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of Engineers
New Orleans District

**EVALUATION AND ANALYSIS OF ANOMALIES
POSSIBLY ASSOCIATED WITH THE
USS *COL. KINSMAN*
ATCHAFALAYA RIVER, LOUISIANA**

Final Report

September 2000

Coastal Environments, Inc.
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Baton Rouge, Louisiana

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Prepared for:

U.S. Army Corps of Engineers
New Orleans District

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REPLY TO
ATTENTION OF:

Planning, Programs, and
Project Management Division
Environmental Planning and
Compliance Branch

To The Reader:

Since the early 1970's, the U.S. Army Corps of Engineers, New Orleans District (NOD), has been conducting maintenance dredging along a portion of Bayou Boeuf at a point where it enters Berwick Bay just south of Morgan City. Information provided to us by Alan Saltus and Roland Stansbury (Young Sanders Center) suggested the possibility that the wreck of the USS Kinsman was located in the proximity of our maintenance dredging location. This report presents the findings of NOD's and Coastal Environments Inc.'s attempt to locate the wreck and evaluate seven suspicious magnetic anomalies at the bottom of Bayou Boeuf. As a result of these investigations, no vessel remains were identified and we have concluded that continued maintenance dredging in the subject area will not have an effect on cultural resources. This investigation was designed and guided by the U.S. Army Corps of Engineers, New Orleans District, as part of our cultural resource management program. We concur with the authors' conclusions and recommendations. The Louisiana State Historic Preservation Officer also concurs with the authors' conclusions and recommendations.

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POSSIBLY ASSOCIATED WITH THE
USS COL. KINSMAN
ATCHAFALAYA RIVER, LOUISIANA**

September 2000

Final Report

by

**Charles E. Pearson
and
Roland Stansbury**

Prepared for:

**U. S. Army Corps of Engineers
New Orleans District
(Contract No. DACW29-97-D-0018,
Delivery Order No. 16)**

**Coastal Environments, Inc.
1260 Main Street
Baton Rouge, Louisiana 70802**



**Charles E. Pearson
Principal Investigator**

ABSTRACT

In November and December 1999, diving operations were conducted at the juncture of Bayou Boeuf and Berwick Bay (Atchafalaya River) adjacent to the community of Morgan City in St. Mary Parish, Louisiana. The purpose of the diving was to examine seven previously identified magnetic anomalies, some of which were thought to be associated with the United States gunboat *Kinsman* which sank in Berwick Bay in February 1863. The diving examined an area encompassing 7.2 acres. No vessel remains of any kind were found during the 13 days of diving. Two of the magnetic anomaly sources proved to be modern trash and debris probably derived from recent vessel activity. The sources of the other magnetic anomalies could not be found and it is believed their sources consist of small and scattered items of modern age or are older objects buried beneath 25 feet or so of sediments that have accumulated at this location in the past 90 years.

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CHAPTER 1

INTRODUCTION

Captain Wiggin hailed the *Calhoun* and the *Estrella*, requesting boats to be sent to our assistance. In the meantime he ran the *Kinsman*, with full steam, head on shore till her bows grounded in three feet of water and no bottom with a 15-foot pole under her stern. A line was ordered to be brought out from her starboard quarter to haul her broadside to the bank, but before this could be accomplished, the steamer filled and slid backward from the bank and sunk in about 18 fathoms of water at twenty-five minutes past midnight [Official Records of the Union and Confederate Navies in the War of the Rebellion (hereinafter cited ORN) 1905:625].

Thus read the report of J.G. Oltmanns of the U.S. Coast Survey concerning the loss of the United States gunboat *Col. Kinsman* in Berwick Bay near Morgan City, Louisiana, on February 23, 1863. The U.S.S. *Kinsman* had struck a snag and was leaking seriously, but the actions of the captain of the steamer, Acting Volunteer Lieutenant George Wiggin, were in vain; the gunboat sank in deep water and 5 men reportedly lost their lives. No efforts seem to have been made to salvage or recover the *Kinsman*, its remains too deeply submerged in the waters of Berwick Bay. The loss of the gunboat was never entirely forgotten, but for the next 125 years little interest seems to have been paid to the sunken vessel. Then, in the late 1980s, the reported discovery of the wreck of the gunboat revived local interest. Subsequently, in 1998 the New Orleans District, U.S. Army Corps of Engineers (NODCOE), contracted with Earth Search, Inc., of New Orleans, to undertake background research on the *Kinsman* and to analyze remote-sensing data previously collected in the area where the gunboat was believed to have sunk. The New Orleans District was concerned because the reported location of the wreck lay near the entrance of Bayou Boeuf into Berwick Bay, an area where NODCOE maintenance dredging has been ongoing since 1973 (Figure 1-1). The Earth Search evaluation of the historical record and the remote-sensing data suggested that a boat wreck did lie within the area dredged by the Corps of Engineers and it was recommended that diving operations be undertaken to examine the site (Saltus et al. 2000). In November of 1999, Coastal Environments, Inc., of Baton Rouge, Louisiana, under contract with the NODCOE conducted the recommended diving. This report details the results of that examination.

The Earth Search study identified seventeen magnetic anomalies and side-scan sonar targets along the eastern side of Berwick Bay (actually a widened section of the Atchafalaya River) near the entrance to Bayou Boeuf (Saltus et al. 2000:Figure 20). Ultimately, seven of these anomalies (numbers 6, 7, 8, 9, 10, 11, and 17) were selected as the most likely to represent vessel remains and were recommended for diver examination (Saltus et al. 2000) (Figure 1-2). The Scope of Work provided by the New Orleans District requested "a physical examination/dive to determine the nature/type, age, and significance of each anomaly" and, if historic watercraft were discovered they were to be "examined and recorded in sufficient detail so a determination can be made regarding vessel type, dimension, age and condition" (New Orleans District, U.S. Army Corps of Engineers 1999). This examination ultimately involved a physical search of the river bottom at the target areas, plus subsurface testing of these areas

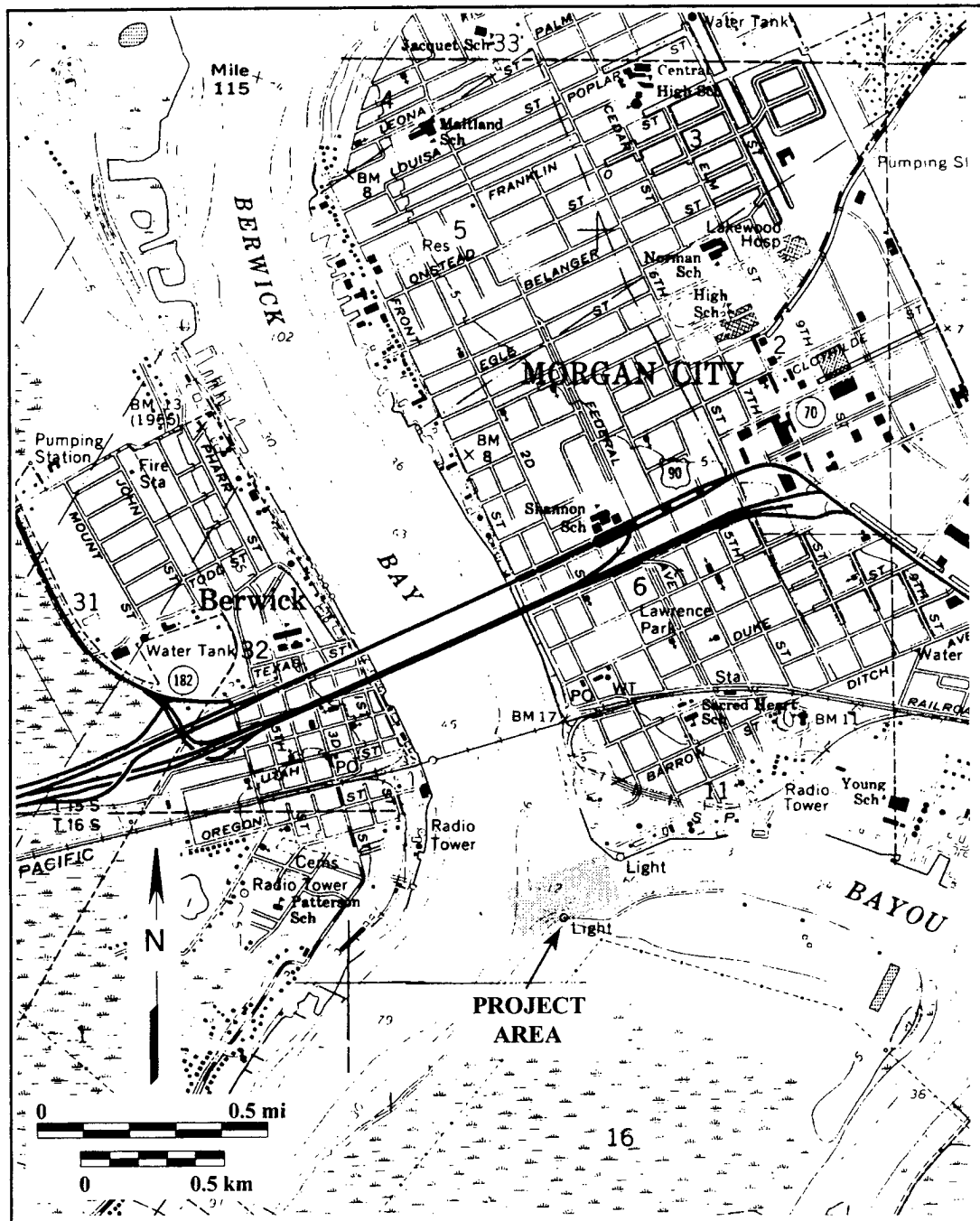


Figure 1-1. Excerpt from the USGS Morgan City 7.5-min quadrangle (1994) showing the area at the juncture of Bayou Boeuf with Berwick Bay and the project area for the present study.

with a hydroprobe. As is discussed in more detail later in this report, heavy commercial vessel traffic through the project area required extraordinary safety precautions and created a few difficulties. Of critical importance is that diving could not safely be conducted on three of the targets selected for examination because they lie in the middle of the navigation channel,

directly in the path of vessels entering or leaving Bayou Boeuf. These targets were 9, 10 and 11.¹ In lieu of examining these targets, time was spent looking at two of the other targets identified in the Earth Search report. These were targets 1 and 3, both of which were fairly close to target 7 (Figure 1-2), the target that was identified as the one most likely to be the wreck of the *Kinsman* (Saltus et al. 2000:83). No shipwreck remains were found at any of the targets examined during this study. Detailed discussions on the conduct and results of the diver examinations are presented in later sections of this report.

In conjunction with the diver examination, information on the history of use and loss of the *Kinsman* was collected, as was information on the geology and geomorphology of the area of the targets. Much of this information was drawn from the report previously prepared by Earth Search (Saltus et al. 2000).

The Project Area

The defined project area for this study consists of the area encompassing the seven targets selected for examination. As shown in Figure 1-1, this area forms a rectangle measuring about 1,000 ft long by 700 ft wide extending from the entrance of Bayou Boeuf southwestward along the bankline of what is known as Bateman Island. In Figure 1-2 the project area and the seven targets of interest are shown on a portion of the magnetic contour map produced by Earth Search, Inc. A considerable piece of this project area falls within the limits of the maintained channel where the Corps of Engineers conducts dredging, or within the zone where activities associated with that dredging (anchoring, spud placement, pipe storage, etc.) take place. The dredging is necessitated by the continuous deposition of sediment just off the northwestern tip of Bateman Island, known as Twenty Grand Point, creating a bar extending from the shore of the island out into Berwick Bay immediately below the entrance of Bayou Boeuf. Dredging is conducted to obtain a water depth of 20 ft in the maintained navigation channel. Figure 1-3 shows the position of the maintained channel and the areas where dredging has or is being conducted in the vicinity of the present project area.

The dredging at this location is conducted to insure safe navigation into and out of Bayou Boeuf. Bayou Boeuf at this location represents part of the Gulf Intracoastal Waterway, one of the most important commercial waterways in the country. Berwick Bay, actually a part of the Atchafalaya River, is a segment of the Atchafalaya River Navigation Channel which connects the Mississippi River near Baton Rouge with Morgan City, the Gulf Intracoastal Waterway and, south of the project area, the Gulf of Mexico. This, also, is an important commercial navigation route and the juncture of the Atchafalaya Main Channel and Bayou Boeuf is one of the busiest intersections on any commercial waterway in the nation. As noted, a great amount of commercial boat traffic passes through this intersection daily. This includes small ships, towboats with barges, crew boats and work boats, and commercial fishing vessels. In addition, a large number of small pleasure craft travel through the intersection. Essentially all of the vessel traffic going into or out of Bayou Boeuf passes through the project area as does some of the traffic going north or south on the Atchafalaya River.

Previous Investigations

Because the sinking of the U.S.S. *Col. Kinsman* was recorded in official government records during the Civil War, the loss of the gunboat was never truly "forgotten." However, the military seems to have made no attempts to recover or salvage the boat immediately after its sinking. This, despite the fact that General Nathaniel P. Banks, commander of Union forces in the region, reported that the loss of the *Kinsman* was a serious blow to Federal strength, "equal in effect to the destruction of two battalions (Official Records of the Union and Confederate

1. The Saltus et al. report designates all targets as "Anomalies," even though some contain side-scan features. The term target is used most often in this report and is equivalent to the term "Anomaly" used in Saltus et al.

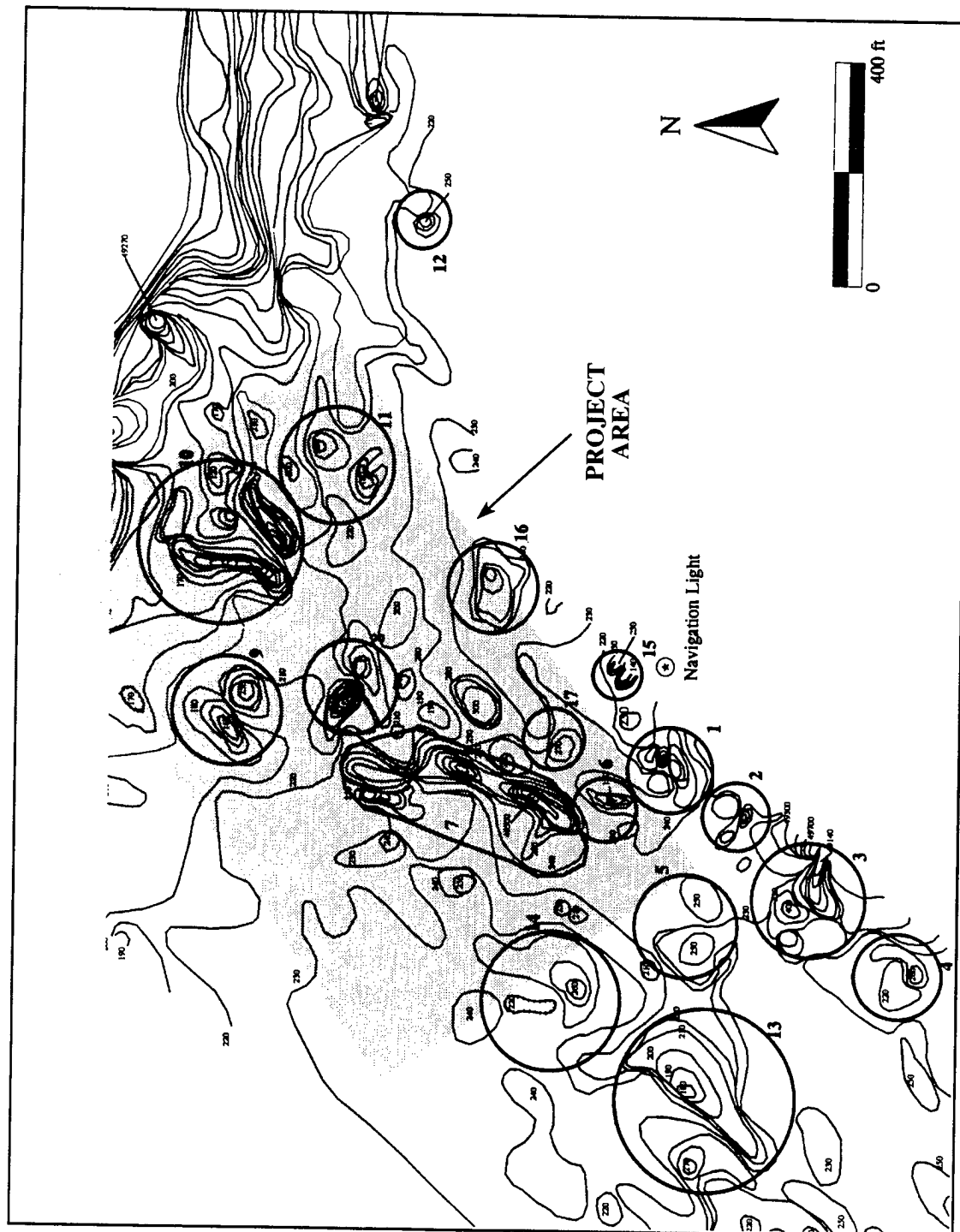


Figure 1-2. The project area and the seven magnetometer targets selected for examination. Magnetic contour map from Saltus et al. 2000:Figure 20.

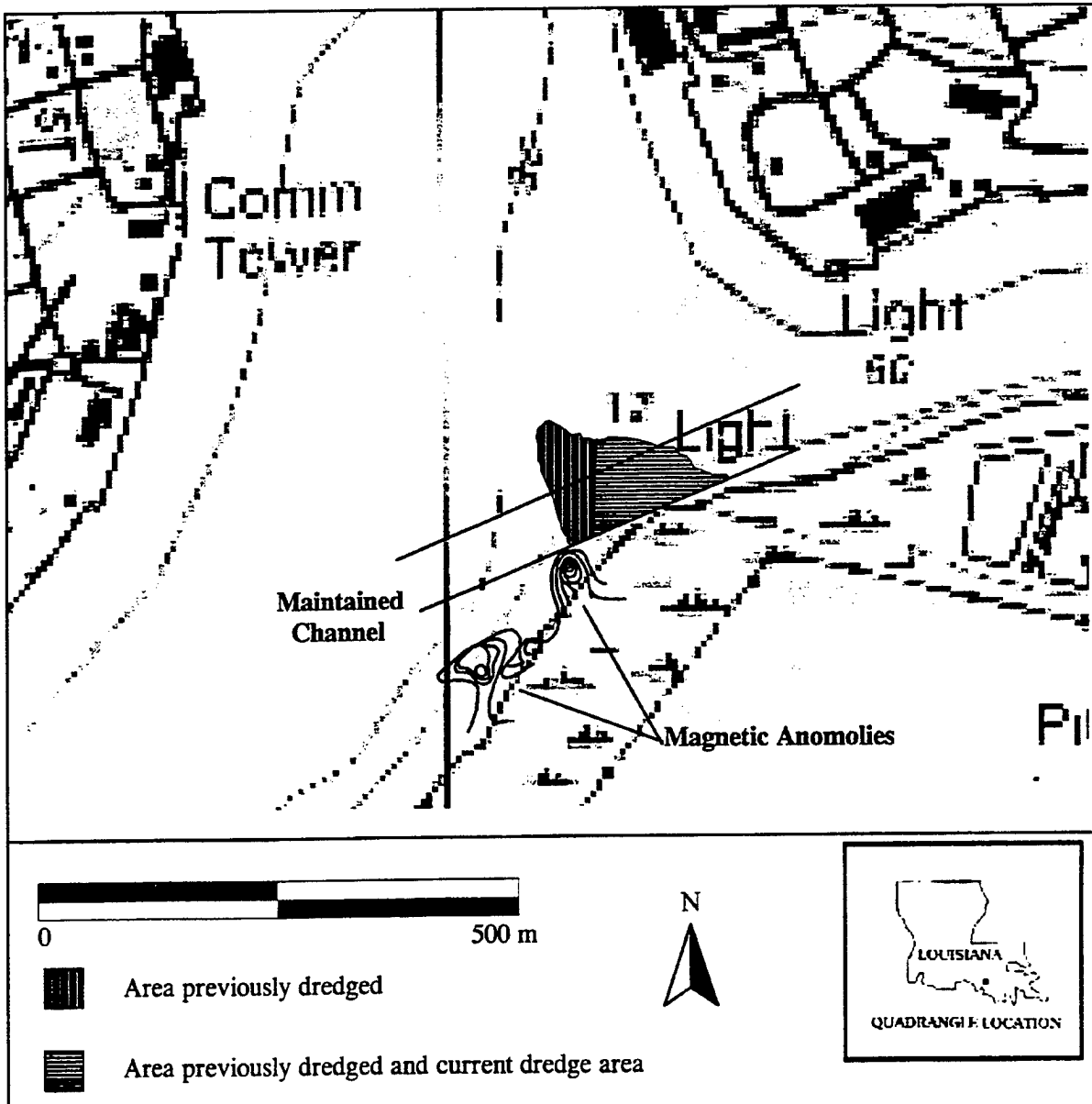


Figure 1-3. Maintained channel in the project area shown relative to estimated dredge areas and magnetic anomalies recorded in 1990 (Saltus et al. 2000:Figure 2).

Armies in the War of the Rebellion [hereinafter cited ORA] 1887:1106). Normally, every effort was made to salvage the valuable objects from a sunken steamboat, such as the engines and boilers, and in the case of the *Kinsman* this would have included the guns and military supplies and material that were aboard. The apparent lack of any attempt to salvage the gunboat would suggest a recognition at the time that it was simply too difficult to do, probably because it sank in such deep water.

The events of the sinking of the *Kinsman* were not forgotten and the boat appears in numerous works that list Civil War sinkings or discuss boat losses in the region. However, no record has been found to indicate that any attempt was made to find the wreck prior to the late

1980s. In 1990, Mike Davis, a local sport diver and a member of the U.S. Coast Guard stationed in Morgan City, reported to personnel at the New Orleans District, U.S. Army Corps of Engineers, that he had found artifacts and structural remains that he believed were related to the wreck of the *Kinsman*. The artifacts included several minié balls and at least one larger "cannon ball," while the vessel remains included two large pieces of wooden structure buried in the muddy bottom of Berwick Bay near the entrance to Bayou Boeuf (Pearson and Saltus 1991:73). Personnel from Coastal Environments, Inc. (CEI), were performing underwater cultural resource investigations in the vicinity at that time and, at the request of the Corps of Engineers, they met with Mr. Davis to discuss his discoveries. At the meeting, Mr. Davis told the CEI personnel (Charles Pearson and Allen Saltus, Jr.) that while SCUBA diving just offshore of the navigation light located on Twenty Grand Point at the north end of Bateman Island he had found a "trail" of minié balls on the bottom of Berwick Bay near the entrance to Bayou Boeuf. He stated that he used a "kitchen colander" to scoop up the bullets and, following this "trail," he reached a wooden structure that he believed represented the remains of a boat (Mike Davis, personal communication to Charles Pearson and Allen Saltus 1990). This wooden structure was partially buried, but the exposed portion consisted of a number of parallel planks forming a flat surface, a description which sounded very much like the deck of a vessel. Mr. Davis stated that this piece of structure was at least 50 ft long and lay in about 30 to 35 ft of water approximately 150 ft or so directly offshore and north of the navigation light. He discovered another similar piece of wooden structure a short distance away and somewhat down river of the navigation light (Pearson and Saltus 1991:73).

Mr. Davis did state that there was zero visibility on the bottom where he made his discoveries and that the bottom was covered by several inches of very soft, "fluffy" sediment (Mike Davis, personal communication to Charles Pearson and Allen Saltus 1990). His descriptions of the wooden structure were based entirely on feeling the objects. The CEI personnel, Pearson and Saltus, were never shown the artifacts recovered by Mr. Davis and his report of "following a trail" of minié balls to the wreck location in zero visibility water sounded somewhat spurious, but his descriptions of the two pieces of wooden structure seemed reasonable for boat remains. In view of this, Pearson and Saltus conducted a brief remote-sensing survey of the area of the structural remains as identified by Mr. Davis. The survey utilized a magnetometer and fathometer with a Loran unit for positioning. The conduct of the survey is described in Pearson and Saltus (1991:73):

Three survey lines were run parallel to the shoreline of Bateman Island. The lines were spaced about 100 ft apart, with the inshore line positioned about 100 ft off the bank. Additional crossing lines, perpendicular to these three, were run from the shore of Bateman Island out into Berwick Bay. The intent was to space these crossing lines about 50 ft apart, however, the extremely swift current in this area made regular placement impossible, such that some of the crossing lines were as much as 75 to 100 ft apart.

The area covered by this survey measured about 2500 ft long by 500 ft wide, encompassing the locations of both pieces of wooden structure indicated by Mike Davis. Within this area a cluster of 6 magnetic anomalies were recorded. Pearson and Saltus (1991:73-74) indicated that two of these anomalies displayed magnetic characteristics of known shipwrecks. One of these, located about 400 ft due north of the navigation light, consisted of a "complex, 40-gamma dipole" while the other, located about 450 ft down river of the light, consisted of a "complex, 60-gamma dipole" (Pearson and Saltus 1991:73). Both anomalies were located in over 30 ft of water. Pearson and Saltus (1991:74) concluded that:

The size and intensity of these magnetic signatures suggests fairly large objects, very possibly the two pieces of probable boat structure found by Mr. Davis. Additionally, the anomaly located about 450 ft downriver of the navigation light is in the vicinity of [a] significant bathymetric rise on the bottom which suggests the presence of a buried object.

The magnetics, coupled with presence of the bottom feature, could very well indicate the existence of a shipwreck, but whether this is the *U.S.S. Kinsman* is impossible to determine with the available data.

Mr. Davis had also reported his discovery to several residents of Morgan City interested in local and Civil War history. Among these was Roland Stansbury who became interested in the gunboat and began to collect some historical information on the vessel. In 1997, Mr. Stansbury became involved in the Young-Sanders Center, an organization established in Morgan City for the study of the Civil War in Louisiana. In 1998, principally at the instigation of Mr. Stansbury, the Young-Sanders Center began the search for this vessel to confirm Mr. Davis' discovery and, if found, to investigate the gunboat wreck's research potential and its potential for tourist development. A consortium was organized by Mr. Stansbury of the Young-Sanders Center to implement these goals, with Mr. Allen Saltus, Jr. as Principal Investigator. A principal objective of the group was to conduct a systematic remote-sensing survey of the reported area of the wreck using more improved positioning and geophysical equipment than had been employed in the brief examination of the site by Coastal Environments, Inc., in 1991. This more comprehensive survey encompassed a portion of Berwick Bay (i.e., the Atchafalaya River) extending from the railroad bridge to approximately 2,000 ft below the navigation light at Twenty Grand Point (the confluence of the Atchafalaya River and Bayou Boeuf) as well as a portion of Bayou Boeuf. This survey, performed in the summer of 1998 by Mr. Dan McDonald of T. Baker Smith in Thibodaux, Louisiana, under the direction of Mr. Saltus, yielded several dozen magnetic anomalies.

Mr. Stansbury, also, arranged for Mr. Jack Couch, dive manager of Oceaneering International, to provide two days of diving to confirm the *Kinsman's* location. Prior to any dive attempt, Mr. Couch enlisted the cooperation of Mr. Shawn Johnson, manager-multibeam projects, Frugro-West, Inc., of Ventura, California, to conduct a multibeam survey of the area. The multibeam study was performed across the river bottom in an area with a radius of approximately 1,200 ft from the navigational light on Twenty Grand Point.

Subsequent to these surveys, during the early fall of 1998, Mr. Stansbury observed a Corps of Engineers dredge working in the Bayou Boeuf and Berwick Bay area. Acting on behalf of the Young-Sanders Center, Mr. Stansbury notified the NODCOE regarding the center's study and concern for the *Kinsman*. Thereafter, Mr. Saltus, dredge captain Al Mistrot with the USCOE, and Dr. Kenneth Ashworth and Ms. Joan Exnicios, archaeologists with the NODCOE, visited the site to compare the dredge area, the area of potential disturbance, and the area of magnetics. It was apparent that these areas overlapped and that cultural material of unknown nature, age, and significance was present. Later, Dr. Jack Irion and Dr. Richard Anuskiewicz of the Department of Interior, Mineral Management Service, Gulf of Mexico OCS Regional Office, along with Dr. Ashworth, performed a digital, 600 kHz side-scan sonar investigation around the Berwick Bay navigational light to acquire additional information. Subsequently, the NODCOE issued a contract to Earth Search, Inc., of New Orleans to analyze all of the various remote-sensing data collected at the reported *Col. Kinsman* wreck site and to collect background historical information on the vessel and the events of its loss. Relying on these data, Earth Search identified 17 magnetic anomalies or targets within their search area and suggested that seven of these targets (Anomaly numbers 6, 7, 8, 17, 9 10, 11) seemed most likely to represent the remains of the *Kinsman* (Saltus et al. 2000:88-90). One of the targets, Anomaly 7, exhibited magnetics similar to those found at other historic shipwrecks, plus side-scan sonar images seem to indicate the presence of linear objects interpreted as possible hull structure. Further, the Earth Search study argued that if the remains of the *Col. Kinsman* "displayed sufficient integrity to address architectural, technological and other research concerns" they would be significant in terms of National Register criteria (Saltus et al. 2000:90).

Although the remote-sensing data seemed promising, Saltus et al. (2000:90) recommended that the only "way to determine the nature, age and significance" of the targets was through diving. Agreeing with this recommendation, the NODCOE contracted with Coastal Environments, Inc., to undertake diving operations on the seven most promising targets to determine if, in fact, they did represent the remains of the gunboat *Col. Kinsman*. This report presents the results of that diving.

Report Organization

Chapter 2 presents a comprehensive history of the U.S.S. *Col. Kinsman*. The prehistory of the region is not discussed because it is not relevant to the present study. For the same reason, no detailed chronological history of the Morgan City area is provided. The interested reader can find discussions on the area's prehistory and history in Saltus et al. (2000). Chapter 2 does, however, include discussions on the Civil War history of Morgan City because this has relevance to understanding the activities of the *Col. Kinsman*. Chapter 3 reviews the sinking of the *Col. Kinsman* in relationship to the natural setting of the presumed place of loss. The dynamic natural environment of the location is discussed and an effort is made to identify and appraise the various natural processes which might have had some influence on the sinking of the *Kinsman* and on its present location and condition as a shipwreck. Chapter 4 presents discussions on the conduct and results of the diving operations. Conclusions and recommendations are presented in Chapter 5. As noted earlier, no shipwreck remains were found at any of the targets examined. In light of the negative findings, the final chapter presents an evaluation of the previous research findings and recommendations. In addition, relying on a review of all of the available historical, environmental and collected field data, an attempt is made to identify where the wreck of the *Col. Kinsman* most likely to lies.

CHAPTER 2

THE SIDEWHEEL STEAMBOAT *GRAY CLOUD* OR USS *COL. KINSMAN*

The gunboat known as *Col. Kinsman* that sank in Berwick Bay on February 24, 1863, had originally been named *Gray Cloud* (or frequently, *Grey Cloud*). The *Gray Cloud* was built in 1854 as a sidewheel steamboat intended for commerce on the upper Mississippi River. The steamer saw a wide variety of duties in other settings and was rebuilt on a number of occasions. The *Gray Cloud* served as a U.S. Army transport in the Missouri River Basin during the Sioux Expedition of 1855-1856. In 1858, the *Gray Cloud* was used in the open waters of the Gulf of Mexico during the Third Seminole War and, subsequently, was involved in private commerce in the Mobile to New Orleans coastwise trade. The *Gray Cloud* was employed as a Confederate military transport vessel early in the Civil War before its capture at Biloxi by Union forces in July 1862. The *Gray Cloud* was rebuilt as the armed steamer by the United States Army, later renamed *Colonel Kinsman* and, subsequently, commissioned into the U.S. Navy as the USS *Colonel Kinsman* (or frequently, *Kinsman*). The *Kinsman* saw service in the Atchafalaya Basin in southern Louisiana where it was involved in several important and perilous engagements before its loss in February 1863.

The following discussion traces the history of the steamer *Gray Cloud*/gunboat *Col. Kinsman* over the nine-year-life of the vessel. This chapter has drawn from the 2000 Earth Search report (Saltus et al. 2000), from a report prepared for the Young-Sanders Center by Roland Stansbury (Stansbury 1999) and from newly collected data.

