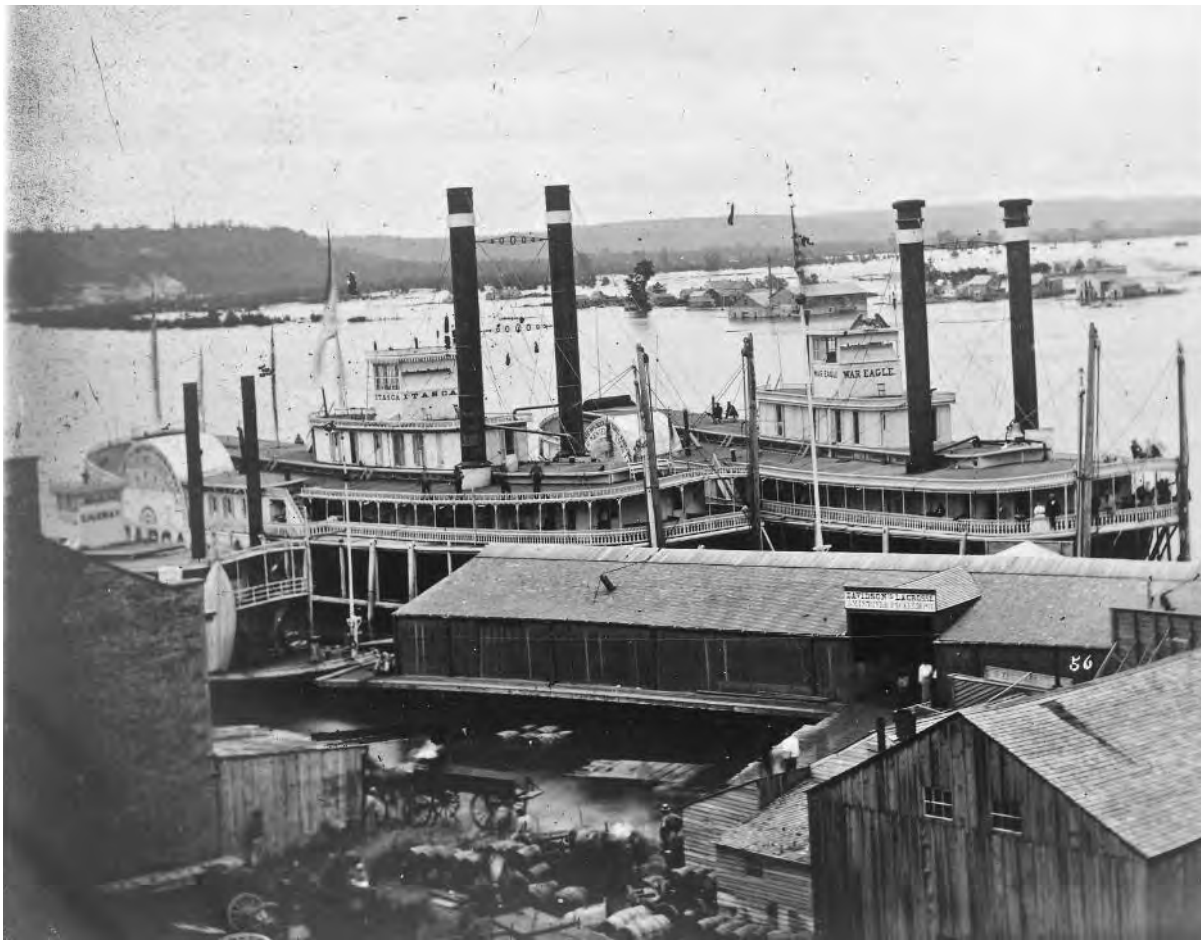

Figure 69. Steamboats *Itasca* and *War Eagle* of the Northwestern Union Line at the Davidson's La Crosse and Minnesota Packet Company dock in Duluth, Min. (Way Collection)

For the 1868 season *War Eagle* ran between St. Paul and St. Louis. In the beginning of April, the Northwestern Union Packet Company announced the addition of this line that also included the packets *Key City, Phil Sheridan,* and *Itasca* (*Alton Evening Telegraph* 1868a, 1868b; *Rock Island Argus* 1868a). On 6 August *War Eagle* hit a snag and sank near Dubuque. No lives were lost, and the passengers were safely transferred to the steamboat *Diamond Jo*. By 11 August the vessel was raised and taken to La Crosse for repairs. Nine days later *War Eagle* was returned to service and steaming to Rock Island to meet the 5:45 PM train (*Quad-City Times* 1868a, 1868b; *Rock Island Argus* 1868b; *Wisconsin State Journal* 1868). For the month of September, the packet's route consisted of leaving Port Byron, Illinois Wednesday mornings for St. Paul stopping at Rock Island to connect with the 5:45 PM train and continuing northward on Thursday (*Quad-City Times* 1868c, 1868d, 1868e, 1868f, 1868g, 1868h). In October and November, the *War Eagle* was recorded leaving Savanna, Illinois for St. Paul on Wednesday morning instead of Port Byron (*Quad-City Times* 1868i, 1868j, 1868k, 1868l, 1868m, 1868n, 1868o, 1868p, 1868q; *Rock Island Argus* 1868c). *War Eagle* sank two more times during the season. The steamboat hit a snag and sank on 6 August but was easily raised (*Quad-City Times* 1869a). On 19 November *War Eagle* struck the Willow River sand bar near Hudson, Wisconsin

and sank. Her freight and passengers were taken off while arrangements to raise her commenced (*Quad-City Times* 1868r). No further details of the events could be found.

The Northwestern Union Packet Company published their appointments for the 1869 season on 28 April with Captain Thomas Cushing commanding *War Eagle* (*Morning Democrat* 1869; *Quad-City Times* 1869b). In November large chucks of ice began floating down river indicating the close of navigation was fast approaching. On 20 November, *War Eagle* attempted to make Stillwater one last time when ice cut a hole in its hull. The ship sank on the Willow River bar in four feet of water. No one was injured and freight was transferred to the area's ferryboat. The vessel was raised and continued downriver where it sank again at Red Wing. The packet was raised a second time and taken downriver for repairs (*Quad-City Times* 1869c; *Star Tribune* 1869; *Wisconsin State Journal* 1869).

Competition in the upper Mississippi River started to become apparent again; the two major competitors were the Northwestern Union Packet Company and the Northern Line Packet Company of St. Louis. It was noted multiple times in the *Quad-City Times* passenger and freight rates were beginning to lower, the "White Collar Line" being the first to do so (Butterfield 1881; *Quad-City Times* 1868f, 1868h). To remedy this, the Northern Line and Northwestern Union Packet Company continued with their 1860 arrangement for equal representation under penalty of a fine of $50,000. This was evident in the appointments published on 6 April 1870. Boats of each line would tend ports on alternate days. The *War Eagle* was assigned a route that served La Crosse, Wisconsin and Winona, Minnesota under the command of Captain Cushing (*Rock Island Argus* 1870a).

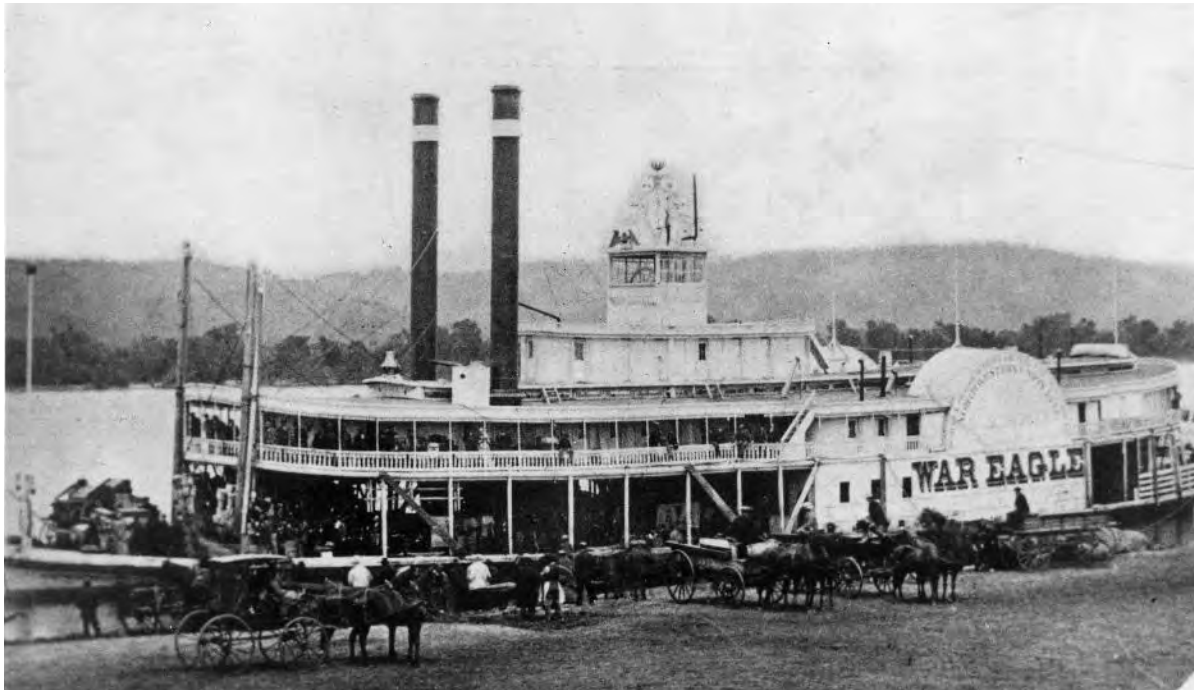

Figure 70. *War Eagle* of the Northwestern Union Line transferring freight at an unknown port (Way Collection)

On Sunday 15 May 1870 *War Eagle* arrived at La Crosse in the afternoon to offload passengers. Around 6:00 PM the packet traveled north of the city to the Milwaukee Road Depot to meet the midnight train. After the passengers were aboard, freight continued to be loaded onto the steamboat. Barrels of kerosene lamp oil, also interchangeably called Danforth's Fluid and Coal Oil, were loaded onto and stored on port side of the vessel amidships. Upon loading the cargo, one barrel was discovered to be leaking. As the barrel was being repaired, it caught fire. It is uncertain how the fire was started. One account claimed that while the cooper was tightening the bands of the barrel, his lamp fell over and caught the barrel on fire.

Another account stated that a boy walked past the barrel and the bottom of his lamp fell out catching the barrel on fire. Although non-explosive, the kerosene was highly flammable and soon the barrel and leaking fluid were on fire. Attempting to dispose of the blazing barrel and limit the danger, the crew rolled it off the port side of the *War Eagle* into the river. Unfortunately, the barge *Webb* was moored alongside, and the barrel smashed onto its deck causing the barge to also catch on fire. The fire alarm was sounded, and passengers escaped by any means necessary. Some managed to use the front gangway but the majority of passengers jumped overboard into the river to escape the flames. *War Eagle* was reportedly carrying eight barrels of gunpowder in her bow. It was feared that the fire would reach the gunpowder and create an even bigger disaster. Fortunately, the vessel sank before this occurred. The flames spread to the railway depot destroying the grain elevator, main depot, warehouse, and docks. The Milwaukee & St. Paul Railroad lost a passenger car, six freight cars, one express and baggage car, and one mail car. The steamboats *Keokuk* and *Molly Mohler* managed to gain enough steam to escape the flames although both received damages (Butterfield 1881). The damage was estimated at a total loss of over $200,000. The *Wisconsin State Journal* (1870a) listed the monetary value of the loss as follows:

> "Elevator, $50,000; passenger depot &c, $7,000; dock warehouse, $10,000; dock $5,000; cars burned $13,000; damage to track $1,500; freight on *War Eagle* $50,000; Freight in warehouse $50,000; value of *War Eagle* $30,000; barge $2,000; damage to Keokuk $500; losses of express companies $10,000; individual losses aggregating $15,000. The St. Paul Railroad Company had insurance on their buildings of $76,000. The *War Eagle* was not insured."

The packet's passenger list was destroyed in the fire making it difficult to determine the total number of people lost. However, it was reported that likely only seven people were lost in the fire. These included Sanford McBrayor of Danville, Kentucky, a young girl named Mary Ulrich, deckhand James Greene of Dubuque, a Mr. McCabe of Prairie du Chien, the steamboat's unnamed African American barber, an unidentified elderly woman and another possibly unaccounted-for person. Mary Ulrich was the niece of the prominent Alderman John Ulrich, editor of the German newspaper *Nord Stern*. Kentucky friends of McBrayor wrote to the La Crosse's Chief of Police to ask about him and offer a reward for the recovery of his body

(Butterfield 1881; *Daily Milwaukee News* 1870a, 1870b; *Memphis Daily Appeal* 1870; *Philadelphia Inquirer* 1870; *Quad-City Times* 1870; *Rock Island Argus* 1870b; *Sioux City Journal* 1870; *Star Tribune* 1870; *Wisconsin State Journal* 1870a).

