Phase II Archaeological Research at the Radisson Hotel Site, Savannah, Chatham County, Georgia

By

Nicholas Honerkamp and Brina Agranat

The Jeffrey L. Brown Institute of Archaeology
The University of Tennessee at Chattanooga

July 1991
Acknowledgements

Our research in Savannah was made possible only with the cooperation and help of a number of individuals and organizations. As with the initial survey of the Radisson Site, Brad Marman, Project Engineer for Columbia Sussex Corporation, and their local attorney, Bernard Forman, coordinated assistance through their efforts. On-site work was considerably enhanced by the help of Construction personnel, including employees of several firms, including Neal Beckley, "Andy" C.Williams, Marvin Gaskins, Charlie Sherhouse, and Daniel Hodges of Porter Huggins and Marvin Armistead, Frank Johnson, and R.B. White of Triangle Construction. We are also indebted to Jack Sklair and Jack Coburn for freely sharing their knowledge of the site with us.

Other individuals who assisted greatly in this effort were Judy Wood of the United States Army Corps of Engineers, Savannah District; Dr. Larry Babitz, Department of History, Armstrong State College; Kevin Foster and James W. Woodruff, Jr., Confederate Naval Museum; Bob Crossman, Naval Historical Center; Everett Ellis, College of Forest Resources, University of Washington, Ole Gustafson, Northside Seaport; Dr. Francis Thorne, Department of Biology, Armstrong State College; Tim Mistrach of Panamericans Consultants; and R. Bruce Council of the Institute of Mesoamerican Studies.

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Our most valuable resource during fieldwork was the presence of a professional crew. For the Radisson Site testing, the field technicians were Rick Leech, Jane McKenzie, and Duff Martin, all of whom worked under conditions that were unspeakably difficult at times. Rick Leech also assisted in the investigation of the second derelict vessel and was a cheerful and pleasant colleague to work with. His interpretive drafting skills are fully evident in this report in the form of numerous line drawings presented herein and on the cover. We also appreciate the work of Mike Kittrell for his large-format photographs.
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Introduction

During the fall of 1989, the Jeffrey L. Brown Institute of Archaeology, University of Tennessee at Chattanooga, performed an archaeological survey of the Radisson Hotel tract on the Savannah riverfront for the Columbia Sussex Corporation. Concurrently, Panamerican Consultants, Inc., of Tuscaloosa, Alabama, performed a marine survey of the shoreline area. These surveys were performed on a 3.68 acre tract of land just east of Emmet Park in downtown Savannah. The surveys were required by the Department of Natural Resources, State of Georgia, and the United States Army Corps of Engineers to determine the environmental and cultural resource impacts of the proposed construction. Agency review requirements took into account the extensive maritime history of the site and the fact that submerged as well as terrestrial resources might be harmed by hotel construction activities or by construction of the associated 1200-foot-long riverwalk corridor along the shoreline.

Although the Institute encountered extensive archaeological materials at the site, datable remains in closed context deposits were rare. Much of the archaeological record was found to consist of relatively recent fills. Since these modern deposits were considered to possess little or no research potential, further testing was not recommended (Council 1989), and the Corps of Engineers and Georgia Department of Natural Resources concurred with this assessment. Panamerican Consultants conducted an extensive remote sensing survey using a magnetometer, side scan sonar, and a subbottom profiler, with negative results. However, visual inspection of the shoreline revealed the presence of hull fragments of a wooden vessel adjacent to the riverbank as well as the remains of what appeared to be a wooden shipways. A Phase II investigation consisting of photographic and architectural documentation of these two marine-associated resources was recommended (James and Mistovich 1989), and a Memorandum of Agreement between the Corps, the Georgia State Historic Preservation Officer, and Columbia Sussex called for additional testing of the vessel and shipways.

In April of 1990, the Institute of Archaeology was awarded a contract to carry out the Phase II investigation recommended by James and Mistovich. "Testing" of the site consisted primarily of photographing and mapping the wharf remains and the partially exposed vessel remains, along with documentary research; limited backhoe testing was also carried out. The Institute subcontracted the fieldwork to Panamerican Consultants, who had already received an antiquities permit for investigating the site from the Georgia Department of Natural Resources. Fieldwork was completed during two weeks in May that corresponded to a period of unusually low tides.

Rather than encompassing the entire Radisson Site tract, the project area during the testing program was limited to the shoreline section of what was known in the 19th century as the Eastern Wharves. The two areas investigated, hereafter referred to as the "west study area" (for the shipways) and the "east study area" (for the vessel remains) are shown in Figure 1. Based on distinctive structural and functional characteristics, we have divided the west study area into four sections, designated as Segments A through D (Figure 2). The portion of the shoreline comprising the east study area contained ship fragments only in a small, 20-foot-wide section. Although this location was also part of the eastern wharf complex, the visible ship remains were deposited next to a part of the shoreline that was composed of relatively modern fill, as documented by Council (1989:28). An important goal of the testing project was to determine the extent of the vessel remains, and especially to determine if they extended shoreward under the adjacent concrete retaining wall and fill deposit.

Both before and after the fieldwork, the Institute spent a total of eight days conducting documentary research in Savannah, followed by four weeks of laboratory analysis, drafting, and report preparation. Analysis of wood samples was undertaken by Dr. Francis Thorne of the Department of Biology, Armstrong State College. The Center for Low Country Studies, Armstrong State College, has agreed to permanently curate all materials from the site, including notes, maps, photographs, etc.
Location of Sites

Figure 1. Vicinity Map, West and East Project Areas, Radisson Hotel Site
Figure 2. West Project Area, Segments A through D, Radisson Site.
DOCUMENT REVIEW

The current state of information technology for the military is an active area of research with significant potential impacts on national security. This paper explores the implications of emerging technologies on national defense and the role of universities in shaping the future of military technology. It highlights recent advancements in cybersecurity, artificial intelligence, and machine learning and their potential applications in national defense scenarios.

The paper concludes with recommendations for future research and development, emphasizing the need for collaborative efforts between government, academia, and industry to ensure continued innovation and growth in military technology.

Introduction

As technology continues to advance, it is crucial for military forces to remain at the forefront of innovation. The intersection of information technology and national security presents numerous opportunities for enhancing operational effectiveness and strategic advantages. This paper aims to provide insights into the current landscape of military technology and suggest avenues for future research.

Cybersecurity

Cybersecurity remains a critical concern for national defense. With the increasing reliance on digital systems, vulnerabilities pose significant risks to military operations. Efforts are underway to develop robust cybersecurity measures and improve information sharing and collaboration among different branches of the military.

Artificial Intelligence

Artificial intelligence (AI) is transforming the way military forces operate. From predictive analytics to autonomous systems, AI technologies offer the potential for improved decision-making and enhanced situational awareness. Research in AI is focused on developing algorithms that can operate in complex, dynamic environments, ensuring that military capabilities remain effective in diverse scenarios.