The Steamer Gray Cloud

Construction and Private Service, 1854-1855

The *Gray Cloud* was a sidewheel steamboat built at Elizabeth, Pennsylvania, in 1854. This information is derived from the first enrollment document issued to the steamboat at the Port of Pittsburgh on March 7, 1854 (Bureau of Marine Inspection and Navigation [hereinafter cited BMIN] 1854). This enrollment notes that a "certificate of admeasurement" and a "certificate of Hull and Boiler Inspection" were issued in Pittsburgh on the same day, suggesting that the steamer was brand new. This official document provides proof that the *Gray Cloud* was constructed in Elizabeth, Pennsylvania, even though at least one source mistakenly reports that the boat was built in Elizabeth, Kentucky (Merrick 1909). The enrollment document reports that the *Gray Cloud* measured 170 ft long; 28 ft in breadth; and had a depth of hull of 6 ft, 5 in. The burden of the steamboat is given as 245 81/95 tons and it is described as having one deck, no mast, a "cabin on deck," a "transom stern" and a "plain head" (BMIN 1854). This first enrollment document does not indicate that the *Gray Cloud* was a sidewheeler, but later documentation and other sources reveal that it was (Mitchell 1975:89; Way 1994:197)

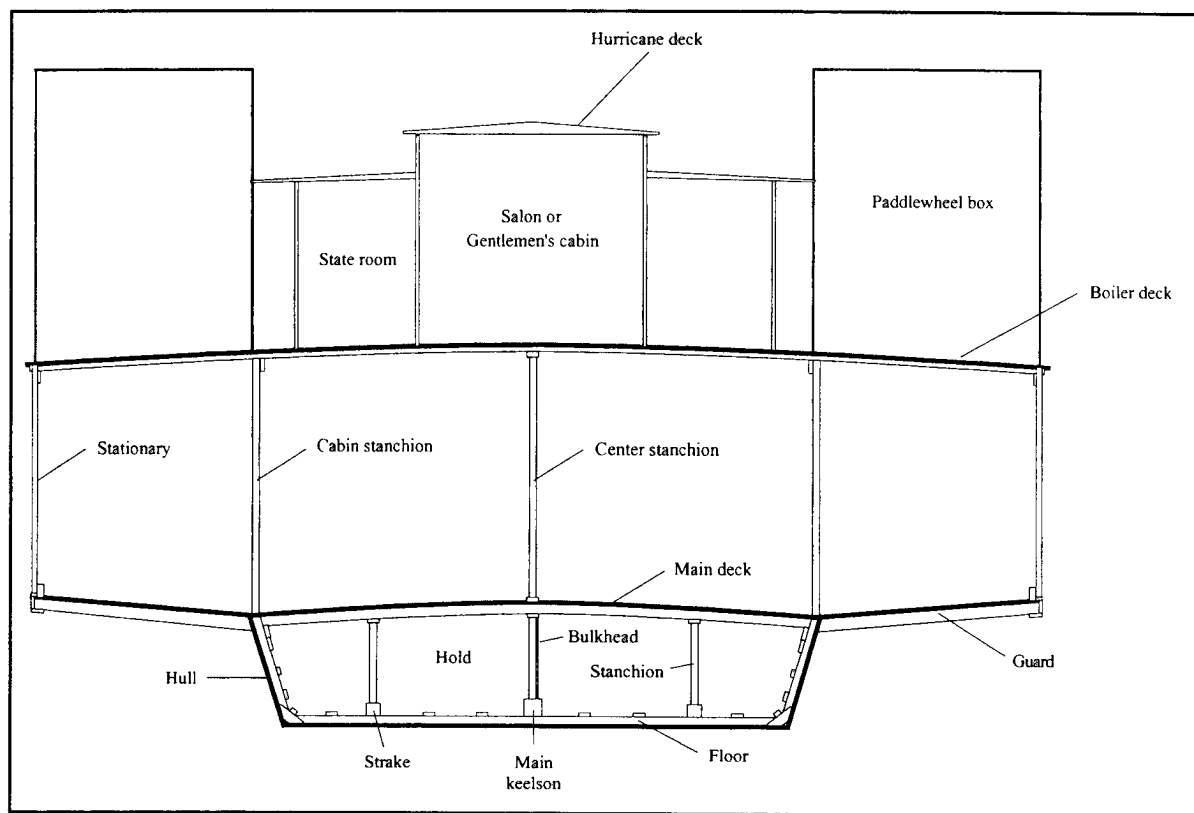


Figure 2-1. Cross section of the hull of a sidewheel steamboat showing internal features.

This descriptive information indicates that, in most respects, the *Gray Cloud* resembled the typical, medium-sized, sidewheel river steamboat of the period. At 170 ft long, the *Gray Cloud* was characteristic of those that ran on the Ohio, Missouri and Red rivers and the upper Mississippi. These steamboats were smaller than the very large and elaborate steamers that operated on the Mississippi River below St. Louis, which could be as much as 300 ft long. The listed burden of the *Gray Cloud* of 245 81/95 tons, also, was typical of the average-sized vessel. (Burden is a measure of hull capacity, not weight.) The average burden of the 142 steamboats reportedly launched on America's western rivers in 1854 was 238 tons (Fishbaugh 1970:44), only slightly less than that of the *Gray Cloud*.

The "one deck" statement in the *Gray Cloud*'s enrollment is somewhat misleading, because it was a reference to decks attached directly to the hull of a vessel, a carry over from descriptions of larger ocean-going ships. On steamboats, the "one deck" refers to the main deck, the only deck attached to the hull itself (Figure 2-1). The main deck, supported by stanchions and bulkheads within the hull, housed the engines, boilers, and other machinery and served as the main storage area for cargo (Figure 2-2). This was necessary because the hulls of steamboats were too shallow to accommodate this machinery, although some cargo could be carried in the hold. On most sidewheelers, and on many sternwheelers, the main deck extended beyond the hull to encompass the paddlewheels. The area projecting beyond the hull, known as the guards, was supported by stanchions or hog chains (actually iron rods) running over the boiler deck (see Figure 2-1). Guards greatly increased the deck space and, thus, the cargo carrying capacity of steamboats. The 28-ft-width-of-hull for the *Gray Cloud* given in the initial enrollment document referred only to the hull itself; it was not a measurement of the width of the main deck, which would have been considerably wider. How wide the main deck

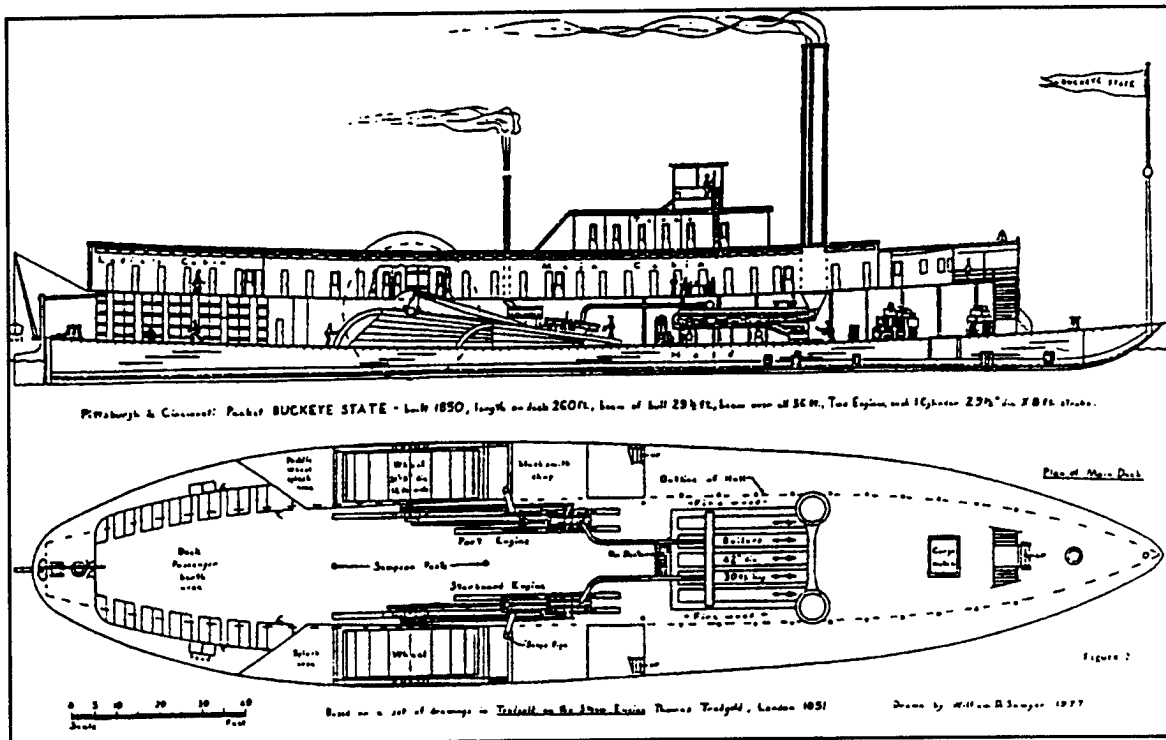


Figure 2-2. Plan and side views of the sidewheel steamboat *Buckeye State* (built 1850) showing internal features (source: Sawyer 1978:Figure 2).

of the *Gray Cloud* actually was is unknown, but Hunter (1949:93) notes that on western river steamers the overall width of the main deck “exceeded the width of the hull by 50 to 75 per cent.” Thus, the main deck of the *Gray Cloud* may have been as much as 49 ft across, meaning that each side paddlewheel would have been on the order of 11 to 12 ft wide.

It is very likely that the main deck of the *Gray Cloud* did not exceed 49 ft, because this was the maximum width that the three lock chambers on the Ohio River at Louisville could accommodate at the time. These locks, with their associated two-mile-long canal, were constructed to enable boat traffic around the Falls of the Ohio, a large area of rapids and shallows at Louisville which were a serious impediment to steamboats except during high water. Known as the Louisville and Portland Canal and completed in 1830, the locks could admit boats up to 183 ft long and 49.5 ft in breadth (Hunter 1949:183-185). Within a few years, there were many steamboats on the Ohio River which were too big to pass through the locks and these steamers had to stay above or below the falls, or attempt to pass over them during high water, often a dangerous undertaking. It was not until 1872 that the locks were enlarged to accommodate bigger boats (Hunter 1949:186). Because of this situation, many of the steamboats built on the upper Ohio River after 1830 were constructed specifically to fit through the locks; i.e., they were less than 183 ft long and had a main deck width of less than 49.5 ft. It seems likely that the *Gray Cloud* was designed specifically to pass through the locks of the Louisville and Portland Canal.

Above the main deck on the typical western river steamboat was the boiler deck. Usually narrower and shorter than the main deck, the boiler deck supported a range of cabins consisting of the passenger staterooms and, commonly, the main passenger saloons (see Figures 2-1 and 2-2). The *Gray Cloud* would certainly have had this range of cabins, although

the reference to a "cabin on deck" in the steamer's enrollment document indicates only that the cabins on the boat were located on or above the main deck, not inside of the hull. The roof of this main passenger cabin was known as the "hurricane deck" and on larger steamboats of the period another set of cabins, known as the "texas," rested on top of the hurricane deck (Hunter 1949:91-93). The texas began to appear in the 1840s on larger steamboats to increase the passenger accommodations of these vessels and its use expanded in later years. Extant illustrations of medium and smaller steamers in the mid-nineteenth century, like the *Gray Cloud*, indicate that they commonly lacked a texas; all passengers were housed in the main cabin. No contemporary descriptions of the *Gray Cloud* have been located and it is unknown if the steamer was built with a texas. If the *Gray Cloud* did have a texas, it probably would have been fairly small, containing only a few cabins to house passengers or, more likely, the officers of the boat. The steamboat's small pilot house would have been situated on top of the hurricane deck, as shown in Figure 2-1, or if it did have a texas, on top of that.

The reference to a "transom" stern in the initial enrollment indicates that the *Gray Cloud* was built with a square stern. Although the square stern became a hull design more closely associated with sternwheelers, it was not uncommonly found on sidewheelers of the 1850s. One of the reasons for using a square stern on sidewheel steamers was to increase hull capacity. Hunter (1949:88) notes that steamboats which had to pass through the locks at the Falls of the Ohio, often, were built with bluff bows and sterns in order to increase hull capacity because they were restricted in terms of hull length and width. This could very well be the reason that the *Gray Cloud* was built with a transom stern.

As given in its initial enrollment document, the depth of hull of the *Gray Cloud* was 6 ft, 5 in. This depth was just slightly greater than that for steamboats of similar size built in the 1850s (Hunter 1949:652). It seems likely that the *Gray Cloud's* builders used this slightly greater depth to increase the vessel's hull capacity, just as they may have employed a transom stern to do the same thing.

Unfortunately, neither this initial enrollment nor later descriptions give details of the boiler(s) and engine(s) used on the *Gray Cloud*. The typical sidewheel steamboat of the period would have been powered by two, high pressure, non-condensing, single cylinder engines. The engine cylinders, or pistons, were mounted horizontally or at a slight incline on sturdy timbers known as "engine" or "cylinder" timbers. These were located on the main deck in the stern third of the vessel, between the sidewheels, and were securely bolted to the deck and hull (see Figure 2-2). The pistons were connected to the shafts of the side paddlewheels by "pitmans," long wooden arms strengthened by metal straps. The pitmans were attached to a crank on the inside end of each paddlewheel shaft.

The boilers on western river steamers were positioned on the main deck in the forward third of the vessel (see Figure 2-2). The most common type of boiler used on western steamboats was the flue boiler, consisting of a long cylindrical tank with internal tubular flues extending through the center. Boilers ranged from 2 to over 3 ft in diameter and from 20 ft long to as much as 40 ft long in the largest steamboats (Hunter 1949:156). Prior to the 1850s, two internal flues, ranging from 8 to 12 inches in diameter, was the norm for steamboat boilers. Although the use of two internal flues remained popular after 1850, boilers began to be built which had as many as six internal flues (Hunter 1949:157). In 1858, when the *Gray Cloud* was in the service of the United States Quartermaster Department, Captain A. Montgomery, Assistant Quartermaster in New Orleans, wrote that the steamer's "boilers had been leaking," indicating that the boat had more than one boiler (Montgomery 1858). How many boilers may have been on the *Gray Cloud* is unknown, but boats its size normally would have had 3 or 4.

Typically, western river steamboats were fitted with two, tall chimneys, or smoke stacks, positioned at the rear of the boilers (see Figure 2-2). A principal reason for using two stacks was to create the strong draft needed to feed the fire box. It is possible that the *Gray Cloud* was atypical in this respect, because a Civil War-period newspaper illustration (discussed below) shows a boat with a single chimney. However, this use of a single chimney might well have been a later modification made to the boat, because, as Hunter (1949:156) notes, the use of two smoke stacks on western steamers was "the invariable practice after the early years." As is discussed below, in 1856 the *Gray Cloud* was rebuilt to work in the Gulf of Mexico and it may have been at this time that the single smoke stack was installed. If the single stack on the *Gray Cloud* was original, it suggests that a single engine may have been installed in the boat when constructed. Boats with single engines, usually low-pressure engines, and single chimneys were built and used on the western rivers in the very early years of steamboating, but by the time the *Gray Cloud* was built this would have been a very unlikely occurrence (Hunter 1949).

Elizabeth, Pennsylvania, where the *Gray Cloud* was built, is located on the Monongahela River in the southwestern part of the state about 15 mi upstream of the city of Pittsburgh. The Monongahela joins the Allegheny River at Pittsburgh to form the Ohio. During the nineteenth century, Elizabeth was one of the important steamboat building centers in the upper Ohio River area. This region had the raw materials (specifically hardwood timber and iron) and the experienced builders and carpenters needed to build steamboats (Hunter 1949:67). The importance of Elizabeth as a boat building center, particularly during the earliest years of steamboating, is reflected in the fact that 78 steamboats were built in the town between 1826 and 1836 (Hunter 1949:107). Steamboats built at Elizabeth, normally, were enrolled at nearby Pittsburgh, the closest custom district.

The March 7, 1854, Pittsburgh enrollment document lists five owners of the *Gray Cloud*. These were: Pliney A. Alford, of St. Louis, who owned one-quarter of the steamer and, also, was the listed master; E.C. Haslett (?) and P.A. Mulford, both of whom owned a one-eighth interest and were residents of Pittsburgh; L. (or S.) Swarnes (?) of , Illinois, with a one-quarter interest; and J.B. & T.B. Rhoads, also, with a one-quarter interest and from Illinois (BMIN 1854). The J.B. & T.B. Rhoads entry seems to imply a firm of some sort, although it could be a reference to two individual owners.

The *Gray Cloud* seems to have been built expressly for use in the upper Mississippi River trade. The boat began its service in that trade (Merrick 1909), plus, several of its owners were involved with other steamboats that worked on the upper Mississippi. For example, an E.C. Hazlitt of Pittsburgh, a T.B. Rodes of Illinois and Pliney Alford of St. Louis, in conjunction with Mark Sterling of Pittsburgh, were joint owners of the steamboat *Laclede* in the mid-1850s (Way 1994:274). Despite the slight differences in spelling, it seems certain that Hazlitt, Rodes and Alford are the same individuals who were owners of the *Gray Cloud*. Built in 1855, the sternwheeler *Laclede* ran on the upper Mississippi River and on the Illinois River under the command of Captain Hazlitt. How long these individuals owned the *Laclede* is unknown, but it does show that the original owners of the *Gray Cloud* had more than a passing interest in the steamboat trade above St. Louis.

Pliney Alford, also, was captain of another Elizabeth-built boat, the *Northerner*, launched at the Ekin Yard in 1858. Alford served on the *Northerner* in the upper Mississippi trade between St. Louis and St. Paul when the steamer was part of the Northern Line (Way 1994:350). In 1857, Pliney Alford was captain of the sidewheeler *White Cloud* in the St. Louis-St. Paul run (Way 1994:485). A Lewis Swarnes, possibly the "L. Swarnes" who was one of the original owners of the *Gray Cloud*, was captain and owner of the sternwheeler *Badger State*, built in 1852 (Way 1994:36). The *Badger State* originally worked on the upper Mississippi River. Finally, a P.S. Mulford served as captain on two steamboats working on

the Ohio River in the 1850s. He was on the *Empire City* which ran between St. Louis and Pittsburgh in 1854 and the *Fort Wayne* which worked on the Ohio River in 1857 (Way 1994:151, 170). It is possible that this is the same individual listed as "P.A. Mulford" in the *Gray Cloud's* enrollment, or a relative.

In addition to the fact that several of the owners of the *Gray Cloud* had connections with upper Mississippi River steamboats, the boat itself was similar in build to the steamers working in this trade. Most of the boats on the upper river were medium to small steamers because of the often low water conditions that existed. Also, many of these steamboats periodically traveled on some of the tributaries of the Mississippi, like the Missouri and Illinois, which were even less accommodating to large boats. Steamboat travel on the upper Mississippi River began in August 1817, when the small steamboat *Zebulon M. Pike* arrived at St. Louis (Peterson 1968:77). St. Louis was at the hub of a system of waterways which stretched to the north and west and soon it became a major Mississippi River port. In 1820, the steamboat *Western Engineer* departed St. Louis and ascended the Missouri River as far as present-day Council Bluffs, Iowa, and the same year this steamboat traveled up the Mississippi as far as Keokuk (Peterson 1968:80). The voyages of the *Western Engineer* ushered in the steamboat trade above St. Louis. In 1823, the steamer *Virginia* reached the Falls of St. Anthony, the future site of St. Paul, and established the practicality of navigation of the upper Mississippi River for 700 miles above St. Louis. Steamboats, soon, became the principal carriers of cargo into and out of the upper river region and, also, were responsible for carrying thousands of emigrants into these newly opened lands. In the early years, furs and hides were a principal cargo carried out of the region by steamboats, but with expanding settlement and the establishment of farms, agricultural crops of all sorts became cargoes for steamboats. Another of the important cargoes was lead, derived from the mines around Galena, Illinois (Peterson 1968:207). Lead had been mined around Galena since the 1690s, but the arrival of the steamboat made it very convenient to ship the lead down river to markets. By the 1840s, over one million dollars worth of lead were being mined annually, and most of it was carried out by steamboat. Peterson (1968:209) states that the shipment of lead was the most important single factor in stimulating steamboat trade on the upper Mississippi between 1823 and 1848. Although it is known that the *Gray Cloud* participated in the upper Mississippi River trade, this service was fairly brief and no details of the steamer's activities are known. Slightly more than a year after its launching in Elizabeth, the *Gray Cloud* was acquired by the United States Quartermaster Department.

United States Quartermaster Steamer, 1855-1858

The Sioux Expedition of 1855-1856

The *Gray Cloud* and another steamer, the sternwheeler *William Baird*, were acquired by the United States Quartermaster Department in the summer of 1855 for use on the Missouri River. These boats were purchased specifically as transport vessels for what was known as the Sioux Expedition of 1855-1856. The Sioux Expedition was a military undertaking by the United States Army against the Lakota or western Sioux, stemming from Indian harassment and depredation of travelers in the region of the Platte River (Stansbury 1999:1). On August 18, 1854, a Latter-Day Saint immigrant traveling west on the overland trail had his cow killed and butchered by a young Miniconjou Sioux man. The immigrant reported this incident to the military commander at Fort Laramie, located on the upper North Fork of Platte River, and demanded restitution. A United States Army officer named John L. Grattan and his command were sent from Fort Laramie to arrest the young Indian at the nearby camp of the Bruli Sioux leader, Conquering Bear. Grattan and every man in his command were massacred. However, no action was taken against the Bruli because government leaders determined that Grattan and his superior officer were in error. A few months later, in November, the Sioux attacked the

stage from Salt Lake City, killing three men and taking ten thousand dollars in gold from the stage (Clow 1986:230).

These two events caused the War Department to order United States Dragoons into the field to locate and punish the Lakota. The command of the Sioux expedition was given to Colonel William Selby Harney under the brevet rank of brigadier general. General Harney was a seasoned army officer with considerable experience in dealing with Indians. Since his commission in the Army in 1818, he had served in the Creek and Seminole wars and in the Mexican War as a member of the 2nd Dragoons. The activities of the Sioux Expedition took place far up the Missouri and Platte rivers, at isolated posts such as Fort Laramie and Fort Pierre in what was then Nebraska Territory. The movement of supplies and troops into the area to support the expedition was heavily dependent upon steamboats operating out of St. Louis near the mouth of the Missouri River. The two steamboats, *Gray Cloud* and *William Baird*, were assigned to the Quartermaster Headquarters in St. Louis, the source of almost all supplies to military units and posts on the Missouri River and the vast expanse of the upper Great Plains. No records providing details on the acquisition of the two steamers by the Quartermaster Department have been found, so it is not known exactly when the boats were purchased nor what was paid for them. Interestingly, the *William Baird* was built in Elizabeth, Pennsylvania, in 1855 (Way 1994:487), just one year after the *Gray Cloud* was completed in the same city. It is possible that some, or all, of the owners of the *Gray Cloud*, also, were involved in the ownership of the *William Baird*.

Some information on the *Gray Cloud's* service during the Sioux Expedition is found in what are known as the "Vessel Papers" in the records of the Office of the Quartermaster General, now in the National Archives. These records consist chiefly of correspondence between various individuals associated with the steamer, principally officers in the Quartermaster Department or in the United States Dragoons serving in the Sioux Expedition. None of these documents provide direct information on the acquisition of the *Gray Cloud*, but a November 3, 1855, letter from Captain P.T. Turnley, Assistant Quartermaster at Fort Pierre on the upper Missouri, to J.D. Radford, the master of the *Gray Cloud*, noted that a draft for \$250 was enclosed "being the amt. due you for Services from July 24 till Sept 1st 1855" (Turnley 1855b). This could mean that the Quartermaster Department obtained the *Gray Cloud* as early as July 24.

Supplying the posts and troops on the upper Missouri by steamboat was a difficult undertaking. First, the distances were great; it was over 1200 miles from St. Louis to Fort Pierre by river, a trip which could easily take two weeks, and then only when river conditions were advantageous (Pearson and Birchett 1999:3-29). Secondly, the Missouri River presented many hazards to steamboat navigation; it was shallow and rapid and contained numerous sandbars and snags. River levels fluctuated greatly over the year, and larger boats could navigate the lower river only for about 5 months of the year, generally from about March or May to August or September (Hunter 1949:224). Smaller steamers with shallower drafts could run for longer periods of time on the lower Missouri, but even these boats were prevented from traveling during the periods of lowest water.

Only small, shallow draft steamers could travel on the upper Missouri River, or above the area of Council Bluffs, Iowa, near the mouth of the Platte. Steamboat travel on the upper Missouri began with the arrival of the *Yellow Stone* at Fort Union, Montana Territory, in 1833. But, steamboat activity on the upper river was minimal prior to the discovery of gold in Montana in 1862 and was limited, primarily, to hauling government supplies, carrying a few settlers, and serving the activities of the American Fur Company (Petsche 1974:117). Further, shallow water, snags and ice essentially closed the upper Missouri to steamboat operations between late November and mid-March (Hunter 1949:224). The short navigation season and the very long trip to the upper river meant that steamboats from St. Louis could make only a

few trips per year. Illustrative of the dangers of steamboat travel on the Missouri, is that the *William Baird*, the sternwheeler serving with the *Gray Cloud*, was snagged and lost on the river on April 19, 1858 (Way 1994:487).

The *Gray Cloud* and *William Baird* seem to have been sent up the Missouri very soon after their purchase, possibly in late July, assuming that was the date J.D. Radford took command of the *Gray Cloud*. This would seem reasonable in light of the short navigation season on the upper river; a season that would end in October or November, and the Army's urgent need to supply the Expedition forces. There is no direct record of this trip, but in September 1855, John D. Daggett of the "Floating Dock Co." in St. Louis, inspected the steamer *William Baird* at the request of Major D.H. Vinton, Quartermaster at St. Louis (Daggett 1855). Daggett was to examine the *Baird* "in reference to injuries to her hull on her late trip" (Daggett 1855). It seems likely that this is a reference to a trip up the Missouri, possibly to Fort Leavenworth or farther up to Fort Pierre, posts which served as headquarters and supply depots for the Sioux Expedition. It is possible that the *William Baird* and, presumably, the *Gray Cloud*, had made more than one trip up the river between July and September, but considering the travel time required for such a journey, it is unlikely that more than two trips could have been undertaken during this period.

John Daggett's inspection of the *William Baird* revealed considerable damage, testament to the often hazardous travel conditions on the Missouri. He noted that the boat was considerably hogged "both bow and stern," meaning the hull sagged down at both ends. In addition, several floor timbers and bottom planks on the hull were broken and one of the rudder blades was gone and water was standing in the hull, suggesting leaks. He thought repairs to the hull would cost \$1200 (Daggett 1855). There is no mention of an inspection of the *Gray Cloud* and, assuming it had made the trip up the Missouri with the *Baird*, it seems to have returned undamaged. However, the performance of both boats was considered unsatisfactory by Major Vinton, who argued that neither was suitable for operations on the upper Missouri. Writing to an unnamed "Colonel" (probably Lieutenant Colonel Charles Thomas, Acting Quartermaster General in Washington) on September 13, 1855, Major Vinton noted that "Stern wheel boats" in general were unfit "for the navigation of the Upper Missouri" (Vinton 1855a). He was particularly worried about the high winds prevalent on the upper river because "Stern wheel boats become ungovernable when exposed to strong wind on account of the motive power being applied at one extremity." He went on to state that "The 'Wm Baird' is an excellent boat of her class, and so is the 'Gray Cloud'; but both are too large for our service on the upper Missouri at all seasons of the year" (Vinton 1855a).

Major Vinton strongly urged that the sternwheeler *William Baird* be sold and that a new boat be built specifically for use on the Missouri. The major recommended the sale of the sternwheeler even though he was "aware that it is bad policy to condemn and sell as useless property which has been so recently purchased; and can therefore appreciate the embarrassment you feel with regard to your recommendations to the Secretary of War concerning these boats" (Vinton 1855a). This seems to suggest that the original purchase of the two steamboats by the Quartermaster Department had been instigated by superiors in Washington.

Despite Major Vinton's dissatisfaction with the two steamers, he recognized that it was impossible to build a new boat in time to supply the upriver posts before the river became unnavigable. He wrote Washington that as soon as repairs were completed he would send the *William Baird* upriver to "Major Sibley" to be used to carry corn to Fort Leavenworth, where the 2nd Dragoons were headquartered. This was undoubtedly Major Henry Hopkins Sibley, an officer in the 2nd Dragoons who would rise to Brigadier General in the Confederate Army during the Civil War, serving as commander of Confederate forces in New Mexico. In regard to the *Gray Cloud*, the original plan seems to have been to send it upriver to Fort Pierre towing "scows" loaded with supplies. However, Vinton decided that this "would hardly be profitable"

and argued that the *Gray Cloud* "should be spared from every pound of freight that is not more valuable than the corn so indispensably requisite for the cavalry horses" (Vinton 1855a). Despite his concern over the need for corn as horse fodder, Vinton eventually sent the *Gray Cloud* upriver loaded only with a cargo of potatoes and tarpaulins, the latter to be used in "case a new post be established as ordered" (Vinton 1855a). He reasoned that some corn for the horses at Fort Pierre could be obtained locally, plus the potatoes would serve as "anitiscorbutics" for the cavalry dragoons.

Not long after Major Vinton's September 13 letter, the *Gray Cloud* left St. Louis and started up the Missouri. This trip, which turned out to be disastrous for the *Gray Cloud*, is documented in a number of records in the Quartermaster Department, Vessel File. The steamer may have departed by September 20, because on that day Vinton wrote Captain P.T. Turnley, Assistant Quartermaster at Fort Pierre, that the *Gray Cloud* was being sent with stores for the fort (Turnley 1855c). There would have been an urgency in getting the steamer off because it was already late in the season and by November low water and ice would begin to block the river above Council Bluffs. On October 23, Major Vinton telegraphed the Quartermaster Department in Washington that he had received unconfirmed reports that the *Gray Cloud* had been snagged above Council Bluffs (Vinton 1855b). However, two days later the sidewheeler *St. Mary* arrived in St. Louis bringing word that the *Gray Cloud* was "300 miles above Council Bluffs [and] going on well" (Vinton 1855c). This placed the *Gray Cloud* between the mouths of the L'Eau Qui Court River (the present-day Niobrara River) and the White Earth River (also called White River), probably less than 200 miles or so below Fort Pierre, at least several days before October 25, the day the *St. Mary* reported its location in St. Louis. Yet, the *Gray Cloud* had not reached Fort Pierre by November 1. On that day, Assistant Quartermaster Turnley wrote a letter of instructions to J.D. Radford, "Master U.S. Steamer *Gray Cloud* Between Leau Qui Court & White River" (Turnley 1855a). By this time the river level was probably dropping, plus ice may have begun to form, impeding the progress of Captain Radford and his steamer.

Captain Turnley instructed J.D. Radford to stop the *Gray Cloud* at the mouth of White River (i.e., White Earth River) and take on board "the Saw Mill and Grist Mill with all the fixtures" which were there and carry them down river to a point about 20 to 25 miles above the mouth of the L'Eau Qui Court River (Turnley 1855a). Radford was to hold his steamer at that point until Major Howe of the 2nd Dragoons arrived. Howe was to select a site for the new post and the sawmill, apparently, was to be used in its construction. After delivering the mills, Captain Radford was to take the *Gray Cloud* back down the Missouri to Council Bluffs, pick up a load of corn and return to Fort Pierre, if he (Captain Radford) thought this was possible (Turnley 1855a). Recognizing the types of problems that the *Gray Cloud* may be facing on the now-falling river, Assistant Quartermaster Turnley wrote that if it was impossible for the *Gray Cloud* to reach the White River or to travel to Council Bluff and return to Fort Pierre, then Radford was to deliver his cargo (apparently the potatoes and tarpaulins) to Major Howe and proceed with his steamer downstream to St. Louis (Turnley 1855a).

The situation changed rapidly, because just two days after issuing these instructions, Captain Turnley wrote to the captain of the *Gray Cloud* that he was to ignore his previous directives and he was to deliver his cargo to Major Howe and then immediately proceed to St. Louis (Turnley 1855b). These orders came directly from the commander of the Sioux Expedition, General Harney, who no doubt was worried about the lateness of the season and the possibility that the boat would be trapped by ice or seriously damaged. On November 5, Captain Turnley at Fort Pierre wrote Major Vincent at the Quartermaster Office in St. Louis that the steamer had not yet arrived, but that he had received a letter from Captain Radford of the *Gray Cloud* dated October 24 indicating that the boat was at "Tower Island," about 40 miles above the L'Eau Qui Court River (Turnley 1855c). The *Gray Cloud* never reached Fort Pierre

and Quartermaster officers at the fort and at St. Louis lost contact with the steamboat, as well as with Major Howe's unit of 2nd Dragoons which had gone to meet it.