The hull and machinery of the *War Eagle* were reported to be moved on 15 July 1870. A derrick was used at the wreck to remove the guard and wheel. A portion of the vessel was raised to the waterline reportedly waiting to be pumped out. By 14 July the attempt to raise the *War Eagle* had ceased. The water level had decreased, and the remnants of the shipwreck needed to be removed for navigational purposes (*Daily Milwaukee News* 1870c; *La Crosse Evening Democrat* 1870b, 1870c, 1870d, 1870e; *Memphis Daily Appeal* 1870). Captain John B. Davis, Chief Engineer of the Army Corps of Engineers, reported that they removed the remains of the *War Eagle* from the navigational lane of the railway depot into deeper water on 2 September 1874 (House of Representatives 1876). No further details of the removal were documented. Usually when the Army Corps of Engineers "removed" a wreck, the vessel was not actually removed from the water. Instead the vessel's hull was dynamited, and the broken pieces dragged into deeper water (Erwin 1994).

The Milwaukee & St. Paul Railroad Company did not waste time and began construction of a new depot on the same site a week after the disaster (*La Crosse Daily Republican* 1870; *La Crosse Evening Democrat* 1870; *Memphis Daily Appeal* 1870). Construction of the new grain elevator began by July and was operational by September, with other buildings underway (*La Crosse Morning Leader* 1870a, 1870b).

By October 1870, numerous court cases were filed against the Northwestern Union Packet Company for losses by the destruction of the *War Eagle.* The first was filed by Mrs. McCabe of Prairie du Chien, who received $4,000 from the company for the loss of her husband (*Chicago Tribune* 1870; *Fort Wayne Daily Gazette* 1870; *Rock Island Argus* 1870; *Wisconsin State Journal* 1870c, 1870d). On 28 September 1871 Conrad Ulrich sued the company for $5,000 for the life of Miss Mary Ulrich and $220 for her possessions that were also lost (*Cincinnati Enquirer* 1871).

The Northwestern Union Packet Company was also involved in a court case between Keziah Whitney and Thomas Patterson representing kerosene shippers of the region. The plaintiffs, Whitney and Patterson charged the company with damages for the loss of cargo on the *War Eagle.* The packet company responded with their own claimed that there were a number of kerosene barrels that were neglected at the warehouse that later became dried and cracked. When they were transported to the steam packet, they leaked creating the conditions for the fire. The company argued that they are not liable for damages, because the cargo was already damaged before being loaded. On 26 November 1873 Northwestern Union Packet Company paid out $3,644.27 for damages for the kerosene cargo (*Memphis Daily Appeal* 1873; *Quad-City Times* 1872a, 1872b).

Site Description

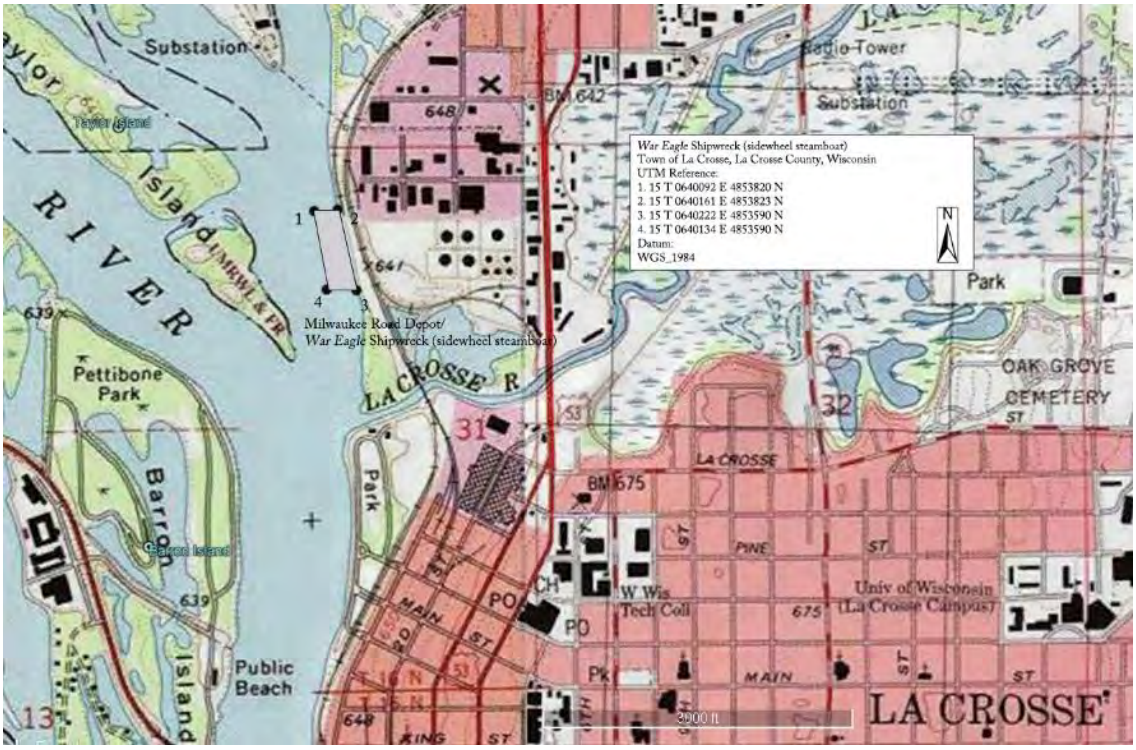

Figure 71. Location of the *War Eagle* shipwreck site.

Scattered in 5 to 15 feet of water on the bottom of the Black River adjacent to Riverside North Park, in the city of La Crosse, La Crosse County, Wisconsin, lie the remains of the sidewheel steamboat *War Eagle* (47-LC-0063). The location of the site has been known since the time of the fire and has been heavily visited throughout the years, especially in times of low water levels and by recreational divers in the 1960s and 70s.

The *War Eagle* site was Determined Eligible for listing to the National Register of Historic Places on 5 December 1985 per a request from the Army Corps of Engineers. The request for decision came under concerns pertaining to the construction of a barge fleeting facility near the wreck of the *War Eagle*. In 1986, a nomination to the National Register of Historic Places was initiated by Mississippi Valley Archaeology Center's (MVAC) archaeologist Robert F. "Ernie" Boszhardt, which considered *War Eagle* as part of a larger archaeological district encompassing the footprint of the former Milwaukee Road Depot. Although MVAC conducted terrestrial work, it was never completed, and poor visibility and dangerous conditions prohibited proper underwater archaeological investigation, therefore the draft was never submitted. The nomination was left with the hope that future advances in technology could provide more archaeological information about the site resulting in a proper listing to the National Register.

In April 2018, with funding from a generous donation from Elizabeth Uihlein of U-Line Corporation, Wisconsin Historical Society maritime archaeologists partnered with Crossmon Consulting, LLC to collect side scan sonar data of the shipwreck *War Eagle*. This project was

conducted to determine the feasibility of using side scan sonar technology in poor water quality and hazardous environments. The *War Eagle* shipwreck site was a prime candidate for such a feasibility study for a variety of reasons. Firstly, the location of the site is known and has been frequently visited by divers in the past. Secondly, the site's location at the confluence of the La Crosse, Black, and Mississippi Rivers provides the perfect conditions to test the usefulness of this technology in black water and strong current conditions.

The *War Eagle* shipwreck site was first surveyed with Lowrance transom mounted down-looking sonar covering approximately 13.0 acres of river bottom. This preliminary survey was conducted to provide a general overview of the site, to locate additional shipwreck debris, and analyze the bottom substrate to facilitate proper planning and use of the side scan sonar equipment. Detailed site data was collected using a Sea Scan HDS towfish from Marine Sonic.

The *War Eagle* shipwreck and associated debris field begins on the eastern shore of the Black River and expands westward 261 feet. Extending from north to south 765 feet, the site spans a total of 4.58 acres of river bottom consisting of the hull structure of the barge *Webb*, main wreckage of the *War Eagle,* non-contributing remains of the Mobil Oil dock and its three associated dolphin pilings, and various debris scatter covering the entirety of the site.

A large unidentified timber lies furthest north of the main wreckage. This timber measures 35.6 feet long and 1.0-foot-wide, rising 1.0 foot to 1.5 feet from the river bottom.

One hundred and fifty-two feet south of the northernmost timber lays a large portion of hull structure. The structure rests on a heading of 349.6 degrees and is rectangular in shape measuring 34.0 feet in length, 8.0 feet in width, and rises between 0.5 and 1.4 feet off of the river bottom. Consistent with barge dimensions of the era, it is believed to be the remains of the barge *Webb*. To the right of this feature, disturbed bottom substrate contains a relatively flat hull structure. This feature measures 86.0 feet in length, 27.0 feet in width, and contains a variety of timber framing. This is believed to be a portion of *War Eagle's* superstructure.

Fifty-five feet to the south, the main wreckage of the *War Eagle* lies in 5 to 15 feet of water spanning 160 feet by 60 feet along the river bottom. The primary features in this wreckage are the V-shaped bow and forward half of the hull. This section lies on a heading of 319 degrees and measures 95.0 feet in length and 20.0 feet in width. Three floor stringers and thirteen frames are visible in the bow. The stringers measure 34.0 to 36.0 feet in length running parallel with the vessel's hull. The stringers measure 1.0 feet in width and rise between 0.4 to 1.3 feet from the silt. The frames run perpendicular to the stringers and measure between 2.0 and 6.0 feet in length, 1.0 foot in width, and are placed 1.5 feet apart. Eighty-six feet aft of the bow the hull structure becomes heavily broken and covered with silt. Various pieces of disarticulated debris in this location rise as high as 3.0 feet off the bottom.

An additional hull piece is located under the starboard side of the bow feature and stretches north 92.0 feet. This feature consists of a small scatter of large hull debris. It is believed that this

is the aft half of the main wreckage. This portion of the hull structure is scattered 43.9 feet in width with timbers raising 1.0 foot above the river bottom. No evidence of *War Eagle's* propulsion machinery or boilers is extant on the sonar data. Research indicated that these features were salvaged soon after the vessel's loss. The fire that burned the *War Eagle* originated amidships. The damage to the hull caused by the fire would have weakened the lower hull in this location. It is likely the bow portion of the wreck was originally located further upriver. However, as salvage work was conducted on the vessel, navigational paths were cleared in 1874, and environmental influences over 150 years broke the vessel in half. Human and environmental factors helped shift the bow over the aft portion of the vessel downriver to its current location.

Twenty-five feet south of the main wreckage lays the remains of one of the paddlewheels. The wheel remnant consists of three paddlewheel hub flanges each measuring 4.5 feet in diameter and placed 2.0 feet apart. Each flange has at least one wooden arm attached. The wooden arms measure 1.2 feet in width and between 3.2 and 4.0 feet in length. The entire assembly of flanges and arms measure 6.0 in width and rise 1.1 feet off the river bottom.

The non-contributing remains of three Mobil Oil dock dolphins, each a grouping of piles, are located within the main wreckage. The middle piling is located in the center of the *War Eagle*'s bow. This dolphin consists of multiple 1.0-foot diameter timbers; in total the piling measures 4.0 in diameter and rises 3.0 feet from the sediment. Two other dock dolphins are located 35.0 feet north and 44.5 feet south of this central piling. Both rise 3.0 feet from the river bottom and measure 5.8 feet and 5.5 feet in diameter respectively. 72.6 feet south of the southernmost dock piling is a feature of debris and bottom disturbance. Comparing coordinates of the sonar data to historic maps, this is believed to be the former location of the Mobil Oil Dock. The dock was removed in the early 2000's but the bottom feature is likely the result of silt deposition.

Ninety feet south of the main wreckage is another portion of the *War Eagle* hull. This structure consists of multiple timbers and measures 34.0 feet long and 17.0 feet wide. With the severity of the vessel and depot's loss, the river current, conditions on the site, and the frequent visitation of the site, it is highly likely that many artifacts and features relating to the *War Eagle* and the railroad depot have been scattered throughout the entirety of the site boundary.