Machine Learning

Machine learning (ML) is another area of significant interest in the military domain. Its potential for enhancing predictive capabilities and decision-making processes is particularly promising. Research is directed towards optimizing ML algorithms to operate effectively in real-world conditions, ensuring reliability and accuracy in critical applications.

Conclusion

The future of military technology is shaped by ongoing advancements in cybersecurity, AI, and ML. To maintain a competitive edge, there is a need for sustained investment in research and development, as well as increased collaboration between academia, industry, and government. By fostering a culture of innovation and emphasizing the importance of interdisciplinary approaches, the military can continue to lead in the development of cutting-edge technologies for national defense.

Recommendations

1. Increase funding for research in cybersecurity, AI, and ML, particularly in areas with high potential for military applications.
2. Foster partnerships between universities, industry, and government to accelerate the translation of research into practical solutions.
3. Prioritize the development of robust, adaptable AI and ML models that can operate effectively in dynamic, unpredictable environments.
4. Enhance information sharing and collaboration among different branches of the military to leverage the full potential of emerging technologies.

Overall, the military must remain vigilant and proactive in the face of technological advancements, ensuring that it is well-equipped to meet the challenges of the future.
Documentary Research

Methods

The goals of documentary research for the testing project were more narrowly defined than during the survey phase. One was simply to produce a more complete chain of title for the various parcels comprising the Eastern Wharf area than had been done in the earlier study. To that end, much of the documentary effort consisted of deed and plat research at the record office of the Clerk of the Superior Court, Chatham County Courthouse. Both grantor and grantee indexes for appropriate years were checked for transactions that could fill in ownership gaps, but despite this sustained attempt, several dead-ends still exist. A significant amount of time was also devoted to a survey of historic newspaper indexes and referenced microfilmed articles relating to maritime history and waterfront development in Savannah. Business directories and Sanborn Insurance maps were also systematically reviewed for information concerning the functions of businesses located in the wharf area. Fortunately, an unexpected benefit of this procedure was to identify and interview a local informant who had worked at the site in the 1950s and 1960s, and he was able to provide much information about the site’s later history. Since the remains investigated showed evidence of burning, vertical files at the Georgia Historical Society relating to fires were also consulted, as were locally produced, limited edition books highlighting Savannah’s industrial progress, as seen in the eyes of civic boosters. No applicable information relating to fires in the project area was found, however.

Historical Overview

The reader is referred to Council (1989) for an extensive historical summary of the Eastern Wharves. After a brief synopsis of the early use of the site, we will concentrate on the 20th century period since the archaeological remains under consideration in all likelihood post-date the 19th century. Special attention will be given to the west study area, which has historically been designated as Lot 19. A chain of title for this parcel, derived from the Institute’s earlier research and supplemented by additional deed information, is shown in Table 1.

Due most likely to its low, wet, marshy characteristics, the Radisson Site parcel was outside the original urban core that James Oglethorpe laid out for Savannah in 1733. Its marginal usefulness accounts for its lack of development until the late 18th century. While unsuitable for domestic occupation, the low ground east of the town bluffs was amenable to rice cultivation since it fell within the fresh water tidal flux zone that rice culture requires. Council (1989:8) suggests that Governor James Wright’s plantation possibly extended west as far as the town bluffs (see also Table 1), but leaves no doubt that the site was under rice cultivation by the turn of the century. An early attempt to encourage a commercial wharf in the “Trustees Garden Ward” apparently failed, as there were no structures built there until the 1840s. Due to health problems, a city ordinance was enacted in 1817 prohibiting wet culture within one mile of the city limits, and the shift from agriculture to other commercial functions probably occurred soon thereafter. This shift no doubt was spurred on by the growing importance of Savannah as a shipping center. Taking advantage of this climate of opportunity was a speculative partnership known as the Eastern Wharf Company. The 1830s and 1840s saw a good deal of activity as this company and several of its principals obtained rice land and converted it into commercial enterprises. Besides filling in the marsh and developing a considerable number of wharfs and warehouses, Lamar’s Canal was also channelized during this period. A thriving area of commercial activity resulted. Willink’s shipyard, the Hydraulic Cotton Press Company, the New Eagle Steam Saw Mill, Baldwin’s Cotton Press and warehouse, the Bullock and Winton Steam Saw Mill, and the iron foundry of A. N. Miller were all located either in or near the Radisson parcel by mid-19th-century. Lamar’s Cotton Press was up and running by 1853, and it along with its warehouses and adjacent flour mill dominated the commercial landscape at the Eastern Wharves for the next 25 years.
Table 1. Chain of Title, Wharf Lot 19, Trustee’s Garden. (From Council 1990:67-68.)