Communications between St. Louis and the upper Missouri posts was slow and by late November Major Vincent still had no word on the *Gray Cloud*. Finally, on November 23, he wrote to a civilian in Sioux City, Iowa, a Doctor John K. Cook, asking if he had heard anything about the boat (Vinton 1855d). Major Vincent, obviously worried about the fate of the steamer, stated that he would reimburse the doctor if he thought "it necessary to send out Indian runners to procure intelligence concerning the boat" (Vinton 1855d). Vinton's letter did not reach Doctor Cook until December 13, a full 20 days after it was written. Cook's report confirmed what seems to have been everyone's fears. He reported that the *Gray Cloud* was "frozen up near the mouth of the L'Eau Qui Court river some 90 miles above" (Cook 1855). Dr. Cook went on to note that Major Howe and the dragoons had reached the boat and that several of the boat's crew had passed through Sioux City on their way home.

Word of the fate of the *Gray Cloud*, apparently, did not reach the Sioux Expedition headquarters at Fort Pierre until sometime in December. On December 17, Captain Turnley wrote St. Louis that the steamer had not been able to reach the fort and he had no word from the captain, but "from the Indians I learn the boat is in the ice near mouth of Ponca Creek" about 9 miles above the L'Eau Qui Court River. Turnley had not heard from Major Howe, but he presumed he was at the steamer and had taken charge (Turnley 1855d). Recognizing that the *Gray Cloud* would be frozen in for some time, General Harney issued Special Order No. 78, directing Captain Turnley to discharge all of the boat's crew except for the captain and a small number of men to look after it (Harney 1855). Captain Turnley, subsequently, contacted Captain Radford on the *Gray Cloud* telling him to release all of the crew except for himself, an engineer, the carpenter and three hands. Turnley sent \$740 to be distributed among the 37 men to be discharged which they would use to get to St. Louis (Turnley 1855d).

Presumably, the men discharged from the *Gray Cloud* reached St. Louis, although no record of their journey has been found. The *Gray Cloud* did return to St. Louis after the river cleared in the spring of 1856, but when the boat arrived there is unknown. The *Gray Cloud* definitely was in St. Louis by June 27, 1856, the day its captain, J.D. Radford, wrote to the Quartermaster Office in St. Louis that the standard daily food ration was not sufficient for men working on steamboats (Radford 1856). Captain Radford said that boat hands had to work hard all day and night during low water and men would not ship on a boat allowing a single ration per person. He said it required one and a half rations to get hands to work, "and they growl at that" (Radford 1856). Major George Hampton Crosman, having replaced Major Vincent as Quartermaster at St. Louis, forwarded Radford's letter to Washington, stating that he agreed with this request for additional rations.² What became of Captain Radford's request is unknown, but in his letter to Washington, Major Crosman also noted that the "public Steamer, the 'Gray Cloud,' [is] now here undergoing repairs" (Crosman 1856a).

Apparently, the *Gray Cloud* sustained damage by being frozen in, although the specific nature of these injuries is unknown. On July 1, 1856, Major Crosman reported from St. Louis that the repairs to the *Gray Cloud*, which included straightening the keel, were half completed. He went on to note that it was believed that the boat would now draw less water and be more suitable for Quartermaster purposes (Crosman 1856b). Apparently, there was some interest in

2. During the Mexican War, as a captain with General Zachary Taylor's forces at Corpus Christi, G.H. Crosman had been aboard the Quartermaster steamer *Dayton* when it exploded in Corpus Christi Bay on September 12, 1845. A number of American troops were aboard and 11 men were killed. Captain Crosman was thrown over 80 yards from the boat in the explosion, but survived and left an account of the incident. Another young officer, Lieutenant Ulysses S. Grant, who commonly traveled on the *Dayton*, was not aboard that day, but he did witness the explosion (Pearson and James 1997:24-25).

building a new boat for use on the Missouri, but Major Crosman noted that it was too late in the season to do this and he supported completing the repairs to the *Gray Cloud* and sending it back to the upper river. Saltus et al. (2000:45) write that the repairs to the *Gray Cloud* cost \$8,000, relying on information contained in a December 5, 1856, report written by Lt. Colonel D.D. Tompkins in New Orleans (Tompkins 1856a). However, a careful reading of that report suggests that the \$8,000 figure may be a reference to the costs involved in making the vessel seaworthy for use in the Gulf of Mexico (see below). It is not known if the *Gray Cloud* did go back up the Missouri in the summer of 1856; by that time the military actions against the Sioux were over and this may not have been necessary. That fall, however, the *Gray Cloud* did leave the Missouri River and steamed down the Mississippi to New Orleans on the way to its next assignment; as a transport off the coast of Florida in support of the Third Seminole War.

The Coast of Florida and The Third Seminole War, 1856-1859

The *Gray Cloud* was transferred to New Orleans by order of Major General Thomas S. Jesup, Quartermaster General, at the request of General Harney who was then commanding the forces of the Sioux Expedition (Crosman 1856c). The Third Seminole War was the last outbreak of overt hostilities in a conflict between the American government and the Seminole Indians of south Florida that had been going on for 40 years. The start of the Third Seminole War was attributed to an attack on an American survey party under the command of Lieutenant George Lucas Hartsuff of the Topographical Engineers on December 7, 1855, in southwestern Florida (Covington 1966). The Seminoles had been concerned for some time about encroachment of survey and scouting parties into their assigned lands in southwestern Florida. In the fall of 1855, Seminole leaders decided to take an offensive position including the burning of several homesteads and army outposts located in the Big Cypress area. Lieutenant Hartsuff's party found the results of these depredations before they were attacked. Two of the survey party's men were killed and 4 wounded before the group made it back to safety at Fort Myers on the west Florida coast (Langford 2000).

Fort Myers became the base of operations for the military actions against the Seminoles. Having learned from previous wars with the Seminole, the American army adopted a strategy of constant patrols against the Indians, destroying homes and fields and capturing as many individuals as possible. In addition, they offered substantial bounties to Indians who were willing to surrender and be transported west to Seminole lands in what is present-day Oklahoma. The *Gray Cloud* was one of the steamers engaged in transporting troops and supplies to Fort Myers.

The *Gray Cloud*, apparently, left St. Louis in late November or early December, because by December 5 the boat had arrived at New Orleans where it was to "be altered and prepared for service off [the] coast of Florida" (Tompkins 1856a). Having been built for operations on inland rivers, the *Gray Cloud* was not well suited for working on the open waters of the Gulf of Mexico. Lieutenant Colonel D.D. Tompkins, Deputy Quartermaster in New Orleans, telegraphed the following to Washington on the arrival of the steamer:

The U.S. Steamer "Gray Cloud" has arrived. Major Crosman Q.M. writes that she is sent by your order to be here altered and prepared for service off coast of Florida, and supposes I have received instructions on the subject. None have been received. Shall I have her put in condition for service off coast of Florida? Her master says the estimate made in St. Louis for her repairs was eight thousand dollars. Reply by telegraph [Tompkins 1856a].

Lieutenant Colonel Tompkins, obviously, had received no instructions as to what to do with the steamer. In his reference to the estimate of \$8,000 for repairs, it is unclear if this refers to the repairs made to ice damage in St. Louis or if it is what the Quartermaster officers in St. Louis thought it would cost to prepare the boat for sea service off Florida. The former

seems most likely, however, this was a substantial cost, suggesting that a considerable amount of damage had resulted from the steamer's icing in on the upper Missouri.

Even though Colonel Tompkins had not received any instructions concerning the *Gray Cloud* by early December, the military personnel in Florida knew the boat was coming there. On November 24, 1856, the same day that Assistant Quartermaster Crosman in St. Louis wrote to Colonel Tompkins, Francis N. Page, Assistant Adjutant General, at "Head Qtrs. Dept of Florida, Fort Brooke," also, wrote Tompkins about the *Gray Cloud*. Page noted that the Commanding General of the Department had changed his mind about having the guards removed from the *Gray Cloud*. He now wanted the steamer sent over "without cutting the guards off, and that spawnings be put on her" (Page 1856). The guards, as noted earlier, were the extensions of the main deck beyond the sides of the hull. The removal of these features would seem reasonable because they could be broken or damaged by the seas typically found in the open waters of the Gulf of Mexico. The word "spawnings" probably should be "spawnings" or, more correctly, "sponsings." The term sponson or sponsings on a steamboat is another word for guards, although, more specifically it refers to the timbers projecting beyond the hull that support the guards. In naval usage, the term refers to a platform extending beyond the hull of a ship designed specifically as a gun platform. It would seem that the request to put "spawnings" on the *Gray Cloud* was a request to strengthen the guards with additional sponson timbers, possibly, making them strong enough to support a gun or guns.

At New Orleans, Lieutenant Colonel Tompkins, apparently having received instructions on how to proceed, initiated the alterations to the *Gray Cloud*, but only after some delay. On December 17, 1856, he telegraphed Washington that:

... the Steamer *Gray Cloud* can not be put on dry dock for twenty days. Fifteen or eighteen days thereafter will be required to complete her alterations and repairs. Shall I under those circumstances have them done [Tompkins 1856b].

Exactly what changes were made to the *Gray Cloud* are unreported. Presumably, the guards or sponsons were strengthened as had been requested, but even more extensive alterations seem to have been undertaken. This is revealed in a "Surveyor's Certificate of Admeasurement" issued when the steamer was surveyed and remeasured in New Orleans on April 2, 1859, after the steamer's service in the Third Seminole War. The survey was conducted on April 2, and the admeasurement form states "said vessel . . . has one deck, no masts, pink stern, has upper cabin and plain head; that she is in length one hundred & seventy seven ft, in breadth twenty seven feet four inches and in depth average six feet and that she measures two hundred seventy five and nineteen ninety-fifths parts of a ton" (BMIN 1859a). Also noted is "forward hatch 6.6, main hatch 5.6," obviously a reference to the depth of hull at each (BMIN 1859a). A "pink" stern refers to a rounded or somewhat pointed stern, meaning that the square stern of the *Gray Cloud* had been significantly altered. Likely, a single rudder would have been installed at this time, removing the multiple rudders that so many inland steamers used. The pink stern and the single rudder both would have been adaptable for working in the Gulf of Mexico. The *Gray Cloud* was also lengthened from 170 ft at her first enrollment in 1854 to 177 ft, probably as a result of the conversion from a transom to a pink stern.

Alterations complete, the *Gray Cloud* departed for the west coast of Florida; however, neither the date of departure nor many details of the steamers service in the Third Seminole War are known. The *Gray Cloud* was operating off Florida in the summer and fall of 1857 as revealed in a disability claim made by a civilian pilot or steersman in 1889, over thirty years after the war (Farlis n.d.). In August 1889, James W. Bain, Clerk of Court of Lee County, Florida, wrote the Secretary of War on behalf of Rofuna Farlis, who claimed that he had served as pilot on the *Gray Cloud* in 1857 when he was "seriously wounded by the discharge

of a piece of ordnance" and that he deserved a pension (Farlis n.d.). The various documents in the Rofuna Farlis file (in which he is referred to variously as Rufina Farlis, Ruffino Fales, Rofino Farlis, Raffino Felly and Rufins Fales) reveal that he did, in fact, serve as a "steersman" on the *Gray Cloud* from August 17, 1857, to his discharge on October 14, 1857, for which he was paid \$40 per month (Farlis n.d.). Quartermaster records indicated that Farlis was a civilian employee and there was no evidence that he had been injured while aboard the steamer. The Farlis file does provide the name of the *Gray Cloud's* captain, James Duke, and the reference to the exploding ordnance reveals that the steamer was armed.

The *Gray Cloud* was likely in service off Florida in November 1857 when Captain John Parkhill and 110 men ascended the Turner River and attacked the last hiding place of the Seminole. Parkhill was killed, but this action represented the largest engagement in the entire war and, essentially, marked its end. Not long afterwards, the Seminole leader, Billy Bowlegs, surrendered, bringing most hostilities to a halt (Langford 2000).

By the end of 1857, attacks by American troops and the bounties paid to those Indians who would surrender had seriously reduced the Seminole population in Florida. The war was over, but the first few months of 1858 were spent in making preparations for sending captured and surrendered Seminoles west. For surrendering and agreeing to move west, Billie Bowlegs was paid \$5,000, plus he received \$2,500 for his cattle. Each of his warriors who surrendered received \$1,000 and each women and child \$100 (Langford 2000). The departure of the steamer *Gray Cloud* from Egmont Key for New Orleans on May 7, 1858, in effect, brought the Third Seminole War to an end. On board the *Gray Cloud* were 38 Seminole warriors and 85 women and children who had surrendered, plus an additional 41 Seminole who had refused to surrender and had been captured and an Indian guide named Polly (Langford 2000). This number represented almost one-half of the entire Seminole population that survived in Florida after two years of war.

The steamer *Gray Cloud*, with its cargo of surrendered and captured Seminoles, arrived in New Orleans by May 25, 1858, as revealed in a letter of that date from Captain A. Montgomery of the Quartermasters Office in that city to "Acting Major" J. McKinstry, Assistant Quartermaster at Fort Brooke, Florida. Captain Montgomery wrote that he had discovered that the boilers of the *Gray Cloud* were leaking and it was necessary to have them repaired "before sending her to sea again" (Montgomery 1858). Montgomery was extremely upset with the captain of the *Gray Cloud* for not knowing about the leaking boilers, even though the engineers on board reported the problem had been going on for six weeks. Further, the captain of the *Gray Cloud* refused to obey Captain Montgomery's instructions to remain aboard the vessel and oversee the repair of the boilers. Montgomery wrote that if he had charge of the *Gray Cloud*, he would have discharged the captain immediately (Montgomery 1858). It is not known if this captain was James Duke, who had been master of the *Gray Cloud* in 1857.

In his letter, Captain Montgomery noted that the *Gray Cloud* was leaving for Tampa on the west coast of Florida. Military action in the Third Seminole War had ended by this time and it is assumed the steamer was returning to Florida with supplies for troops still stationed there or to remove troops and material no longer needed. The four-year career of the *Gray Cloud* as a United States Quartermaster steamer was coming to an end. The following year, the steamer was sold in New Orleans to private owners.

Private Service, Gulf Coast and Mobile to New Orleans Trade, 1859-1861

On April 5, 1859, Henry E. Spearing of New Orleans, as sole owner, enrolled the *Gray Cloud* in that city (BMIN 1859b). Spearing had purchased the steamer from the United States Government, probably at auction, although records of that sale have not been located.

This enrollment incorporates the new dimensions of the steamer resulting from the survey and remeasurement that was conducted on April 2 (see above). These are: length = 177 ft; breadth = 27 ft, 4 in; depth = 6 ft; burden = 275 19/95 tons. The vessel is described as having a pink stern, plain head and upper cabin (Work Projects Administration [hereinafter cited WPA] 1942:5:108). Presumably, the Surveyors Certificate of Admeasurement was issued in response to Spearing's purchase of the vessel. The April 5 enrollment lists a W.C. Flanders as the *Gray Cloud*'s master.

The new owner of the *Gray Cloud*, Henry Spearing, seems to have been heavily involved in what was known as the "coasting" trade, the trade carried out by steam and sailing vessels between the country's coastal ports. Vessel enrollment and registration documents for New Orleans show that Spearing held ownership in several vessels during the 1830s, 40s, and 50s; all of which appear to have been involved in coastal trading. A Henry Spearing is shown as sole owner of the 92-ft schooner *Mary & Frances* in a registration issued in New Orleans on January 10, 1833 (WPA 1942:3:138). This is believed to be the Henry E. Spearing who acquired the *Gray Cloud* in 1859. The fact that the *Mary & Francis* was issued a registration rather than an enrollment indicates that the schooner was involved in trade with foreign ports or with distant custom districts. Vessels received enrollment documents if they traded within a custom district or only with adjacent districts. It is most likely that Spearing used the *Mary & Frances* in the coastwise trade along the Gulf Coast and, possibly, to trade with ports on the Atlantic coast. The registration would have been necessary if the *Mary & Francis* traveled to ports in Texas, at that time a foreign country.

The *Mary & Francis* seems to have been the first vessel owned by Henry Spearing and, with the exception of the *Gray Cloud*, all of the vessels he was involved with after that date were sailing ships of similar size, presumably used in the coastwise trade. Spearing is listed in an April 25, 1834, registration as the sole owner of the 66-ft schooner *Sabine* which, considering the name, very well may have been used in the trade with Texas (WPA 1942:3:188). Later vessels include the 61-ft schooner *Home* (sole owner, 1848), the 65-ft schooner *Jane Elizabeth* (sole owner, 1849), the 76-ft brig *John Williams* (sole owner, 1851), the 92-ft brig *Cimbrus* (part owner, 1853), the 196-ft bark *Fanny Ealer* (part owner, 1856), and the 110-ft schooner *H.E. Spearing* (part owner, 1857) (WPA 1942). The brigs and bark, almost certainly, were used in long distance trade to Atlantic coast ports and, possibly, overseas foreign ports. The large schooner *H.E. Spearing*, also, seems to have been engaged in long-distance coasting trade as indicated by the fact that among her owners were residents of Boston and Salem, Massachusetts (WPA 1942:5:115). An Edward Spearing is shown as owner of the 98-ft schooner *Henry Hooton* in a February 7, 1863, New Orleans enrollment. If this is Henry E. Spearing, this is the last time he appears in vessel documents for the city. Henry Spearing's shipping business would have been completely shut down by the Federal blockade during the Civil War and, as happened to many other Southern ship owners, he was probably unable to reestablish his business after the war.

The *Gray Cloud* seems to have been the only steamboat that Henry E. Spearing was involved with as an owner. Because the steamer had been previously altered to accommodate conditions in the Gulf of Mexico, it is likely that Spearing placed the steamer in the Gulf coasting trade; a trade that he was already thoroughly familiar with. In this commerce, the *Gray Cloud* would have traveled between New Orleans and other principal ports like Mobile, Pensacola, and Galveston, as well the many smaller ports along the Gulf coast, carrying coastal produce, merchandise and passengers (see Pearson and Simmons 1995 for a discussion of the steamer coasting trade out of New Orleans).

The master of the *Gray Cloud*, W.C. Flanders, was one William C. Flanders who, like Henry Spearing, had been involved with ships and shipping out of New Orleans for many years. William Flanders' involvement was primarily as a boat captain, rather than as an owner,

but, like Spearing, Flanders' experience was principally with vessels involved in the coasting trade. An individual named "W. Flanders" appears as the master of the small, 34-ft schooner *Van Buren* in a New Orleans enrollment document dated January 7, 1836 (WPA 1942:3:185). This is believed to be William C. Flanders and, because the *Van Buren* was enrolled, rather than registered, it probably confined its activities to Gulf coast ports east of New Orleans. Later, William Flanders (listed as William Flanders, William C. Flanders or W.C. Flanders) appears as master of the 59-ft schooner *Pearl* (1836), part owner and master of the 60-ft schooner *Junius* (1838), the 74-ft schooner *Geneva* (1838-1841) and the 68-ft schooner *Gertrude* (1846-1847), and master of the 98-ft schooner *Sea* (1846-1847) (WPA 1942:4:112, 115, 260). After 1850, Flanders seems to have worked only on steamboats. In that year he served as captain of the *Belle of Red River*, a typical inland river steamboat; in 1851 he was captain of the 112-ft steamer *Liberty* and in 1857 and 1858 the 144-ft steamer *Jasper* (WPA 1942:5:30, 129, 156). Descriptions of these two steamers indicate that both were designed for work in open water, coastal or marine environments, not on inland rivers. The *Liberty* had formerly been known as the *De Rosset* and, like the *Gray Cloud*, had been a Quartermaster Department vessel from 1847 to 1851, serving in the Mexican War (Pearson et al. n.d.). The *De Rosset* was one of the early iron-hulled steamboats to operate in the United States. Assembled in Baltimore in 1838-1839 of prefabricated iron plates manufactured by the famous John Laird Company of Birkenhead, England, the *DeRosset* served on the Savannah River and coast of Georgia before its purchase by the Quartermaster Department for use as a transport in the Mexican War (Pearson et al. n.d.). By the time William Flanders took over command of the *Gray Cloud* in 1859, he had over 20 years of experience on steam and sailing ships working in the coasting trade. His name does not appear in New Orleans vessel documents after 1859 and the *Gray Cloud* may have been his last command.

On June 2, 1859, just two months after he acquired the *Gray Cloud*, Henry Spearing, still as the only owner, received a registration document for his steamer at New Orleans (WPA 1942:5:108). The shift from an enrollment to a registration suggests that Spearing intended to place the *Gray Cloud* in foreign or long-distance coastwise trade. John J. Woodfine is listed as the *Gray Cloud's* captain in this June 2 registration. This is the only time Woodfine's name appears in the records of vessels enrolled or registered in New Orleans for the period 1804-1870.

Henry Spearing sold the *Gray Cloud* early in the following year. On February 7, 1860, the *Gray Cloud* was enrolled at the Port of Mobile with F. James and M. Sternes (or Stevens) as the new owners, and G.A. Mapey (Malpey or Mupey ?) as master. James owned a 2/3 interest in the boat and Sternes a 1/3 interest (BMIN 1860). Nothing is known about these various individuals, but it is presumed that they employed the *Gray Cloud* in the coasting trade, at least sometimes traveling between Mobile and New Orleans. This is evidenced in the New Orleans newspaper the *Price Current* which lists the *Gray Cloud* arriving several times at the Lake Pontchartrain terminus of the Pontchartrain Railroad from Mobile in February 1860. However, the outbreak of the Civil War the following year ended the *Gray Cloud's* commercial activities.

Confederate Service on the Gulf Coast, 1861-1862

On January 26, 1861, the secession convention sitting in Baton Rouge severed Louisiana's ties with the United States, declaring the state a "free" and "independent power" (Winters 1963:3). Secession did not have immediate effects on the *Gray Cloud* and other coasting steamers operating out of New Orleans, but, eventually, their activities would be curtailed and, ultimately, ended by the events of the Civil War. Subsequent to his state's secession from the Union, Governor Thomas Overton Moore began to take steps to insure Louisiana's military readiness. The United States Mint in New Orleans was seized, with nearly \$500,000 in gold, and several Federal military installations in the state were taken over.

In addition, Governor Moore seized several vessels in and around New Orleans during the spring and summer of 1861. Among these were coastal steamers such as the *Arrow*, *Pamlico*, *Creole*, and *Oregon*, all of which seem to have been seized by the state in early July (Pearson and Saltus 1996:110-111). Almost immediately after their seizure by the state of Louisiana, most of these boats were turned over to Confederate military authorities in New Orleans and taken into the Confederate Navy. Several of these vessels were converted into gunboats, while others seem to have been used as transport ships in the Lakes Pontchartrain and Borgne and Mississippi Sound area.

In March 1861, Major General David Twiggs, formerly a general in the United States Army, was assigned to New Orleans as Confederate commander for the District of Louisiana. His naval counterpart was former United States Navy Captain, George H. Hollins. Hollins was appointed to command Confederate naval forces on the Mississippi River and along the coast of Louisiana (Groene 1985:27). These men, and the newly organized Confederate government, recognized early on that a defensive naval force was going to be a necessity, particularly after the start of the Federal blockade off the Louisiana coast in May 1861. To achieve the necessary naval force, a number of steamers and sailing vessels were chartered, leased or seized and fitted out at shipyards in New Orleans and Algiers. Among these boats were the several turned over by the state of Louisiana. It is believed that the *Gray Cloud* (or "*Grey Cloud*" as it is consistently referred to in Confederate records) was among those steamers seized by the state and turned over to Confederate authorities in New Orleans, however, no specific documentation of the event has been found. Available records do reveal that the *Gray Cloud* served as a Confederate transport carrying troops and supplies in the Lake Pontchartrain/Mississippi Sound area. For example, on June 21, 1861, the Baton Rouge newspaper, *The Daily Advocate*, reported on the happenings in Mississippi Sound, noting that "The steamer Grey Cloud was at the wharf at Mississippi City, not having taken any troops from thence in any direction." By late June, then, the *Gray Cloud* seems to have been moving troops, although it is not known if the steamer was under contract or had been acquired by the Confederate or state government. There is no direct evidence that the *Gray Cloud* was ever armed by the Confederates, although the vessel is sometimes referred to as a "gunboat" in various records.

General Twiggs decided that Ship Island, located at the western end of Mississippi Sound near the eastern entrance to Lake Pontchartrain, was vital to maintaining communication along the coast and to protecting the rear of New Orleans. In the first week of July he ordered that the island be fortified and manned. This was accomplished on July 6 under the command of Captain Edward Higgins (Groene 1985:27). On July 9, the Union blockading ship, the 6-gun, USS *Massachusetts* was patrolling off of Ship Island and fired 15 rounds at the recently established Confederate fortifications on the island (ORA 1889:709). The *Massachusetts* received returning fire and withdrew in the afternoon, but later sighted two steamers approaching the island. These were the *Gray Cloud* and one of the recently armed lake steamers, the *Oregon*, with ordnance and supplies for the men on the island. Captain Melancton Smith of the *Massachusetts* returned close enough to fire one shot from his pivot gun, but this did no harm (ORN 1917:691).

This is the first mention of the *Gray Cloud* in Confederate service. Groene (1985:27) implies that the *Gray Cloud* had carried the first contingent of troops to Ship Island on July 6. However, this is not stated in the official report made by Captain Higgins, plus the New Orleans newspaper, the *New Orleans Delta*, reported on July 17 that the initial force of troops (three companies of the Fourth Regiment, Louisiana Volunteers) and four heavy guns were taken to Ship Island aboard the armed and armored steamers *Oregon* and *Swain*. The newspaper goes on to state that Captain Higgins then left for New Orleans where he loaded the *Oregon* and *Gray Cloud* and returned to Ship Island, carrying "guns, ammunition, etc." (*New Orleans Delta*, July 17, 1861).

The *Gray Cloud* disappears from official records until September 1861. It is presumed that the boat was involved in moving troops and material to various locations around Lake Pontchartrain and Mississippi Sound as the Confederates made efforts to counter Union activity in the area. On September 15-16, 1861, the *Gray Cloud* was among those steamers used to evacuate Ship Island (ORA 1889:740-741). The Confederate authorities had found that holding the island was untenable in the face of increasing Union naval strength. Colonel J.K. Duncan was in charge of the evacuation. In his report to Lieutenant J.G. Devereux, Acting Assistant Adjutant-General in New Orleans, Colonel Duncan, stated:

On the afternoon of the 13th the steamer Oregon was dispatched to Lake Borgne for the steamer Grey Cloud to assist in the operation. The Oregon only returned to the Pontchartrain railroad landing about 12 o'clock on the 14th, when Lieutenant Bridges, Louisiana regiment of artillery, and myself left on her for Ship Island, where we arrived about 1 o'clock that night. I had previously sent Captain Bond, Louisiana artillery, on the steamer Creole, with directions to seize her on her arrival at Ocean Springs, so as not to attract unnecessary attention here. The steamer A.G. Brown was seized under department authority about 11 o'clock on the 14th, and Lieutenant Cammack, Louisiana artillery, placed on board of her to conduct her to Ship Island. With these four boats and the force on the island, the operations were commenced and finally completed on the evening of the 16th about sundown The Grey Cloud, with all of the guns and carriages on board, was directed to proceed with the same to New Orleans, excepting the 8-inch and 9-inch shell guns, which the captain was directed to leave at Port [Fort ?] Pike, it being left optional whether the boat should stop en route or return from the city for the purpose. . . . After the performance of the foregoing duties the captains of the Oregon, Grey Cloud, and Arrow were ordered to report to the general commanding for further orders [ORA 1889:740].

From Colonel Duncan's report it appears that the *Gray Cloud* was operating somewhere on Lake Borgne when the decision to evacuate Ship Island was made. The steamer may have been at or in the vicinity of Fort Macomb, located on Chef Menteur Pass, the waterway connecting Lake Pontchartrain with Lake Borgne. Fort Pike, where the *Gray Cloud* was to leave the 8- and 9-inch shell guns, was located at the western end of the Rigolets, the pass leading into Lake Pontchartrain from Mississippi Sound and the Gulf of Mexico.

Late in 1861, the elderly General Twiggs was replaced in New Orleans by General Mansfield Lovell. How either one of these commanders used the *Grey Cloud* in the period after the evacuation of Ship Island is unknown. Federal forces occupied Ship Island as soon as the Confederates departed and the fortifications on the island, plus the blockading vessels, made the movement of southern military and commercial ships in Mississippi Sound increasingly difficult. On the afternoon of December 11, 1861, Captain Smith of the USS *Massachusetts* engaged several of the "Lake" gunboats near Ship Island. He reported:

. . . the gunboats *Oregon* and *Pamlico*, from the westward, and the *Gray Cloud* and *Florida*, from the eastward, attempted to make a connection, but all four were turned back by the *Massachusetts* and *New London* without communicating. A few shots were exchanged, and one from the *New London* was thought to have struck the stern of the *Oregon* . . . since the skirmish referred to, the Confederate gunboats have disappeared. . . . [ORN 1903:28].

Captain Smith's report implies that the *Gray Cloud* was a "gunboat" even though there is no evidence that the boat was ever armed. The log of the *Massachusetts* noted that after the engagement the *Florida* turned toward Mobile while the "*Grey Cloud* ran into Biloxi" (ORN 1917:692).

During the early months of 1862, the Union Navy and Army were preparing for an assault on New Orleans, knowing that capture of the city would give them control of a major portion of the Mississippi River. Federal military activity in the Mississippi Sound area increased in advance of the planned move up the Mississippi. On January 2, 1862, Lieutenant Thomas McKean Buchanan, captain of the USS *Henry Lewis*, led a force that captured the gulf coast city of Biloxi (ORN 1903:33). The other two ships in the attacking force were the *Water Witch* and the *New London*. In his report of the engagement, Captain Buchanan makes no mention of the *Gray Cloud*, suggesting that the steamer was not in Biloxi. However, Buchanan did note that his ship, the *Henry Lewis*, was piloted by Acting Master George Wiggin (ORN 1903:33). Buchanan and Wiggin would soon come to be closely associated with the *Gray Cloud*, both serving as its captain.

On March 25, 1862, Union transports began to arrive at Ship Island to discharge troops under the command of General Benjamin F. Butler. These forces were preparing for the advance against New Orleans. During this period, no mention of the *Gray Cloud* appears in official records. The movements of the steamer would have been restricted by the Union forces in the area and, possibly, the vessel was bottled up in one of the gulf ports or in Lake Pontchartrain. When troops in General Butler's command landed at Biloxi and again occupied the town on April 2, the *Gray Cloud* is not mentioned as being there. On April 4, the two Union vessels involved in the landing at Biloxi, the *New London* and *J.P. Jackson*, engaged several Confederate gunboats near Pass Christian (Groene 1985:32). There are discrepancies in the reports as to the identity of the rebel boats reportedly involved. Various official accounts name the *Oregon*, *Carondelet*, *Pamlico*, and *Arrow* and it is possible that all four were there, despite most accounts naming only three (Pearson and Saltus 1996:116). Interestingly, an individual named Tom Hall many years later provided an account of the action, stating that he had been an eyewitness (Hall 1896:280). Hall stated that four Confederate vessels were there, the *Bienville*, *Carondelet*, *White Cloud* and *Arrow*. No vessel named *White Cloud* was operating in the area and it seems likely that Hall has confused the name with *Gray Cloud*. This is somewhat supported by the fact that Tom Hall specifically states that the *White Cloud* was a western river steamer, while the other boats were fitted with low-pressure, walking beam engines. Tom Hall's description of the engagement and his identification of the Federal vessels involved is so inaccurate as to make his story questionable (Pearson and Saltus 1996:116). However, the *Gray Cloud* (i.e., possibly Hall's *White Cloud*) certainly was a western river steamer and Hall seems to have recognized that fact even if he misnamed the steamer and confused or twisted the facts about the boat's involvement in this particular affair. If Hall is correct, then the *Gray Cloud* would have still been involved in Confederate activity in the area in early April.

New Orleans fell to Federal forces commanded by Admiral David Farragut on April 25, 1862. On the days prior to this, General Lovell, Confederate commander in the city, used the "Lake" gunboats and transports to transfer men and material from New Orleans to various locations on the north shore of Lake Pontchartrain. He, also, employed these vessels to evacuate several of the fortifications around the city, including Fort Macomb and Fort Pike. It is known that several of the gunboats, including the *Pamlico*, *Arrow*, *Bienville* and *Oregon*, were destroyed after they completed this transfer. No mention of the *Gray Cloud* appears in official records recording the evacuation of New Orleans and it is unknown where the boat was during this time, nor if it was still in Confederate hands, although it is suspected that it was. It is known that by mid-July the *Gray Cloud* had been taken by the United States and was being used in actions against Confederate forces on the coast of Mississippi.