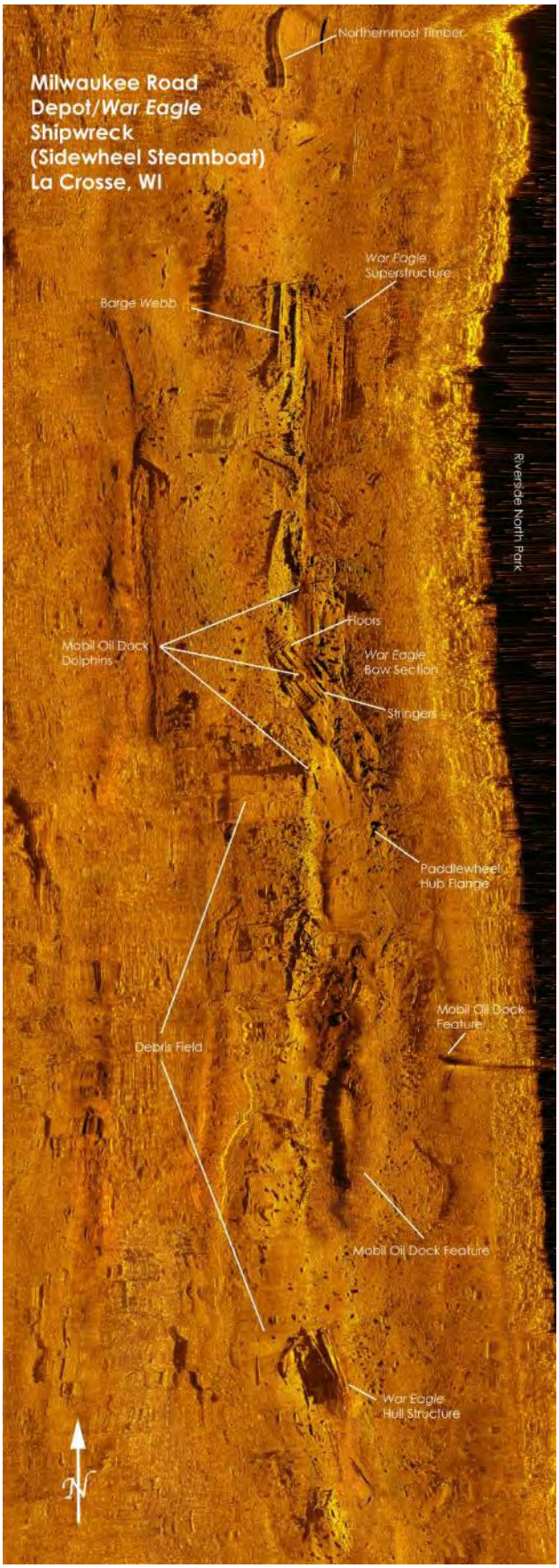

Figure 72. Sonar photo mosaic of the *War Eagle* shipwreck site (Crossmon Consulting LLC)

CHAPTER SEVEN
FREEDOM MINE (Captain Roberts' Mine)

History of Wisconsin Mining

Exploitation of Wisconsin's mineral wealth fueled early Euro-American settlement and the territory's developing economy. Lead and zinc were the first minerals to be commercially mined in what would become Wisconsin, followed by iron mining which began in the late-1840s. Five major iron districts have been identified in Wisconsin. The largest of these straddles the Wisconsin-Michigan border, and three smaller ranges are located in the central and southern parts of the state. The geology of Central Wisconsin's Baraboo Iron Range, where the Freedom Mine is located, consists of a two roughly parallel ridges of Huronian-age quartzite running east-west, formed by synclinal folding of the original strata (Mid-Continent Railway Historical Society [MCRHS] 2003). The shape of this formation is often described in the literature as canoe shaped. Several strata of more recent age lay in the crease of the folded quartzite. The iron-bearing stratum is overlain by sand and glacial drift deposits and a sequence of sandstones, limestones, and slates. The sandstone layer is particularly porous and saturated with groundwater.

Wisconsin's larger iron districts, especially the Gogebic and Menominee Ranges on the northern edge of the state and the Mayville District in Central Wisconsin, have seen considerable historical study (Frederick 1993). In contrast, very little research (documentary or archaeological) has been conducted or published on the iron mines of the Baraboo District, despite the fact that it hosted one of the earliest iron mining efforts in the state (Wyatt 1986; MCRHS 2003). As a result, the narrative below relies heavily on a limited range of sources, and is particularly indebted to material assembled by the Mid-Continent Railway Historical Society in a special volume of their journal, the *Mid-Continent Railway Gazette* (MCRHS 2003). The dearth of current research on the Baraboo Range poses a challenge for crafting a context for the Freedom Mine site, but it also underscores the significance of the site as a unique example of an extensively studied iron mining site in this important but poorly studied region.

The first attempts to mine iron ore in the Baraboo District occurred in the 1850s (Wyatt 1986; MCRHS 2003). Jonas Tower's mining and charcoal furnace operation near Ironton relied on the region's easily exploitable surface and near-surface deposit. These deposits were largely exhausted by the mid-1880s, however, and competition from other iron mining regions temporarily halted iron mining in the Baraboo Range (MCRHS 2003).

The presence of more extensive, subsurface iron-bearing strata in the Baraboo Range was suspected as early as 1882 and was confirmed when iron ore deposits were encountered in deep well-drilling operations in North Freedom, Sauk County, Wisconsin. Several short-lived commercial mining operations attempted to tap into subsurface iron deposits in the North Freedom area after 1885, but all of these shut down by 1925. The first commercial iron mining near North Freedom focused on extracting "paint ore" used to produce the pigment in the cheap,

durable paint marketed as “iron paint” (MCRHS 2003). The familiar “barn red” paint was commonly employed on barns and other agricultural outbuildings, and on railroad structures.

Major exploration and investment came to the region in the late-1880s through the influence of William G. LaRue, an industry veteran with extensive experience in Minnesota’s iron ranges. In 1901-1902, two iron mining companies were formed in the New Freedom area, both backed by capital from large Chicago-based industrial concerns. The Illinois Iron Mining Company was associated with the Illinois Iron Mining Company and later with the International Harvester Company. The Iroquois Mining Company was affiliated with Iroquois Steel, also located in Chicago. Railroad service to the area came under the control of the Chicago and NorthWestern Railway (C&NW) by the early1870s, and the tracks were significantly upgraded in the late-1890s. The company built a branch line to the Illinois Mine in 1903, and a spur line to the Iroquois Mine was constructed in 1910 after development of that property was reinvigorated by investment from a subsidiary of United States Steel. Extensive above-ground complexes were built on both properties. The capital investment in the Iroquois Mine’s facilities was particularly impressive; a Baraboo newspaper claimed mine operators were planning “a two million dollar plant…and many hundreds of men will be employed” (MCRHS 2003).

From the outset, both mines were plagued by rapid groundwater infiltration. The permeable sandstones overlying the iron-bearing strata carried an enormous volume of water that constantly threatened to flood the shafts. The technical challenges and the cost of the pumping equipment and fuel required to manage the water problem proved to be too much in the face of a soft market for iron ore. Active mining at the Illinois Mine ceased in 1908, and only a handful of train-car loads of ore were ever shipped from the Iroquois Mine (MCRHS 2003). When the pumps were shut down, the shafts at both sites rapidly filled with water. At the Illinois Mine, water welled up out of one shaft and flooded the low basin around it creating an extensive marsh.

Born out of the failure of the Illinois Mine, the Freedom Mine (Captain Roberts’ Mine) was also located near the villages of North Freedom and LaRue, close to the Illinois and Iroquois mines. It was much smaller in scale than all other operations in the Baraboo Range, but faced the same challenges posed by the geology and hydrology of the district. It was served by the same C&NW spur that accessed the Illinois Mine property that lay immediately to the west.

The village of North Freedom (briefly renamed Bessemer) experienced a decade-long economic boom driven by development of the Illinois and Iroquois mines (ca. 1900-1910). The nearby unincorporated community of La Rue was platted in 1903 and grew rapidly as new workers and businesses relocated to the area, drawn by the promise of employment and commerce.

The last major mining operation established in the Baraboo Range was the Cahoon Mine, located roughly one mile south of the city of Baraboo. Development began in 1911, and by 1914 the C&NW Railroad built a spur connecting the property to its main line from Minneapolis to Chicago. Ore was shipped from 1916-18, and the mine closed in 1919.

Additional ore stockpiled during its operational life were later shipped from the mine. Unlike the Illinois and Iroquois mines that supplied the Chicago market, ore from the Cahoon Mine was shipped to buyers in Mayville, Wisconsin, and other nearby markets.

Despite being the site of some of the earliest iron mines in the state, the Baraboo Range was the last of Wisconsin's five iron districts to see industrial-scale mining development. It was also the least productive district; only 0.533 million tons of ore over the period 1903-1925 (the latter years representing shipments of stockpiled ore). In comparison, Wisconsin's Mayville District, the fourth most productive of the five districts, shipped over two million tons of ore over the course of a 36-year span. Two major factors that limited the commercial viability of the Baraboo Range's mining concerns were its excessive volumes of groundwater, and the fact that industrial scale development of the region occurred just after the period of peak iron mining in Wisconsin. After 1900, increased production in other regions of the United States made it increasingly difficult to profitably mine Wisconsin's iron deposits. By 1920, the mining boom in the Baraboo Range had gone bust (MCRHS 2003). The villages that had sprung up around the mines went into sharp decline, while those that had existed prior to the boom were able to fall back on their agricultural base. In the case of the city of Baraboo, an emerging tourism sector provided a degree of economic stability. The population of Sauk County as a whole dropped in a slow but steady pace from the early-1900s through the 1930s (U.S. Census 1900-1930). It did not recover to its 1900 level of 33,006 until sometime around 1940 (U.S. Census 1900-1940).

The village of North Freedom, the closest population center to both the Illinois and Freedom mines, experienced a sharper but slightly later decline. From a peak population of 621 in 1910 the village entered an almost 40-year period of out-migration, losing as much as 11.7% of residents in the 1920-1930 census period (U.S. Census 1910-1930). After this period, the village's growth was stagnant and did not return to its 1910 level until 2000 (U.S. Census 2000).

The end of the iron mining era left behind a changed landscape of dwindling towns, uncapped mine shafts, towering tailings piles, and abandoned railroad spurs. Much of the ore that had been stockpiled at the Illinois and Iroquois mines was later sold off, and many of the structures associated with the mine's upper works were salvaged by the owners (or others) after the operations were shuttered. It is believed that the boiler and perhaps other equipment used at the Freedom Mine was actually liberated from the neighboring Illinois Mine. Those structures that were not repurposed were left to rot.

The foundations and footings of many industrial and other ancillary structures remain visible on the landscape, including those recorded at the Freedom Mine site. Substantial portions of the web of railroad tracks that once served the mines have also been removed. Traces of the former rights-of-way of these lines are still in evidence, however. The Mid-Continent Railway Historical Society, based in the village of North Freedom, also maintains and operates a section of track in the area, and is dedicated to preserving and interpreting the railroading and mining

heritage of the region. This early mining, in small, underground mines, was a major contributor to the cultural identity of this area that resonates today.

The hydrology of the area had also been significantly altered. The untended mine shafts brought groundwater to the surface and created a legacy of new streams and wetlands throughout the district. The Freedom Mine shaft presently serves as the source of an unnamed stream that flows easterly from the mine site into a wetland area. Immediately to the west of the Freedom Mine site, the opening to one of the Illinois Mine's three shafts sits just below the surface of an extensive wetland. Water rising from the shaft clearly feeds the wetland, and it is very likely that the shaft is in fact responsible for the marsh's formation.

Operational History

Little historical documentation exists for the Freedom Mine (Captain Roberts Mine), and there is very little information on the man, C.T. (Christopher) Roberts himself. Roberts was a very successful mining captain in Crystal Falls, Michigan, serving as manager or captain of multiple mines in the Menominee Iron Range since 1881. In late 1899, while he was managing the Hilltop Mine at Crystal Falls, Roberts sold the property to the American Steel and Wire Company for $25,000 (*The Engineering and Mining Journal* 1899). In May of 1901, Roberts and his wife, Mara V. Roberts, traveled to Baraboo, Wisconsin to superintend the opening of the Illinois Mine, located just outside of LaRue, Wisconsin (*The Iron Age* 1901).

By the end of July 1903, the International Harvester Company had eight drills operating near North Freedom, and Roberts was overseeing the first shipment of iron ore headed for Chicago. At the time, 25,000 tons of ore were mined from the surface as the mine was being developed, with Roberts estimating that another 100,000,000 tons of ore remained in the Baraboo district to be mined (*The Iron Age* 1903; *The Iron Trade Review* 1903). However successful the Illinois Mine was, it was constantly plagued by groundwater infiltrating the shafts and drifts, and water pumps had to be kept operational constantly. Eventually the costs associated with keeping the mine dry were too much in the face of a changing iron ore market, and by 1908, all operations at the Illinois Mine had ceased.

Following the closing of the Illinois Mine, Captain C.T. Roberts believed that the area around LaRue had not yet been tapped out of iron ore deposits. In 1910, Roberts began working land adjacent to the Illinois Mine and started test drilling. Although the Freedom Mine was started and operated by Roberts, it was owned by the Thomas Furnace Co., of Milwaukee, Wisconsin.