<table>
<thead>
<tr>
<th>Date</th>
<th>Grantor</th>
<th>Grantee</th>
<th>Description</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>unknown</td>
<td>John Reynolds</td>
<td>Grey Eliot</td>
<td>Lots in Trustee's Gardens</td>
<td>not available</td>
</tr>
<tr>
<td>unknown</td>
<td>Grey Elliot</td>
<td>James Lucena</td>
<td>Lots 16, 17, 18, and 19, Trustees Garden</td>
<td>not available</td>
</tr>
<tr>
<td>2 January 1809</td>
<td>John C. and Joana Lucena</td>
<td>United States of America</td>
<td>Parcel 110’ by 420’ on west side of Lots 16, 17, 18, and 19, Trustees Garden, for fortification</td>
<td>CCDB 2B: 369</td>
</tr>
<tr>
<td>unknown</td>
<td>John C. and Joana Lucena (?)</td>
<td>parties unknown</td>
<td>Lots in Trustees Garden</td>
<td>not available</td>
</tr>
<tr>
<td>6 January 1835</td>
<td>John P. Dews, Sheriff of Chatham County</td>
<td>H. F. Willink</td>
<td>Lots 15, 16, 17, 18 and 19 of Trustee’s Garden, by Writ of Fieri Fascias</td>
<td>CCDB 2V: 175</td>
</tr>
<tr>
<td>26 January 1860</td>
<td>H. F. Willink</td>
<td>Gazaway B. Lamar</td>
<td>Wharf Lot 19 and Lots 15, 16, 17, and 18</td>
<td>CCDB 3T: 24-25</td>
</tr>
<tr>
<td>lapse in chain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 April 1904</td>
<td>Harriet C. Jones et al.</td>
<td>William Kehoe</td>
<td>Wharf Lot 19, subject to lease by Domestic Coal and Wood Company</td>
<td>CCDB 8U: 151</td>
</tr>
<tr>
<td>10 October 1934</td>
<td>Liberty National Bank and Trust Company of Savannah as Trustee for Kehoe’s Iron Works</td>
<td>Liberty National Bank and Trust Company</td>
<td>Wharf Lot 19 and eastern portions of Lots 16, 17, and 18, Trustee’s Garden</td>
<td>CCDB 30I: 112</td>
</tr>
<tr>
<td>4 February 1935</td>
<td>Liberty National Bank and Trust Company of Savannah</td>
<td>Marine Railway Company of Savannah</td>
<td>Eastern Portion of Wharf Lot 19, with existing slip, dry docks, hoisting engine, boiler, machinery, etc.</td>
<td>CCDB 30G: 481</td>
</tr>
<tr>
<td>15 May 1939</td>
<td>Liberty National Bank and Trust Company</td>
<td>American Warehouse and Storage Company</td>
<td>Western Portion of Wharf Lot 19, and eastern portions of Lots 16, 17, and 18</td>
<td>CCDB 34B: 37-39</td>
</tr>
<tr>
<td>Date</td>
<td>Grantor</td>
<td>Grantee</td>
<td>Description</td>
<td>Reference</td>
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<td>-------------------</td>
<td>----------------------------------------------</td>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>15 May 1939</td>
<td>American Warehouse and Storage Company</td>
<td>Merry Brothers Brick and Tile Company</td>
<td>Northern Portion of Western Portion of Wharf Lot 19</td>
<td>CCDB 34A: 231-233</td>
</tr>
<tr>
<td>20 August 1951</td>
<td>American Warehouse and Storage Company</td>
<td>Kenneth H. Merry et al.</td>
<td>Southern Portion of Western Portion of Wharf Lot 19</td>
<td>CCDB 54I: 183</td>
</tr>
<tr>
<td>27 April 1967</td>
<td>Liberty National Bank and Trust Company of Savannah</td>
<td>Sayler Marine Construction Inc. of Georgia</td>
<td>Irregular parcel at southwestern corner of Eastern Portion of Wharf Lot 19</td>
<td>CCDB 91W: 345</td>
</tr>
<tr>
<td>28 November 1969</td>
<td>Sayler Marine Construction Inc., formerly Merry Companies Inc.</td>
<td>Merry Brothers Brick and Tile Company</td>
<td>Quit Claim of Grantor's interest in Western Portion of Wharf Lot 19 in exchange for Grantee's interest in Eastern Portion of Wharf Lot 19</td>
<td>CCDB 96U: 527</td>
</tr>
<tr>
<td>2 December 1969</td>
<td>Merry Companies Inc. formerly Merry Brothers Brick and Tile Company</td>
<td>Merry Land and Investment Company Inc.</td>
<td>Western Portion of Wharf Lot 19</td>
<td>CCDB 96U: 509</td>
</tr>
<tr>
<td>2 December 1969</td>
<td>Merry Land and Investment Company Inc.</td>
<td>Savannah Electric and Power Company</td>
<td>Western Portion of Wharf Lot 19</td>
<td>CCDB 96U: 493</td>
</tr>
</tbody>
</table>
During the Civil War Savannah took on new importance since deep water ports controlled by the Confederacy were scarce. According to Council "it was during the Civil War that activities in the Eastern Wharves of Savannah propelled A. N. Miller and Henry F. Willink Jr. into historical prominence for their industrial contributions to the Confederacy" (1989:17). Miller began to produce cannons, ammunition, fittings, and fastenings for gun fittings (Daniel 1977), and he outfitted the ironclad Georgia, which was launched in October, 1864 (Ross 1987). His foundry was burned by evacuating Confederate forces in the same month. Willink's shipyard, which produced the Confederate ironclad Savannah, the gunboat Macon, and was in the process of completing the ironclad Milledgeville, was also torched (Coolidge 1977). He continued to use the shipyard, located on Lot 19, until 1871. The fate of Lamar's property during the evacuation is unclear. Except for rebuilding to replace structures lost during the war, the Eastern Wharves grew very slowly in the postbellum era. The 1871 Ruger bird's eye view and various Sanborn Insurance maps indicate the specific changes that occurred at the site in the last quarter of the 19th century, as outlined by Council (1989:19-22). Fires and storms took their tolls on the area: both the Hydraulic Press and Tyler's compress, including five brick warehouses and 4,500 bales of cotton, were burned in 1889, although Lamar's warehouses were spared.

By the late 1880s railroad spur lines were connected to a massive open platform or dock on Lot 19 that stretched from the Bay Street extension on the south to the wharf front on the north, and from Reynolds Street on the west to the boundary with Lot 1 on the east. According to the 1888 unrevised Sanborn (available only on microfilm at the Georgia Historical Society), the following steamships are associated with a "Discharging Freight Shed" that dominates the north end of the lot: the Chatham, D.H. Miller, Berkshire, Alleghany, John Hopkins, Wm. Crane, Wm. Lawrence, Geo. Appold, and Blackstone. The Merchants and Miners Transportation Company is associated with the wharf, although this company apparently never owned the complex (see Table 1). The kind of activity occurring there is indicated by the following advertisement appearing in the 1880 Savannah Business Directory:

Merchants and Miners Transportation Company for Baltimore, Providence, Boston. The Steamers of this Company sail from Savannah for Baltimore twice a week during the Fall and Winter and weekly during the Spring and Summer.

To the west of Lot 19 was John Rourke's Novelty Iron Works, filling a void left by the closing of Miller's foundry sometime before 1884. Between 1871 and 1884 Lamar's Canal was filled in. By 1898 the Eastern Wharves were controlled by the United Hydraulic Cotton Press Company, with the exception of the Lamar structures on Lots 1 and 2. According to the 1884 Sanborn maps, Lamar's cotton press was no longer in operation by this date, and between 1888 and 1898 the press apparatus was removed. By the latter date the east edge of Lot 19 was occupied (if not owned) by the Domestic Coal and Wood Company.

Having a direct bearing on the present study was the 1904 sale of Lot 19 by Harriet C. Jones to William Kehoe. (As seen in Table 1, a gap in the title chain exists at this point since no grantor to Jones could be located.) Kehoe was owner of a foundry located south of Lot 19. According to a November 24, 1889 advertisement in the Savannah Morning News, it was doing business casting "Sugar Mills" and "Pans" at an address listed as "Broughton Street, from Reynolds to Randolph." Apparently the land purchase from Jones allowed Kehoe access to the riverfront for the purpose of expanding his business. He had previously been located at the Broughton Street address for some years, as indicated in this detailed description of the operation from Morrison's The Industries of Savannah:

Formerly the Phoenix Iron Works, this establishment is of importance in connection with the topic of which this book treats, because of the character of the industry which it represents, and the scope of its operations. Mr. Kehoe, its proprietor, (the "Co." being nominal) has been some 25 years in the foundry business, and has been in these works since 1873. Some idea of the extent of his business may be got from the following facts concerning his business: he employs
forty-five hands; is the principal manufacturer of sugar mills and pans; does most of
the work for the Plant system of roads, besides considerable for other Southern
railways; has a trade extending over South Carolina, Georgia, Alabama and
Florida, and in fact, is one of the largest manufacturers in the Southeastern states.
Mr. Kehoe's premises are large and his facilities and equipment first-class. His
moulding shop is 100 x 60 feet; his pattern and fitting shop 80 x 30, dimensions
indicating the business he has. An expert himself, and a resident of this section for
thirty-four years, Mr. Kehoe has a thorough knowledge of the trade and is ample
prepared to compete with any concern of the kind here located. Architectural iron
work a specialty. (1886:75)