United States Army Gunboat Service, 1862

Information on the events surrounding the Federal capture or acquisition of the *Gray Cloud* has not been found. The first specific mention of the steamer as a Union vessel is contained in the log of the USS *Potomac*, which notes for July 17 and 18, 1862:

July 17.-From 4 to 8 a.m.; Sent a boat expedition with steamer *Grey Cloud* of 28 marines, 15 men, and 2 officers, with two days' provisions. The expedition destined to act with the *New London* at Pascagoula and vicinity.

July 18.-The steamer *Grey Cloud* returned from Pascagoula with our officers and men. Eight men wounded by the enemy [ORN 1917:703].

Therefore, sometime between early April and mid-July 1862, the *Gray Cloud* was acquired by the Union. Groene (1985:36) states that the steamer was captured in July near Biloxi, but he provides no evidence for this information. Silverstone (1989:970) writes that the *Gray Cloud* was "commandeered for the Army at New Orleans, May 1862," while the *Dictionary of American Naval Fighting Ships* reports that "After the capture of New Orleans in the spring of 1862, she [i.e., *Gray Cloud*] was commandeered by General B.F. Butler and fitted out for river service" (Naval History Division 1968:655). General Butler had been placed in command of Army forces in New Orleans after the city's capture and he did assemble a group of steamers for operations on Lake Pontchartrain and Mississippi Sound. Very little was recorded about General Butler's "flotilla," but it is likely that the *Gray Cloud* was one of these vessels. If so, it seems that Butler acquired the *Gray Cloud* before May 20, 1862, because on that date he wrote to Gideon Welles, United States Secretary of the Navy, the following:

Acting master George Wiggin is now unattached. I have need of a competent and skillful seaman, acquainted with these waters, to take charge of my flotilla of boats on the lake and between this port and Mobile. I desire much that Mr. Wiggin should be ordered to report to me for that purpose if not inconsistent with the interests of public service . . . [ORN 1904:504].

George Wiggin soon would become captain of the *Gray Cloud*, although there is no evidence as to when he joined the lake flotilla, nor which ship he was originally assigned to.

Not long after its mid-July sortie up the Pascagoula River on the coast of Mississippi, the *Gray Cloud* was back at New Orleans, preparing for an expedition against several locations on the north shore of Lake Pontchartrain. By this time the *Gray Cloud* was armed and can certainly be considered a true gunboat. The expedition was a joint undertaking of the Army and Navy and a detailed account of the event was provided by Major Frank H. Peck, Twelfth Connecticut Infantry, commander of the force. Peck notes:

On the evening of July 25, with five companies of the Twelfth Regiment of Connecticut Volunteers and a section of Capt. P.E. Holcomb's Second Vermont Battery, I embarked on board the boat *Gray Cloud* commanded by Lieutenant Buchanan, U.S. Navy. We left the wharf about midnight and arrived at Pass Manchac soon after daylight on the morning of the 26th [ORA 1886:124].

The captain of the *Gray Cloud* was Lieutenant Thomas M. Buchanan, the same man who had captured Biloxi in early January. No report of the expedition by Lieutenant Buchanan appears in the *Official Records of the Union and Confederate Navies*, if he ever made one. At this time, the *Gray Cloud* and other boats in the lake flotilla were under the command of the Army and Buchanan may not have been required to write a report, leaving that task to Major Peck, commander of the expedition.

At the bridge at Pass Manchac, Captain Holcomb fired with his "Sawyer gun." Troops from the *Gray Cloud* landed and burned the bridge there. Two days later, the *Gray Cloud* ascended the Tchefuncte River and on reaching Mandeville the boat was fired on by a "guerrilla picket." Major Peck states that at this point "We responded with a shot from one of the 32-pounders of the boat" (ORA 1886:124). These are the first references to the types of armament on the *Gray Cloud*. Peck's last statement seems to indicate that there were at least two 32-pounders on the gunboat and an illustration of the *Gray Cloud* made after it was renamed *Kinsman* shows two guns; one at the bow and one at the stern. Saltus et al. (2000:47) suggest that the Sawyer gun referred to by Major Peck was part of the *Gray Cloud's* armament. However, Peck specifically distinguishes between the "boat's" guns and those belonging to Captain Holcomb's Second Vermont Battery here and elsewhere in his report. For example, as the *Gray Cloud* was dropping down the Tchefuncte, it was attacked from shore and Major Peck notes that "Captain Holcomb almost instantly sent a charge of canister after them, and Lieutenant Buchanan brought his 32-pounders to bear with terrible effect" (ORA 1886:125). Captain Holcomb, also, fired some shells far back into the woods with his "20-pounder Parrott" (ORA 1886:125).

Major Peck's various statements all suggest that the *Gray Cloud* was armed only with 32-pounders, at least two of them, while the Second Vermont Battery had placed on board at least a 20-pounder Parrott and a Sawyer gun, both of which were rifled artillery pieces designed to be mounted on wheeled carriages for field use. This last gun was a cast-steel rifled cannon developed by Sylvanus Sawyer in the 1850s. Firing a 3.75-in-diameter, lead-coated shell, the Sawyers were among the first rifled cannon purchased by the U.S. military, although few actually entered service (Coggins 1983:80). The 20-pounder Parrott was a popular rifled field artillery piece that fired a 3-in-diameter shell a distance of 1900 yards (Coggins 1983:77). The "32-pounders" presumed to constitute the armament of the *Gray Cloud* may have been smooth-bore naval cannon with a bore diameter of 6.4 in (Ripley 1984:367). These were large, heavy guns measuring from 7 ft, 6 in to as much as 10 ft, 6 in long, and weighing from 3600 to 7200 pounds. Thirty-two pounders were too heavy to be used as field pieces and were employed as siege, garrison and naval weapons.

Leaving the Tchefuncte River, the *Gray Cloud* proceeded eastward to the Pearl River and then on to Pass Christian and Bay St. Louis on the Mississippi gulf coast. The gunboat then returned to Lake Pontchartrain, revisiting the Tchefuncte River before returning to New Orleans (ORA 1886:125).

The *Gray Cloud* remained in service on Lake Pontchartrain and in Mississippi Sound during the summer of 1862, although its activities are minimally reported. The log of the USS *Richmond* noted that the "steamer Grey Cloud" arrived at Ship Island from New Orleans on August 14, 1862, carrying prisoners to be confined on the island (ORN 1905:753). The *Gray Cloud* is reported to have brought mail to Ship Island from New Orleans on August 20 and again on September 6 (ORN 1905:753-754).

The United States Gunboat USS Kinsman or USS Colonel Kinsman, 1862-1863

The *Gray Cloud* largely disappears from official records until late October 1862. On October 25, Thomas McKean Buchanan, now a Lieutenant Commander and captain of the gunboat *Calhoun*, was ordered to leave Lake Pontchartrain with a small flotilla of gunboats and take them to Brashear City (present-day Morgan City) on the lower Atchafalaya River at Berwick Bay. General Butler had ordered Buchanan's gunboats to the Atchafalaya region principally to prevent the escape of Confederate General Alfred Mouton's army. Buchanan's fleet was supposed to consist of three vessels; the *Calhoun*, plus the gunboats *Kinsman* and

Diana. Unfortunately, the *Kinsman* broke down at Fort Pike and the *Diana* had to be left behind because it had no crew (ORN 1905:326). The *Kinsman* was the former *Gray Cloud*.

No record has been found that specifies when the *Gray Cloud*'s name was changed, nor who it was named after. The official name originally seems to have been "*Colonel Kinsman*," but documents (including official Union reports and vessel rosters) use *Colonel Kinsman* and *Kinsman* fairly indiscriminately. After January 1, 1863, when the vessel was transferred from Army to Navy command, the name may have officially been changed from *Colonel Kinsman* to just *Kinsman* (ORN 1921:122), but in reporting its sinking in February 1863 Admiral Farragut referred to it as the U.S.S. *Colonel Kinsman*. The gunboat was certainly still called *Gray Cloud* in July when it carried Major Peck's forces to the north shore and still had that name as late as September 6, if the log of the USS *Richmond* is accurate. Frederick Way (1994:197) states that the steamer was renamed *Kinsman* on September 30, when the United States Quartermaster Department turned the vessel over to the Navy. The date given by Way might be correct, but the *Gray Cloud* was attached to the United States Army, not the Quartermaster Department (Gibson and Gibson 1995). Also, the *Kinsman* was not transferred to the Navy until January 1, 1863 (Naval History Division 1968:656); however the name change may very well have occurred in late September or early October 1862 (Silverstone 1989:97). Even before its transfer to the Navy, the *Kinsman* is listed as part of the West Gulf Blockading Squadron.

While no records have been found that specifically state who the *Kinsman* was named after, it is possible that the person was Lieutenant Colonel J. Burnham Kinsman. J.B. Kinsman seems to have been a favorite of Major General Benjamin Butler. In June 1862, General Butler wrote to Edward Stanton, the Secretary of War, stating that Kinsman had been serving on his staff as a "volunteer aide without pay" and praising him for helping in the capture of property worth over \$40,000 (ORA 1886:466-467). What this property was is unreported, but it is tantalizing to think that it may have been the *Gray Cloud*, a steamer worth about that much money. J. B. Kinsman seems to have held the rank of Lieutenant when Butler wrote in June, but by the end of the month he was a Major and before November he was a Lieutenant Colonel and Aide de Camp to General Butler in New Orleans. It appears that J.B. Kinsman was promoted to Lieutenant Colonel about the time the gunboat was renamed. Subsequently, when General Butler left New Orleans to become Commander of the 18th Army Corps at Fort Monroe, Virginia, he took Lieutenant Colonel Kinsman with him and appointed him "superintendent of negro affairs" for the entire Department of Virginia and North Carolina (ORA 1890:1142).

Various records note that the *Kinsman* was fitted out by General Butler for "river service with her boilers and machinery protected by iron" (ORN 1905:623). The general implication is that this was done when the vessel was renamed *Kinsman* in September or October, but it is believed that this was done earlier, when the vessel was still known as *Gray Cloud*. In light of the sometimes heavy rifle fire the boat received during its reconnaissance up the Tchefuncte River in late July, armor would have been required to prevent serious damage or casualties. The account of that expedition specifically states the vessel was armed with 32-pounders and it seems likely that some or all of the armor would have been installed at the same time the guns were mounted. Details of this armor plating are not documented, but wartime illustrations discussed below indicate that the iron-plated "casemate" enclosed the engine and boiler areas and the paddlewheels, was sloped at the bow, and vertical (or close to it) on the sides.

Acting Master George Wiggin was commanding the *Kinsman* when the gunboat was assigned to Lieutenant Commander Buchanan's flotilla bound for Berwick Bay in late October 1862. How long Wiggin had been captain is unknown, but he probably would have been in command by October 4, by which time Buchanan was captain of the *Calhoun* (ORN

1905:322). Records indicate that George Wiggin was very familiar with the waters of Lake Pontchartrain and Mississippi Sound, suggesting he might have been a native of the region or had operated boats there prior to the war. In October 1861, the captain of the USS *Potomac* at Ship Island noted that Acting Master Wiggin was "well acquainted" with the waters and later he served as pilot on the USS *New London* and USS *Henry Lewis* in actions along the Mississippi coast (ORN 1903:741, 773). Major General Butler, in his letter to Gideon Welles, praised Wiggin and requested that he be assigned to the lake flotilla. Sometime between August and October 1862, George Wiggin took over command of the *Gray Cloud/Kinsman* and served as captain until the gunboat was lost in late February 1863. After this, Wiggin, now promoted to Acting Volunteer Lieutenant, was put in command of the sidewheeler *Tennessee*, for a while the flagship used by Admiral Farragut on the Mississippi River (ORN 1906:250). For a short time in July 1863, Lieutenant Wiggin was sent back to the lower Atchafalaya area in command of the gunboat *Estrella*. He was back in command of the *Tennessee* in the late summer of 1863, apparently, at the specific request of Admiral Farragut, and commanded the *Tennessee* on the Mississippi River and off the coast of Texas (ORN 1906:404, 606). By May 1864, Lieutenant Wiggin was in command of the single gun, sidewheel tug *Tritonia* on the James River in Virginia. He took the *Tritonia* and several other steam tugs around Florida to the Gulf of Mexico where he and his vessels were involved in activities associated with the Battle of Mobile Bay. George Wiggin remained commander of the *Tritonia* until the end of the war (ORN 1906:690).

Brashear City and the Lower Atchafalaya Basin During the Civil War

The destination of Lieutenant Commander Buchanan's gunboats in October 1862 was Brashear City, located in the southern part of Louisiana on the eastern side of a wide stretch of the lower Atchafalaya River known as Berwick Bay. Brashear City, now known as Morgan City after Charles Morgan who operated his Gulf coast steamship line out of the city, saw its share of military activity during the Civil War. Located at the junction of two important waterways, the Atchafalaya River and Bayou Teche, as well as the only railway line in southern Louisiana, the New Orleans, Opelousas and Great Western Rail Road (N.O.O. & G.W.R.R.), the town was among the most strategically important military locations in St. Mary Parish. In 1861, the Confederates built three forts and several smaller works to protect Brashear City. The largest were Fort Berwick, Fort Chene, and Fort Bisland. Fort Berwick was located across the bay and about four miles from Brashear at the outlet of Wax Bayou onto the Atchafalaya. Fort Chene was located eight miles south of Brashear at the juncture of Bayous Chene and Shaffer, while Fort Bisland was placed several miles up Bayou Teche outside of the community Patterson. Five smaller Confederate battery emplacements were constructed on the Brashear side of Berwick Bay and one on the western side, at the community of Berwick. On the Brashear side, one battery position faced the mouth of the Atchafalaya where it enters the upper end of the Bay; one was located approximately at the intersection of present-day Front Street and Levee Road; one was near the foot of modern Greenwood Avenue; one faced the lower confluence of Berwick Bay and the Atchafalaya River (now inland, near the intersection of modern First and Barrow streets); and the last was west of the foot of modern First Street, facing Bayou Boeuf. It is uncertain that any guns were ever positioned in these emplacements. Other defensive measures taken by the Confederates included removing all navigational aids in the Atchafalaya channel and filling it with an abatis of live oak trees, except for an eighty-foot passage. Barges were prepared with additional trees to fill the gap when required. However, with the fall of New Orleans on April 25, 1862, the Confederates abandoned the fortifications in and around Brashear City. The works were dismantled and the heavy artillery reportedly dumped into the adjacent waters (Goodwin et al. 1985:61; Peltier and Lehmann 1960:19; Saltus et al. 2000).

On May 1, 1862, the N.O.O. & G.W.R.R. was taken over by Union troops. After a few attempts by Confederate units to retake the line, the Union Army gained complete control

in November 1862 and, after repairs, the railroad was operated by Federal authorities exclusively for military use (Peltier and Lehmann 1960:17).

On October 28 and 29, almost 1400 Confederate troops under General Alfred Mouton, pursued by Brigadier General Godfrey Weitzel's Union forces, passed through Brashear City retreating westward toward Fort Bisland. The first members of the small Federal gunboat flotilla commanded by Lieutenant Commander Buchanan reached Brashear City on October 30, too late to prevent the retreating Confederates from crossing Berwick Bay. Union forces under General Weitzel arrived at the town on November 2 (Saltus et al. 2000:27). Over the next few months, the Union gunboats, supported by the Army, fought several engagements with Mouton's troops and the Confederate gunboat *J.A. Cotton* on Berwick Bay, the lower Atchafalaya, and Bayou Teche (Saltus et al. 2000:47-48; Stansbury 1999:7-15). The *Kinsman's* involvement in these activities is detailed below.

Brashear City became a base for Federal troop movements throughout the Bayou Teche and Atchafalaya River region. Two sizable earthwork forts were constructed at Brashear City at the end of 1862. Fort Brashear (also referred to as Fort Star and Fort No. 1) was placed at the southern limits of the town to protect the railhead from the land side (Figure 2-3). Fort Brashear was a four-sided work with bastions at the corners, mounting 11 pieces of artillery and intended for a complement of 450 soldiers. The other earthwork put up by the Union was Fort Buchanan located a mile north of Fort Brashear, opposite the mouth of Bayou Teche. Smaller than Fort Brashear, Fort Buchanan was named in honor of Lieutenant Commander Thomas M. Buchanan, commander of the gunboats at Brashear City who was killed in January 1863 in action on Bayou Teche (Peltier and Lehmann 1960:19-20; Stansbury 1999:7). Several smaller outposts and fortified points were located in the area of Brashear City. Some of the former Confederate fortifications were probably occupied, and a large redoubt was apparently built at this time on the Berwick (west) side of the Bay. This earthwork was dubbed the *tête du pont* or bridgehead, although there was no bridge at this time (Figure 2-3) (Saltus et al. 2000).

Gunboat reconnaissance expeditions were regularly sent up the Teche and Atchafalaya from Brashear City throughout 1863. As a result of one of these expeditions, the Union gunboat *Diana* was captured by the Confederates in an ambush on Bayou Teche in early 1863. In March of 1863, 4,500 Union troops were assembled at Brashear City by Major General Nathaniel P. Banks, then Commander of the Department of the Gulf in New Orleans, with plans to clear the Teche of Confederates, take Fort Burton at Butte La Rose on the Atchafalaya River, and cut Port Hudson on the Mississippi River off from supply from the west. The Federals clashed with Confederate forces at Bisland (or Bethel's Place) between Pattersonville and Centerville on April 13 and again on April 14 upstream at Nerson's Woods (Irish Bend) near Franklin. The Confederates retreated from the larger Union force, abandoning Franklin and escaping north. Also, on April 14, Union naval forces defeated Confederate gunboats on Grand Lake in the Atchafalaya Basin north of Brashear City. Ultimately, the Union Army pushed the Confederate forces out of St. Mary Parish, past Jeanerette to New Iberia, and on to Vermilionville. Opelousas was captured by Banks' forces on April 20 after which they advanced on Alexandria, which was occupied by Admiral David Farragut's naval force on May 7 (Winters 1963:214, 221-233; Goins and Caldwell 1995:39).

In the summer of 1863, when Port Hudson was lost to the Confederates, General Richard Taylor decided to strike back at the Federals with what forces he had. At the time the Union base at Brashear was manned by a large number of convalescents and poorly disciplined troops and was felt to be an easy target. Confederate troops under Alfred Mouton moved back down the Teche, and on June 23 they were able to force the surrender of the small Federal garrison defending Brashear City. The Confederates held Brashear City for only a month. Learning that Union gunboats were enroute to Brashear City, General Mouton abandoned

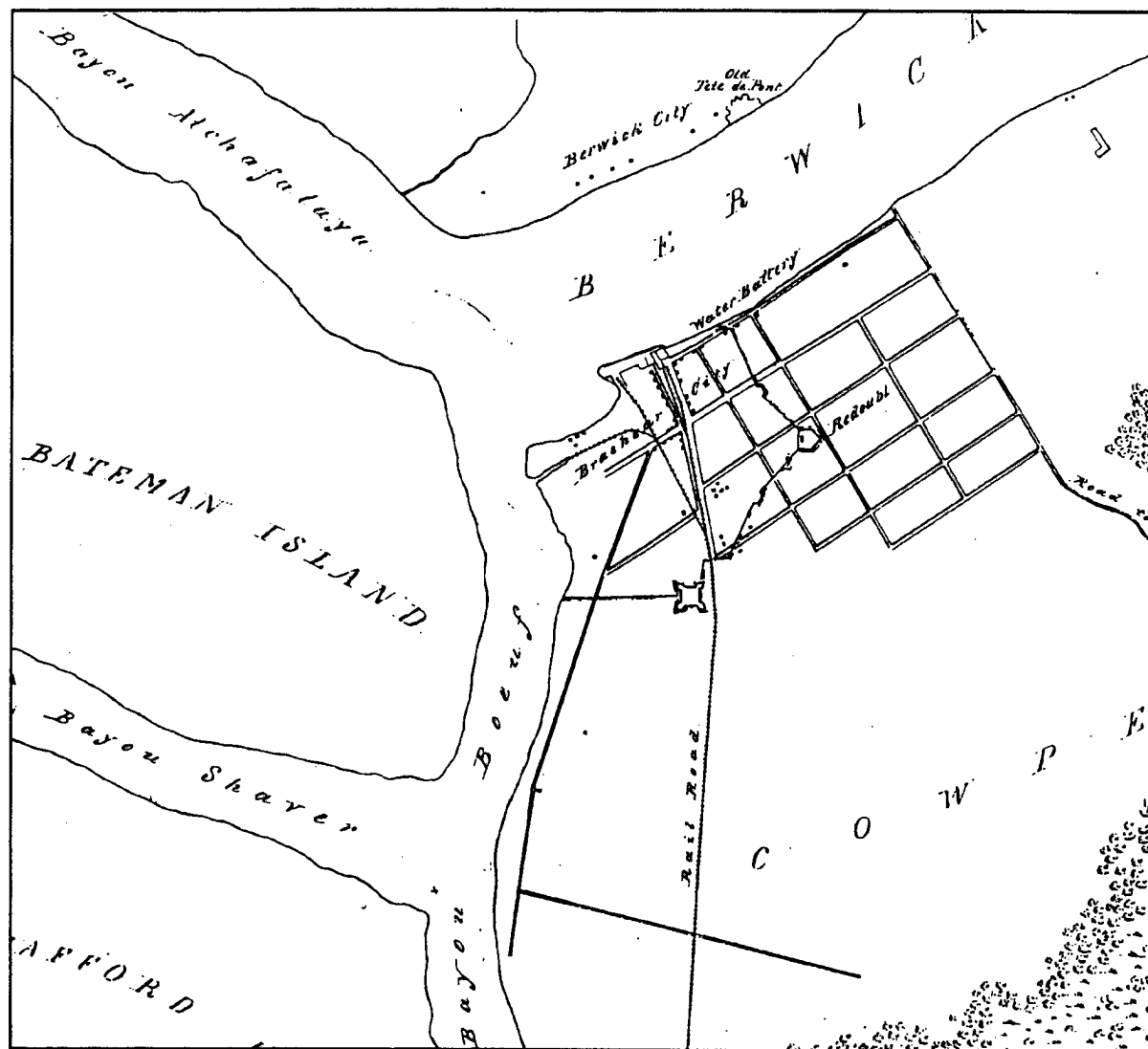


Figure 2-3. Section of Map of Brashear City and Vicinity by Captain P. Harris showing federal fortifications at Brashear City (Harris 1865 in Casey 1983:Pl. 47).

Brashear and pulled back to Franklin and Federal troops transferred by General Weitzel from Donaldsonville reoccupied Brashear City in force on July 25 (Saltus et al. 2000:31).

In October 1863, another Union expedition moved up Bayou Teche from Brashear City, but was stopped near Opelousas by low water levels and forced to withdraw. In March of the following year, Union troops again began to move up the Teche from Brashear City toward Alexandria as part of General Bank's Red River Expedition. This combined Navy and Army venture was stopped by Confederate forces under General Richard Taylor north of Natchitoches, forcing gunboats and land troops back down the Red River. The movement of troops up Bayou Teche as part of the Red River Expedition was the last major military action in the lower Atchafalaya area. Expeditions of gunboats and troop transports into the Atchafalaya Basin continued until the early summer of 1865, partially in an effort to curb "jayhawker" depredations in the region (Maygarden et al. 1997:43-47).

The USS Kinsman at Brashear City, 1862-1863

Acting Master Wiggin seems to have quickly repaired his gunboat at Fort Pike, because he brought the *Kinsman* into Atchafalaya Bay on the evening of October 30 (ORN 1905:326).³ There he joined the *Calhoun* and two other steamers that had joined Captain Buchanan at the mouth of the Mississippi River, the gunboat *Estrella* and the sidewheel transport *St. Mary's*. The USS *Calhoun* was a 508-ton, walking beam sidewheeler that had been captured off the mouth of the Mississippi River as a Confederate gunboat in January 1862. There is some confusion as to the identity of this vessel. Some records indicate that before the Civil War this steamer had been named *Cuba* and had been one of the vessels Charles Morgan operated along the Gulf coast out of New Orleans and Brashear City (Gibbons 1989:122; Silverstone 1989:80). Others indicate that the intended name for the boat when launched in 1851 had been *Cuba*, but it had been changed to *Calhoun* prior to completion (Mitchell 1975:28). Whatever the case, the vessel became the privateer *J.C. Calhoun* in New Orleans in the spring of 1861, but was taken into the Confederate Navy later in the year, becoming the flagship of the Confederate fleet on the lower Mississippi River. After its capture by the Union, the *Calhoun* was armed with two 32-pounders and a single 30-pounder Parrott rifle (Silverstone 1989:81). The *Estrella* was a 438-ton steam propeller merchant steamer that had been captured the previous July attempting to run the blockade. Before leaving for the Atchafalaya, the *Estrella* had been armed with two 32-pounders, two 24-pounders and one 30-pounder Parrott rifle (Silverstone 1989:90).

The Confederate defenders had pulled up all the navigation markers in Atchafalaya Bay and partially blocked the channel and Buchanan's boats had a difficult time getting across the bay to the entrance into the lower Atchafalaya River. Finally, after shifting guns between vessels, he got two of his boats, the *Kinsman* and *Estrella*, to Brashear City, situated on the deep waters of Berwick Bay several miles up the Atchafalaya River. With their arrival in Brashear City on November 1, Thomas Buchanan's gunboats almost immediately became involved in the first of several violent actions with Confederate naval and land forces on the Atchafalaya River and Bayou Teche.

Engagements with the Confederate Gunboat Cotton, November 1862

In a report to Admiral Farragut, Lieutenant Commander Buchanan wrote that he arrived with the *Estrella* and *Kinsman* at Brashear City about 7 o'clock in the evening on November 1 and:

Upon getting off the town I saw a steamer's smoke, which I immediately made for, although I could not fire upon her, as my Parrott gun was spiked, how or by whom I can not discover. I ordered the *Estrella* to open fire, however, and we, a short time afterwards getting our gun clear, opened also; the steamer then rang her bell very loudly, and we heard persons singing out, "Don't fire," which has been corroborated by persons from the shore, when I ordered the *Estrella* to cease firing and also the *Kinsman*, thinking she had surrendered, and for the *Estrella* to run alongside of her and board her, she then being about 1,500 yards distant, but Captain Cooke, mis-understanding the order, fell back, and about the same time the steamer fired a gun, striking the *Kinsman* under the port bow. I immediately opened on her again and still going full speed made for her, but she put up the Atchafalaya River and . . . succeeded in escaping from us by her superior speed. She proved to be the rebel gunboat *Cotton*, ironclad, with, I think the guns casemated and very fast [ORN 1905:327-328].

3. As late as October, official reports and ship's logs use the names "Grey Cloud" and *Kinsman* interchangeably, reflecting how recently the name change had been made and/or the writers' familiarity with the vessel prior to the change in names.

The *Kinsman* seems not to have been seriously damaged by the shot to the bow because Buchanan makes no further mention of it, nor is there any further mention of the "spiked" Parrott gun, which appears to have been a deliberate act of sabotage.

The "rebel gunboat *Cotton*" was a Confederate gunboat made from the 229-ft, sidewheel steamer named *J.A. Cotton*. The *Cotton* was purchased by the Confederates in 1862 and clad, at least partially, with iron (Naval History Division 1971:VI-252). The *Cotton* was commanded by Lieutenant Edward W. Fuller and this meeting off Brashear City was only the first of several engagements this gunboat would fight with Thomas Buchanan and his small fleet. Captain Fuller's account of this first action differs somewhat from that of the Union. In a report to General Mouton, Fuller stated that the shot which struck the *Kinsman* broke many timbers, killing 3 and wounding 5 (ORN 1905:335).

On the night of this first encounter with the *Cotton*, November 1, Lieutenant Commander Buchanan's troop transport *St. Mary's* arrived at Brashear City from the bay. The gunboats *Diana* and *Calhoun* arrived the following day, November 2. Buchanan had hoped to arrive before Confederate troops of General Mouton could cross from Brashear City to Berwick on the western side of the Atchafalaya and make their escape up Bayou Teche, but he was too late. Buchanan decided to steam up Bayou Teche in pursuit of the fleeing Confederate troops and the gunboat *Cotton*. Taking on a load of coal, on November 3 he started his four gunboats up the Teche which enters the Atchafalaya River/Berwick Bay from the west just above Brashear City. Three miles up the Teche, Buchanan met the Confederates. He described the meeting in his report to Admiral Farragut:

. . . three miles from the mouth of the Teche, I found the enemy posted. They had thrown up some earthworks about 2 miles up, which they deserted on our approach, and retreated above a bridge called the Cornay Bridge. I opened on them with my Parrott gun, but carrying away the chocks to which the breeching was secured I was obliged to stop to repair. I sent Captain Cooke ahead with the other two boats, when he soon came in range of the *Cotton*, who was posted above the bridge, and, as we soon found out, they had also the river obstructed. The second or third shot struck the *Estrella* on her port rail, killing 2 soldiers who were working a 24-pounder howitzer and wounding another man and also carrying away the *Estrella's* wheel ropes. The *Estrella* was obliged to run on shore to allow the other boats to pass, the Teche being here very narrow. The *Diana* and *Kinsman* kept on, but the *Diana* having her Parrott guns mounted on an iron carriage got it foul and was obliged to stop. The *Kinsman*, however, kept on up to the bridge; and I would respectfully bring to your notice the conduct of Acting Master George Wiggin, commanding her. He put his ship right up to the battery on shore, which I have since learned consisted of eleven fieldpieces, and within 1,000 yards of the *Cotton*, which was as close as he could get. He drove off the fieldpieces and kept up fire with his rifled gun on the *Cotton*. He received 54 shots through his hull and upper works and had three through his flag. He had one round shot through his shell room and magazine, but fortunately it did no more damage than to destroy eleven shell boxes and to knock the sabots off of the shells. He had 1 man killed and 5 wounded, one of which (his lake pilot) died next day from the effects of amputation [ORN 1905:328].

Lieutenant Commander Buchanan was able to bring his gunboat, *Calhoun*, up to Cornay's (or Corney's) Bridge to relieve the *Kinsman*, which by then was leaking badly. The *Kinsman* dropped back down the Teche, while the *Calhoun* opened its broadside on the *Cotton* for about 20 minutes. Assistant Engineer Baird of the *Calhoun* recorded the fighting in his diary, writing:

It was beautiful to see Buchanan sight the pivot gun, he landed a percussion shell on the *Cotton's* armor which exploded and cleared her deck. Two or three such shot served to drive the *Cotton* up the bayou. . . . The land-batteries did most of the firing on the *Kinsman*, but

when Buchanan sighted a 32-pounder with canister at them they limbered up their guns and left like men in a hurry [ORN 1905:333].

The captain of the *Cotton*, Lieutenant Edward Fuller, reported that he withdrew up the Teche because he had exhausted his supply of cartridges, leaving him no choice but to retreat. However, he noted that "as we slowly backed up we had some sacks made by cutting off the legs from the pantaloons of some of the men, which we filled and returned fire" (ORN 1905:336). Captain Buchanan intended to pursue, but obstructions in the channel prevented this. With night falling, he decided to move his gunboats back down to Brashear City (ORN 1905:328).

The Battle of Cornay's Bridge, as the engagement came to be called, was a ferocious, two hour fight which, in many ways, typified the military engagements of the gunboats on western waters. These gunboats commonly spent many weeks or months with little or no action, on patrol, in port, or being repaired. But, when they became involved in engagements they were commonly intense, violent and dangerous affairs. This was particularly true on small streams like the Teche, where there was little room for maneuvering and the fighting occurred at close quarters.

The Confederate force faced by the Union gunboats was considerable; Lieutenant Commander Buchanan reported to Major General Benjamin Butler on November 5 that the force consisted of between 3,000 and 4,000 men, with 70 field pieces, plus the gunboat *Cotton*. Buchanan reported that the *Cotton* was armed with "one long 32-pounder, four 24-pounders, and two 6-pounder rifle guns" (ORA 1885:184). The gunboats faced heavy artillery fire in addition to rifle fire from the Confederate troops along the banks of Bayou Teche. Buchanan reported that the *Kinsman* bore the brunt of the battle but "the iron casing on the *Kinsman* and *Diana* turned the shot beautifully." However, on the *Kinsman*, at least, this armor protected only the engines and boilers; the decks were open and the men at the guns exposed. Admiral Farragut recognized this shortcoming, reporting on November 14 that "These little vessels [Buchanan's gunboats] require a sheet of boiler iron around them as a protection against musketry" (Naval History Division 1971:II-109). It is not known if Farragut's recommendations were implemented.