By October of 1910, while borrowing power from the shutdown Illinois Mine, the Freedom Mine shaft had been drilled to 50 feet and was producing relatively high quality iron ore that was shipped, via rail, to Gary, Indiana, where it was smelted. The original plan for the mine was to extend the mineshaft to 150 feet and begin to drift where it was believed that the ore was of at least 50% grade; however, archaeological evidence at the site proves they only ended up digging the mineshaft to 70 feet before beginning the single drift. During these early months of

the mining process, about half of the dozen cottages of the Illinois Mine were occupied by men working for Roberts at Freedom Mine (*Baraboo Republic* 1910, 1911a, 1911b).

In the months following the initial successes of Freedom Mine, at some point, the boilers Roberts was using to power the drill and the elevator had to be replaced, and all operations at the mine shut down for several months. At the beginning of April 1911, two new boilers arrived on site, and were installed by the end of the month, along with an engine, and a large pump. With these installations, the mine was back up and running (*Baraboo Republic* 1911a, 1911b).

The success of the Freedom Mine was short lived, however. By May 1911, the mine had shut down "indefinitely", citing "too much water". Despite two new boilers, a new engine, and a new pump being installed a month earlier, the machinery could not keep up with the flow of groundwater coming into the mine.

> About a month ago two new boilers and a large pump were installed with the hope of holding the water down but with that capacity it was impossible. In other words the ore is of such a grade that it would not pay to put in a pumping plant of sufficient capacity to keep the water down (*Baraboo Republic* 1911c).

Most of the men who had been working the Freedom Mine when it closed moved to Baraboo and went to work for the Cahoon and the Iroquois mines (*Baraboo Republic* 1911c).

Following the closing of the Freedom Mine, there is scant information about the dismantling of the above ground mining works, or of what became of C.T. Roberts. Land deeds indicate that Roberts was the owner of two buildings in the town of LaRue, one operating as a post office and one as a store with a residence above. The store burned down in 1912 while Roberts was still owner.

Captain Roberts and his wife Mara were socialites in the LaRue area, but they show up very little in county or census records. An entry for them is not located in the 1905 or 1910 census. It is believed that Roberts lived and worked in the Baraboo region, but continued to maintain his residence in Crystal Falls, Michigan. A 1912 article in *The Iron Age* reports that the lease of the Hilltop mine at Crystal Falls, which Roberts sold in 1899 just before traveling to the Baraboo region, was reverted back to the Roberts Ore Company by the United States Steel Corporation, seeming to indicate that Roberts returned to Crystal Falls just after the closing of Freedom Mine (*The Iron Age* 1912).

Figure 73. Historic image of the surface workings of the Freedom Mine, circa 1911 (Don Ginter Collection)

Figure 74. Historic image of the surface workings of the Freedom Mine, circa 1911. Illinois Mine headframe in background (Don Ginter Collection)

Site Description

Located 2.5 miles southeast of the village of North Freedom, Wisconsin, in the unincorporated community of La Rue, is the archaeological site of the Freedom Mine (Captain Roberts' Mine), WHS Site (47-SK-0728), located at S5910 County Road PF. In the early decades of the twentieth century, industrial-scale iron mining in the Baraboo Range created a brief economic boom in the region. The population grew rapidly as workers flocked to newly established mines, and villages sprung up to house miners and their families and provide necessary commercial services. Operations at Freedom Mine began in 1910 and continued until 1911. The property was originally developed by Captain C.T. Roberts of Crystal Falls, Michigan following the closing of the nearby Illinois Mine in 1909.

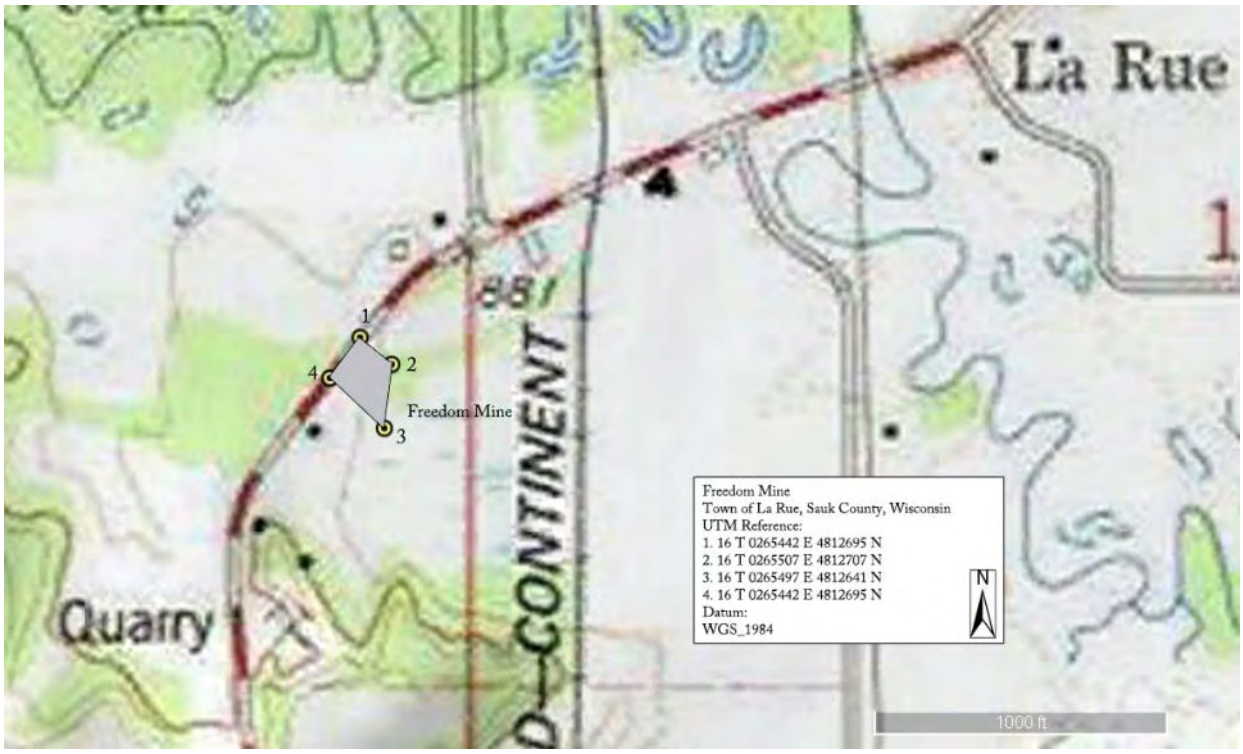

Figure 75. Location of the Freedom Mine site

In November 2017, archaeologists and volunteers from the Wisconsin Historical Society's State Historic Preservation Office and Museum Archaeology Program conducted a comprehensive Phase I archaeological survey of the site. The survey documented above ground foundations of former mining buildings, and a Phase II underwater archaeological survey of the submerged mine components (shaft, crosscut, and drifts). The site provides a unique opportunity to study mining operations in the Baraboo Iron Range in south central Wisconsin. The mining operations in the region transformed the surrounding landscape and hydrology as mining engineers struggled against the ever-present threat of flooding due to the high water table. Although the iron mines of the Baraboo Range were in operation for only a short period of time, their influence was far-reaching providing raw material to fuel industry, and even today continues to define the cultural identity of this part of the state. Today, the well-preserved

remains allow archaeologists a rare opportunity to study the intricacies of early twentieth century iron mining machinery, techniques, and ingenuity.

The Freedom Mine site is composed of the overall site, which contributes to the significance of the property, and includes numerous important features which help define the site: foundation remains; the above grade mine entrance (shaft collar), and the below ground mine. A cabin, built well after the mine closed, is located on the property and is non-contributing. The site contains numerous features and artifacts that contribute to the significance of the site but are of insufficient size and scale to include in the inventory. These will be described in detail below.

The Freedom Mine Site

The Freedom Mine site is an area of less than an acre of flat land in the rural town of Freedom. A paved road, County Road PF borders the property to the northwest. The site features are located on flat land partially vegetated with shrub grass, brush, and deciduous trees. A short dirt and gravel lane provides access to the property from County Road PF. From the access lane, the cabin is located to the left. Further to the left (northeast) just beyond and to the side of the cabin are the ruins of the mine's above ground features. Behind the cabin and to the southeast is the mine itself. The shaft collar (at grade) is surrounded by scrub grass in an open area. The mine is flooded with water and the water pools around the shaft collar creating a small, irregularly shaped pond, which in turn marks the location of the underground mine. The Freedom Mine shaft presently serves as the source of an unnamed stream that flows easterly from the mine site into a wetland area. Immediately to the west of the Freedom Mine site, the opening to one of the Illinois Mine's three shafts sits just below the surface of an extensive wetland. Water rising from the shaft clearly feeds the wetland, and it is very likely that the shaft is in fact responsible for the marsh's formation.

The Freedom Mine was serviced by a railroad spur that ran due east-west through the complex. The line was situated between Features 1-3 and the mineshaft at Feature 4, oriented in an east-west direction and on a slight angle north as the rail continued east. It appears to have consisted of two tracks with a secondary spur that split off from the southernmost track and crossed a rural road (now County Trunk Highway PF) further southwest of the site. All above ground features of the track system have been removed; the rail bed itself was never a raised bed, and therefore as a track laid at grade its remains are visually indistinguishable from the surrounding landscape. Limited subsurface testing in the known location of the rail line encountered compacted, gravel-rich soils suggestive of a minimally prepared rail bed. Because the rail itself has been removed and the location of the former rail line is barely distinguishable it has not been given the formal label of "site feature".

The five site features described below were identified through surface inspection only; no significant subsurface testing has been conducted at the site.

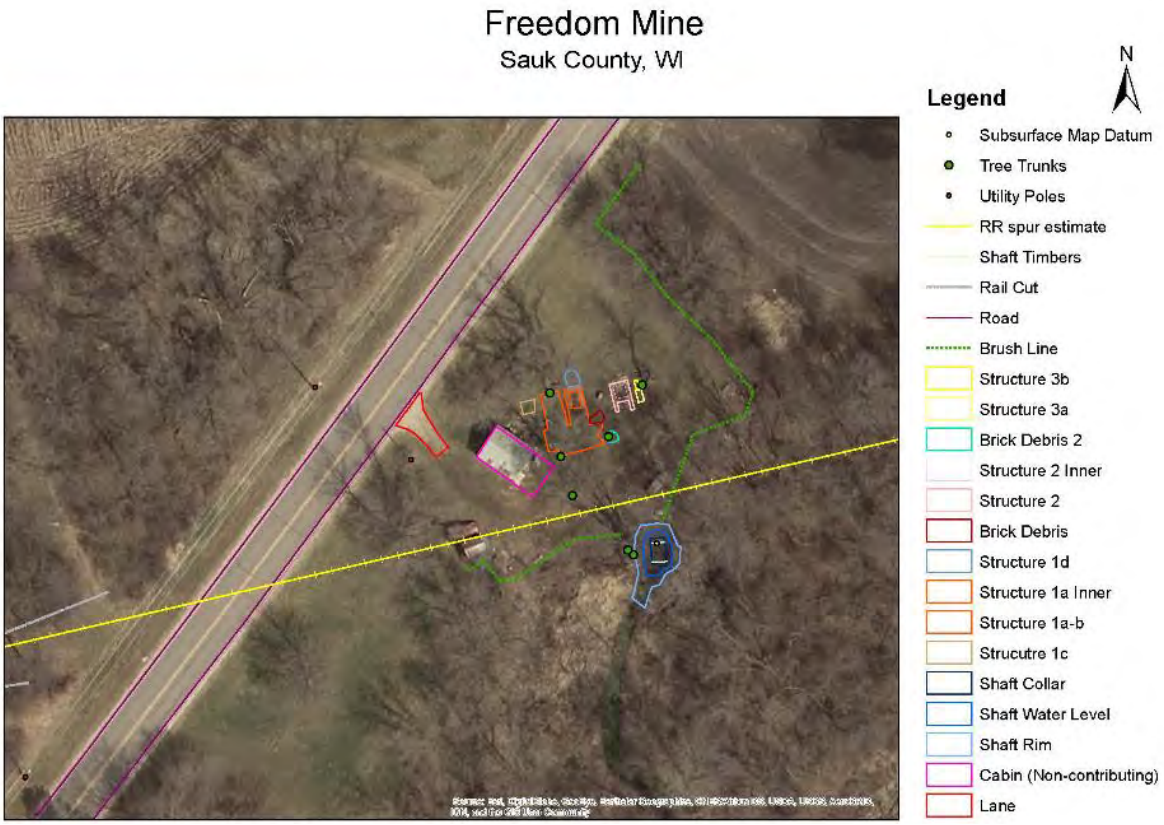

Figure 76. Terrestrial site plan of the Freedom Mine (Paul Reckner)

Powerhouse Foundation Remains (site feature 1a-1d)

Features 1a-1d are the remains of the various components that made up the mine's powerhouse. Based on foundation remnants, the powerhouse was composed of two buildings. These two concrete slabs indicate the footprint of the attached buildings; a steam boiler shed (Feature 1a) and a storage building (Feature 1b). The powerhouse may have been built in two phases. Feature 1a measures 42.0 feet (12.8 m) by approximately 13.9 feet (4.25 m) and has a depressed area at its center that contains compacted, oxidized sand and soil indicating that the boiler's firebox sat directly atop the ground surface. An irregular projection off of the east edge of the slab at the south corner contains brick and concrete debris.