Kehoe's Broughton Street plant is illustrated, with numerous tall stacks proudly belching
smoke, in the frontpiece of Gregory's 1899 Savannah Illustrated (Figure 3, top). A photograph of
the same slightly modified plant appears five years later in Gamble's Savannah (Figure 3, bottom).
Kehoe seems to have lost no time in expanding his capabilities after the purchase of Lot 19.
Although the entry in the Savannah Business Directory for 1902 lists Kehoe's Iron Works as
consisting of "iron founders, machinists, boilermakers, etc.," the same entry in the 1905 Directory
has an expanded list of specialties: "Founders, machinists, boilermakers, marine engrs., railways,
ship building and repairing, etc." By 1908 the page 2 advertisement in the Directory mentions
"marine Engineers, Machinists, Blacksmiths and Boilermakers" in addition to "Railway Dry Docks
and Shipyards" associated with the business. This last reference is to the marine railway that
appears at the foot of Randolph Street on the east edge of Lot 19 in the unrevised 1916 Sanborn
map. Also appearing on this lot are two buildings with the captions "To be Boiler Shop" and "To
be Machine Shop," with the entire lot containing a caption reading "To be Occupied by Kehoe Iron
Works, Wm Kehoe & Sons."

Unfortunately, Savannah newspapers are not indexed from the 1890s to the late 1930s, and
the activities of the foundry during this period until its closing in the Depression are unknown. The
firm continued to maintain a listing in the Savannah Business Directory, though it ceased taking out
advertisements by 1930. Kehoe lost the property in a 1934 foreclosure and a year later the Marine
Railway Company took possession of it. This latter transfer, recorded in Chatham County Deed
Book 30G (p. 481), is of interest due to the list of improvements that are mentioned. For $1000
the Liberty National Bank and Trust Company granted the eastern half of Lot 19, including the
slip, drydock, hoisting engine, boiler, machinery, and equipment located there. It was also agreed
that the Marine Railway Company would permit vessels that the trust company had docked

... for the purpose of loading or unloading, to extend said vessels along and
against the northern part of the eastern portion of lot no. 19, of Trustees Garden
Ward, and the right to use said eastern portion for the purpose of loading and
unloading said vessels or for the purpose of making necessary repairs thereto. . . .

This indicates that the wharf in front of Lot 19 was probably still being used by commercial
shipping. Four years later, in 1939, the holding company sold the west half of Lot 19 to the
American Warehouse and Storage Company.

Thus, Lot 19 has a history of wharf-related functions extending back more than a century,
beginning with the extensive Merchants and Miners Transportation Company's freight (and
probably passenger) service and including the ship manufacture and/or repair activities carried out
by the Kehoe Foundry after its 1904 expansion.

Nothing could be learned of either the Marine Railway Company or the American
Warehouse and Storage Company. Neither firm is listed in any newspaper indexes and neither
bothered to take out a listing in the Savannah business directories. Table 1 indicates that the Merry
Brothers Brick and Tile Company obtained the northwest quarter of the Lot 19 in 1939 and that
Kenneth H. Merry et al. bought the southwest quarter in 1951. This company was apparently
responsible for the removal of most of the earlier Kehoe foundry buildings, and for construction of
a new dock and loading ramp. By this time much of the Eastern Wharf area had been vacated by
KEHOE'S IRON WORKS.

Iron and Brass
Founders.
Machinists
Blacksmiths
and
Boilermakers;
Cast Every Day.
Special attention
to Repair work

Machinery of all kinds.
Sugar Mills and Pans.
Distillers Pumping Outfits,
Steam and Water Fittings,
Estimates Promptly Furnished.

SAVANNAH, GEORGIA.

Kehoe's Foundry at the Turn of The Century. From Gregory 1899: frontpiece.

Figure 3. Kehoe's Foundry on Broughton Street.
industry. According to the 1951 revision of the 1916 Sanborn, the marine railway at the foot of Randolph Street, on the eastern portion of Lot 19, was operated by the Savannah Machine and Foundry Company. The firm does not appear on the 1955 map. Sayler Marine Construction Inc. bought the eastern half of Lot 19 in 1967 (Table 1). The Sayler company, part of the Merry Brothers operation, was engaged in marine construction, dredging, vessel scrapping and salvage, and similar tasks, as outlined in James and Mistovich (1989) and Council (1989). By the mid-1950s virtually all the standing architecture at the Radisson Site had been demolished.

In checking the Savannah directories for the Merry Brothers company it was noted that Jack Coburn was listed from 1950 through 1966 as the manager for the freight office on East River Street. Fortunately Mr. Coburn, 72 years old and now retired, was still living in the Savannah area. In a May 8, 1990, telephone interview it was learned that he began work for Merry Brothers in 1949. He bought out the company's interest in 1969 and moved the business to another part of town. A meeting was arranged for the next day at the Radisson Site, where for two hours Mr. Coburn graciously shared his knowledge of the site with the senior author. The following is a summary of that interview.

Mr. Coburn stated that he had begun working for Merry Brothers in 1949, and that the firm had acquired the property a few years earlier. He was not sure, but he assumed that the property was acquired from the Kehoe Foundry company in 1947; his impression was that Kehoe did mostly castings and machine work. Soon after he joined Merry Brothers he was put in charge of demolishing some of the earlier Kehoe Foundry buildings still standing at the site; one building was left for reuse as a freight terminal. This is exactly what is indicated on the Sanborn maps, and the foundations for pillars from two of these Kehoe buildings can still be seen in the Savannah Electric parking lot south of the west study area.

Mr. Coburn also poured the concrete drive and constructed the dock and concrete ramp showing on the revised 1948 Sanborn at the Georgia Historical Society. However, he said this work was done after he joined the company in 1949. When this discrepancy was pointed out to him he was adamant that the drive and dock construction occurred a year after he joined the firm, that is, in 1950, whatever the date might be on the Sanborn. In checking the hardcopy versions of the Sanborns against those on microfilm at the Georgia Historical Society, it was noted that the 1948 hardcopy version does not contain a correction date: it actually reflects changes as of 1955. Hence, the informant's memory was right and the Sanborn was in error concerning the date that the site was altered. This validation of the informant's memory illustrates the reliability of the oral history generated for this site.

Concerning the dock and ramp construction, Mr. Coburn stated that his method involved cutting already-existing cedar pilings at low water, capping these with large square timbers (stringers), and putting new pilings on top of the stringers. The two sets of pilings were connected to the stringers by interior iron pins and exterior straps. Mr. Coburn also demolished part of the concrete headwall that ran parallel to the shore and constructed the extant concrete ramp with its electric-powered iron hoist. This facility (corresponding to Segment C in Figure 2) was used to load bricks from barges to the Merry Brothers warehouse, a reused Kehoe machine shop building.