Buchanan was anxious to return to battle. He reported to Major General Butler that "we can make all repairs here, and I will have the *Kinsman* ready for service to-morrow" (ORA 1885:184). While in Brashear City, those killed in action were buried. The one man killed on the *Kinsman* during the fight was a soldier of the 21st Indiana and the pilot who had his shattered leg amputated, but died the following day, was identified as John Bellino (ORA 1885:187).

It is interesting to note that Lieutenant Commander Buchanan reports that the *Kinsman* "kept up fire with his rifled gun" (ORA 1885:184-187). It is not known if this represented an addition to the two 32-pounder smooth bores thought to have been on the vessel earlier, or if one, or both, of the 32-pounders had been replaced by a rifled gun. If the latter, the rifled gun was likely to have been a 30-pounder Parrott gun, a common weapon on western gunboats (Tucker 1989:Table 31).

The *Kinsman* remained in Brashear City for several days, apparently, undergoing repairs. However, Commander Buchanan continued action against the *Cotton* with his other gunboats. Confederate accounts indicate that Federal gunboats came up the Teche and fired on the *Cotton* from a distance on November 5 and 6 (ORN 1905:336). On November 7, Buchanan sent Acting Master George Wiggin and the now-repaired *Kinsman* up the Atchafalaya River, where they captured two steamers near Grand Lake. Wiggin considered the two steamers, the *Osprey* and *J.P. Smith*, too decrepit to keep and he burned them. On board

the steamers George Wiggin found and captured a "gang" making "Bowie knives, and molding buckshot and bullets." These prisoners were turned over to the proper authorities (ORN 1905:328).

Buchanan's principal aim was to destroy the *Cotton* which was a threat to any Union movement to the west. He had the *Cotton* trapped; the Union fleet prevented the Rebel gunboat from coming down Bayou Teche and escaping and the bayou was too shallow for it to go farther up. But, after the several heavy engagements he was short of ammunition, particularly for his Parrott guns, and he was apprehensive of taking action until additional shot arrived. While he waited for ammunition, Buchanan sent boats up the Teche every day to observe.

Apparently, sufficient ammunition had arrived by November 12, because on that day the log of the *Calhoun* recorded that "we" went up the Teche and fired on the *Cotton* (ORN 1905:342). No boats are named, so it is unknown if the *Kinsman* was included. However, on the following day the *Kinsman* did accompany the *Calhoun* and the *Estrella* as they steamed up Bayou Teche to engage the Confederate gunboat. The battle lasted for over two hours. The log of the *Calhoun* recorded that "Her [the *Cotton*'s] tactics to-day were to back up the bayou and get us to follow, then rush at us and discharge her four guns (32-smooth) at us; we, on the contrary, tried to keep out of range and pepper her with our rifles" (ORN 1905:342).

The gunboats saw little action during the month of December and Lieutenant Commander Buchanan seems to have continued to have trouble with ammunition. On December 5 he wrote to Admiral Farragut aboard the flagship *Hartford* in the Mississippi River, that fuzes and the shells for the 24-pounder howitzers were defective and dangerous to use (ORN 1905:393). Buchanan did continue to send his gunboats on patrol in the Atchafalaya Basin where several steamers were captured.

On January 1, 1863, the gunboats at Berwick Bay were transferred from the United States Army to the Navy, specifically placing them in the Western Gulf Blockading Squadron. The list of vessels in the Squadron as of January 1, 1863, includes the "Steamer *Kinsman*" commanded by "Acting Volunteer Lieutenant Geo. Wiggin" and stationed at Brashear City (ORN 1905:478). Another list of the vessels in the Squadron, apparently made before the transfer, lists the gunboat as the "Colonel *Kinsman*" and describes it as a "Fourth Rate, side-wheel steamer" (ORN 1905). Information on the numbers of crew and guns is provided for many vessels in this list, but not the *Kinsman*. This listing is thought to have been made before January 1, because later Navy records note that the *Kinsman* was "one of the boats fitted out by General Butler for river service with boilers and machinery protected by iron. Name changed from *Colonel Kinsman*" (ORN 1921:122).

This transfer did not seriously effect the operations of individual boats, because they were already commanded by Navy officers, although crewed by both Navy and Army personnel. This shift in command did, however, have some impact on the overall operations and deployment of the gunboats. Soon after the transfer, Admiral Farragut decided to move some of Buchanan's vessels from the lower Atchafalaya area. In early January he ordered the *Estrella* to duty in Texas (ORN 1905:543). When Brigadier General Weitzel learned of the order to move the *Estrella*, he wrote to Major General Nathaniel Banks in New Orleans protesting the action. He stated that Lieutenant Commander Buchanan needed all of the gunboats at Brashear City to protect and support the Army's activities in the region (ORN 1905:494). Weitzel's arguments worked and Farragut allowed the *Estrella* to stay with Buchanan. However, by January 19 Admiral Farragut was trying to get the *Kinsman* moved to Lake Pontchartrain for duty there (ORN 1905:537). By this time, the *Cotton* had been destroyed and it seemed more reasonable that one of the Atchafalaya gunboats could be spared.

The Second Battle of Cornay's Bridge, January 14, 1862

The *Kinsman*, *Calhoun*, *Estrella* and *Diana* engaged the Confederate steamer *Cotton* for the last time on Wednesday, January 14, 1863. Lieutenant Commander A.P. Cooke, captain of the *Estrella*, made a detailed report of the action (ORN 1905:518-519). This operation against the *Cotton* and the protecting Confederate land troops was a joint Army and Navy affair. On the morning of January 13, infantry, artillery and cavalry units commanded by General Weitzel were carried across the Atchafalaya River; some embarked on the west side at Berwick and others were carried some distance up Bayou Teche. These troops would move up the south side of the bayou. Early on January 14, the gunboat *Diana* carried the Eighth Vermont Regiment to the northern bank of Bayou Teche where they were embarked to move up that side of the bayou. The other gunboats began to move up the Teche, the *Kinsman* in the lead. The *Cotton* was still lying above the partially destroyed Cornay's Bridge, supported by Confederate land batteries and infantry. Lieutenant Commander Cooke wrote:

Firing began about 9, the *Kinsman* and *Estrella* engaging the *Cotton*, and artillery attacking at the same time. When near the obstructions the *Kinsman* was fired into by riflemen from pits on the northern bank. Captain Wiggin engaged them with small arms, his men lying flat on deck, and the vessel receiving the *Cotton's* fire at the same time. Here his executive officer, Mr. A. S. Wiggin was wounded by a Minié ball, and his vessel struck five times by the *Cotton*. The *Estrella* now enfiladed the rifle pits with grape and canister, engaging the *Cotton* also with forward pivot gun. . . . While maneuvering his vessel near the obstructions and endeavoring to get out of range of the rifle pits, Captain Wiggin had a torpedo explode under his stern, which, however, did no serious damage. After this the *Kinsman* had retired from range of the rifle pits and Captain Buchanan advanced to the same position [ORN 1905:518].

The wounded officer, A.S. Wiggin, was the brother of the captain of the *Kinsman*, George Wiggin. Fleet Surgeon, J.M. Foltz, reported that the wound was to the right shoulder and severe (ORN 1905:517). The "torpedo" that exploded under the *Kinsman's* stern was what today would be called a mine. Reports of the damage caused by the torpedo varied. The *New York Times* agreed with Captain Cooke's statements, reporting that "the *Kinsman* felt something explode under her: but fortunately with no damage, as was afterward found" (*New York Times*, January 31, 1863). However, Third Engineer Baird, aboard the *Calhoun*, wrote that "a torpedo exploded under the stern of the *Kinsman*, unshipping her rudder" (ORN 1905:519).

The *Calhoun*, now at the fore of the Union vessels, continued firing on the *Cotton*, ultimately damaging the Rebel gunboat and driving it back up Bayou Teche around noon. The *Cotton's* captain, Edward Fuller, was seriously wounded, shot through both arms (ORN 1905:523). Confederate troops still lined the banks of the Teche and continued firing at the *Calhoun*. Here the fleet commander, Lieutenant Commander Thomas Buchanan was killed; shot through the head with a Minié ball (ORN 1905:517). Two others on the *Calhoun* were killed and 6 were wounded. Soon, the Federal troops on shore were able to drive the Confederate riflemen from their pits, forcing them to retreat up Bayou Teche with the *Cotton*. The Federal gunboats were unable to follow the retreating Confederates because of obstructions in the bayou, but they laid at Cornay's Bridge throughout the night in the event the Rebels made another attack. The next morning (January 15) a large fire could be seen up Bayou Teche and Lieutenant Commander Cooke of the *Estrella* soon learned it was the gunboat *Cotton* being burned by its men. Their mission accomplished, General Weitzel's troops and the gunboats began moving back down Bayou Teche, returning to Berwick Bay. By midnight, the boats had transferred all of the troops across the bay to Brashear City (ORN 1905:519).

Lieutenant Commander A.P. Cooke of the *Estrella* assumed command of the Berwick Bay fleet on the death of Thomas Buchanan. Buchanan was considered an aggressive commander and his death was a serious blow to the Navy. Admiral Farragut wrote to Secretary of the Navy Gideon Welles that Buchanan was "one of our most gallant and persevering young officers" (ORN 1905:515). General Weitzel, also, lamented Buchanan's death, but stated that it resulted from a "rash act in advancing." A.P. Cooke sent Buchanan's body to New Orleans by railroad where, on January 16, 1863, Admiral Farragut issued General Order No. 1, announcing that the funeral of Thomas Buchanan would take place at "10:30 from the ferry wharf, foot of Canal Street" (ORN 1905:522).

On February 14, 1863, *Harper's Weekly* published an illustration of this gunboat engagement which seems to show the point in the battle immediately after the explosion of the torpedo, when the *Kinsman* has dropped back and Lieutenant Commander Buchanan's vessel, *Calhoun*, has moved to the front to take on the *Cotton* (Figure 2-4). Entitled "The Fight at Corney's Bridge, Bayou Teche Louisiana, and Destruction of the Rebel gun-boat 'Cotton,' January 14, 1863," the illustration is a view up Bayou Teche and shows the Confederate gunboat *Cotton* and the three Federal gunboats *Calhoun*, *Estrella* and the *Kinsman* (see Figure 2-4). The short article accompanying the illustration does not specifically identify each vessel, but it does imply that these are the four vessels depicted. The *Diana* was involved in transporting troops and, apparently, did not join the other gunboats until the engagement was nearing its end. The *Cotton* is in the upper portion of the sketch, in the background, apparently flying the "Stars and Bars" of the Confederacy at her stern. Closest to the *Cotton* is the two-decked, former merchant steamer and privateer *Calhoun*, followed by the iron-hulled *Estrella*. Finally, in the foreground is what is believed to be the *Kinsman* with its bow to the right. This represents the only illustration known that can be associated with the *Kinsman* with any degree of reliability and, thus, provides our best source of information on the gunboat's appearance. The *Harper's Weekly* sketch does lack detail, but seems to be relatively accurate in its portrayal of the *Calhoun* and *Estrella*, both of which are known from other illustrations or photographs (Gibbons 1989:122; Stern 1992:134). For example, the *Calhoun* is missing its wooden hog bracing and walking beam, but its deck layout is reasonably accurate as is the sea-going shape of the iron hull of the *Estrella* and its two masts and two, in line or fore-and-aft stacks.

The depiction of the *Kinsman*, also, is short on detail but it is presumed to illustrate the vessel's general appearance as an armored gunboat. Most of the original superstructure of the steamboat has been removed leaving only a central casemate. The casemate surrounds the area of the boilers and other machinery and the paddlewheels and appears to be covered with long, narrow iron plates. The casemate is slanted and, apparently, narrowed at the bow, an obvious effort to deflect shot, and is topped by a flat deck (i.e., the former hurricane deck) that extends a short distance forward and aft of the casemate. This upper deck is accessed by a ladder or gangway at its forward end. The sides of the casemate may be slanted, but this is not apparent in the drawing. No pilot house is shown on the *Kinsman*, suggesting that steering was from within the casemate, meaning that openings must have existed at the casemate's forward end to give the steersman a view. The round stern of the *Kinsman*, a product of the 1859 alterations at New Orleans, is obvious.

A single, central smokestack is shown rising from the extreme forward end of the casemate, forward of the paddlewheels. This depiction is presumed to be accurate, however, as discussed earlier, the typical western river steamer built in the 1850s would have had two stacks and the presence of a single chimney on the *Kinsman* would be very unusual. It seems most reasonable that the boat was originally built with two stacks, but that this was reduced to one when the then *Gray Cloud* was converted during the Third Seminole War for use in the Gulf of Mexico or later during the steamer's alteration to a Union gunboat in New Orleans.

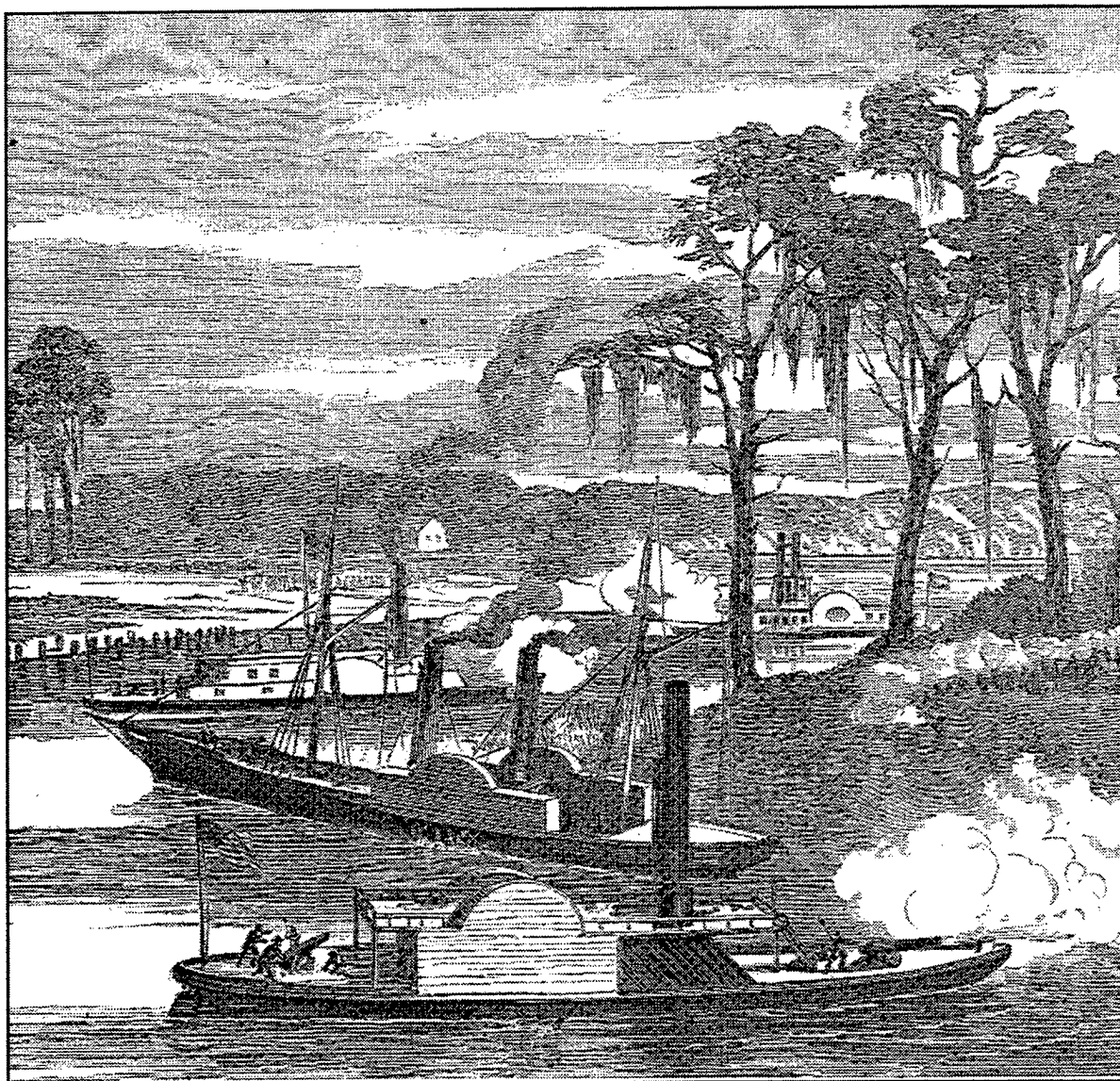


Figure 2-4. *The Fight at Corney's Bridge, Bayou Teche, Louisiana, and Destruction of the Rebel gun-boat 'Cotton,' January 14, 1863, from Harper's Weekly, February 14, 1863. The Kinsman is the vessel in the foreground.*

Two guns are shown on the *Kinsman*, both on the open deck, one at the bow and one at the stern (see Figure 2-4). The forward gun appears to be on a wheeled carriage with a stock extending from the rear while the mounting of the stern gun is difficult to discern. How accurate either portrayal might be is unknown and it is possible that both guns were mounted on naval barbette carriages that allowed them to be rotated through a wide field of fire, perhaps as much as 300° (Gosnell 1949:12). Available records are not explicit as to the identity of the guns mounted on the *Kinsman*. As noted earlier, in the summer of 1862 the guns aboard are described only as “32-pounders” while during earlier engagements with the *Cotton* the *Kinsman* is reported as firing its “rifled gun.” The total lack of protection for the gun crews on the forward and aft decks is apparent and handling the guns in the face of fire from the *Cotton* and artillery pieces on land, as well as close rifle fire from Confederate troops on the banks of the bayou, must have been almost suicidal. Admiral Farragut’s earlier suggestion to install

boiler iron on Buchanan's gunboats to protect the crews "against musketry" seems not to have been heeded in the case of the *Kinsman* (Naval History Division 1971:II-109).

Saltus et al. (2000:52-53) suggest that another image of what may be the *Kinsman* is found in an illustration entitled "Brashear City, Berwick's Bay, LA., Base of General Banks's Operations," published in *Harper's Weekly* on May 9, 1863 (Figure 2-5). The view in this illustration is looking east from the Berwick side of Berwick Bay toward Brashear City on the other side. In the background is the terminal of the New Orleans, Opelousas, and Great Western Railroad on the Brashear City waterfront. Three Federal gunboats are depicted and they are identified by the artist, F.H. Schell, in the short article accompanying the illustration (*Harper's Weekly*, May 9, 1863:299). To the left is the large, walking beam steamer *Calhoun*, the flagship of the fleet. Schell's drawing contains much greater detail than the illustration presented as Figure 2-4 and presents a very accurate portrayal of the *Calhoun* as it is known from contemporary drawings (Gibbons 1989:122). The accuracy of the rendition of the *Calhoun*, as well as the Brashear City railroad terminal, would suggest that the illustrations of the two other vessels are equally precise. At the right of Figure 2-5 is a steamer identified by the artist as the iron-hulled *Estrella*, appearing very similar to her depiction in the Cornay's Bridge illustration. The sharp, peaked bow and bowsprit, the two masts and the two, fore-and-aft smoke stacks are evident in both drawings. In the center of Figure 2-5 is a small, casemated sidewheel steamer that F.H. Schell specifically identifies as the gunboat *Diana* (*Harper's Weekly*, May 9, 1863:299). Saltus et al. (2000:53) suggested that this vessel might actually be the *Kinsman* because of its close resemblance to the identified image in the Cornay's Bridge illustration. This vessel is very similar to the *Kinsman* as shown in Figure 2-4, but there are some minor differences. For example, although the casemate is low and is slanted at the bow, it is certainly longer and extends much farther forward of the paddlewheels than does the casemate of the *Kinsman* as it is depicted in Figure 2-4. Also, the gunboat shown in Figure 2-5 seems to lack the extensions of the boiler deck that are so obvious on the *Kinsman*. Additionally, the smoke stack (or smoke stacks) on the gunboat in Figure 2-5 is positioned some distance aft of the front of the casemate, while Figure 2-4 shows the stack on the *Kinsman* at the very forward end of the casemate. Also, the gunboat shown in Figure 2-5 lacks the two deck guns shown on the *Kinsman* in Figure 2-4 and, considering the detail shown elsewhere in the drawing, it seems these guns would have been depicted if they existed. Openings can be seen in the side of the casemate of the vessel in Figure 2-5, although it is unknown if these represent gunports. No such openings are shown on the *Kinsman* in Figure 2-4.

Misidentifications sometimes do occur in Civil War-era newspaper illustrations and, while this could be the case here, there are enough differences between the *Kinsman* shown in Figure 2-4 and the vessel identified as the *Diana* in Figure 2-5 to suggest that F.H. Schell was correct in his identification. The detail with which Schell depicted the other two gunboats, the *Calhoun* and *Estrella*, would imply that his drawing of the other vessel was equally precise. Unfortunately, few descriptions and no other contemporary illustrations of the *Diana* have been found which could add detail to the vessel as it was drawn by Schell. It is known that the *Diana* was a 165-ft-long sidewheel packet steamer, about the same size as the 177-ft *Kinsman*, which had been converted into an armored gunboat by General Benjamin Butler at New Orleans (Naval History Division 1972:VI220-221; Raphael 1993). The fact that both boats had been converted by General Butler could be a reason for the similarity in the design of their casemates. Raphael (1993), in a study of the gunboat *Diana*, presents a drawing of the vessel showing it to be very similar to the one depicted by Schell at Brashear City, but with two stacks. Raphael's rendition apparently relies on Schell's illustration, which is obviously unclear as to the number of smokestacks on the boat.

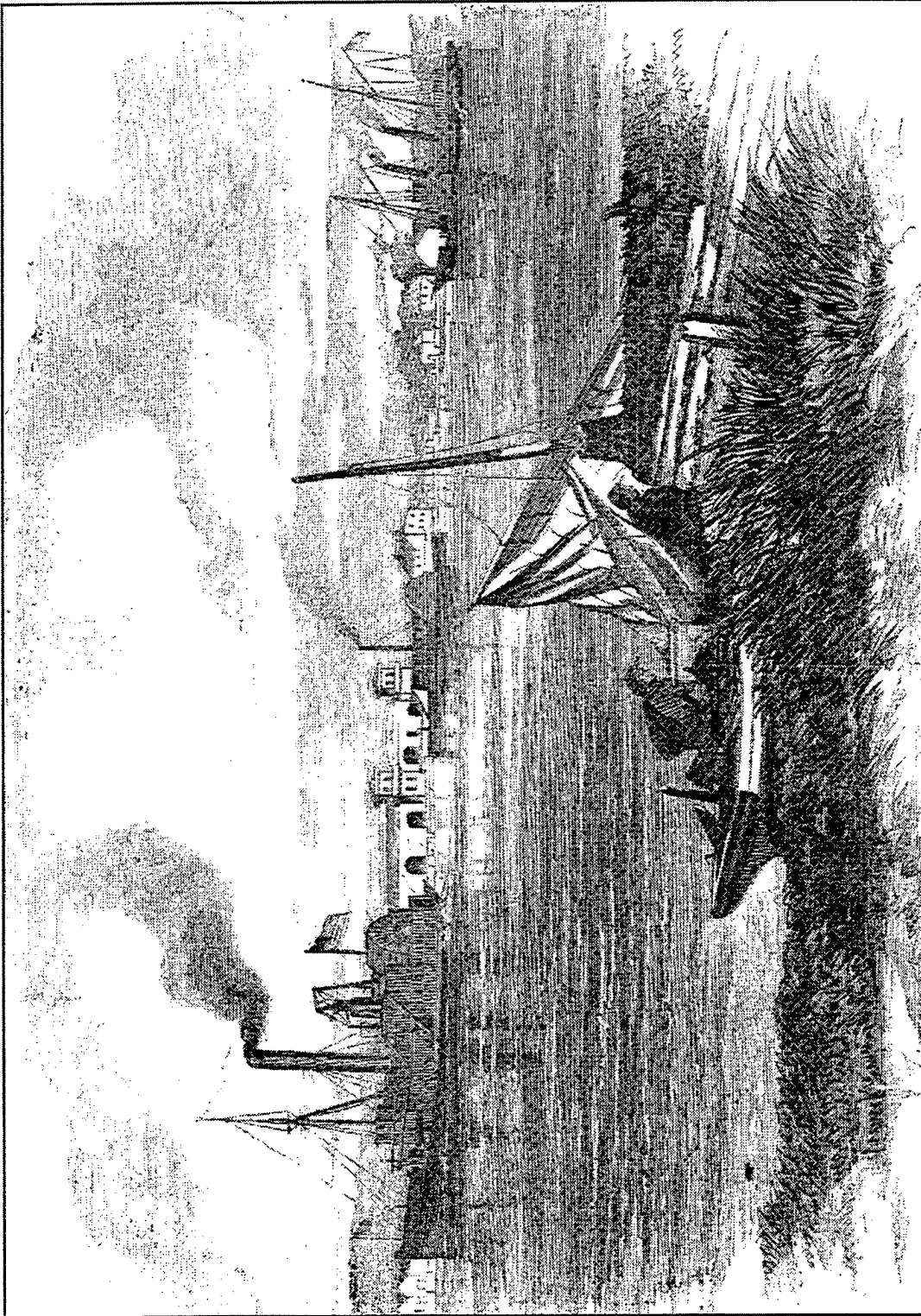


Figure 2-5. *Brashear City*, *Berwick's Bay, L.A.*, *Base of General Banks's Operations*, from *Harper's Weekly*, May 9, 1863. The vessel shown in the rear center in front of the railroad terminal at *Brashear City* is probably the *Diana*, which closely resembled the *Kinsman*.

The *Diana* was captured by Confederate forces on Grand Lake in the Atchafalaya Basin in late March 1863. At the time of her capture, Confederate General Richard Taylor stated the gunboat "mounted five heavy guns" (ORN 1906:113). Relying on Schell's illustration, it is presumed that the guns were mounted within the *Diana*'s casemate, suggesting the reason it was so much longer than the *Kinsman*'s whose guns were mounted on the open deck outside of the casemate. After her capture, the *Diana* was taken to Bayou Teche to support Confederate troops and in April the boat was burned by the crew to prevent her from falling back into Union hands (Naval History Division 1972:VI-221).

The battle of January 14, 1862, referred to as the Second Battle of Cornay's Bridge or the Battle of the *Cotton* to distinguish it from the earlier engagement at the bridge, removed the most serious threat the Confederacy had in the region, the gunboat *Cotton*. Admiral Farragut obviously believed that the gunboats on the lower Atchafalaya had accomplished their primary task because on January 17 he wrote Lieutenant Commander Cooke asking if the *Estrella* could be transferred to Lake Pontchartrain and on the 27th he wrote "I hope the *Kinsman* is repaired and ready to proceed around to Lake Pontchartrain" where he wanted gunboats to stop illegal trade being conducted by Southern supporters and sympathizers (ORN 1905:537, 585). Apparently, either Cooke or his superiors dissuaded Admiral Farragut, because neither gunboat was moved from Brashear City. The "steamer *Kinsman*" appears in a February 1, 1863, list of vessels in the Western Gulf Blockading Squadron, stationed at "Brashear City" under the command of "Act. Vol. Lt. Geo. Wiggin" (ORN 1905:595).

In early February 1863, the *Kinsman* was used in a reconnaissance-in-force to the Confederate stronghold at Butte-à-la-Rose in the central Atchafalaya Basin. The gunboats *Diana* and *Kinsman* ascended the Atchafalaya River from Brashear City to within one mile of Fort Burton. The *Diane* had too deep a draft to get closer to the fort, but the *Kinsman*, only "drawing 4 feet" was able to proceed up the Little Atchafalaya River toward Fort Burton until Confederate sharpshooters forced it to turn around. Attempting to steam down Upper Grand River to Indian Village on Bayou Plaquemine, the *Diana* and the *Kinsman* were stopped by impenetrable rafts of driftwood, and were forced to return to Brashear City the way they came (ORA 1886:240-243, 244; ORN 1905:611-612, 618).

Loss of the USS Kinsman, February 23, 1863

The USS *Kinsman* was lost on February 23, 1863, in Berwick Bay while transporting troops for picket duty. Details of the loss of the gunboat are provided in the report of the *Kinsman*'s captain, Lieutenant George Wiggin, submitted to the gunboat fleet commander, Lieutenant Commander A.P. Cooke. Wiggin wrote:

I received last night a detachment of the One hundred and fourteenth New York Volunteers on board, to accompany me on picket duty, and started for the fort at about 9:30 p.m. When within 100 yards of the fort, about 60 feet from shore, the engines being stopped, the steamer struck a snag, apparently floating, on her starboard bow, about 15 feet from the stem. The snag then passed on and struck the starboard wheel very heavily. We went ahead as usual, and made fast to shore, when it was reported to me by the watch below that the vessel was filling. I went below immediately and examined the leak; found the water rushing in very rapidly, the floor being covered some six inches in depth. I then ordered the engineer to start the bilge pumps and get up the greatest amount of steam that could be carried with safety. I had the line cut, backed out, and steamed down the bay for the flat below the wharf, in order to save my men and battery, if the water should rise too fast. When opposite the wharf, the water was reported to be rising very fast, and I hailed the steamers *Diana*, *Estrella*, and *Calhoun*, requesting boats and men to be sent to our assistance.

In the meantime I had organized my crew into pumping and bailing parties, and they were all steadily at work. Heading inshore, we ran aground with a full head of steam, thereby raising her bows about 2 feet out of the water. The carpenter and his gang tried in vain to stop the leak. I ordered the powder kegs and magazine to be brought on deck in order to keep them dry. Then I let go my anchors and ran a line from her quarters to the shore, at the same time sending troops on shore. In a few minutes afterwards her stern began to settle, causing her to slide down the steep bank, where she finally sank, and at twenty minutes past midnight every vestige of her had disappeared.

The officers and crew were picked up by the boats of the *Estrella*, *Calhoun*, and *Diana*, neither officers nor men having the least chance to save any of their effects. I am sorry to have to report the following of my men missing:

John Berry, ship's cook; Patk. McGoun, fireman; John Kirby, fireman; Isaac Deer, coal heaver, colored; William Parker, coal heaver, colored.

I also enclose the surgeon's report to me. Early this morning I went in a small boat to examine the bayou and recover what property I might, and succeeded in picking up 6 barrels of powder, with a few pieces of sailor's clothing and bedding [ORN 1905:624-625].

Another report of the loss was made by J.G. Oltmanns, identified as an "Assistant," in the U.S. Coast Survey who was aboard the *Kinsman*. Oltmanns reported:

Between 7 and 8 o'clock p.m. a detail of the One hundred and fourteenth New York Volunteers came on board the steamer to accompany us on picket during the night. The soldiers were stationed on the quarter and hurricane decks. At about 9:30 p.m. the steamer started up the river under, as far as I could learn, about 50 pounds of steam. When nearly up to our station, 1 1/2 miles from this place, just below the fort and about 20 yards from shore, while sitting in Captain Wiggin's cabin, I felt a log or snag striking the steamer on her starboard side, forward of the wheelhouse, and immediately afterwards I heard and felt the wheel striking very hard against this log. Going forward, I heard it reported that the vessel was fast filling. Captain Wiggin gave his orders very coolly and deliberately, no idea of danger entering our minds. Upon his request I went forward and found from 7 to 8 inches of water in the hold. The steam pumps had been started before this time, and all hands not engaged elsewhere were bailing the vessel with buckets. At this time, about fifteen minutes after the vessel struck, it was reported two or three times that we were gaining on the water. Captain Wiggin then turned the steamer, and we started back down the river, under the greatest possible pressure of steam, in order to reach the flat below the wharves here, run the steamer ashore, and thus save the lives of all our crew, and also the heavy guns on board. The magazine was ordered to be opened and the powder to be put on deck, if the water should rise to it. When we passed the wharves the water was reported to gain fast and the vessel sinking. Captain Wiggin hailed the *Calhoun* and the *Estrella*, requesting boats to be sent to our assistance. In the meantime he ran the *Kinsman*, with full steam, head on shore till her bows grounded in three feet of water and no bottom with a 15-foot pole under her stern. A line was ordered to be brought out from her starboard quarter to haul her broadside to the bank, but before this could be accomplished, the steamer filled and slid backward from the bank and sunk in about 18 fathoms of water at twenty-five minutes past midnight. The steamer *Calhoun*, as soon as she could get up steam, came up and rendered, with the boats of the *Estrella*, *Diana*, and *Calhoun*, all the assistance possible in saving the crew and soldiers, who otherwise must have perished [ORN 1905:625-626].