Feature 1b is a flat concrete slab 42.0 feet (12.8 m) by approximately 14.8 feet (4.5 m) that is partially connected to the southwest side of Feature 1a. A gap in the slabs of the two features is present near where the boiler's firebox sat in Feature 1a. This may have been done in order to create additional separation between the heat of the firebox and the neighboring storage space (possibly used to store coal and/or other combustible items). Feature 1c is a small brick and concrete pad located just west of Feature 1b and may have functioned as a base of a smokestack. The pad is 9.8 feet (3.0 m) by 8.2 feet (2.5 m). Feature 1d is a semi-circular depression abutting the north wall of Feature 1a (boiler shed). The soil in the depression is very compact suggesting it was the location of the footing of a second smokestack that directly

vented the boiler's firebox. The depression measures 10.8 feet (3.3 m) by 8.2 feet (2.5 m) at maximum. Above-ground elements of this feature complex, although no longer extant, are visible in historic photographs of the above ground works of the Freedom Mine. These include the two-bay, gabled shed structure (paired boiler room and storage shed) and associated smokestacks.

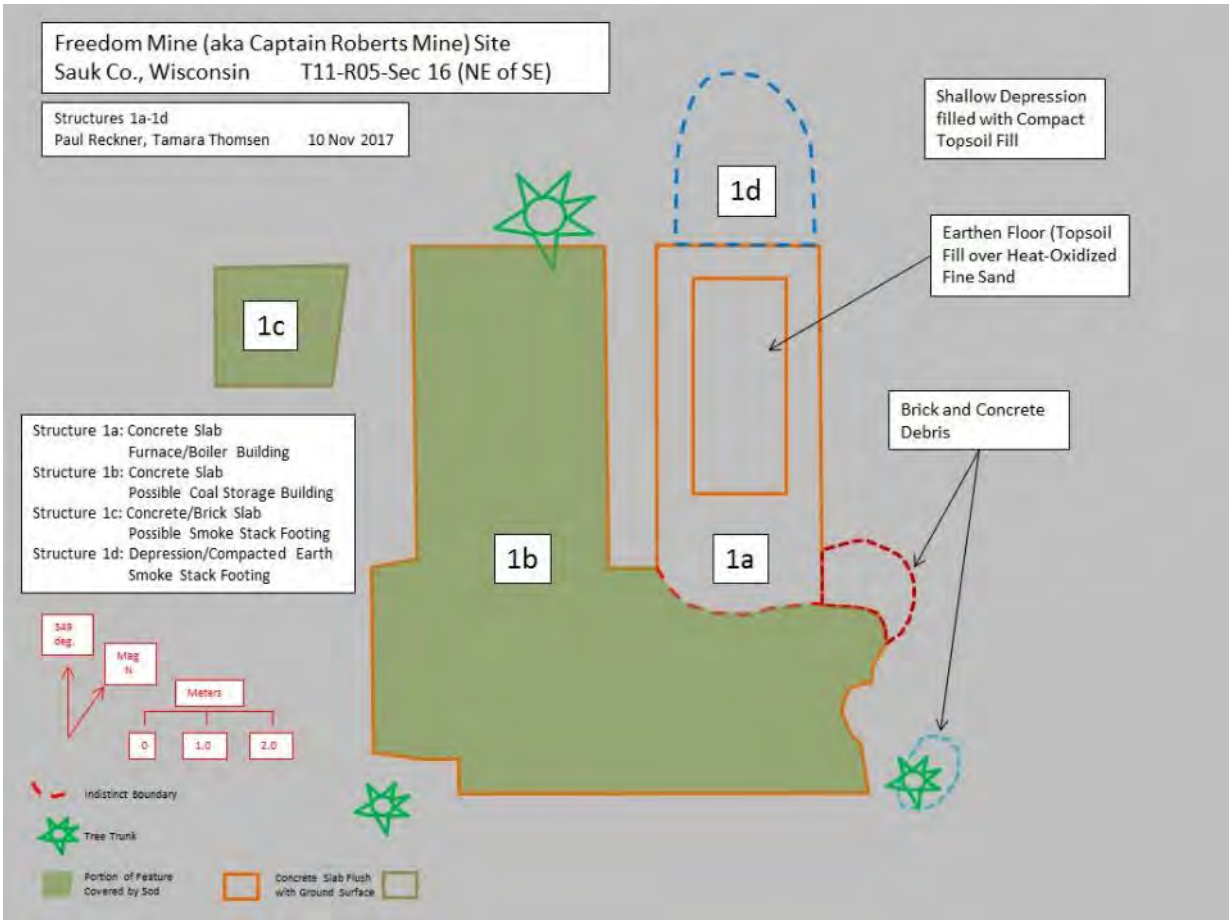

Figure 77. Detail of the terrestrial structures at Freedom Mine (structures 1a-d) (Paul Reckner)

Steam- powered Winch Remains (site feature 2)

Feature 2 is a "U" shaped, raised concrete footing with large, steel anchor bolts set in the upper surface around the perimeter of the structure. There is an inscription in the northwest corner of the footing that appears to have been scratched into the uncured concrete surface at the time of construction, but weathering has rendered nearly illegible. It is thought, however, that the inscription reads, "Eveleth, Min.".

This feature was the footing for a steam-powered winch used to haul materials and workers in and out of the mineshaft. A rope would have run from the winch to the top of the headframe above the shaft. A guide-wheel at the top of the headframe is visible in historic images of the mine. This wheel aligned the lift rope with the vertical shaft at the base of the headframe. The

long axis of Feature 2 is directly aligned with the mineshaft at a distance of 85.3 feet (26.0 m). It is likely that the winch mechanism was driven by compressed air, provided by a compressor unit. The concrete footing that constitutes Feature 2 measures 19.7 feet (6.0 m) by 12.3 feet (3.75 m). The raised edges of the feature are somewhat irregular in height and thickness. Some of this variation is the result of degradation and changes in the surrounding landscape, but the coarseness of the structure suggests a relatively expedient construction process. The raised edges of the footing measure between 0.66 to 1.0 feet (0.2 to 0.3 m) above the present-day ground surface, and are approximately 2.6 feet (0.8 m) thick.

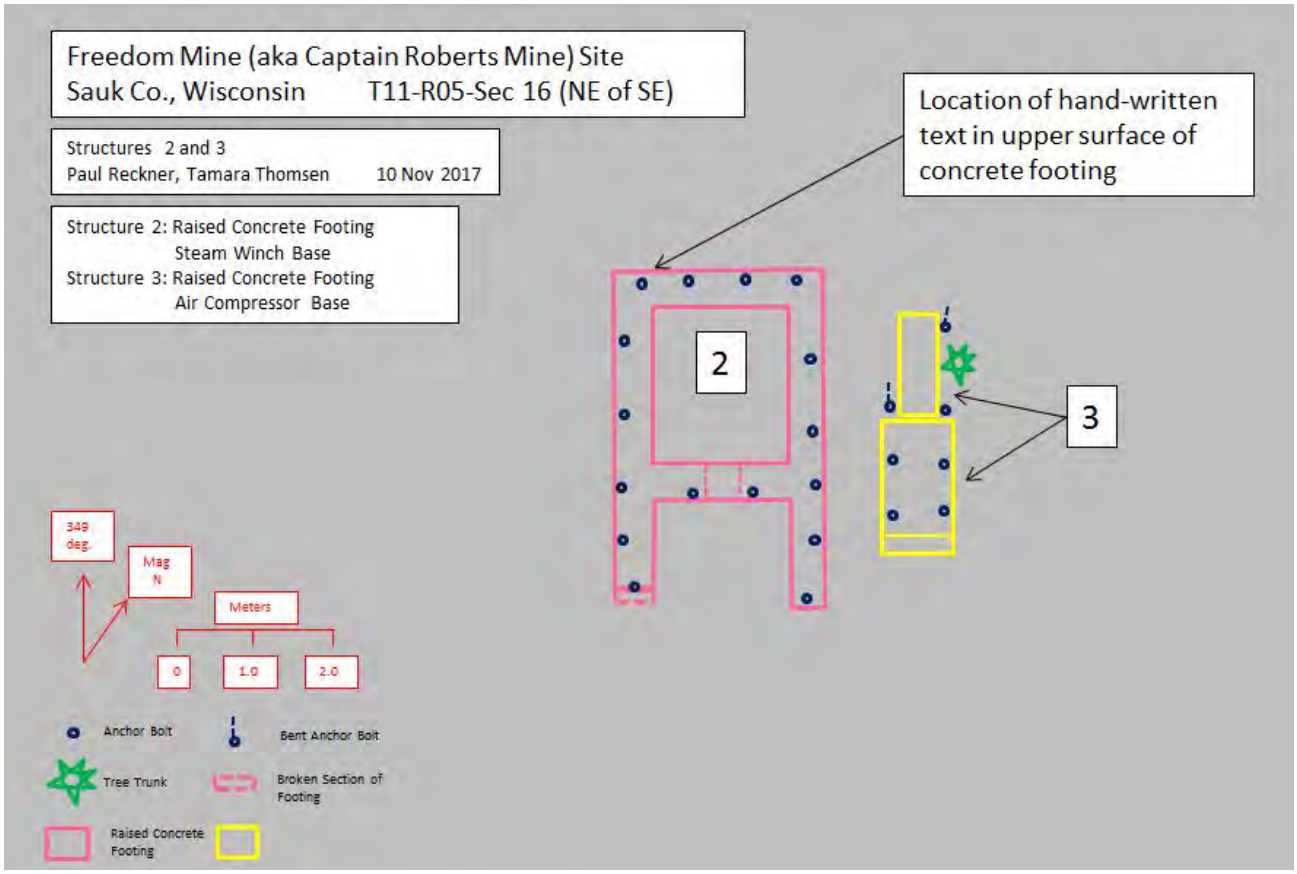

Figure 78. Detail of the terrestrial structures at Freedom Mine (structures 2 and 3)

Steam-powered Compressor Remains (site feature 3)

Feature 3 is a two-part, linear, raised concrete footing with anchor bolts set in the upper surface. It lies immediately northeast of the winch footing. The footings measure 14.4 feet (4.3 m) (combined length) by 2.2 feet (0.68 m) and 3.9 feet (1.2 m). This feature anchored a steam-powered compressor that provided compressed air that would have been piped into the mine to operate tools and water pumps. In historic photographs of the mine, it appears that these two structures were enclosed within a shed.

Figure 79. Image of structure 1A of the surface features (Paul Reckner)

Figure 80. Image of surface features 2 and 3 associated with Freedom Mine (Paul Reckner)

Figure 81. Image of structures 2 and 3 of the surface features (Paul Reckner)

Above-grade Mine Entrance, Shaft Collar (site feature 4)

Feature 4 is the remaining surface expression of the original mineshaft, and is described in further detail below. Historic images of the mine site indicate that the complex included several other structures for which no archaeological evidence has yet been recovered.

The most prominent of these is the mine's headframe, which sat above the mineshaft and was constructed of timber. A small, low, flat-roofed shed was also located west of the headframe. Historic images also show two, gable-end, wood frame shed structures standing along the southeast side of the rural road (C.T.H. PF) that borders the northwest side of the site. These sheds sat along the roadside just northeast of the point where the northernmost rail line crossed the roadway.

Figure 82. Top of the Freedom Mine shaft (Wisconsin Historical Society)

Figure 83. Aerial view of the mine's shaft collar (Wisconsin Historical Society)

Below-grade mine (site feature 5)

The underground components of Freedom Mine include a shaft measuring 6.8 feet (2.1 m) by 13.9 (4.2 m) feet in overall dimensions at the surface that extends 72.0 feet (21.9 m) beneath the surface, the original pump room, a crosscut that extends 161.3 (49.2 m) feet to the south, and the beginnings of two drifts. A single baseline was attached to a wooden support beam at the base of the shaft and extended 161.3 feet (49.2 m) along the crosscut, to its furthest extent. All measurements of the crosscut and drifts were taken off this baseline. A second baseline was attached to one of the wooden support beams at the surface and extended 72.0 feet (21.9 m) to the base of the shaft. All measurements of the original pump room and the shaft were taken from this baseline.