Mr. Coburn was also aware of the wooden dock and ramp structure (labeled Segment A in Figure 2) to the west of Segment C that had been identified by the archaeologists as a shipways. This designation appeared to be somewhat amusing to him. He said that he had never heard of a shipways function for the dock, but that instead he thought the ramp had been built by the Savannah Machine and Foundry Company shortly after they had received a Navy contract to construct minesweepers, sometime in 1941 or 1942. Prior to this contract the company had engaged in machine work and ship repairs, but not construction; the marine railway just east of Lot 19 was used by the company for the repair work. The contract with the Navy required that the firm build a large new plant west of town, including several huge dry docks. The company constructed a massive concrete dry dock gate for use in their new plant, and the wooden ramp and dock was built to off-load the gate. Following this, the old plant adjacent to Lot 19 was abandoned. During the construction of the ramp, earlier pilings were "recycled" in much the same way as was done by Mr. Coburn for the concrete ramp facility. He mentioned that this reuse of earlier dock elements was a common procedure all up and down the river, at least where cedar pilings were available.
Documentary records, especially newspaper articles, confirm much of the oral history presented by the informant concerning Savannah Machine and Foundry. A September 7, 1941, article in the Savannah Morning News mentions that the company had "for many years operated a small marine railway near the foot of Randolph Street" and that it had organized its shipbuilding division in response to the Navy contracts. The construction of the drydock on the west side of town that Mr. Coburn refers to had already begun by this date. Since this company does not make an appearance in the chain of title, it apparently was leasing the property adjacent to Lot 19.

To summarize, oral history data for the Segment A section of the west study area is in direct conflict with the designation of this area as a shipways. Documentary evidence neither confirms nor denies a shipways function. We will return to this critical question in a later section of the report.
Fieldwork

The main objectives for the fieldwork carried out by Panamerican Consultants under contract with UTC were to fully document the wharf and shipways areas on the west end of the site and to make a thorough assessment of the partially exposed vessel remains to the east. A total of ten field days were devoted to these tasks. Field activity was scheduled to coincide with a period of extreme low tide in order to maximize available work time. The tidal differential for the Savannah River in this vicinity ranges from six to eight feet; hence, all sites remain under investigation were partially or completely submerged at high tide.

The western portion of the Radisson Hotel Site contains three separate structures that we have divided and labeled as the four segments shown in Figure 2. Segment A appears to be a circa World War I wooden shipways. Segments B and D are the western and eastern extremities, respectively, of a wooden and concrete marginal wharf (that is, one built parallel with the river-bank) which appears to have been contemporary with Segment A. As indicated earlier, Segment C was built in 1950 by the Merry Brothers Brick and Tile Company and is a marginal wharf of wood, steel and concrete construction, complete with a wharf drop. Segment C was constructed over the central portion of the earlier wharf represented by Segments B and D.

The eastern section of the site contains numerous fragments of a wooden vessel fastened with welded steel plates and threaded bolts with square nuts, hex nuts, and washers. These vessel fragments, arbitrarily labeled A through L, were jumbled together with several pieces stacked atop each other and scattered in a 20-foot-wide area of the riverbank. A key objective for investigation of this area was to determine the extent and integrity of the vessel remains. Several possibilities were hypothesized in the James and Mistovich report: the exposed fragments could represent only a small part of a relatively complete vessel; the visible remains constitute the majority of the surviving vessel structure; or the fragments resulted from a salvage operation and deposited at the site as fill (1989:33).

Field Strategy

Documentation of the marine ways and wharves proceeded through systematic measurement of surviving structures and detailed recording of typical fastening patterns and joints. Work was initiated at Segment A and progressed down-stream (eastward) through Segments B, C, and D. Efforts were frequently hampered by the tides, which obscured much of the lower portion of Segment C, most of Segment A, and all of Segments B and D for considerable lengths of time through the day. It therefore became necessary to adjust the documentation strategy to work from the bottom up. This plan was adopted during recording of Segment A and permitted completion of this segment in a timely manner. Segments B, C, and D were then documented concurrently. The lower portion of Segment C, along with Segments B and D, were recorded when the tide was low. As the incoming tide submerged these structures work shifted to the upper platforms of segment C and the wharf drop.

A wide (for stability), two-person canoe was employed in documenting the lower offshore portions of the wharf area where water depth exceeded the functional height of field personnel. The canoe proved especially helpful in dealing with tidal fluctuations in the river level and also aided in transporting personnel and equipment between the two study areas. All major features in the wharf area were photographed on 35 mm color and large format black and white film.

Investigation of the ship remains was concurrent with the wharf/shipways documentation. The east study area proved more complex from a technical standpoint. The survey had identified two large sections of vessel remains and possibly a third fragment. Upon closer examination, with the aid of extreme low tides, it became apparent that at least ten fragments of assorted size were scattered in close proximity within a relatively enclosed space, bordered on the north by a partially collapsed steel sheet piling, on the south by a concrete sea wall, and to the east by a small wood and concrete pile-platform pier. These structures have effectively protected the vessel remains from the swift currents of the Savannah River. At the same time, the reduced current has resulted in a
heavy siltation in the area behind the sheet piling, causing its partial collapse, and burying much of the vessel remains under a heavy layer of river mud and sand.

Tidal constraints in the east study area were more severe than in the west area. In the east area vessel remains were scattered in such a way that several fragments were partially exposed only for about two hours, during extreme low tides that occurred in the final four days of fieldwork. The uppermost vessel fragments were generally exposed to varying degrees for about two hours before and after each low tide. The problem of accessibility was compounded further by the wood and concrete pile-platform pier over the eastern edge of the area. At some time in the past this structure had partially collapsed, and the two 18-inch thick concrete slabs comprising the platform had settled with the southwestern corner resting directly on one of the vessel fragments (Fragment D). Another fragment (J) was completely beneath this slab, which also covered part of Fragment E. A considerable amount of field work had to be devoted to removing the slabs so that documentation of the ship fragments could proceed. A 90-ton crane, provided by the sponsor, was used to remove the slabs from the site. The shipways in the west area offered varying amounts of exposure for recording throughout the tidal cycle.

An immediate requirement for assessment of the east study area was a determination of the extent of vessel remains beyond what was visible at low tide. The critical question to be investigated was whether the vessel fragments were disarticulated sections from a larger, more complete hull, or whether they represented an isolated scatter. A 30-foot-long by two foot-wide backhoe trench was excavated behind the concrete sea wall, perpendicular to the riverbank, to determine whether vessel remains continued shoreward. The trench was dug several feet below the level of the vessel remains at the river, but no ship material was encountered. Fill in the trench was composed mainly of concrete fragments, old piles, sand, discarded tires, etc., which was similar in composition to the fill around the vessel remains at the riverbank.