When Admiral Farragut forwarded the two reports to Gideon Welles, Secretary of the Navy, he noted that the gunboat "sank in 50 feet of water at or near Brashear City" (ORN

1905:625]. Wiggin reported that the *Kinsman* slid off a "steep Bank" and that "every vestige" of the gunboat disappeared, while J.G. Oltmanns noted that when the boat was nosed against the bank there was over 15 ft of water at the stern and, further, that the vessel sank in "about 18 fathoms" of water. Some have suggested that Oltmanns' "18 fathoms" is a mistake or a later misprint for "8 fathoms," but, as is discussed later, this may not be so. Details on the presumed location and depth of the wreck of the *Kinsman* are thoroughly discussed in the following chapter, but the reports of observers of the sinking all agree that the boat sank in deep water. This is supported by Lieutenant Wiggin's report that he was able to salvage only a few items, all apparently floating in the river, on the morning following the sinking, plus the fact that there are no reports that any attempts were ever made to raise or salvage the gunboat. The *Kinsman* was extremely valuable and if there had been any hope of salvaging the boat, an effort would have been made.

The loss of the *Kinsman* was considered a serious blow to Federal strength in the Atchafalaya Basin. General Nathaniel Banks had few shallow-draft gunboats capable of operating in Basin waters, and he was anxiously awaiting the arrival of more. The importance of the *Kinsman* is reflected in Banks' report to Major-General H.W. Halleck in Washington on February 28, 1863, stating: "My dispatch... will have informed you of the embarrassing loss of the gunboat Kinsman, equal in effect to the destruction of two battalions" (ORA 1887:1106).

With the sinking of their gunboat, the crew and officers of the *Kinsman* were ordered to New Orleans. The crewmen were reassigned among other vessels in the Squadron and Lieutenant George Wiggin was placed in command of the USS *Tennessee*, a large sidewheel steamer captured at New Orleans when the city fell in April 1862 (ORN 1905:626; vol. 20:250). The story of the USS *Kinsman* was over. During its 9-year career, the vessel served as a commercial river packet, a United States Quartermaster steamer in military actions against the Sioux Indians in the west and the Seminole Indians in Florida, as a private coastal trader, as a Confederate transport, and as a United States Army and United States Navy armed gunboat during the Civil War. As the gunboat USS *Kinsman* the vessel had fought bravely in several ferocious engagements against Confederate forces. The loss of the *Gray Cloud/Kinsman* to a common river snag, seems an ignoble end to a vessel with such a varied and distinguished career.

CHAPTER 3

THE PROBABLE LOCATION OF THE WRECK OF THE *KINSMAN*: A REVIEW OF THE EVIDENCE

Introduction

This chapter presents a discussion of the various data available which can be used to identify the probable location of the wreck of the gunboat *Kinsman*. This includes an assessment of the historical accounts of the loss of the vessel in light of what they say about the sinking of the *Kinsman*. In addition to the historical evidence, the natural setting of the area where the vessel likely sank is examined. This examination attempts to characterize this setting as it was in February 1863 and identify those changes that have occurred since that time. The information used in this characterization of natural setting and changes draws extensively from Saltus et al. (2000) and includes discussions of water depth and flow, bankline changes, sandbar development, etc. Finally, the results of the various remote-sensing surveys reported by Saltus et al. (2000) are reviewed in light of the evidence they provide concerning the probable location of the remains of the *Kinsman*. All of these discussions rely heavily upon contemporary and historic cartographic sources.

The Historical Evidence and the Location of the Kinsman

The historical evidence relating to the loss of the gunboat *Kinsman* is found principally in the two official reports made at the time of the sinking that are included in the *Official Records of the Union and Confederate Navies During the War of the Rebellion*. One of these reports was made by Acting Volunteer Lieutenant George Wiggin, the commander of the *Kinsman*, and the other by J.G. Oltmanns, identified as an "Assistant," in the United States Coast Survey. Both reports have been presented in the previous chapter and are used here in an effort to identify the location of the sinking.

The two reports indicate that on the night of February 23, 1863, the *Kinsman* was being used to transport a detachment of the One Hundred Fourteenth New York Volunteers "up the river" to a "fort" where they would be used for picket duty. Neither report states specifically where the voyage started from nor do they name the fort that was the steamer's destination. However, the omission of naming a starting point would suggest that the vessel left from its most common point of departure. This would have been the wharves and docks in Brashear City which were located near or in front of the railroad depot in the city. Figure 3-1 presents an 1863 map of Brashear City made by the U.S. Army Engineer Department. The map was made the same year the *Kinsman* was lost such that the features shown are essentially what they were when the gunboat sank. The docks used by the Federal vessels were located near the "R.R. Depot" shown on the eastern shore of Berwick Bay at the end of the New Orleans, Opelousas and Great Western Railroad track. Also, the One Hundred Fourteenth New York Volunteers were encamped with other Federal troops in the near vicinity of the

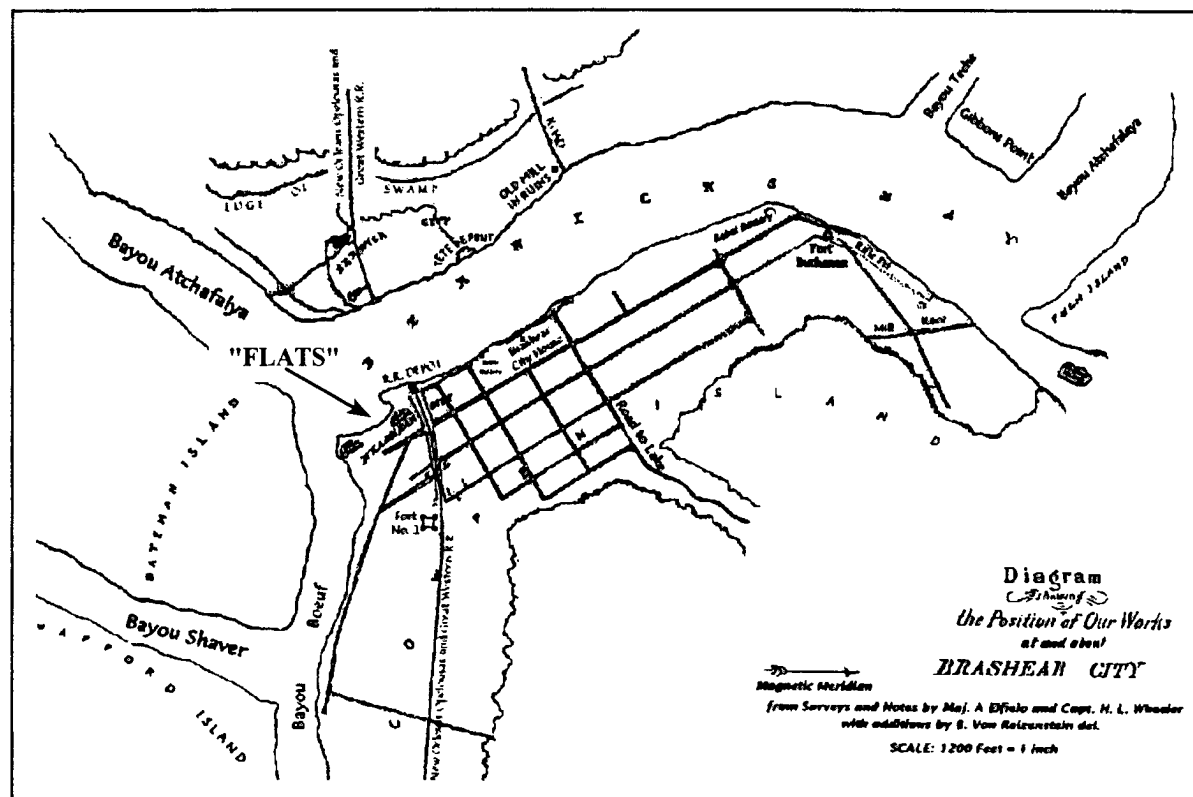


Figure 3-1. A U.S. Army Engineer Department map of 1863 showing United States positions and works at Brashear City. The area known as the "flats" is shown. (U.S. Army Engineer Department 1863).

Railroad Depot, a location where they could conveniently be loaded onto steamers and gunboats as necessary. This encampment area had been protected by a defensive line that incorporated two earthwork forts, Fort Brashear (also known as Fort Star and Fort No. 1) near the railroad tracks and a redoubt situated at the northern corner of the defensive line, plus a water battery on Berwick Bay (see Figure 2-3).

The "fort" that was the destination of the *Kinsman* is not named in either report, but it was almost certainly "Fort Buchanan" shown in Figure 3-1. This fort was located about 1.5 miles above the docks at Brashear City, the distance indicated by J.G. Oltmanns in his report. This fortification was positioned to control the mouth of Bayou Teche, located just across Berwick Bay, as well as the entrance to the Atchafalaya River ("Bayou Atchafalaya" in Figure 3-1) located just a few hundred yards north of the mouth of the Teche. The fortification was named Fort Buchanan in honor of Lieutenant Thomas M. Buchanan who had been killed in the engagement against the Confederate gunboat *Cotton* on January 14.

Captain Wiggin and J.G. Oltmanns were both on board the *Kinsman* when the gunboat struck a snag just below Fort Buchanan. The gunboat proceeded to shore and made fast to the bank. Captain Wiggin started pumping with the steam pumps and the crew even began to bail with buckets. However, the vessel began to fill rapidly with water and Captain Wiggin cut the line to shore and began to steam back down river hoping to "save my men and battery" (ORN 1905:623). Oltmanns reported that Wiggin hoped "to reach the flat below the wharves" and run the gunboat ashore. Below the wharf, Captain Wiggin ran the boat ashore "with a full

head of steam" pushing the bow about two feet out of the water. He then dropped an anchor and ran a line ashore from the starboard quarter while sending the men from the One Hundred Fourteenth Volunteers ashore. Oltmanns stated that the boat ran ashore in three feet of water and "no bottom with a 15-foot pole under her stern" (ORN 1905:626). The intent seems to have been to use the line run from the starboard quarter to pull the stern of the boat in, bringing the vessel broadside against the bank. But before this could be done "the vessel filled and slid backwards from the bank" and sank out of site about twenty minutes after midnight (ORN 1905:624, 626). The rapidity with which the boat filled with water suggests that the puncture produced by the snag was large. Also, the steepness of the bank, indicated by more than 15 ft of water at the stern after the vessel's bow was run up on the bank, certainly allowed the boat to rapidly slide off.

Both reports stress that the boat was run aground on the "flats" below the wharves. As noted, the wharves were located at the railroad depot. No account has been found that specifically identifies the "flats," but they are almost certainly located at the indented shoreline shown just above the entrance to Bayou Boeuf in the 1863 map presented as Figure 3-1. The map suggests that this cove-like area was inundated. Saltus et al. (2000:Figure 11), also, identified, this location as the probable spot that the *Kinsman* was run aground in the effort to save her. This indented area is so deep and its upriver (northern) bank is so concave that it appears to be artificial (see Figures 3-1 and 2-3). The point of land forming the upriver or northern end of the cove-like area seems too "sharp" to be natural in view of the current of the Atchafalaya River that would tend to erode and remove this type of projection. It is suspected that the projecting point of land is primarily the result of fill and extension of the shoreline in the area of the Railroad Depot and wharves when these facilities were constructed. Extension of the bank in this area could produce the indentation in the shoreline just downstream of the construction, plus it would exaggerate any natural indentation in the shoreline that might have existed.

Unfortunately, no maps contemporary with the loss of the *Kinsman* have been located that show water depths in the vicinity of the identified "flats." However, an 1890 U.S. Coast and Geodetic Survey map of the area does show a sandbar or shoal on the northern side of the juncture of Bayou Boeuf with Berwick Bay (Figure 3-2). This map, also, shows a slight indentation of the shoreline below the railroad tracks, but it is not nearly as exaggerated or as deep as in the 1863 map. This cove area was partially raised with fill after the Civil War, when Morgan's Louisiana and Texas Railroad undertook improvements of their railroad and port facilities, extending a railroad spur through part of the former area of the "flats" (Saltus et al. 2000:21). The area had been largely filled by 1890; but the presence of the shoal suggests that shallow water had previously existed in the entire indented area. In fact, the projection of land believed to have been formed by the construction of railroad terminal and docking facilities might have produced an eddy on its downstream side, resulting in sedimentation and filling of the indented area and the production of the sandbar/shoal. While none of these presumptions can be proven because of a lack of data, they do seem reasonable and suggest that the "flats" where Captain Wiggin attempted to run his gunboat ashore was the area of indented bankline just above the entrance of Bayou Boeuf. Saltus et al (2000) arrived at this same conclusion and Figure 3-3 presents their reconstruction of the route of the *Kinsman*'s last voyage.

A comparison of the 1863 map shown as Figure 3-1 with the modern topographic quadrangle for the Berwick Bay area shows that the indented bankline area has been entirely filled, extending the shoreline below the railroad bridge even beyond that shown in the 1890 map. Between 1963 and 1966, wharf bulkheads were constructed that stretched approximately 800 ft north and 1250 ft east of the point of juncture of Berwick Bay and Bayou Boeuf, resulting in more filling of the old "flats" area (Saltus et al. 2000). Within the past year, this bankline has been extended several feet further into Berwick Bay and Bayou Boeuf and has been bulkheaded in conjunction with the construction of a new industrial facility at this

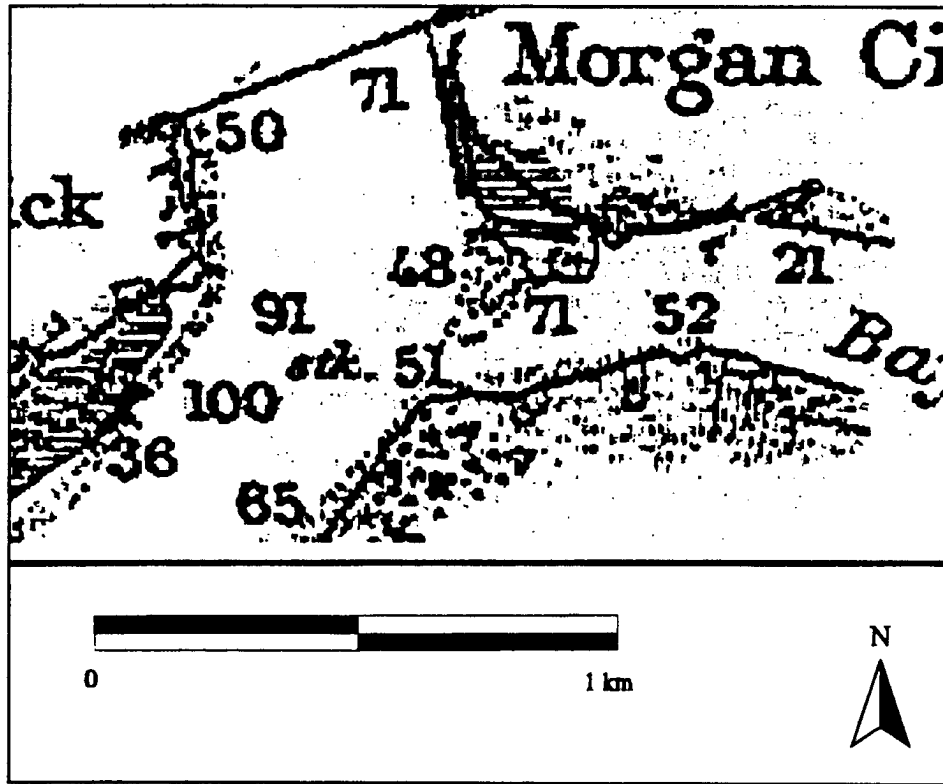


Figure 3-2. Excerpt from 1890 U.S. Coast and Geodetic Survey map showing water depths at the junction of Berwick Bay and Bayou Boeuf (Saltus et al. 2000:Figure 5).

location. Therefore, Point C on the Saltus et al. map, showing the location where the *Kinsman* was run aground on the flats is believed to be slightly misplaced. It should be moved slightly to the east, to an area that is now filled, as shown in Figure 3-4.

Both of the contemporary accounts report that the *Kinsman* slide off the bank into deep water, sinking quickly. Even though the area was known as the “flats,” the bottom where the boat ran aground sloped rather steeply. J.G. Oltmanns’ account indicates that there was more than 15 ft of water at the stern of the boat, which could have been no more than 170 ft or so offshore and Captain Wiggin stated that the bank was “steep” (ORN 1905:623-626). This means that while the boat’s bow was run onto the flats, its stern was located out in the river, in fairly deep water. And, in fact, the Atchafalaya River at Berwick Bay is extremely deep. The 1890 USCGS map, for instance, shows that there was 48 ft of water just above the entrance to Bayou Boeuf, in the area just off what is believed to be the “flats” (see Figure 3-2). This map, also, shows depths of 91 and 100 ft near the center of Berwick Bay opposite the entrance to Bayou Boeuf, and 51 ft at the southern side of the entrance to Bayou Boeuf, just below the sandbar extending from the “flats.” The depths of Berwick Bay at this location in 1863 are unknown, but they were probably not very different from those in 1890. Thus, a boat sliding off the bank of the flats and sinking rapidly would very likely have sunk into water that was at least 50 ft or so deep. J.G. Oltmanns reports that the gunboat sank in “18 fathoms” of water. This might be a mistake in the original handwritten report or a later misprinting for “8” fathoms, or 48 ft, the approximate depth just off the “flats.” However, Oltmanns may actually have meant 18 fathoms, representing 108 ft, given the fact that the depths near the center and

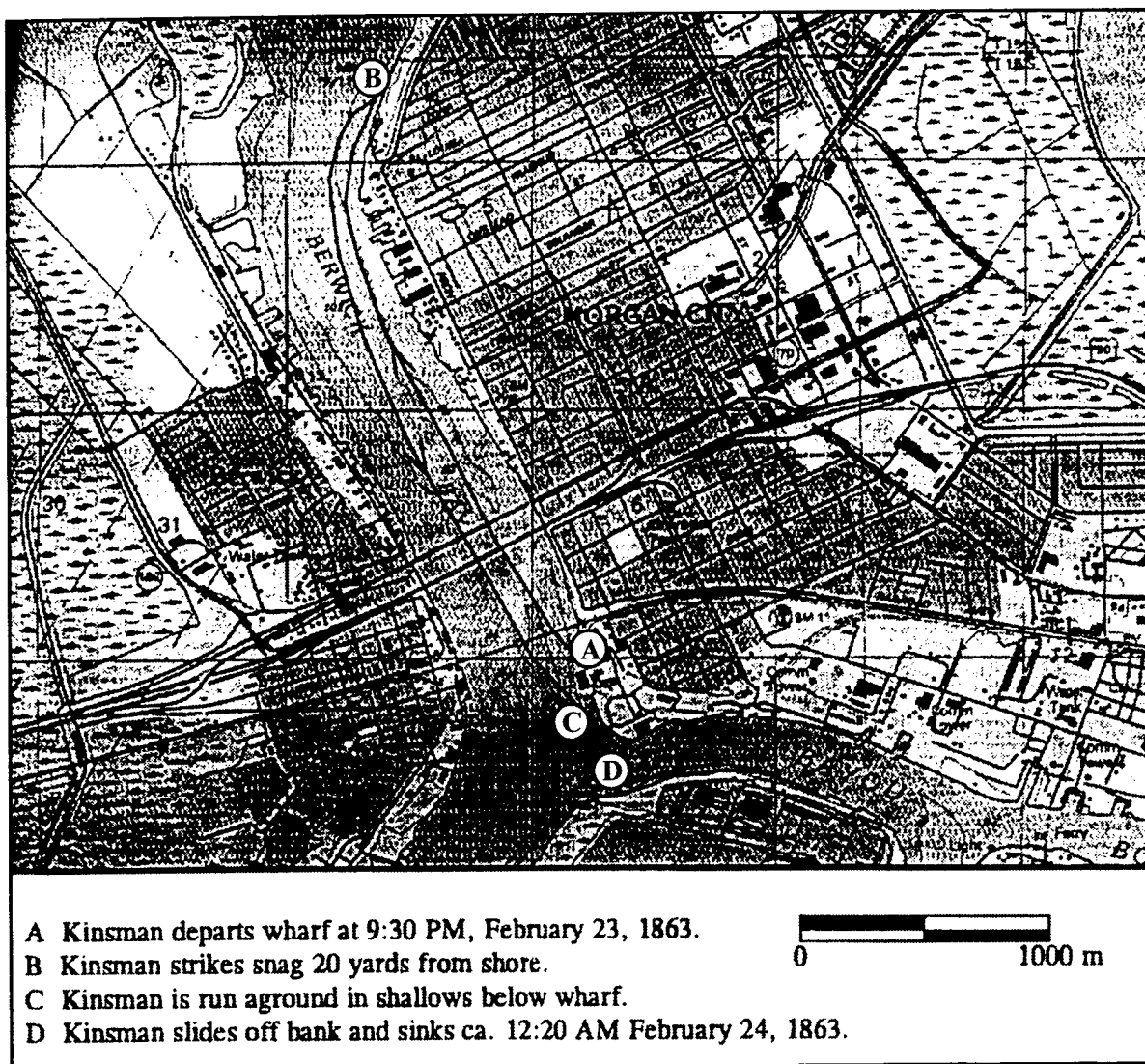


Figure 3-3. The approximate route of the *Kinsman*'s last voyage as presented in Saltus et al. (2000:Figure 11).

western side of Berwick Bay off and just downstream of the "flats" is believed to have been on the order of 100 ft. As a member of the United States Coast Survey, Oltmanns was probably familiar with the water depths in Berwick Bay.

Filled with water and carrying several tons of metal in the form of iron armor and two guns, the *Kinsman* would have sunk quickly, as the eyewitness reports state, sliding to a depth of 50 ft or more. The current in Berwick Bay would have had some influence on the final resting place of the *Kinsman*, but the specific nature of this influence can only be guessed at. Freshwater discharge in the Atchafalaya River (and thus through Berwick Bay) is today very considerable, because of the amount of water coming from the Mississippi River, combined with that from the Red River. However, this discharge is believed to have been much lower during the first three-quarters of the nineteenth century when much of the Red's flow went into the Mississippi and when the head of the Atchafalaya was blocked by extensive log rafts (Fisk

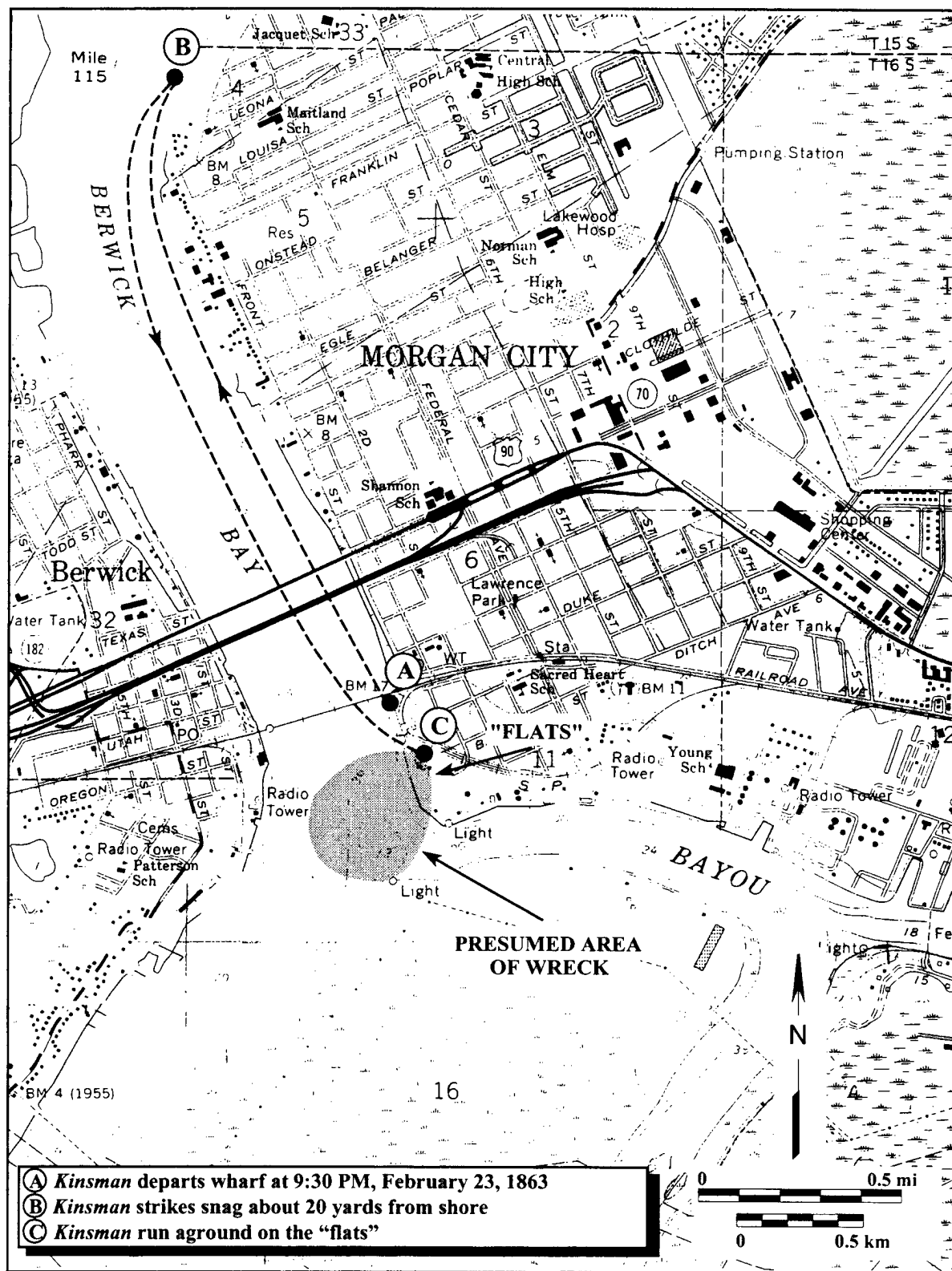


Figure 3-4. The estimated route of the *Kinsman's* last voyage and the area where the wreck is believed most likely to rest.

1952). Freshwater discharge through the Atchafalaya Basin began to increase in the 1860s when clearing of the log rafts at the head of the Atchafalaya began. This flow increased steadily after the early 1880s until the 1960s when the flow became artificially regulated by the Old River Control Structure constructed at the juncture of the Atchafalaya, Red and Mississippi rivers (Saltus et al. 2000:14). Therefore, the speed of the current through Berwick Bay in 1863 was dependent upon rainfall conditions in the Atchafalaya Basin and, to a lesser extent, in the Red River and the central and upper Mississippi River drainage areas. These conditions for February 1863 are unknown, but it is assumed that the river current at Berwick Bay was somewhat less than the typical February currents of today, principally because of the lesser amounts of Mississippi River and Red River water then flowing into the Atchafalaya system.

The distance that this river flow might have carried the hulk of the *Kinsman* downstream is of particular concern. There are no good models to draw from which would indicate precisely how a sunken vessel like the *Kinsman* would be affected by river currents. However, experience from other vessels lost in fairly rapidly flowing rivers suggests that the movement is likely to have been minimal. For example, the hulls of two large steamboats, the United States gunboat *Eastport*, and the sidewheel steamer *Ed. F. Dix*, both of which sank in the main channel of the Red River above Alexandria, Louisiana, have not moved at all since their loss in 1864 and 1865 (Pearson and Birchett 1999). Similarly, the majority of the hull of the Confederate gunboat *Arrow*, scuttled on the often fast-flowing West Pearl River, still lies where it went down in 1862 (Pearson and Saltus 1996). In these instances, the upper works of all three steamers have been removed and dispersed by currents, but the solidly built hulls and heavy metal pieces remain at the point of sinking. Numerous other archaeological examples exist which demonstrate that major segments of vessels lost in fast flowing rivers commonly remain at or near where they originally sank and, often, become partially or totally buried by sediment. It is impossible to state positively that the *Kinsman* has not been moved far from its original resting place, particularly because the boat may have slid into very deep water, a setting where the interplay between current and vessel remains are not well known. However, given what is known about other wrecks, it seems reasonable to assume that a significant portion of the *Kinsman* could have survived intact, at or very near the point where it came to rest after its slide down the bank, despite the strong seasonal currents in the Atchafalaya River. Specifically, the hull is likely to have retained much of its integrity. The upper works of the boat and the side paddlewheels might have broken off and been shifted downstream by current or, over time, broken up and dispersed. However, it is very unlikely that the heavy iron paddlewheel shafts, the armor plating, the guns and other heavy machinery pieces would have been moved very far at all, even if they were broken loose from the hull. Figure 3-4 delineates the area where the remains of the *Kinsman* are believed most likely to rest based on the historical accounts and assumptions about the impacts of river current on the wreck. Of critical importance is that the remains of the *Kinsman* are going to be fairly deep, probably greater than 40 or 50 ft below the river's surface.

Natural Setting and the Location of the Kinsman

The natural setting into which the *Kinsman* sank in 1863, and the changes that have occurred since then are important considerations in trying to identify the probable location of the wreck. The historical evidence, as reviewed above, indicates that the boat sank into deep water just off of the "flats," an area of relatively shallow water and/or with relatively low banks located below the Railroad Depot and wharves of Brashear City. Some aspects of the natural setting into which the gunboat sank have been noted above; e.g., the vessel sank in relatively deep water at a time when it is believed that current flow was moderate. Since the sinking, some changes in the physiography of the area have changed. As noted, the former area of the "flats" has been filled and the bankline in this area has been extended to the west into Berwick Bay and to the south into Bayou Boeuf. Saltus et al. (2000), using a series of historic and modern maps, have plotted these bankline changes, as well as those occurring on the north

shore of Bateman Island. They note that in contrast to the dramatic changes which have occurred in the area of the "flats," the shoreline along the northern end of Bateman Island (i.e., along the southern side of the project area) has changed very little.

While the shoreline of Bateman Island has changed little since 1863, the shoal conditions at the entrance to Bayou Boeuf, including portions of the project area, have changed substantially. The 1890, USCGS map shown as Figure 3-2, provides the earliest detailed information on the hydrology of the project area. As noted earlier, this map shows a shoal or sandbar extending from the bank on the Morgan City side over half way across the entrance of Bayou Boeuf. The channel into Bayou Boeuf seems to have run close to the north shore of Bateman Island and the 1890 map shows a depth of 51 ft in this channel at the southern tip of the shoal (see Figure 3-2). This 51-ft designation appears to be positioned within the project area, just off of the present navigation light (see Figure 1-1). In their study, Saltus et al. (2000:20) show that by the mid-twentieth century, the shoal had shifted to the southern, or Bateman Island side, of the entrance to Bayou Boeuf. They hypothesize that the construction of the Intercoastal Waterway and the Bayou Boeuf Lock, beginning in the 1940s, affected the hydrology of the area, resulting in the development or extension of the shoal to the southern side of the channel (Saltus et al. 2000:20). The shoal area and the entrance to Bayou Boeuf progressively shallowed after the 1940s. By 1966, the shoal had clearly shifted to the southern side of the channel and where the water had been 51 ft deep in 1890 it was only 12 ft deep. By 1987, the entire mouth of Bayou Boeuf had shallowed and the deepest section, near the center of the channel, was only 22 ft deep (Figure 3-5). The area immediately off of the "flats," also, has shallowed. For a distance of 200 ft or so off of the flats, the water was less than 14 ft deep, an area which reportedly had 48 ft of water in 1890. Opposite the entrance to Bayou Boeuf, near the center of Berwick Bay and toward its western side, the water was still fairly deep in 1987, measuring over 50 ft in places. While deep, these depths are much shallower than those shown in 1890.

As part of their study, Saltus et al. (2000) conducted a fathometer survey of the area around the entrance of Bayou Boeuf. Their data shows a bathymetry similar to that seen in 1987. A shoal area extends out from the northern bank of Bateman Island in the area of the navigation light. A shoal with water depths of less than 25 ft extends for several hundred feet north and northwest of the area of the light, encompassing much of the present project area. However, a relatively deep channel, up to 40 ft deep, begins at the downstream edge of the shoal and extends down river fairly close to the shore of Bateman Island. This deep area no doubt represents the old channel leading out of Bayou Boeuf. Formerly it extended eastward, close to the northern shore of Bateman Island, as revealed in the 1890 hydrography shown in Figure 3-2. Within most of the project area, this old channel is now buried.