The mineshaft is positioned on an angle, perpendicular to the railroad spur. The shaft, the underground rooms, and the tunnels are flooded with water. The shaft is rectangular in shape, with its long sides facing east and west, and the short sides facing north and south. None of the supports for the mineshaft remain extant above the surface of the water. As the mine acts as a spring, actively producing a constant flow of water, the groundwater exits the pool to the south west in a spillway that extends into a creek, creating a nearby wetland, which can easily be seen

by aerial and satellite photography. The support timbers for the shaft begin 1.5 feet (0.45 m) beneath the surface of the pool. At the top, the mineshaft measures 6.8 feet (2.1 m) in width and 13.9 feet (4.24 m) in length, and is outfit with support timbers of varying sizes, ranging between 0.6 feet (0.18 m) wide by 0.8 feet (0.24 m) thick and 0.9 feet (0.27 m) wide and 1.0 feet (0.3 m) thick. The shaft was built to accommodate a skip (elevator) as well as a manway that was equipped with a series of ladders that reached the crosscut. The section of the shaft built to hold the skip measures 10.1 feet (3.08 m) long and 6.8 feet (2.1 m) wide. The shaft's two skip guides remain extant on the eastern and western facing walls of the shaft; however, the elevator itself no longer remains extant. These skip guides measure 1.0 feet (0.3 m) wide and 0.6 feet (0.18 m) thick.

The manway measures 6.8 feet (2.1 m) long by 3.0 feet (0.91 m) wide. A ladder remains extant in the manway, now having fallen away from the wall, extending from 1.5 feet (0.45 m) to 15.9 feet (4.85 m) along the secondary baseline. Additionally, another ladder remains extant, still attached to the shaft's support beams, extending from the base of the shaft 7.4 feet (2.26 m) high. A third section of a ladder protrudes from the silt and debris at the bottom of the shaft, having fallen from above and reaches 12.5 feet (3.81 m) up the shaft. Each of these ladders has rungs that measure 0.15 feet (0.05 m) in diameter, and side rails that measure 0.2 feet (0.06 m) wide and 0.5 feet (0.15 m) thick. At the base of the shaft, the mine's original sump is extant; however, it is filled in with debris which has fallen from the surface since the mine's closure.

Debris made up of leaves and twigs litters the tops of the crossbeams as the shaft extends downward. Running along the length of the shaft, these crossbeams measure 1.0 feet (0.3 m) square, while running along the width of the shaft, the crossbeams measure 0.9 feet (0.27 m) square. These sets of crossbeams are placed every 5.0 feet (1.5 m) as the shaft extends downward, except where a small room extends off to the east, where the beams are spaced 6.9 feet (2.1 m) apart. In all places, the larger crossbeams sit atop the smaller crossbeams. The skip shaft and the manway were built as separate sections of the shaft by additional crossbeams at each level of the shaft. These beams measure 0.6 feet (0.18 m) wide and 0.8 feet (0.24 m) thick, and run across the width of the shaft. Large support beams line the corners of the shaft, measuring 1.1 feet square (0.34 m^2) and extend between the crossbeams. Planks of wooden lagging line the stone walls of the shaft. The lagging is mostly intact and is made up of planks measuring 1.1 feet (0.34 m) wide, 0.2 feet (0.06 m) thick, and measuring 5.0 feet (1.5 m) in length. In some sections, the lagging has fallen away and the stone walls of the shaft can be seen.

Approximately halfway down the shaft, there is a small room that extends to the east. The opening to the room begins at 35.1 feet (10.7 m) along the secondary baseline and extends to 42.0 feet (12.8m) along the secondary baseline. This was the original pump room. As the shaft was being driven, the pumps sat at this location in order to pump out the water coming through the layers of bedrock. The room measures 27.5 feet (8.38 m) long, 15.8 feet (4.82 m) in width,

and 9.0 feet (2.7 m) in height. The room is divided into two areas by a wooden half wall. The front part of the room, or the section closest to the shaft, extends from the shaft, 7.4 feet (2.26 m) back to the half wall, and contains piles of broken wooden timbers, as well as a ladder, and a storage rack with three shelves, which sits just in front of the half wall. This storage rack measures 5.7 feet (1.7 m) wide and 4.2 feet (1.3 m) tall and has three shelves, each measuring 1.1 feet (0.34 m) in height. The half wall measures 4.2 feet (1.3 m) in height, and extends across the width of the room, to an open walkway on the room's left side. This opening extends 9.0 feet (2.7 m) in height, from the stone floor to the wane log roof. A ceiling support beam measuring 1.1 feet (0.34 m) square, runs across the width of the room, and is supported by two upright support timbers, measuring 0.7 feet (0.2 m) square. The half wall extends the distance between these two upright support timbers. A wane log roof sits on top of the ceiling support beam, and is made up of long, cut timbers that measure 1.2 feet (0.37 m) wide and 0.3 feet (0.09 m) thick. Above these cut timbers sit round timbers that have been halved, and used to fill in the space between the roof, and the uneven contours of the roughhewn ceiling.

A small pipe, measuring 0.3 feet (0.09 m) in diameter extends through the wooden half wall, and along its front side. The pipe extends through the wall and in to the back section of the room. The pipe makes a 95-degree bend, 3.9 feet (1.9 m) back from the wall, and extends down into a pile of wood and stone debris. The back half of the room contains the upper sump, and would have been where the water pumped up from the mineshaft was held temporarily before being pumped up to the surface. The surrounding sandstone remains uncovered in this section of the room, with only a wane log roof extending about halfway back into the room. The room extends 20.1 feet (6.13 m) back from the half wall, and the height of the room, from the top of the debris pile to the ceiling, is 22.0 feet (6.7 m). Two support timbers are located 6.1 feet (1.86 m) back from the half wall and correspond to the edge of the wane log roof. Once the mineshaft was fully dug and the pumps moved to the lower pump room, it appears that this room was used primarily for storage and for holding excess wood and stone debris.

Steam, compressed air, and water pipes extend along the corners of the manway, beginning at 35.0 feet (10.7 m) from the surface, along the secondary baseline. Along the left side of the northern facing wall of the shaft, run two pipes. One originally carried compressed air and measures 0.3 feet (0.09 m) in diameter. This pipe extends from the base of the shaft, to 33.5 feet (10.2 m) along the secondary baseline. At the top of this pipe sits a four bolt flange, measuring 0.5 feet (0.15 m) square. This compressed air pipe connects to a reducer at the bottom of the shaft, and then to another horizontal pipe that measures 0.15 feet (0.05 m) in diameter. This leads to the air hose which supplied the air for the mine's drill. A second, smaller pipe sits just to the right of the compressed air pipe, and measures 0.05 feet in diameter. This pipe extends into the debris in the sump at the bottom of the shaft.

Along the right side of the northern facing wall, another three pipes of varying diameters extend from midway down the shaft, to the base of the shaft, and to the mine's two pumps. Two of the

pipes begin at 43.5 feet (13.3 m) along the secondary baseline, with one measuring 0.4 feet (0.12 m) in diameter, and the other measuring 0.5 feet (0.15 m) in diameter. The 0.4 foot (0.12 m) diameter pipe extends from 42.0 feet (12.8 m) along the secondary baseline to the ceiling of the pump room at 65.4 feet along the secondary baseline, but is not connected to the pump. The 0.5 foot (0.15 m) diameter pipe sits closest to the eastern wall of the shaft, and has a "T" fitting with an open leg facing into the original pump room, located at 41.0 feet (12.5 m) along the original baseline. This is a steam pipe, and would have supplied steam to the pump when it was housed in this original pump room. The pipe extends past this room, and makes a 90-degree turn at the ceiling of the pump room at the base of the shaft. A steam control valve is located near this juncture. Further back into the pump room, the pipe splits into two pipes, one connected to the smaller simplex pump, and the other to the large duplex water pump. A second steam control valve is found on the steam pipe leading to the duplex pump, just after the pipe splits into two. This control valve is outfit with a wooden pulley.

The third pipe on the right side of the shaft begins at 61.5 feet (18.7 m) along the secondary baseline. Here, a four-bolt flange is located atop a small cistern, measuring 0.6 feet (0.18 m) in diameter, and 2.1 feet (0.64 m) in length. A 0.5-foot (0.15 m) diameter pipe continues down from this cistern, to the ceiling of the pump room. There the pipe makes a 90-degree turn into the pump room, and connects to another cistern located on top of the large duplex pump. A flow valve is located at this juncture. This larger pipe would have carried water from the sump at the base of the mineshaft to the surface, acting as the workhorse, keeping the mine relatively dry. Two additional water pipes extend out of the filled in sump, and attach to the pumps. A 0.8-foot (0.24 m) diameter water pipe, or suction hose, is connected to the large duplex pump, while a 0.3-foot (0.09 m) water pump (suction hose) connects to the simplex pump. This was the main method for keeping the Freedom Mine dry, and was what critically failed the day the mine flooded.

Overall, the lower pump room measures 13.2 feet (4.02 m) long and 8.6 feet (2.6 m) in width. The room is lined with a wane log roof and is lined with six support timbers, each measuring 1.0 feet (0.3 m) square. In addition to the two pumps located in this lower pump room, there is also a tool bench, which runs along the left side of the pump room wall. Various tools remain extant on the tool bench. Additionally, an open toolbox rests on the end of the tool bench, near the back of the room. A large brass oiler remains sitting atop the pump. An additional open toolbox rests on the front of the duplex pump. It is clear that both of these toolboxes were in use until just before the mine was abandoned, in an attempt to fix the broken water pumps.

At the base of the shaft, the Freedom Mine's single drift extends 161.3 feet (49.2 m) to the south on a heading of 162-degrees. Four support timbers measuring 1.1 feet square (0.34 m^2) mark the beginning of the drift, and correlate to the four large support beams that lined the corners of the shaft. At 6.3 feet (1.9 m) along the baseline, there is a pile of medium and small stones. This extends to 8.7 feet (2.65 m) along the baseline. Just beyond this, a large pile of

wooden timber debris extends from 8.7 feet (2.65 m) to 15.8 feet (4.8 m) along the baseline. It is likely that this is debris that has fallen from the shaft since the mine was abandoned. Two support beams measuring 1.1 feet square (0.34 m^2) are located at 16.0 feet (4.9 m) along the baseline. Just beyond this point, two rail tracks can be seen extending along the drift, one on each side of the drift, close to the wall. These are narrow gauge rails, with a gauge of 2.0 feet (0.6 m). The rails themselves measure 0.2 feet (0.06 m) in thickness, with each tie measuring between 0.4 feet (0.12 m) and 0.7 feet (0.2 m) in width.

Figure 84. Image of the mine's drift supported by beams. The small gauge rail can be seen running along the floor and a candle holder is still attached to the right wooden beam. (Leah Potts)

At 16.2 feet (4.9 m) along the baseline, the drift measures approximately 8.7 feet (2.65 m) across and 8.6 feet (2.6 m) in height. The width of the drift changes significantly along its length, while the height of the drift remains relatively unchanged, ranging from 8.5 feet (2.59 m) to 9.1 feet (2.77 m) in height at various points. At the furthest extent of the drift, the ceiling height is reduced to 6.3 feet (1.9 m). Looking along the drift from the shaft, facing south, a series of scaling bars, measuring 0.15 feet (0.05 m) in diameter, are located along the left hand wall of the mine, leaning against the rock face. These scaling bars would have been used to

knock down any lose rock materials as the drift was drilled further and further along. About six of these remain extant at 23.3 feet (7.1 m) along the baseline. Two large, rectangular wooden timbers now lie, fastened together, over the right side rail track at 31.2 feet (9.5 m) along the baseline. Each of these timbers measures 3.1 feet (0.94 m) long by 1.3 feet (0.4 m) wide. Extending from 36.4 feet (11.1 m) to 47.2 feet (14.4 m) along the baseline is the first of two large, round excavated areas. These are likely stopes, or areas from where ore is excavated or rounded out past the main tunnel of the mine. This first stope is also where the mine's main drift was being cut just before the passage flooded. A crosscut is the main horizontal passage of a mine, which follows along the ore vein. Here the mine workers were attempting to cut perpendicular to the drift, in the center of the main ore vein. The crosscut extends 8.3 feet (2.5 m) to the left of the baseline and 13.2 feet (4.02 m) to the right of the baseline at its widest point, making it 21.5 feet (6.6 m) in overall width. Here small piles of rock debris remain near the walls of the drift. Additionally several tools remain propped up against the walls, including several wooden boards, and shovels, which measure 3.1 feet (0.94 m) tall.

Figure 85. Post drill with bit remaining in the wall of the stope (Leah Potts)

The mine's one-man, single crank, post drill (regionally known as a "drifter") remains in place, with the drill bit still embedded in the wall mid action, on the right side of the rail tracks. The drill was used to make four small holes in the pattern of a square in the rock face, and then the rock would be broken out. The drill bit remains in one of these holes, and another three holes can be seen in the rock face. The post drill is supported by wooden timbers placed on the floor

of the crosscut, and braced by additional wooden pieces placed on the crosscut's ceiling. A serpentine compressed air line extends from the shaft to the post drill and no waterline was located. Commonly referred to as a "widow-maker", this type of drill was an older model, and was run on compressed air, with no water to dampen the dust. The air hose that would have supplied the drill with compressed air remains attached to the pump and extends back to a pipe near the shaft. It remains partially coiled along the floor of the mine, and measures 0.3 feet (0.9 m) in diameter. This post drill would have been moved from location to location as the crosscuts and the drifts were being cut. A single drill hole on the opposite end of the drift, to the left of the rail track, is located about 3.8 feet (1.16 m) above the floor of the mine. This demonstrates that the miners began drilling to the left of the crosscut, but then moved the post drill to the opposite wall to attempt drilling into the vein again.