Once it was determined that the ship fragments were not in association with a larger adjacent hull, as many fragments as possible were removed from the riverbank and deposited on the shore where they could be recorded without interference from the tide. In preparation for their removal, each piece was tagged with points that were mapped in situ to permit reconstruction of their original orientation in the riverbank. The question still remained whether any additional fragments were buried beneath the fill on the river side of the sea wall. Three test pits dug with the backhoe in the area between exposed hull fragments and the sea wall served the dual purpose of determining the presence of additional hull fragments under the sand; however, seepage into the pits and continual collapse of the sidewalls obscured visibility and hampered control of the backhoe bucket. Two small frame sections (Fragments F and G) were accidentally removed by the backhoe bucket from the test pits and deposited along with the fill on shore. Given our inability to carry out controlled excavation of the lower sections, further efforts to investigate buried remains were abandoned.

Following excavation of the test pits on the river side of the sea wall, removal of fragments from the river proceeded, beginning with Fragment A, followed by Fragments C, H, E, and D (Fragment I was situated on top of D and was therefore lifted with it). As much mud as possible was jetted off each fragment prior to removal. Despite a valiant attempt, Fragment B proved impossible to remove. This piece, along with Fragment K resting on top of it, was almost entirely buried in the river silt behind the sheet piling. The exposed portions of Fragment B were therefore mapped as fully as possible given site conditions. Fragment K was likewise buried too deeply to assess its nature, other than to note that it was comprised of wood and metal components similar to those of the other fragments. Fragment K was constantly submerged except for a period of roughly 30 minutes on a single day of fieldwork. Its position was recorded photographically. Fragment J was also buried in the riverbank under a heavy layer of fill which precluded assessment of its nature and extent. The exposed portion of this piece, consisting of a partial frame and part of a plank, was mapped in situ and its position recorded.

Once vessel fragments were deposited at the construction site, each fragment was cleaned of sand and debris with a pressure regulated water jet. The water jet was also used to wet the
fragments intermittently to prevent damage from rapid drying. Documentation of the vessel fragments then proceeded systematically. Plan views were recorded for the inner hull surface on Fragments A, D, and E, and the outer hull surface plan views were mapped for Fragments C, D, and I. The inner hull surface of Fragment C was previously recorded in situ prior to its removal from the riverbank. One cross section each was done for Fragments A, C, and E. Five cross sections were taken on Fragment D. Profile views at frame tops were recorded for fragment C and I. Additionally, top and side fastening patterns were recorded for isolated frame Fragments F, G, and H. Detailed measurements of particular structural features were also recorded, including the tenon joint, and steel plating on Fragment E, and the hawse pipe and box on Fragment D.

A total of 22 wood samples were taken from Fragments A, C, D, E and I for species identification. These include samples of framing, ceiling, outer hull planking, keel, keelson, garboards, cant frames, wales, hawse timbers, and bungs. Several samples of fastenings were removed as samples from the area between the frames on Fragment D. Additional samples of paint from Fragments D and E outer hull caulking from Fragment D and tar from between the cant frames on Fragment I were also collected.

Following documentation of the vessel fragments topside, they were placed in the river pending determination of their final disposition. These fragments were deposited on the extreme east end of the Radisson tract so as to avoid interference with ongoing hotel construction.

After the fieldwork was completed the senior author, assisted by Rick Leech, visited a derelict vessel located on the south bank of Barnwell Island on the South Carolina side of the river. This ship lies approximately 1200 feet upstream from Fort Jackson, which is on the opposite bank. According to Judy Wood (personal communication), some local residents had suggested that these remains may have been part of the Radisson Site vessel, and the Institute proposed to investigate this possible connection. The north end of the hull lies buried under mud and marsh grass while the south end is under water even at low tide. Approximately 75 feet of the east edge of this hull lies exposed. One afternoon was devoted to traveling to, photographing, and measuring these remains for comparisons with the fragments in the study area.

Results: The Wharf Area

Three separate structures are present in the wharf area at the west end of the site. Segment A represents the surviving remnants of a marine ways approximately 68 feet long extending out into the river approximately 52 feet (Figures 4 and 5). The structure is composed of two sets of sloping marine ways separated by a level wooden pile-platform with similar platforms to either side. Timbers are fastened with a combination of clinch bolts, drifts, and nails, typical for structures of the World War I period (Figures 6 and 7). Design and construction of the platforms associated with the marine ways appear to be similar to the specifications for Class la pile-platform piers according to common practice during the first quarter of the 20th century. This class of pier was considered by Green (1917:112) to be most advantageous in localities where water is not deep and the bottom is suitable for piles. It offers less obstruction to the free flow of water, sewage, and ice, and does not materially affect the tidal prism, may be rapidly constructed, and may be readily altered, removed or enlarged.

Class 1a pile-platform piers were built with wooden piles extending up to the deck, with wooden cap timbers and wooden decks. A number of differences are noted, however, between early 20th century standard practice and the structures in evidence at Segment A. Timber construction during this period specified treatment of piles and timbers below water for protection against rot and marine borers, primarily creosoting and pressure treating. No evidence of such treatment was noted, however. Additionally, Greene describes the basic structure of wooden pile-platform piers as wooden piles capped by 12 inch by 12-inch cross timbers, topped by rangers, or stringers, upon which the deck was laid. Platforms at Segment A are constructed with an additional
Figure 4. Segment A, facing south. Tall modern piers appear in the foreground. The Savannah Electric parking lot is directly behind the structure.
Figure 5. Segment A, facing west. A Class 1a pile platform appears in the foreground. It corresponds to “Platform 2” in Figure 6.
Figure 6. Plan View of Segment A.
East Elevation of Ways 2 (Segment A)

North Elevation of Segment A

Figure 7. North and East Elevations of Segment A.
set of cross caps and stringers. While these may have been placed to provide additional height for the platform, it would have made more sense to use longer piles. Furthermore, no evidence of mortises and tenons, or notching of timbers, as specified by Greene (1917:28-42), were noted for Segment A. The "building up" of the platform may be an indication that reuse of piles from an earlier, lower structure had occurred, as suggested by Jack Coburn.

An additional level platform apparently connected the ship ways and platforms to the shore (Figure 6). All that remains of this platform are the piles which supported it; its exact configuration is therefore unknown. No evidence of the type of decking laid on the ways platforms has survived. The structure was apparently burned at some time in the past. While it is possible that the fire was accidental, the pattern of burning evident in the remains is consistent with disposal methods for structures located in tidal zones. The fire apparently began somewhere between low and high tide. As the tide came in, the fire was extinguished below the water level. Those portions of the structure which remained exposed at high tide continued to burn. These include the decking for the riverside platforms as well as the rear platform which connected the ways to the shore. Standard practice for decking Class 1a pile-platform piers in 1917 specified a layer of 4-inch plank topped by a layer of 3-inch plank. While these specifications may have been followed at Segment A, deviations from standard practice noted above are sufficient to cast doubt as to whether these particular plank dimensions were followed.