The development of shoals and the shallowing of the water in the area off of the flats and in the entrance to Bayou Boeuf has important implications for this study. As noted earlier, all of the available historical evidence indicates that the *Kinsman* sank in water that was on the order of 50 ft or more deep. Further, it is believed that the gunboat did not move very far down river after it sank, plus, it is highly unlikely that the boat was moved into shallower water by river currents. Therefore, as shown in Figure 3-4, the wreck could rest anywhere off of and just downstream of the flats where the water was greater than 50 ft deep in 1863. This could include portions of the project area which are now only 20 to 25 ft deep because of the development of the shoal subsequent to the sinking of the gunboat.

The Results of the Saltus et al. Survey and the Location of the Kinsman

The remote-sensing survey reported in Saltus et al. (2000) was conducted in 1998. That survey recorded a large number of magnetic anomalies in the area of the mouth of Bayou

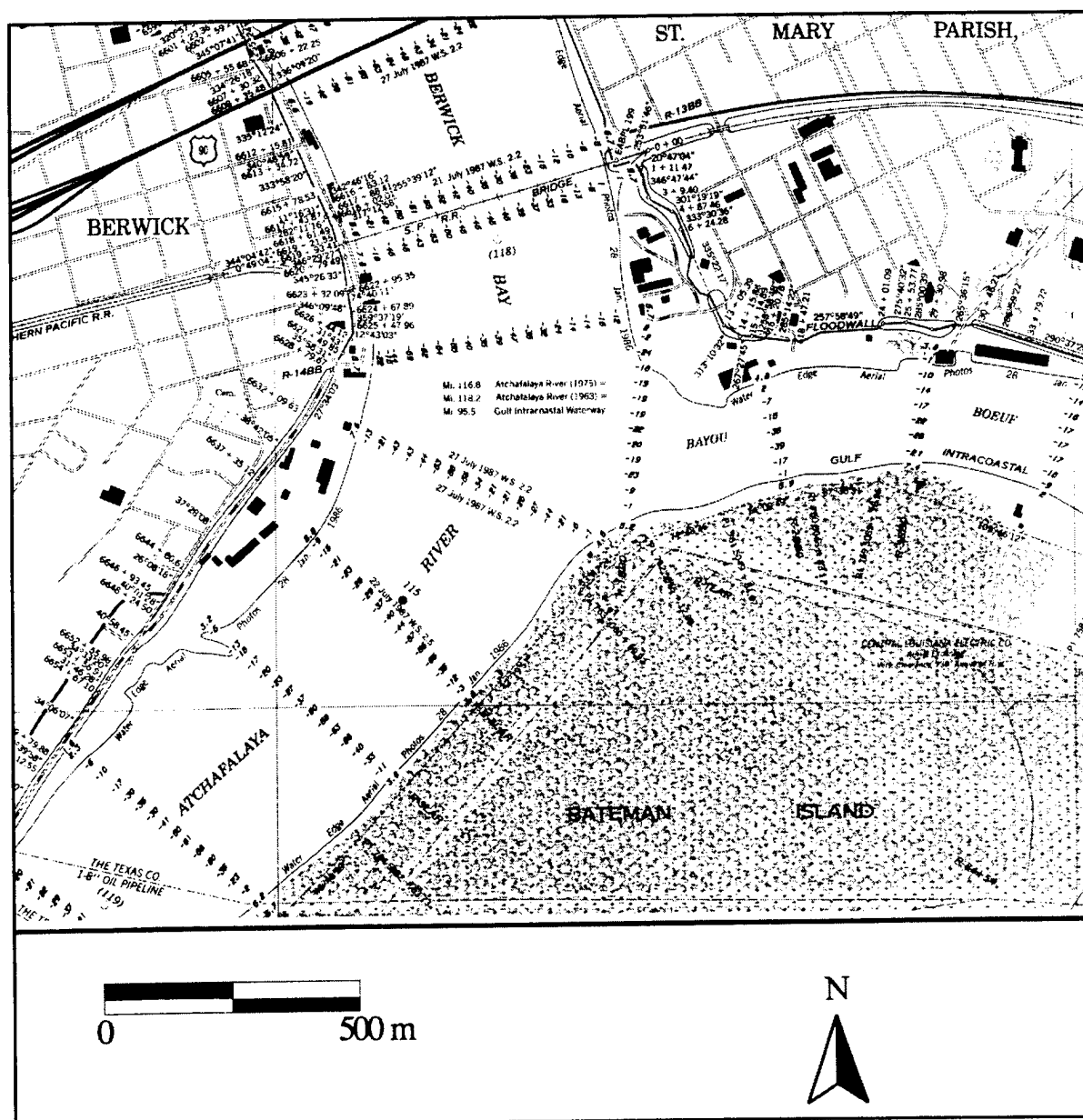


Figure 3-5. Water depths in the vicinity of the project area in 1987, derived from the 1986-1988, *Hydrographic Survey of the Atchafalaya River* (Saltus et al. 2000:Figure 9).

Boeuf and for some distance to the southwest down Berwick Bay. Figure 3-6 shows the results of that magnetic survey as presented in the Earth Search report (Saltus et al. 2000:Figure 19). As shown in this figure, the entire area surveyed contained numerous magnetic anomalies and displayed a great deal of magnetic "noise." This is not too surprising in light of the considerable amount of boat and ship traffic that has passed and continues to pass through the area, plus the nature of activities along the shoreline. For example, the steep

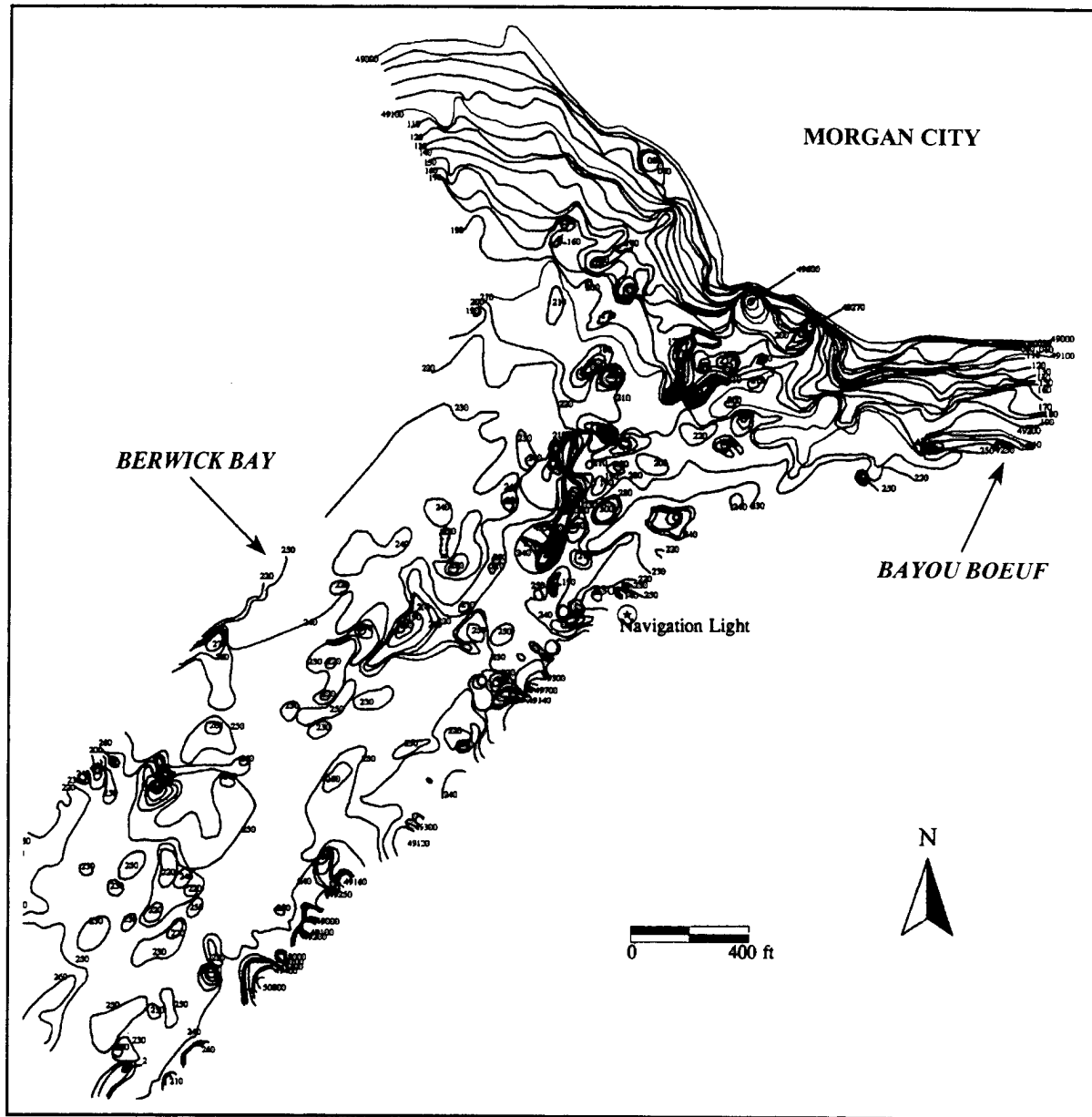


Figure 3-6. Magnetic contour map of the Berwick Bay/Bayou Boeuf junction derived from the 1998 remote-sensing survey reported in Saltus et al. (2000:Figure 19). (10-gamma contour interval)

magnetic gradient seen along the northern edge of the surveyed area results, principally, from a metal bulkhead and other bankline structures located at this northern juncture of Bayou Boeuf with Berwick Bay. The scatter of smaller magnetic anomalies along the shore of Bateman Island below the Navigation Light are rather typical of those seen in other areas where modern boat and barge traffic is heavy and where modern metallic debris becomes concentrated. In fact, local informants reported that in the past this shore of Bateman Island served as an anchoring point for derelict barges and other vessels. Today, barges still commonly anchor or tie up along this bank. There is no doubt that over the years, debris accidentally lost or purposefully thrown overboard from these vessels has accumulated here and pieces of iron

cable, iron bars, spikes etc., can be seen along the bankline. Additionally, previous Corps of Engineers dredging activity might have resulted in the loss of material in this area. Saltus et al. (2000:87-88) report that Al Mistrot, captain of the dredge used by the New Orleans District at this location, stated that several times in the past he had encountered a section of dredge pipe near the bank about 500 ft below the Navigation Light.

Somewhat different from these scattered and relatively small magnetic anomalies, however, are several larger and more complex magnetic signatures located immediately north of the Navigation Light and in the center of the entrance to Bayou Boeuf (see Figure 3-6). These were the magnetic anomalies identified in Saltus et al. as those most likely to represent the remains of the *Kinsman*. Figure 3-7 shows the area of these magnetic targets and the Anomaly Numbers assigned to them. Several of these identified anomalies share many of the characteristics associated with the magnetic signatures of known historic shipwrecks. This is particularly true of Anomaly Numbers 7 and 10. Both show what are commonly termed "complex" magnetic signatures; ones containing multiple magnetic highs and lows, plus they cover relatively large areas. Saltus et al. (2000:83) argue that Anomaly 7 was most likely to represent the remains of the *Kinsman*. This complex magnetic signature displayed an intensity of 350 gammas and covered an area of 450 by 350 ft. Additionally, fathometer, side-scan sonar and multibeam surveys of the area showed bottom irregularities in the area of Anomaly 7. Saltus et al. (2000:83) report that the river bottom in the area of Anomaly 7 contained a "depressed area" measuring about 20 ft by 80 ft and "two parallel lines converging at the eastern end." It was argued that these parallel lines might represent parts of the hull of the *Kinsman*.

With the data available, Saltus et al. (2000:90) could not be certain that Anomaly 7 was the wreck of the *Kinsman*, but they suggested that it was a possibility. They, also, suggested that the nearby targets, Anomaly Numbers 6, 8, 9, 10, 11, and 17, might represent scattered debris from the *Kinsman*, deposited when the gunboat "broke up while sinking into the channel" (Saltus et al. 2000:88). All seven of the targets were at locations where water depths were between 20 and 28 ft. Only two of the targets, Anomalies 6 and 7, were associated with any bottom features on side-scan or multibeam records, suggesting that the sources for these anomalies were either exposed on the river bottom or only very shallowly buried. The depth of burial of the sources for the other 5 targets could not be determined.

The overall interpretation of the magnetic data presented by Saltus et al. seems reasonable in terms of which magnetic signatures most closely resemble historic vessel remains. The possible cultural features identified on the side-scan sonar and multibeam records, however, are not so apparent. Most critically, however, is that in their interpretation of the remote-sensing data Saltus et al. (2000) do not seem to have fully taken into account the known circumstances of the sinking of the *Kinsman* nor the changes that have occurred to the natural setting of the area since the sinking. As discussed earlier, all of the available evidence indicates that the *Kinsman* sank in relatively deep water, certainly in water that was greater than 45 or 50 ft deep. This fact is reported in available eyewitness accounts and it is substantiated by the limited data extant on the hydrology of the project area during the nineteenth century. The sandbar covering the area where all seven targets of interest are located seems to have developed within the present century, long after the loss of the *Kinsman*. Prior to 1890, the water depths in this area appears to have been on the order of 50 ft, but today the surface of this sandbar is at a depth of only 20 to 25 ft. Thus, if the *Kinsman* sank in this area, which is believed possible as indicated in Figure 3-4, the wreck should now be covered by 25 to 30 ft of sediment.

As noted earlier, there is a good possibility that a significant portion of the *Kinsman*'s structure could have survived intact, specifically the hull, and these remains will lie near the spot where the boat originally came to rest. Extremely heavy items, such as paddlewheel

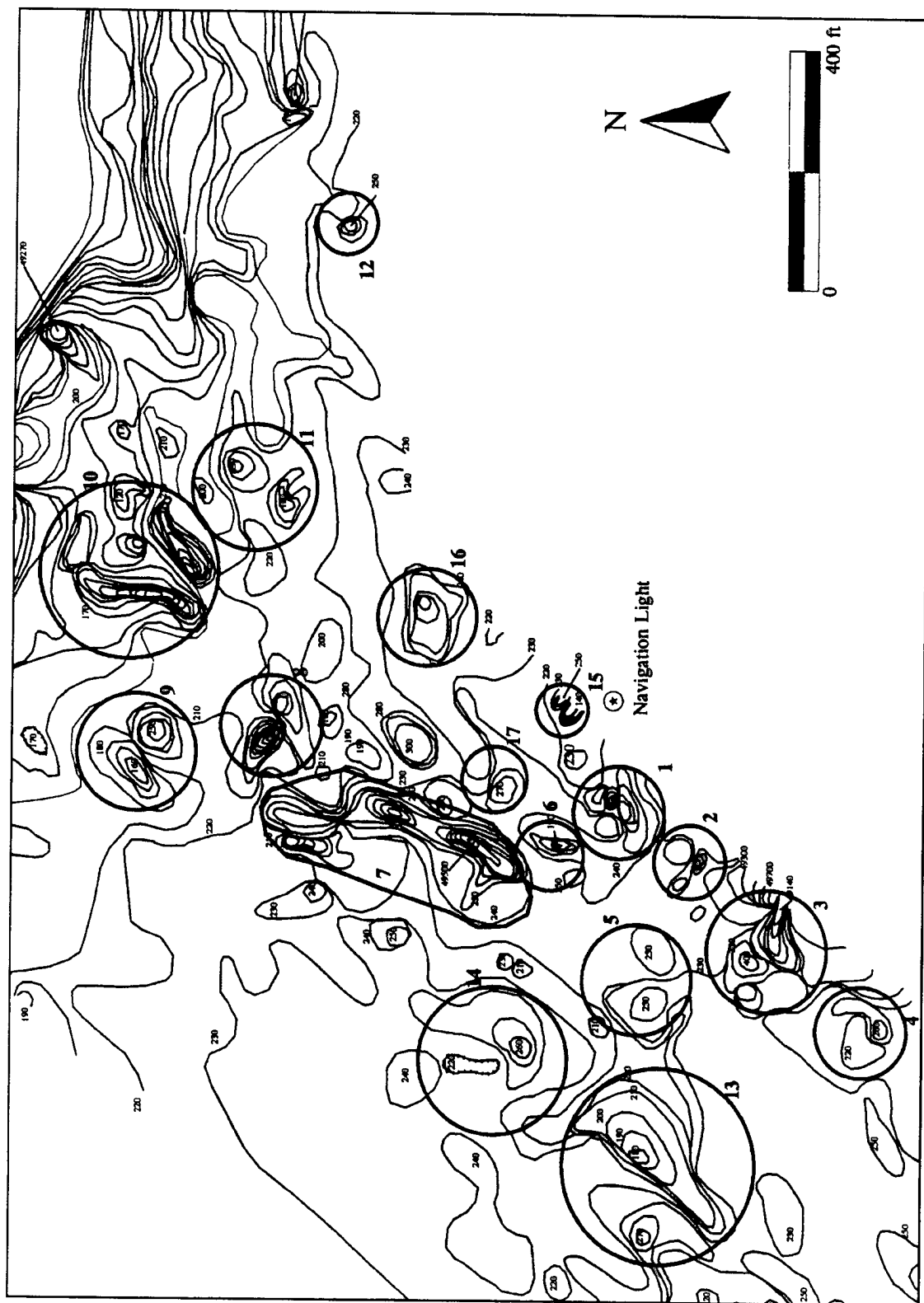


Figure 3-7. Magnetic contour map showing the Anomaly Numbers assigned by Saltus et al. (2000:Figure 20) to anomalies in the vicinity of the present project area (10-gamma contour interval).

shafts, the two guns known to have been aboard, armor and some machinery, are very unlikely to have been moved far from the point of sinking. It is extremely improbable that any of these heavy remains could have been moved upward into shallower water; they will lie at the original depth of sinking, or, possibly deeper, dependent upon the circumstances of bottom scouring in the area of the wreck. Therefore, it would appear that the features identified as possible boat remains in Saltus et al. (2000) on multibeam and side-scan records are much too shallow to be associated with the *Kinsman*. The seven magnetic anomalies thought most likely to be associated with the remains of the *Kinsman* could very well be, but, if so, the sources for these magnetics are now deeply buried.

The Account of Mike Davis and the Location of the Kinsman

The 1998 remote-sensing survey and search for the *Kinsman* by the Young-Sanders Center was largely stimulated by the accounts of local sports diver Mike Davis. As has been discussed, in 1990 Mr. Davis reported to personnel at the New Orleans District, U.S. Army Corps of Engineers, that he had found artifacts and structural remains that he believed were related to the wreck of the *Kinsman* in the bottom of Berwick Bay near the entrance to Bayou Boeuf (Person and Saltus 1991:73). Personnel from Coastal Environments, Inc., who were involved in another project in the area, were asked by the New Orleans District to meet with Mr. Davis and discuss his discoveries. Mr. Davis told the CEI personnel (Charles Pearson and Allen Saltus, Jr.) that while SCUBA diving just offshore of the navigation light located on Twenty Grand Point at the north end of Bateman Island he discovered and followed a "trail" of minié balls to a wooden structure that he believed represented the remains of a boat (Mike Davis, personal communication to Charles Pearson and Allen Saltus 1990). This wooden structure was partially buried, but the exposed portion consisted of parallel planks forming a flat surface which might have been the deck of a vessel. Mr. Davis reported that this piece of structure lay in less than 35 ft of water approximately 150 ft or so directly offshore and north of the navigation light. He discovered another similar piece of wooden structure a short distance away and somewhat down river of the navigation light (Pearson and Saltus 1991:73).

The CEI personnel, Pearson and Saltus, were never shown the artifacts recovered by Mr. Davis and his report of "following a trail" of Minié balls to the wreck location in zero visibility water sounded somewhat spurious, but his descriptions of the two pieces of wooden structure seemed reasonable for boat remains. At the request of the New Orleans District, Pearson and Saltus conducted a brief remote-sensing survey of the area of the structural remains as identified by Mr. Davis. The survey utilized a magnetometer and fathometer with a Loran unit for positioning. The area covered by this survey measured about 2500 ft long by 500 ft wide, encompassing the locations of both pieces of wooden structure indicated by Mike Davis. Within this area a cluster of 6 magnetic anomalies were recorded. Pearson and Saltus (1991:73-74) indicated that two of these anomalies displayed magnetic characteristics of known shipwrecks. One of these, located about 400 ft due north of the navigation, consisted of a "complex, 40-gamma dipole" while the other, located about 450 ft down river of the light consisted of a "complex, 60-gamma dipole" (Pearson and Saltus 1991:73). Both anomalies were located in over 30 ft of water. Pearson and Saltus (1991:74) concluded that:

The size and intensity of these magnetic signatures suggests fairly large objects, very possibly the two pieces of probable boat structure found by Mr. Davis. Additionally, the anomaly located about 450 ft downriver of the navigation light is in the vicinity of [a] significant bathymetric rise on the bottom which suggests the presence of a buried object. The magnetics, coupled with presence of the bottom feature, could very well indicate the existence of a shipwreck, but whether this is the U.S.S. *Kinsman* is impossible to determine with the available data.

The 1990 examination of the location identified by Mike Davis involved minimal background research. The survey was conducted specifically to verify Mr. Davis' account of finding boat remains and no effort was made to review the history of the *Kinsman* or the events of its sinking, nor was the present or past bathymetry of the location examined. The interpretations and conclusions provided by Pearson and Saltus (1991) relied almost entirely on the accounts of Mr. Davis. In light of all of the information presented earlier concerning the known circumstances of the *Kinsman's* sinking and the area's bathymetric history, it is obvious that Mr. Davis could not have found the remains of the gunboat exposed on the bottom at the depth he indicated. Also, it is impossible that he could have found a "trail" of minie balls on top of the sandbar north of the Navigation Light; this surface is simply too young to contain items lost during the Civil War. Numerous attempts have been made by the present authors to contact Mr. Davis to discuss and clarify his claims, however, all of these efforts have been unsuccessful.

CHAPTER 4

FIELD INVESTIGATIONS

Introduction

The field investigations for this study involved target relocation, diver investigation and hydraulic probing to locate the source of the magnetics for seven of the targets recorded in the Earth Search study. The Earth Search study had identified seventeen magnetic anomalies along the eastern side of Berwick Bay near the entrance to Bayou Boeuf and argued that seven of these anomalies or targets might represent the remains of the *Kinsman* (Saltus et al. 2000:90-91). They recommended that divers investigate these anomalies to ascertain their identity. The Scope of Work provided by the New Orleans District requested "a physical examination/dive to determine the nature/type, age, and significance" of each of these seven targets and, if historic watercraft were discovered, they were to be "examined and recorded in sufficient detail so a determination can be made regarding vessel type, dimension, age and condition" (New Orleans District, U.S. Army Corps of Engineers 1999). The targets to be examined were Anomaly Numbers 6, 7, 8, 9, 10, 11, and 17 as shown in Figure 3-7.

The examination of these seven targets was conducted between November 30 and December 12, 1999. The first two days of work involved relocating and marking Anomaly 7, considered to be the target most likely to represent the principal remains of the *Kinsman*, and conducting a fathometer survey over the entire project area to ascertain if any bottom changes had occurred since the 1998 survey discussed in the Earth Search report (Saltus et al. 2000). The field crew for this phase of work consisted of Charles E. Pearson and Allen R. Saltus, plus two employees of G&N Services, Tom McDonald and Leroy Wasburn, who provided the survey boat, differential GPS positioning equipment and fathometer.

Anomaly 7 exhibits a large, complex magnetic signature covering an area of approximately 350 by 450 ft and produced a maximum magnetic deflection of 350 gammas. This anomaly is generally linear in shape and contains five distinctive magnetic "foci" as identified by Saltus et al. (2000:83). Because of the size of Anomaly 7, it was decided to consider each of these foci as an individual target for the purposes of investigation. The state plane coordinates provided in Saltus et al. (2000:83) were used to plot the positions of these foci in Figure 4-1. As it turned out, only four of the coordinates provided in Saltus et al. fall within the bounds of Anomaly 7. The coordinates for the foci designated Target 7-4 almost exactly match those of Anomaly 17 and it is apparent that the coordinates presented in the report contain an error. As can be seen in Figure 4-1, these Anomaly 7 foci tend to fall about half way between the high and low of a magnetic dipole, the position where the source object for the dipole will normally be found.

Figure 4-1 presents a simplified version of the magnetic data presented in Figure 3-7, and some explanation of these data are considered necessary. An effort was made to use every other contour line provided in the 10-gamma interval magnetic map produced by Saltus et al. Thus, the map provided as Figure 4-1 does, in general, present contoured magnetic data in 20-gamma intervals. However, some of the contour lines in the Saltus et al. are difficult to follow;

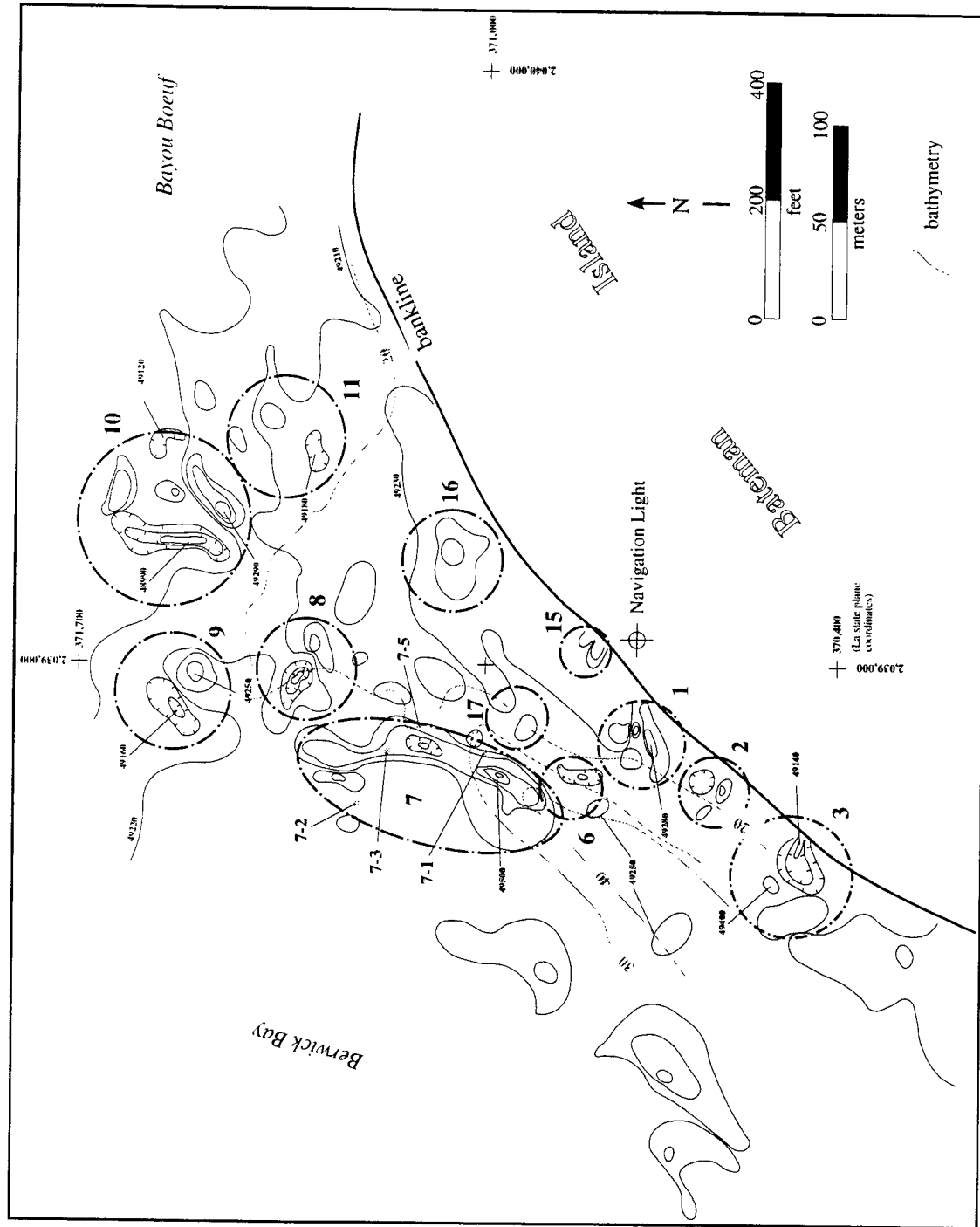


Figure 4-1. Magnetic contour map of the targets (anomalies) in the project area. Contour interval = 20 gammas (after Saltus et al. 2000:Figure 20).

they either cross adjacent lines or are impossible to distinguish from adjacent lines. In addition, many of the contour lines are unlabeled and it is particularly difficult to determine the exact magnetic readings of the maximum magnetic highs and lows for many of the numbered Anomalies. These difficulties are partially related to the magnetic complexity of the project area. In spite of these problems, the contour map presented in Figure 4-1 does convey the same magnetic information provided in Saltus et al., only at a greater contour interval. Key contour lines are labeled in gammas and where the information was available or could be gleaned from the Saltus et al. data, the maximum and minimum magnetic readings of numbered Anomalies are provided.

For the preliminary examination of the project area, a buoy was placed at the location of Target 7-1 (see Figure 4-1) and was used as a point of reference for conducting the fathometer survey. The systematic fathometer survey involved running a series of 16 survey lines oriented roughly parallel to the bankline. Lines were spaced 25 ft apart and covered all of the project area. A differential GPS system was used for positioning during the survey. The fathometer data collected generally matched what had been gathered during earlier surveys. These data are presented in Figure 4-1. As can be seen, the river bottom in the northeastern half of the project area (containing Anomalies 8, 9, 10, and 11) is relative flat and ranges from 20 to about 25 ft deep. This flat, 20-ft-deep feature represents the shoal or sandbar that has developed at the entrance to Bayou Boeuf in the last century or so. Toward the southwestern end of the project area is seen a relatively deep and narrow "trough." Reaching depths of between 40 and 45 ft, this trough represents the bed of the former channel of Bayou Boeuf leading into Berwick Bay. This deep trough extends to the southwest for some unknown distance, plus it is believed to extend northeastward through the project area into Bayou Boeuf, but in most of the project area it is now filled and buried by the sediments of the recently developed shoal/sandbar as noted above. Anomalies 6 and 17, and part of Anomaly 7, lie at the upper end of the unfilled river bed, along the western periphery of the shoal.

The fathometer survey conducted on November 30 and December 1, 1999, did show one interesting bottom feature. This was a very distinctive linear break in the river bottom that extended almost due north from a point just northwest of Anomaly 15 (Figure 4-1). East of this line, water depths were 21 to 22 ft deep and the bottom was flat but showed numerous parallel, north-south oriented "scours" that are believed to be the product of the cutter head from the recent round of dredging conducted at this area. Immediately west of the distinctive break in the bottom, water depths were 19 to 20 ft deep, a foot or two shallower than seen in the recently dredged area to the east. However, this shallower depth extended only a short distance to the west, before the bottom sloped off sharply into the former Bayou Boeuf channel seen in Figure 4-1 or more gradually into the deeper regions of Berwick Bay. There seems to be no doubt that this linear feature or "drop off" represents the point where dredging had stopped in the summer of 1999. Subsequent diving verified the existence of the drop off and confirmed the cutter head features on the bottom to the east.

Diving operations were commenced on December 2, 1999, and continued through December 11. The personnel on the dive team consisted of Charles Pearson, Allen R. Saltus, Jr., Stephen R. James, Jim Duff, Andy Lydecker, John Rawls and Mike Krivor. Additionally, Roland Stansbury, representing the Young Sanders Center in Morgan City, accompanied the crew on several days. The dive vessel used was a 30-ft, flat-bottomed navigation barge captained by Troy LaGrange.

All diving activities followed the New Orleans District, Corps of Engineers procedures and safety requirements. A Surface Supplied Air system (SSA) was used. Air was provided from a cascade system of two, 200 cubic ft 2100 PSI commercial 'K'-bottles of certified breathing air. The system consisted of two complete diving sets, each with a dive helmet and 200 ft of air hose. One diving set was used by the diver in the water, and the second was

employed by the stand-by-diver. The systems included hard wire radio communication between divers and the dive vessel. A written log recording time and air in, time and air out, depth of dive, environmental characteristics (i.e., visibility, current) etc., was maintained for each dive. Prior to diving, the dive vessel, diving equipment, dive records, safety equipment and procedures, etc., were physically inspected at Morgan City by Larry Plaisance, Safety Officer with the New Orleans District.