Figure 86. Ore cart remains on the rail tracks (Leah Potts)

A single ore cart remains on the rail tracks next to the post drill. The ore cart measures 4.2 feet long and 2.6 feet wide, and is made up of wooden boards, measuring between 0.8 feet (0.24 m) and 1.0 feet (0.3 m) wide, and 0.2 feet (0.06 m) thick. The boards that make up the bottom of the cart are covered in a thin layer of silt. The cart sits atop the narrow gauge rail on iron wheel, measuring 1.5 feet (0.5 m) in diameter, and 0.25 feet (0.08 m) thick. Currently the cart sits empty, save for a small pickaxe that sits in the bottom of the cart. The cart was of an innovative design, with a lever on one side that could be flipped to open the front wall of the cart so the ore could easily be dumped once it was on the surface. The lever is connected to a bar beneath the

cart that, when turned, would rotate an iron lever on the front side of the cart. Once this lever was turned, the cart door would swing open freely as the back of the cart was tipped upwards. These iron levers and bars measure 0.2 feet (0.6 m) in diameter. Another scaling bar, which measures 0.15 feet (0.05 m) in diameter, is propped up against the iron cart handle.

Figure 87. A pickaxe located inside of the ore cart (Leah Potts)

Just beyond the ore cart is the end of the crosscut. Here, at 47.2 feet (14.39 m) along the baseline, the crosscut measures 10.3 feet across. There is only a single narrow gauge rail set extending along the center of the drift. A pile of wooden timbers of various widths cover the track and run longitudinally along the drift's length from 47.2 feet (14.4 m) to 53.6 feet (16.3 m) along the baseline. These timbers range in size from 0.6 feet wide to 1.3 feet (0.4 m) in width. Beyond this debris pile, the second stope can be seen extending from 54.1 feet (16.5 m) to 71.0 feet (21.6 m) along the baseline. Here, the mine workers were attempting to excavate the iron ore at the edge of the vein. This stope extends 9.8 feet (3.0 m) to the left of the baseline and 11.3 feet (3.4 m) to the right of the baseline at its widest point, making it 21.1 feet (6.4 m) in overall width. Rock piles line the stone walls once again here. Two wooden boards of approximately the same size still sit to the left of the rail track in the stope, and measure 1.2 feet (0.37 m) wide and 4.1 feet (1.25 m) long. It is possible that this is where the post drill would have sat when the miners were excavating the stope.

Past this second drift at 85.6 feet (26.1 m) along the baseline, the drift once again narrows, measuring only 7.7 feet (2.35 m) in width. Around this same point, at 89.2 feet (27.2 m) along

the baseline, the geology of the rock visibly changes. The rock closer to the beginning of the drift is robust and a grey color with veins of white and red, the rock at this part of the drift is red in hue, and seems to be much flakier and less sturdy. This is further evidenced by an increase in wooden support beams, and wane log roofing in certain sections. There are four square wooden support beams measuring 1.0 feet (0.3 m) square, two at 92.0 feet (28.0 m) along the baseline, and two at 100.1 feet (30.5 m) along the baseline. An additional two pairs of rounded wooden support beams measuring 1.0 feet (0.3 m) in diameter are located at 105.5 feet (32.2 m) and 111.2 feet (33.9 m) along the baseline. Two larger rounded wooden support beams measuring 1.5 feet (0.5 m) in diameter are located at 121.4 feet (37.0 m) along the baseline. The rounded support beams have bark remaining on them, demonstrating that they were not fully shaped before they were installed. Here, the drift remains quite narrow, measuring 7.4 feet (2.26 m) in width at 120.0 feet (36.6 m) along the baseline.

Additionally, sections of iron rail tracks line the sides of the drift in this section, both leaning up against the walls, and lying on the floor of the mine, along with other long wooden timbers. Additional artifacts are located in this section of the drift as well, including a shovel, and another scaling bar. Candleholders are attached to the support beams in this section of the mine as well. There are broken sections of wiring wrapped around these candleholders, indicating that the mine did have electric power, but also made use of tallow candles. Several tallow candles were located floating along the ceiling near the first stope, between 36.1 feet (11.0 m) and 41.0 feet (12.5 m) along the baseline.

From 122.3 feet (37.3 m) to 127.8 feet (39.0 m) along the baseline the rail line becomes obscured by a rock fall that may have been the start of a very shallow attempted stope, extending only on the left side of the drift. Here, the drift widens to 9.8 feet (3.0 m) across. The rail line picks back up again at 127.8 and continues 24.4 feet (7.4 m) to within 5.0 feet (1.52 m) of the end of the drift. This section, from 127.8 feet (39.0 m) to 161.3 (49.2 m) feet along the baseline continues to get narrower and narrower, and the ceiling lowers as it extends back. At the furthest extent of the drift, the drift measures only 6.2 feet (1.89 m) wide and approximately 6.3 feet (1.92 m) in height.

At 157.8 feet (48.1 m) along the baseline, there is another drill hole in the right-hand wall of the drift, but it looks larger and more broken than the drill holes in the two large stopes. It seems likely that the miners were attempting to continue the drift, but found the surrounding rock too unstable to continue. More rail tracks sit along the sides of the drift near its end, and many of the wooden rail ties are no longer extant. It is clear that the drift had extended into a type of rock that was no longer producing iron ore, and was significantly unstable. It appears that a decision had been made to attempt to find the ore vein again, by crosscutting perpendicular to the drift closer to the mineshaft, into more stable rock. The narrow gauge rail track that had been laid at the end of the drift was being deconstructed to use in the crosscuts when complete.

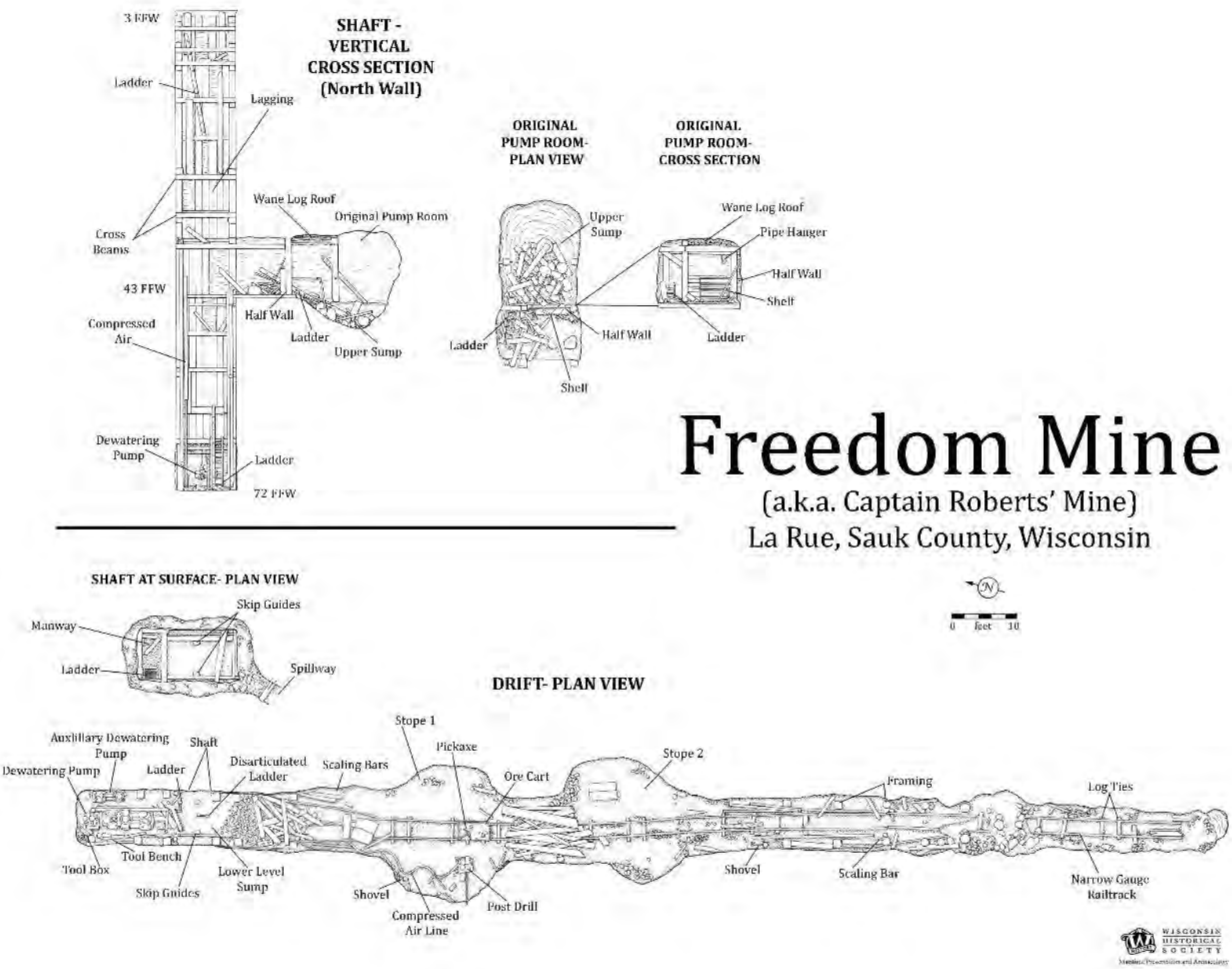

Figure 88. Site plan of the Freedom Mine's subsurface features

CHAPTER EIGHT
CONCLUSIONS AND RECOMMENDATIONS

This field report is a component of the ongoing research conducted by Wisconsin Historical Society's maritime archaeologists and contributes to the ever-increasing body of knowledge collected about historic shipwrecks and submerged cultural sites. Archaeological surveys conducted by the program are also designed to follow the standards and guidelines established by the National Park Service for submerged cultural resources. As such, the goals of the surveys are to positively identify the site through unique marks or artifacts, to analyze the site for its significance in Wisconsin's history as well as a more overarching view of its regional and national importance, to determine its eligibility for listing to the National Register of Historic Places, and to recommend best management and visitation through buoys, signage, interpretation, and outreach.

General Winfield Scott

Due to the highly broken nature of the site and lack of diagnostic evidence, the vessel could not be positively identified as the *General Winfield Scott.* However, the offset centerboard and other construction details indicate pre-Civil War design that would support the vessel's 1852 construction. This, along with the site's size, evidence of two mast steps, and the location of deposition indicate with good probability that this shipwreck is the two-masted schooner *General Winfield Scott.* A complete archaeological documentation and management of the site will be a continuing process for years to come, as other site features may be located.

The documentation of newly located features of the *General Winfield Scott* site and in-depth literature review has added to previous information published in 1989 to create a comprehensive look at the *General Winfield Scott* shipwreck. The site presents an opportunity to study and learn about the construction of Great Lakes schooners built before the Civil War, and the construction and use of offset centerboard trunks. As such, *General Winfield Scott* is one of the few vessels in Wisconsin waters with an offset centerboard trunk, making it particularly unique. The site also allows a glimpse into the early Great Lakes lumber trade. Further research into the lumber trade could provide insight into the economic benefits and trends of this early industry.

The *General Winfield Scott* site was evaluated under the standards of the National Park Service for listing on State and National Register of Historic Places. Although the schooner contains unique construction features, due to the broken nature of its hull structure, it was found ineligible for listing to the National Register of Historic Places at this time.

The *General Winfield Scott* is shallow, located 0.5 miles southeast of the Eastside County Park, on Washington Island, Door County, Wisconsin in the waters of Lake Michigan. Snorkelers, divers, paddlers, and boaters can visit the site. It is easily accessible by boat but may be difficult to access from shore as the closest feature lies over 2,000 feet from shore. Due to its shallow

depth and its location in the surf zone, visibility at the site is oftentimes very good, however weather patterns and currents on occasion may reduce visibility. The site has been known to the Society since 1988, but the scattered nature of the vessel and recent location of starboard hull indicates that other remains could be located in the area. A mooring buoy on site would greatly facilitate diving and kayaking activities and would protect the wreck from anchor damage. Shore side signage would aid in the education and interpretation of the site. Information gathered during the survey will be used for website updates, public outreach, and educational materials for the surrounding communities. Additionally, information about this site and its location has been added to Wisconsin's Lake Michigan State Water Trail and the Wisconsin Public Access Lands interactive maps, for easier accessibility for paddlers, boaters, and divers.