The westernmost platform at Segment A appears to be more recent than the other two. This platform is also out of line, apparently as a result of a collision between some type of vessel and the platform. A similar accident might have occurred with the earlier platform, necessitating its replacement.

Segments B and D apparently represent the western and eastern extremities of a marginal wharf structure (Figures 8 and 9). Design and construction of this wharf also appears to date to the World War I period. The wharf consists of a filled wooden crib capped and fronted by a wood pile and concrete platform relieving wall (Figure 10). Evidence of wooden sheet piling surrounding the original wharf structure is visible just beneath the water surface at low tide at Segment D.

Segment C is a more modern marginal wharf built of wood and concrete, with steel incorporated into the ramp for the wharf-drop. Two views of this structure appear in Figures 11 and 12. The wharf at Segment B/D was apparently demolished for construction of Segment C: the entire central portion of the old wharf superstructure has been replaced by the new wharf. All that currently remains of the older structure are the concrete foundations on the shore, the lower levels of wooden crib timbers extending slightly above low water, and the piles upon which the concrete platform was originally situated.

According to Jack Coburn, who constructed Segment C in 1950, he re-used cypress pilings from the earlier wharf by cutting them off at low tide, capping them with large square timbers, and put new piling segments on top of the timbers. The two sets of pilings were connected to the timbers by interior iron pins and exterior straps. Figure 15 illustrates this technique, which our informant stated was common practice along the Savannah waterfront whenever cypress pilings were present.
Figure 9. Segment D, facing southwest.
Figure 10. Plan View and North Elevations of Segments B and D.
Figure 11. Segment C, facing south.
Figure 13. North Elevation of Segment C.
Figure 15. Recycled Pier Construction, Segment C. Cedar pilings were cut at the water line and capped with horizontal squared stringers. New pilings were placed on top of the stringers and all three elements (lower and upper pilings plus stringers) were connected with internal iron drifts and external iron straps. Facing northwest.
Results: The Vessel Remains

A total of twelve vessel fragments were noted in the eastern study area. All appear to be from the same vessel, based on similarities in construction techniques. Refer to the line drawings presented in Figures 16 through 21 for the remainder of this discussion. All vessel fragments documented during this project include portions of frames. These were all through-bolted together with threaded bolts held tight with square nuts. Washers were also used, although not consistently. For those fragments where bolting could be readily examined, bolts appear to have been inserted from the stern with the nuts on the forward side of the frames. Frames are doubled, and vary from seven to nine inches in sided dimension, averaging eleven inches in molded dimension. Outer hull planks range from eight to ten inches in width and average four and one-half inches in thickness. Ceiling planks average eight and one-half inches wide and three and one-half inches thick.

Ceiling planks were bolted to the frames primarily with threaded bolts and a combination of square and hex nuts. Ceiling fastenings on the lower hull of Fragment D are somewhat unusual, in that bolts and nuts were inserted in such a way that the end of the bolt and the nut protrude from the surface of the ceiling plank (Figure 18). This suggests that this part of the hull was not subjected to foot traffic. Higher up in the hull on Fragment D ceiling planks are fastened with round headed pins.

Outer hull planking is uniformly fastened with round headed square spikes, countersunk into the planking and plugged with wooden bungs. In addition, Fragment D has two rub wales along the outer hull. The upper wale is a single piece of wood three inches wide and one and one-quarter inches thick. The whales are consistently fastened to the outer hull with brass flat-head screws.

Fragment E is a section of the forward end of the hull and includes portions of the keel, keelson, garboards, and starboard framing and outer hull planking (Figure 19). Garboards are through bolted with the keel at top and bottom through each frame spacing. The keel has a tenon at the forward end, presumably for the stempost. A square headed pin entering the center of the keel at a downward angle must have fastened the stempost to the keel. The keel is topped by a keelson. Frames on fragment E are fastened to the keel with three-eighth-inch thick steel plates. These plates are typically seventeen inches long, with a curving perpendicular plate that has a maximum height of five inches. The plates are fastened to the frames with square headed threaded bolts held fast with square nuts. The plates are welded together with three-eighth-inch welds.

The plate for the second set of frames on the port side, which are no longer extant, differs from that on the third set on the starboard side. This plate terminates at the keelson, where it is welded to an eleven inch wide vertical plate running up the side of the keelson. The plate is fastened to a similar plate on the other side of the keelson with four square headed bolts. No horizontal plate exists on the second set of frames on the starboard side of Fragment E. Due to the small size of Fragment E it is not possible to conclude whether this technique of fastening frames with steel plates was uniform throughout the hull. It is more likely that this was meant as a form of reinforcement in the forward section of the hull only.

Fragment D (Figure 18) is a large section of the forward port side of the vessel. In addition to providing a more complete view of fabrication techniques, this fragment includes several interesting structural features. A hawse pipe occupies the most forward point on fragment D. An additional frame was added to the hull at this point to provide extra support for the pipe. Two large wooden blocks stacked on the interior of the hull also anchor the pipe to the hull. Immediately aft of the hawse pipe is a metal box. This may have been part of the mechanism for the hawse cable. The aftmost frame on Fragment D is topped by a metal brace atop the ceiling planking. This one-half-inch thick plate with three-eighth-inch thick vertical plate apparently provided structural support to the hull at the area of curvature. A similar brace is found on Fragment B. Fragment B appears to be a continuation of Fragment D, as it also appears to have part of a rub wale. However, due to the mud overburden this could not be established with certainty.

Fragments F, G, and H (Figure 20) are isolated frame sisters. Fragments F and G were raised by the backhoe from the test trenches located between the vessel remains and the concrete sea wall. Fragment H originally rested on Fragment C. Fragment I is a section of a forward cant
framing and outer hull planking from the port side of the vessel. Two cant frames are extant on Fragment I. The space between them is filled with what appears to be tar.

All fragments bear evidence of burning, particularly Fragments A, D, and E. Heavy charring is present on the ceiling planking on Fragments A and D, while the keelson on fragment E had been almost completely destroyed by fire. The outer hull of the vessel fragments does not show evidence of burning. This indicates that the fire began inside the vessel, possibly due to an engine explosion or fire, or as the result of fires set by salvors on the interior of the hull. Several of the fragments have remnants of an orange/red paint on the outer hull planking. Presumably, this was some type of anti-fouling paint.

An examination of the vessel remains on Barnwell Island just east of the the eastern tip of Fig Island indicated that the two vessels were dissimilar (see Figure 21). Instead of through-bolted construction with threaded bolts held tight with square nuts, the South Carolina vessel contained one-inch-diameter iron drifts, numerous treenails, and occasional brass spikes. Ceiling planks measured twelve and on-half inches wide and six inches thick, while outer hull planks were eleven inches wide and three and three-quarter-inches thick. None of these fasteners or dimensions are consistent with the Radisson Site remains. No paint was present on the hull, which was riddled with worm holes. No evidence of any burning was noted on any of the exposed timbers. Vertical cuts located eight feet apart were present in the ceiling planks and strakes on the landward (north) end of the vessel. These are probably associated with a salvage attempt to remove large machinery or cargo once the ship was aground. In general, this vessel seems to predate the Radisson example.
Figure 16. Vessel Fragments A and B, East Study Area.
Figure 17. Vessel Fragments C, F, and G, East Study Area.
Figure 18. Vessel Fragment D, East Study Area.
Figure 19. Vessel Fragment E, East Study Area.