Robert C. Pringle

Robert C. Pringle remains remarkably intact on a sand and silt covered lake bottom, with little damage or deterioration. Given the wreck dimensions, location, and comparisons to historic imagery, the remains were determined to be that of the converted tug *Robert C. Pringle*. The dimensions of the vessel do not quite match what was original listed in historical documents. Although this measurement is different from the overall length measurement taken via sonar, this is not surprising. Overtime, vessel length calculations were taken from various points on the vessel, and likely did not take into account the entire extent of the vessel's rounded stern. Upon reviewing historic imagery of the vessel before its loss, hull lines, cabin structures, window placement, and aft winch on the site all correlate with historic imagery. Additionally, smaller artifacts such as the vessel's searchlight and bell remain in the same location as historic images suggest.

The *Robert C. Pringle* site retains excellent archaeological integrity. The vessel's operation history offers an important look at small-scale passenger excursion operations in the Great Lakes during the early twentieth century. As one of only a few known and intact, converted tugs in Wisconsin waters, the site presents a rare opportunity to study and learn about Great Lakes converted tug construction and use. Very few examples of this vessel type remain making *Robert C. Pringle* particularly important. Today, little documentation exists that illustrates how these unique vessels were constructed, and how they were converted for other uses later in their service careers. Great Lakes converted tugs were incredibly unique and varied widely in their construction and design. *Robert C. Pringle* allows researchers to add to the knowledge and understanding of the economics of the region, the tourism and recreation industry in Wisconsin, and the motives and methods behind this type of vessel conversion.

The *Robert C. Pringle* is an extremely intact site that has seen limited visitation. It contains a unique history and has provided archaeologists with a wealth of knowledge and has great potential for further research. As such, a nomination packet for the *Robert C. Pringle* has been

submitted to the State Historic Preservation Office to consider listing the site to the State Register of Historic Places and will go under review in August 2020.

Robert C. Pringle site is located in deep water. At 287 feet of water it is well beyond recreational diving depths. As technical diving and use of Remotely Operated Vehicles (ROVs) increases in popularity, the site will only become more accessible to an increasing number of visitors. Diving the wreck should only be attempted in the best of conditions without risk of being caught out in weather that can blow up on the lake during the summer months. Because of the depth and the distance from shore, it is not recommended for a State-sponsored mooring buoy. Advances in Remotely Operated Vehicle technology have made access to this technology easier and given people of various experience and skill means and incentive to visit some of these sites. With that in mind, intact sites such as *Robert C. Pringle* are fragile sites and can easily be damaged by anchor drag and grappling hooks. They also contain many features that could cause hang-ups to ROV tethers, potentially causing damage to the site. Information gathered during the survey has been used for website updates, public outreach, and educational materials.

Transfer

The loss of the *Transfer* was highly documented with photos and description of the distance from the harbor and depth of water of its final deposition. Although severely broken, the site has been positively identified as the *Transfer.* This can be supported by the remains of self-unloading machinery located on site, evidence of damage on the port bow that was caused by a tug during its act of sinking, as well as the size and location of the site.

Transfer is a rare example of a vessel type that was essential in the development of bulk cargo transportation technology and vital to Wisconsin's economy, the economy of the Midwest. Before the application of self-unloading machinery on ships, the unloading of bulk freight was laborious and time consuming. Converted self-unloading schooner-barges were first equipped with mining machinery to cut the cost of labor and time. This addition was determined to be so economically beneficial that the practice continued to develop in purpose-built vessels leading to the modern-day bulk freighter. *Transfer* and other converted self-unloading schooner-barges in Wisconsin's archaeological record, *Adriatic* and *E.M.B.A,* have provided archaeologists the opportunity to study how these vessels were converted, why schooner-barges were chosen for conversion, and how these vessels were economically influential in the bulk cargo industry.

Many opportunities remain for future archaeological research on *Transfer.* Although the vessel is extremely broken, there is the potential for significant features to be buried within the vast amount of structure still on site. Additional information from the site may significantly add to our understanding of the conversion techniques and equipment used on self-unloading schooner-barges. Nineteenth-century wooden vessels were rarely built to drawn plans.

Furthermore, it was common practice to equip these vessels with mining machinery to aid in unloading. Very little information exists about the types of mining machinery that was available and no information focusing on equipping ships with such machinery. The information about equipping early vessels with self-unloading equipment can only be found underwater in the archaeological record.

The rarity of this converted self-unloading schooner-barges and the prototypical nature of its conversion make *Transfer* eligible for listing on the National Register of Historic Places. Currently, a nomination packet has been written and submitted to the State Historic Preservation Office for consideration for listing to State Register of Historic Places.

Transfer lies within recreational diving limits close to a busy harbor and is visited divers. The site is located in 120 feet of water, 6.0 miles southeast of the main Milwaukee harbor entrance in the waters of Lake Michigan. Due to the vessels severely broken and disheveled hull and lack of appealing artifacts, the site is not the most popular site of divers. However, divers do visit the site and evidence of temporary moorings and anchor damage are evident. A mooring buoy on site would greatly facilitate diving and would protect the wreck from further anchor damage. Information gathered during the survey will be used for website updates, public outreach, and educational materials for Milwaukee County and the surrounding communities. Many of the buildings that *Transfer* serviced along the river are still standing and repurposed for other uses. Informational signage near these structures may be beneficial in educating the public about Milwaukee's maritime and industrial history. Additionally, *Transfer* and other converted self-unloading schooner-barges, *Adriatic* and *E.M.B.A.* will be analyzed for on a broader economic scope, leading to the production of a regional context for the vessel type and an update to the National Register of Historic Places Multiple Property document, *Great Lakes Shipwrecks of Wisconsin*.

Tennie & Laura

The *Tennie & Laura* shipwreck site was listed to the National Register of Historic Places in April 2008. *Tennie & Laura* is a representative of a very unique vessel type the scow schooner. Scows are known for having a few main structural components, but could be quite varied in construction, depending on the builder, resources, and skills. *Tennie & Laura* is one of nine scows located in Wisconsin waters and is the second most intact of the vessel type. The vessel's historical significance was known. However, a more detailed description of the site was needed.

With the collection of high definition video in 2017 and multi-beam sonar imagery with measurement capabilities collected in 2019, Society archaeologists were able to gather the data they have been attempting to collect since 2005. The detailed measurements and observations taken from the *Tennie & Laura* site have allowed archaeologists to research further into the similarities and differences between Wisconsin's scow schooners as well as analyze the cultural

and economic motivations behind such individualized construction. The additional information collected during the most recent surveys was submitted to the National Park Service and the National Register listing has been updated.

Tennie & Laura site is deep and is well beyond recreational diving depths at nearly 300 feet of water. As technical diving and use of Remotely Operated Vehicles (ROVs) increases in popularity, the site will only become more accessible to an increasing number of visitors. Diving the wreck should only be attempted in the best of conditions without risk of being caught out in weather that can blow up on the lake during the summer months. Because of the depth and the distance from shore, it is not recommended for a State-sponsored mooring buoy. Advances in Remotely Operated Vehicle technology, archaeologists are able to visit deep water sites and collect crucial data. However, access to this technology is getting easier and people of various experience and skill may be incentivized to visit some of these sites. With that in mind, intact sites such as *Tennie & Laura* are fragile sites and can easily be damaged by anchor drag and grappling hooks. They also contain many features that could cause hang-ups to ROV tethers, potentially causing damage to the wreck site or loss of ROV. Information gathered during the survey has been used for website updates, public outreach, and educational materials.

War Eagle

Because of the conflagration that occurred at the time of its loss, and the variety of visitations, looting, and disturbances that have occurred on the site, no identifying marks were found during the survey to positively identify this site as the *War Eagle*. However, artifacts found within the site determine that this is the *War Eagle* shipwreck site. The artifacts collected over the years are of the correct time frame of the loss of the steamboat. Various collections contain artifacts, flatware, luggage tags, etc., inscribed with the words “War Eagle”. The location and dimensions of the vessel support the sites identification. The sidewheel steamboat was the only vessel known to be lost in this location and the tragedy of its loss went down in history. That being said, much of the artifacts found could be associated with everyday actions occurring at the Railroad Depot before 1871 as well as disposition of the depot after it was burned along with the *War Eagle*.

War Eagle site is the only archaeologically documented river sidewheel steamboat shipwreck in Wisconsin waters. The site has produced archaeological knowledge about sidewheel river steamship construction and has the potential to yield a vast amount of knowledge about this vessel type and its use in the early movement of passengers and freight cargos in frontier communities. Additionally, the site is significant for its association with commerce. Before rail lines were constructed west of the Mississippi River steamboats like the *War Eagle* were an important link in connecting people and goods between the economically and culturally developed eastern markets with the virgin territory west of the Mississippi, defining its place in the larger context of maritime history. *War Eagle* is a rare example of a vessel type that was

vital to Wisconsin's economy, the economy of the Midwest, and transportation infrastructure during the development of road and rail networks westward. This vessel also played a small but important role in the movement of military troops and supplies during the American Civil War.

Because of the uniqueness of the site and historical and archaeological significance of the vessel *War Eagle* was listed on both the State and National Registers of Historic Places. Although the *War Eagle* site is shallow and located adjacent to the shoreline, the site conditions are poor in water quality and potentially hazardous. Furthermore, the vessel is owned by the city of La Crosse and permission to visit the site must be acquired from the city. Information gathered during the survey will be used for website updates, public outreach, and educational materials for La Crosse and the surrounding communities.

The survey of the *War Eagle* shipwreck site was conducted to determine the feasibility of using side scan sonar technology in poor water quality and hazardous environments. The site was a prime candidate for such a study for a variety of reasons: 1. the location of the site is known and has been a source of curiosity and the desire to understand this site's history; 2. the site's location at the confluence of the La Crosse, Black, and Mississippi Rivers provides the perfect conditions to test the usefulness of this technology in black water, strong and potentially dangerous current and cross current conditions, and high occurrence of other debris at the bottom of the river that could prove to be a safety threat to divers. It can be concluded that the study was a success and that sonar technology can be used in these types of site conditions. This method of survey could be an alternative to risking the safety of divers in hazardous conditions. Additionally, this study has provided a gateway to further surveys of inland waterways with potential to hold significant submerged cultural resources.

Freedom Mine (Captain Roberts' Mine)

In the early decades of the twentieth century, industrial-scale iron mining in the Baraboo Range created a brief economic boom in south-central Wisconsin. The population grew rapidly as workers flocked to newly established mines, and villages sprung up to house miners and their families and provide necessary commercial services. Railroad companies also expanded their rail networks to capitalize on the new mines' anticipated shipping demands: ore extracted from mines in the Baraboo Iron Range was shipped out of the region for processing. Mining operations also transformed the surrounding landscape and hydrology. Mining engineers struggled against the ever-present threat of flooding. Their attempts to displace the enormous volumes of water drawn into the mine shafts from the bedrock layers surrounding the iron ore deposits created new surface water channels, wetlands, and ponds.

Although the scale of operations at the Freedom Mine was relatively small and short-lived, the features of the site are illustrative of mining practices and operations typical of the Baraboo Range Iron District. This property is the only remaining example of a Baraboo Range iron mine

with extant underground workings as well as above ground features. Archaeological investigations within the boundaries of Freedom mine have revealed intact terrestrial features associated with the operation of the mine and has revealed the remarkably intact remains of the mine's underground workings, completely preserved, over 70 feet below the surface. To date, little has been known about the subterranean day to day operations of the mines of the Baraboo Iron Range. Freedom Mine gives archaeologists an unprecedented and unique opportunity to study the intricacies of early twentieth century mining operations in Wisconsin and allow a glimpse of what it was like to work in the mine on a daily basis. With the constant threat of flooding, and the eventual inundation of the mine, archaeologists can begin to understand what occurred just moments before the mine flooded, and understand how the dewatering pumps worked, and how the miners tried a few last-ditch efforts to keep the mine dry. As the only known archaeological investigation of a submerged mining site, Freedom Mine offers a unique and extremely rare opportunity to study the remains of Baraboo Range iron mining operations. Documentation of the extant structures and artifacts at Freedom Mine has provided significant archaeological data on the construction and use of historic iron mines, and on the cultural and material milieu of the times and will continue to contribute to our knowledge in the future.

The Freedom mine is such a unique site. The submerged mining site is perfectly preserved and has only been visited by archaeologists, volunteers, and a very limited number of divers. This site is the first submerged mine site to be archaeologically surveyed in the nation. This site also provided a unique opportunity to survey the site terrestrially along with the subsurface features. These factors make the Freedom mine site extremely significant. The Freedom Mine site was listed on the State Register of Historic Places in February 2020. Its nomination has been forwarded to the National Park Service for consideration for listing on the National Register of Historic Places.

The Freedom Mine site is located within private property and cannot be visited without the permission of the landowner. The information of the mine site will be published in scholarly journals.

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