Typical Fastener, Steel Plates

Cross-Section A-A

Vessel Fragment E, East Study Area.
Figure 20. Vessel Fragments H, I, and J, East Study Area.
Table 2: Results and Recommendations

<table>
<thead>
<tr>
<th>Location</th>
<th>Results</th>
<th>Recommendations</th>
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<tbody>
<tr>
<td>Barnwell Island</td>
<td>Derelict Vessel Remains</td>
<td>Monitor and report any changes in the area</td>
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Figure 21. Derelict Vessel Remains on Barnwell Island.
Conclusions and Recommendations

The Shipways and Wharf

Documentary research, oral history, and fieldwork in the west study area have produced seemingly contradictory results. We have identified Segment A as a shipways and dock built in a manner that is generally consistent with techniques (e.g., class 1a pile-platform piers) used around the first World War. On the other hand, there is obvious divergence from some period construction techniques, and no direct documentary references for the presence of a shipways at the site were located. The shipways do not appear on the unrevised 1916 Sanborn map, so they probably postdate that year. The modest size of each of the two ways indicates that Segment A was a repair facility for river and coastal craft. Given the apparent involvement of Kehoe Foundry in ship building and repair, it is most likely that this company was responsible for construction of the ways as well as the marine railway on the east edge of Lot 19. The shipways may have incorporated elements of an earlier wharf into its substructure. Segments B and D may also represent part of an extensive wharf system most likely built by the Merchants and Miners Transportation Company in the last quarter of the 19th century. Segment C, a concrete and wood dock with a wharf-drop, was built in 1950 and used by the Merry Brothers Tile and Brick Company. Piers from an earlier wharf were reused to construct the later dock.

A knowledgeable local informant believes that Segment A was actually built by Savannah Machine and Foundry in the early 1940s for the purpose of off-loading a massive concrete dry dock gate that had been fabricated at their plant adjacent to Lot 19. Given the structural details presented for Segment A, we must conclude that a shipways is present. However, reuse of the abandoned facility (accompanied by some rebuilding) by Savannah Machine and Foundry during World War II may have occurred in the manner described by the informant.

World War I vintage shipways are important but poorly documented components of the commercial landscape in Savannah and other marine ports in the United States. We therefore believe that the shipways are eligible for inclusion in the National Register of Historical Places at the local level of significance. We also believe that the extensive documentation afforded this resource during the present project constitutes mitigation level research. We therefore recommend that no further research be undertaken in the west study area. However, since the site of Willink's shipyard was located on Lot 19, we recommend monitoring by a qualified archaeologist of areas subjected to major earth-moving activities associated with the construction. The purpose of this monitoring on the north end of the lot would be to record through photography and notes any significant remains associated with this important site.

The Vessel Remains

The construction techniques evident in the vessel remains investigated at the Radisson Site, particularly the presence of nuts and bolts and welded steel plates suggests a date of construction no earlier than the late 1920s or early 1930s. Results of the wood analysis is presented in Table 2. Fourteen of the 18 samples were identified as Douglas Fir, a wood originating from the northwest coast of North America. Inner and outer wale sections from Fragment D were composed of red and white oak, while an outer hull planking wedge was identified as belonging to the white or Oregon ash group; a bung from Fragment C was too deteriorated to identify. Consultation with persons familiar with the construction of northwest-coast-built vessels failed to identify any similarities between the construction techniques of the Radisson vessel and standard shipbuilding practice along the northwest coast during the late 19th-early 20th centuries.

One possible identity for this vessel was suggested in the James and Mistovich report is the Chatham, a former U.S. Navy YTB (Large Harbor Tug) that was scrapped by the Sayler Marine Construction Company in the mid 1960s. The Chatham was apparently bought as surplus by the Atlantic Towing Company of Savannah and operated by this firm until severely damaged by fire.
Table 2. Results of Wood Analysis of Vessel Fragments.

Analysis by Dr. Francis M. Thorne, Department of Biology, Armstrong State College, Savannah.

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<th>Fragment</th>
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<th>Identification</th>
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<td>ceiling plank</td>
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<td>I</td>
<td>cant frame</td>
<td>Douglas Fir</td>
</tr>
<tr>
<td>I</td>
<td>bung</td>
<td>Douglas Fir</td>
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1 *Pseudotsuga menziesii*
2 *Quercus* sp.
3 *Quercus* sp.
4 *Fraxinus* sp.
This 205-foot-long, 25-foot-beam vessel was then turned over to Sayler marine for salvage of its engines and copper. Vessel dimensions and construction techniques of the Chatham and the Radisson fragments are consistent with those of a YTB. Jack Sayler, owner of Sayler Marine, confirmed that tar was frequently used to fill frame spaces in tugs like the Chatham, as was the color of the paint evident on the outer hull planking (James and Mistovich 1989:19; Jack Sayler, personal communication).

Several large tugs were built for the Navy at northwest coast yards for World War II construction. It is plausible to suggest that the Chatham may have been one of these vessels (Newell 1966:495-506). It should be noted, however, that Douglas Fir was widely exported as a ship building timber. A World War I era manual on shipbuilding states that "Douglas Fir, and longleaf yellow pine, are the two most readily procurable woods suitable for keels of larger ships" (Desmond 1919:45). An example of YTB is presented in Figure 22.

Given that World War II vintage YTBs are still operating, the Radisson Site vessel remains are not considered significant, and no other research is recommended.

Figure 22. Example of a Large Harbor Tug (YTB).
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Several large tugs were built by the Lazy Dog Boat Yard during World War II construction. It is plausible to suggest that the Chatham may have been one of these vessels (Newell 1966:495-506). It should be noted, however, that Douglas E. Anderson, the late

r
1941

Large Harbor Tug (YTBA

Crossey, D. A.

1936 Savannah Harbor No. 1, Tugboat & Tugboat Extension to the Georgia Historical Society.

1941 Savannah Harbor No. 19 Tugboat & Tugboat Extension to the Georgia Historical Society.

1942 Savannah Harbor No. 19 Tugboat & Tugboat Extension to the Georgia Historical Society.

1943 Savannah Harbor No. 19 Tugboat & Tugboat Extension to the Georgia Historical Society.

1944 Savannah Harbor No. 19 Tugboat & Tugboat Extension to the Georgia Historical Society.

1945 Savannah Harbor No. 19 Tugboat & Tugboat Extension to the Georgia Historical Society.