The project area is located at the juncture of Bayou Boeuf and the Atchafalaya River, two very heavily traveled commercial waterways. Because of this, boat traffic near, as well as across, the project area is particularly heavy and this represented a critical concern. Prior to conducting diving, a meeting was held with United States Coast Guard officials in Morgan City to discuss the project and to develop plans and procedures for safe diving. It was determined that the Coast Guard would be informed daily as to diving activities and constant radio contact would be maintained between the dive boat and the Coast Guard during diving. Because of the heavy boat traffic at the project area, the Coast Guard maintains 24-hour video monitoring of Berwick Bay and they would use this capability to monitor the dive boat as well as assess boat traffic in the dive area. If they considered any vessel to be dangerous to diving they would request that the boat alter course or, if this was impossible, they would ask that the dive vessel be pulled off site. In addition, the Coast Guard issued a Notice to Mariners which identified the location and duration of the diving operations. Additionally, the boat captain on the dive boat maintained a lookout for boat traffic and kept in constant radio communication with boats in the immediate vicinity. A safety briefing was held each day prior to diving and the safety requirements and concerns were reviewed.

Over the two weeks of diving, large numbers of vessels passed by or through the project area. These included offshore crew and supply boats, jack up barges, shrimp boats, numerous barge tows and tug boats, as well as smaller pleasure boats. In several instances, when vessels came close to the dive boat, diving operations had to be suspended and the diver brought to the surface. Ultimately, after discussions with the Coast Guard, it was determined that diving could not safely be conducted on three of the targets selected for examination because they lie in the middle of the navigation channel, directly in the path of vessels entering or leaving Bayou Boeuf. These targets were Anomalies 9, 10 and 11 (see Figure 4-1). Consultation with Kenneth Ashworth, archaeologist with the New Orleans District, led to the decision to examine other targets identified in the Earth Search report in lieu of these three. Ultimately, time was available to examine Anomalies 1 and 3, both of which are fairly close to Anomaly 7, the target identified as most likely to be the wreck of the *Kinsman* (see Figure 4-1).

Another safety concern was the current in Berwick Bay/Atchafalaya River. Fortunately, this project was undertaken during the period of seasonal low water on the Atchafalaya River and currents in the project area generally were very low; less than 1 knot. However, on a few days currents were above 1 knot and diving had to be suspended for short periods of time. On one day current speed in the project area was 2 knots for the entire day, a speed that exceeded safety limits and required suspension of diving. Diving also was suspended during low visibility conditions because of the difficulty of seeing approaching boat traffic. Heavy fog resulted in the suspension of diving for one half day and, at the request of the Coast Guard, diving was suspended for short periods of time during rainstorms. Ultimately, 17 individual dives constituting 19 hours and 20 minutes of down time were conducted between December 3 and December 11.

Assessment of each target location involved, first, relocating the target with a differential GPS and marking the location with a buoy. Then, diver examination of the bottom at the target location was conducted. In most instances, this included probing with a hydroprobe to try to locate buried objects and to gather information on subbottom sedimentary

characteristics. The hydroprobe consisted of a 10-ft-long section of 1-in-diameter PVC pipe through which water was pumped by a gasoline-driven water pump located on the dive boat. In a few instances, a gradiometer was dragged across the bottom by a diver in an attempt to refine the location of source objects. Initial probing at most targets involved placing two transects of probes across the target location. These probe transects were perpendicular to one another and centered on the identified magnetic focus of each target to produce a "+"-shaped pattern. Probes were placed at 5- or 10-ft-intervals along these transects and were extended out sufficiently to encompass the area thought to contain the source of the magnetics. Additional coverage of target locations was achieved by swinging the diver in a series of arcs across target locations placing probes at regular intervals. Generally, probes were extended to a depth of 10 ft below the bottom; at one location several probes were extended to a depth of 20 ft below the bottom. Visibility on the bottom was zero in most instances, although on a few days divers could see for a few inches. Divers were directed in their movements by radio communication from the surface where they were tracked by their bubbles. Divers provided information on bottom conditions and the general nature of sediments encountered during probing. Additionally, water depths were taken periodically with a pneumogauge located on the dive boat. Dive logs and field notes were kept for each dive, including sketch maps of the coverage and probe placement over the target. The results of examination of each of the selected targets are presented below.

The Results of Diving

Target 17

The intent was to begin diving on Target/Anomaly 7, the anomaly identified by Saltus et al. (2000) as the one most likely to represent the remains of the *Kinsman*. In light of this, the state plane coordinates for one of the magnetic "foci" of Anomaly 7, specifically the foci designated as 7-4, were selected as the initial dive site. These coordinates are: x [easting] = 2,038,925; y [northing] = 370,940. The first element of work involved relocating the target using differential GPS and marking the location with a buoy. The original plan had been to mark several targets and leave buoys in place; however, it was obvious that the heavy boat traffic through the project area might result in the removal of buoys or shifting them off location. In those instances where targets were located near the shore, a long, weighted line was attached to the weight dropped on the target and stretched to near the bank where a buoy was attached. This placed the buoy out of the area of boat traffic but kept the dive location marked. For the targets located farther out in Berwick Bay the GPS was used each day to relocate and buoy dive locations.

When the coordinates of the first buoy dropped were rechecked, it was found to be almost exactly at the coordinates of Target 17 as given in Saltus et al. (2000). When the coordinate data in Saltus et al. were reexamined it was found that the coordinates for Target 7-4 were within 20 ft of the coordinates for Target 17 (x = 2,038,905; y = 370,940). Therefore, the buoy was left where it was and diving began on Target 17. Saltus et al. (2000:86) note that Target (Anomaly) 17 was a dipole with a 50-gamma deflection that covered an area measuring 150 by 160 ft. It was thought that this anomaly may represent debris from the *Kinsman*. Diver examination of Target 17 involved an initial bottom examination of the target location followed by hydroprobing in a series of arcs across the target location. The results of this examination are presented in Figure 4-2.

As seen in Figure 4-2, the buoy for Target 17 was dropped almost directly on top of the slope or cut marking the western limits of the recent round of dredging. The line of this "cut" represents one of the linear features tentatively, but incorrectly, identified as possible vessel remains by Saltus et al. (2000:83). The surface to the east of this cut was fairly flat and lay at a depth of about 20 to 22 ft below the water surface. The top of this recently dredged surface

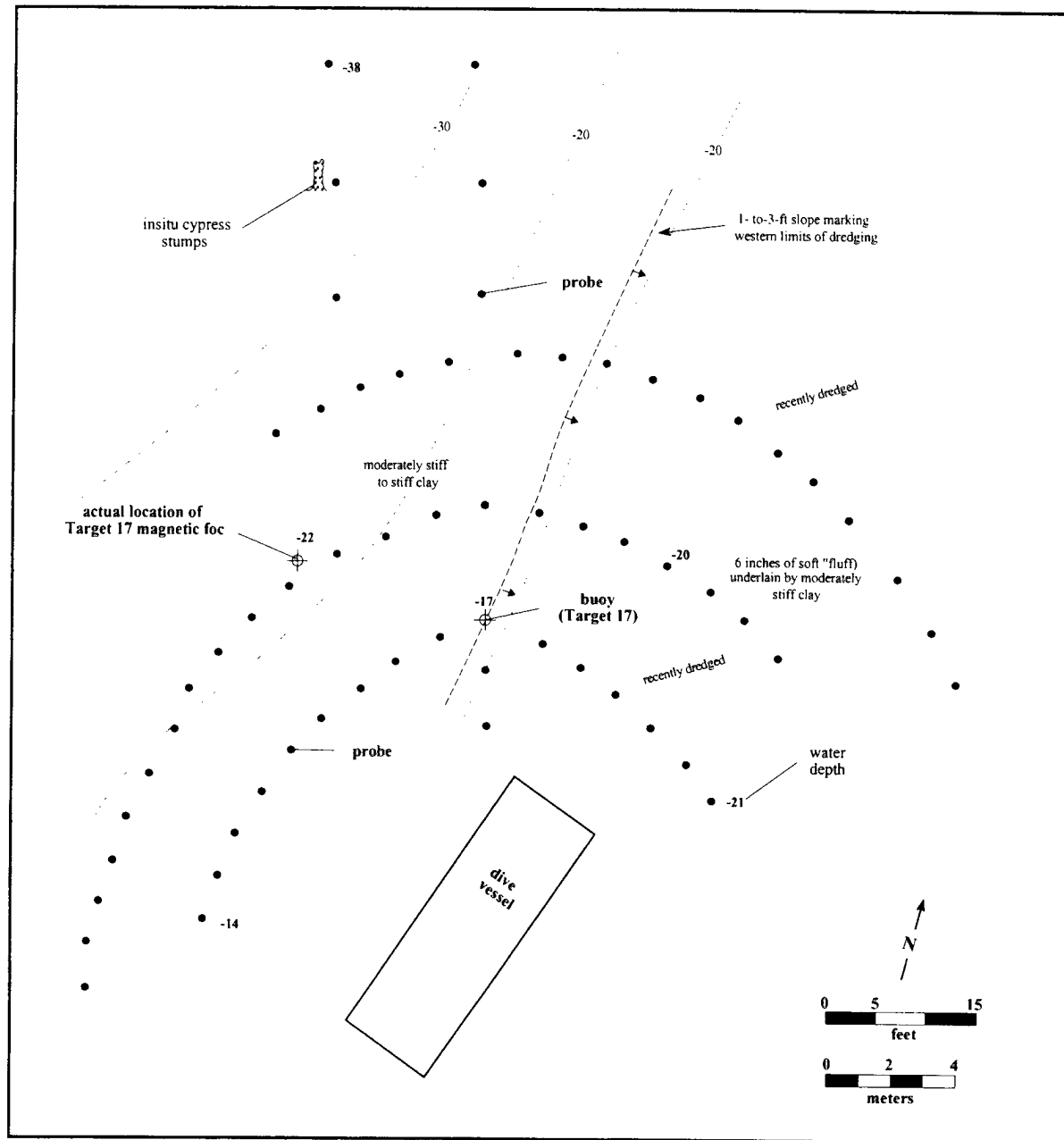


Figure 4-2. Results of diver examination of Target 17. All probes extend to 10 ft below the bottom. Water depths in feet.

was covered by a very soft "fluffy" sediment that ranged from 6 in to about 18 in deep. Underlying this "fluff" were sediments consisting of moderately stiff silts and or silty clay and fine sand. These sediments were sufficiently stiff to require a modest effort to sink the hydroprobe. No obvious stratigraphy was noted during the hydroprobing.

Water depths at and immediately west of the limit of dredging were 1 to 3 ft shallower than to the east. However, just a short distance west of the dredge line, the bottom began to slope sharply downward into what has been identified earlier as the former bed of the Bayou

Boeuf channel. The sediments in this direction were generally stiffer than those found east of the dredge cut line and little if any of the soft "fluff" covered the bottom. Several large cypress stumps were found down in the old channel of Bayou Boeuf. These stumps are obviously in growth position and the largest measured almost 3 ft in diameter and about 8 ft high. All of these stumps, as well as others found in the old Bayou Boeuf channel, are at water depths of greater than 30 ft. Thus, these trees had to have begun their growth when the river level was at least 30 ft lower than it is now, suggesting that these stumps may be several thousand years old. A review of the side-scan sonar records provided in the Saltus et al. (2000) report reveals that some of these cypress stumps were recorded but not identified as such. Figure 4-3 presents one of these side-scan sonar images and the short, linear white projections shown within the MA7 circle are believed to represent shadows cast by in situ cypress stumps.

Subsequent to the diver examination and probing of Target 17, a gradiometer was lowered to the bottom and the diver dragged it across the target location in hopes of pinpointing the source for this magnetic anomaly. The audio signal on the gradiometer indicated the presence of a number of small, ferrous objects in the area of the target. Each time the gradiometer signal indicated a source, the diver would follow the cable out to the gradiometer and probe with a 6-ft-long hand probe all around the gradiometer. This was done 7 or 8 times with negative results. It is believed that all of the objects recorded by the gradiometer are small, ferrous items that were missed by the probing. None of these objects could be large segments of a vessel and all are believed to be modern debris. No cultural remains of any type were found during the diver examination of Target 17.

Target 7

Diving was undertaken at several locations within Target 7. These were at the "foci" identified as Targets 7-1 and 7-3, plus a location just north of Target 7-4 designated Target 7B, and a location near 7-5 designated Target 7C. The Target 7B position was selected because the original Target 7-4 had been covered by the examination of Target 17. The state plane coordinates where buoys were placed during the examination of each of these targets are:

Target 7-1: $x = 2,038,838$; $y = 370,993$

Target 7-3: $x = 2,038,850$; $y = 371,165$

Target 7B: $x = 2,038,938$; $y = 370,984$

Target 7C: $x = 2,038,900$; $y = 371,080$

Target 7-1

The results of the diving undertaken at Target 7-1 are presented in Figure 4-4. As seen in this figure, and in Figure 4-1, this target was located at the upper end of the old Bayou Boeuf channel bed adjacent to the western edge of the shoal which covers most of the project area. A "+ shaped" pattern of hydroprobes was placed over this target location. All but one probe were sunk to a depth of 10 ft below the bottom and all were negative. In the deepest part of the Bayou Boeuf old channel bed the sediments were every stiff clays that were extremely difficult to penetrate with the hydroprobe. Because of this, the last probe in the line extending west of the target buoy could be sunk only to a depth of 6 ft. However, it is very unlikely that the remains of the *Kinsman* will be buried within or beneath these stiff and presumably fairly old soils forming the bed of Bayou Boeuf. If the remains of the *Kinsman* exist in this area, it is likely that they will be resting on top of these older channel bed sediments. No cultural remains were discovered during the examination of Target 7-1.

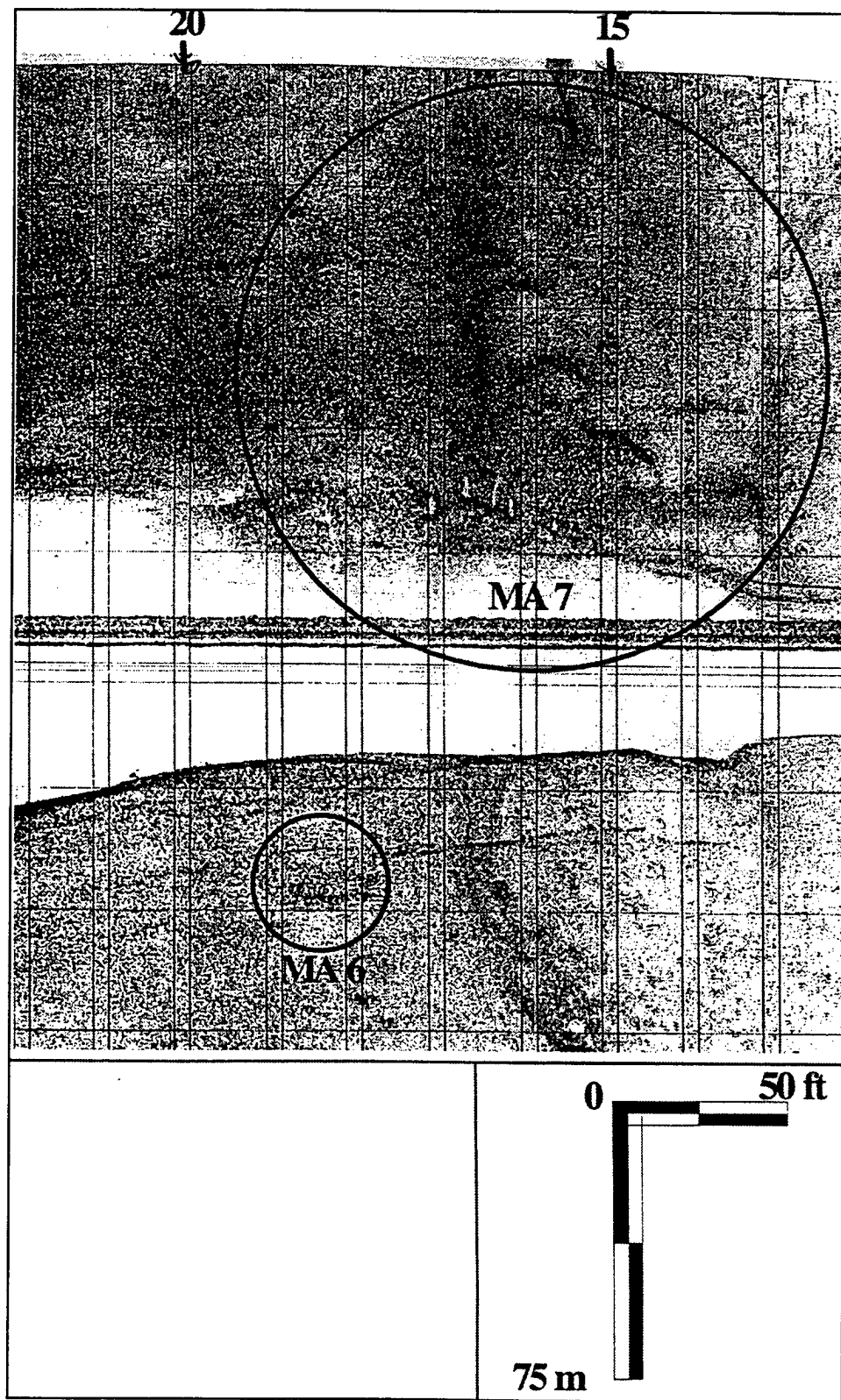


Figure 4-3. Side-scan sonar record showing shadows cast by in situ cypress stumps in the lower part of the circle marked MA7 (Saltus et al. 2000:Figure 23).

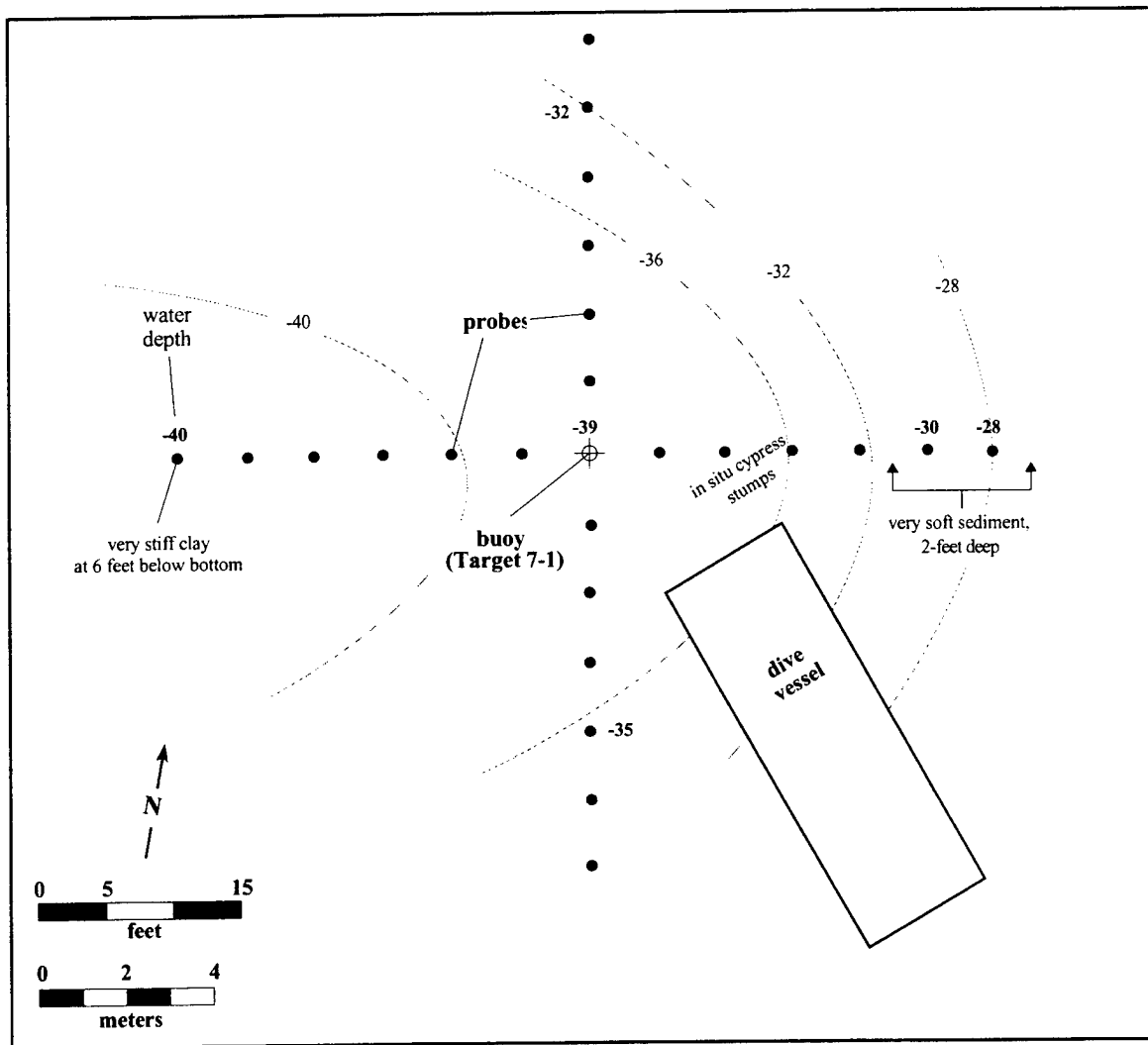


Figure 4-4. Results of diver examination of Target 7-1. All probes extend to 10 ft below the bottom. Water depths in feet.

Target 7B

The results of the diver examination of Target 7B are shown in Figure 4-5. This target was located approximately 100 ft east of Target 7-1. As can be seen in Figure 4-5, this location is on the western edge of the shoal and about 20 ft west of the edge of the recently dredged area discussed earlier. As at Target 7-1, a “+ shaped” pattern of hydroprobes was placed over this location. No cultural remains were found during probing, however a 4-ft-long iron rod was discovered on the bottom about 20 ft due north of the target buoy (Figure 4-5). Measuring 1.5 inches in diameter, this object was raised to the surface and examined and is believed to represent a modern item, probably lost or discarded from a barge or other vessel. This was the only cultural object found at Target 7B, but it is believed that other items of similar size and composition are scattered throughout the project area. These pieces are very difficult to locate during diving or probing, but might be of sufficient mass to produce some of the magnetics recorded here.

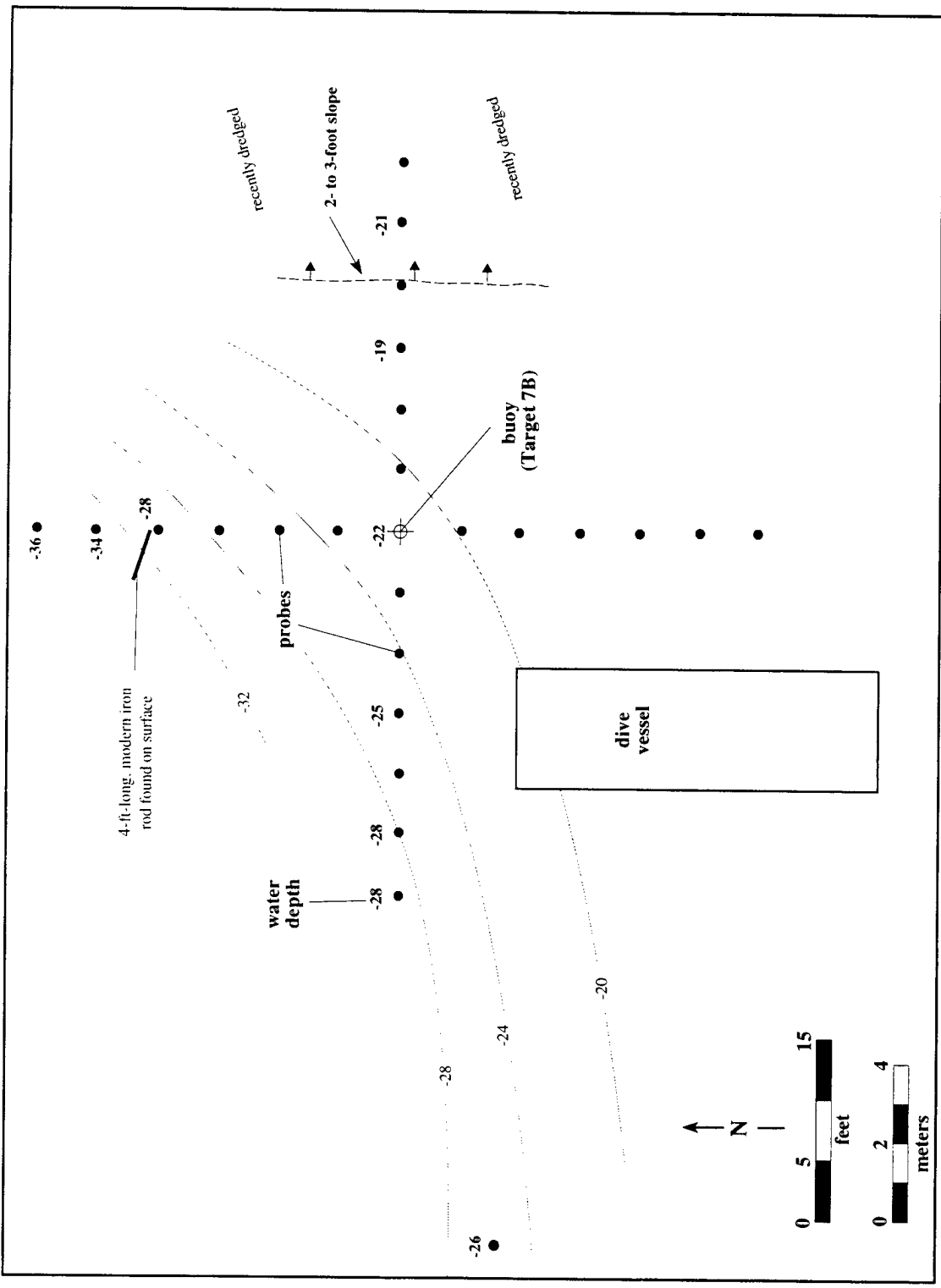


Figure 4-5. Results of diver examination of Target 7B. All probes extend to 10 ft below the bottom. Water depths in feet.

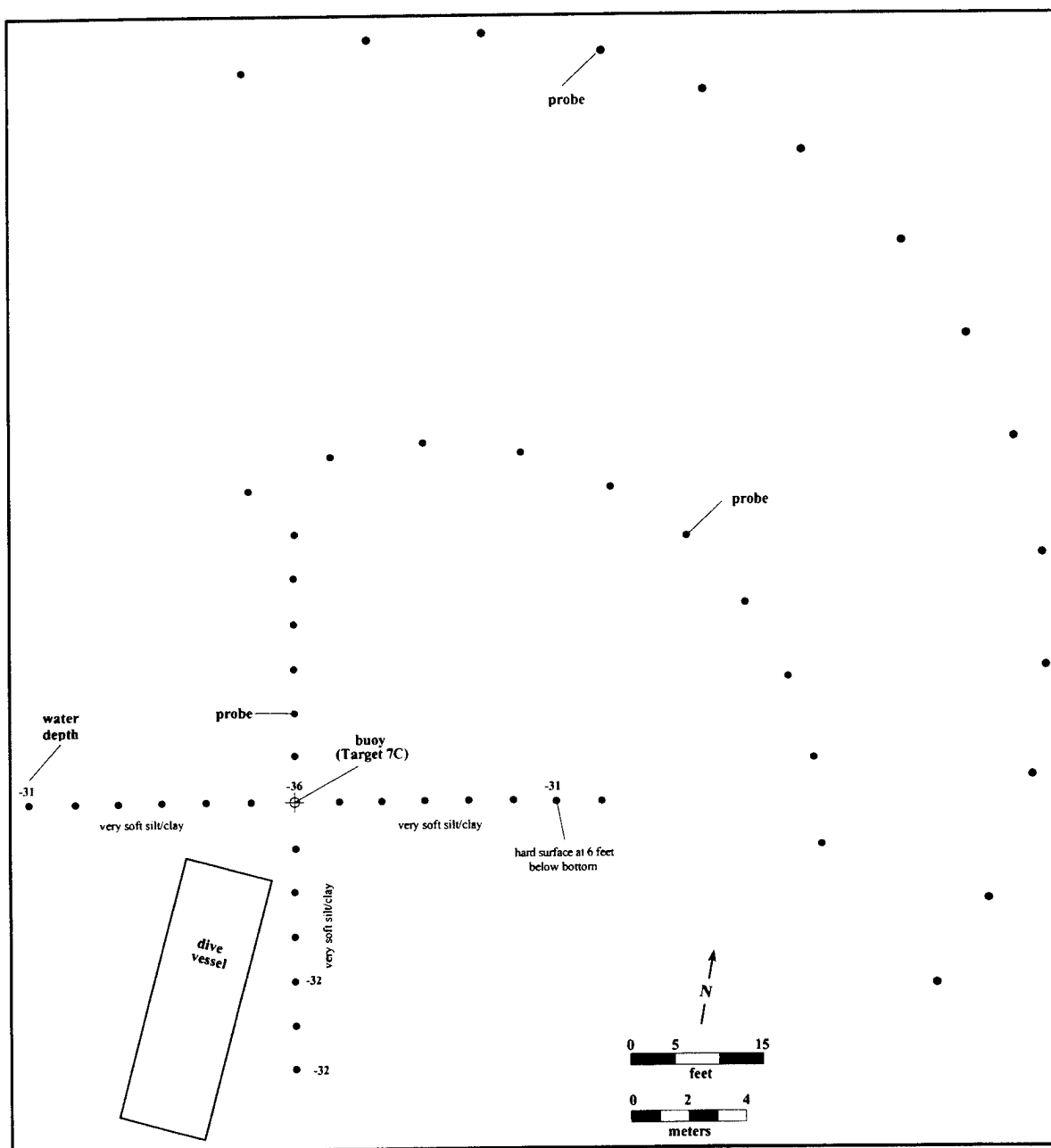


Figure 4-6. Results of diver examination of Target 7C. All probes extend to 10 ft below the bottom. Water depths in feet.

Target 7C

The buoy designated Target 7C was positioned approximately 20 ft due south of the target designated Target 7-5 in Figure 4-1. The examination of this target encompassed the area of Target 7-5 and roughly the central area of the large Anomaly 7 (see Figure 4-1). A “+ shaped” pattern of hydroprobes was placed over this location, plus two long arcs of probes were placed to the north, northeast and east of the buoyed location (Figure 4-6). These two arcs of probes were placed specifically to examine the western edge of the shoal where it spills

down into the partially filled old Bayou Boeuf channel bed. Sediments in most of this area tended to be relatively soft and easily penetrated by the hydroprobe. To the east and northeast of the buoy, these sediments were so soft that the diver would sink up to his knees or mid-thighs in them, making it very difficult to move around. It is believed that these very soft sediments are spilling over from the top of the shoal located just to the east. Thirty feet due east of the buoy, one of the hydroprobes struck a very hard surface 6 ft below the river bottom. This surface was initially thought to be wood, however, reprobings at the same location as well as in the immediate vicinity, revealed that the hard contact was a stiff sediment lens, probably clay, which could eventually be penetrated with the hydroprobe. This hard surface probably represents a feature associated with the old bed of Bayou Boeuf which is covered by about 6 ft of shoal sediment at this location. No cultural remains were found during the examination of this target.

Target 7-3

Target 7-3 was located in the upper end of the larger Anomaly 7 (see Figure 4-1). A “+ shaped” pattern of hydroprobes was placed over this location, plus a long arcs of probes was placed to the east of the buoyed location and another series of probes were placed well to the west of the buoy (Figure 4-7). The examination of this target, also, encompassed the area of target identified as 7-2 in Figure 4-1. The bottom in this area was relatively flat, sloping slightly down toward the west. The slope up onto the main body of the shoal was quite apparent when divers were probing the area east of the buoy. The sediments in this entire area were moderately soft silts and silty clays that were relatively easy to penetrate with the hydroprobe. These bottom sediments are thought to be relatively recent and represent an extension of the shoal sediments out into the deeper waters of Berwick Bay. No cultural remains were found during the examination of this target.

Target 6

Figure 4-8 provides information on the results of the diving investigation of Target 6. The state plane coordinates for the target are: $x = 2,038,790$; $y = 370,820$. Target 6 was identified as a dipole with a 60 gamma magnetic deflection covering an area measuring 90 by 150 ft (Saltus et al. 2000:82). A slightly modified “+ -shaped” array of hydroprobes was placed over the buoy location, plus two additional arcing lines of probes were placed to the north and northwest of the buoy, as shown in Figure 4-8. The buoy at Target 6 was within the old channel bed of Bayou Boeuf and the arcs of probes to the northwest extended up the western side of the old channel. The bottom in this area was relatively solid and the sediments were moderately stiff to stiff making it quite difficult to sink the hydroprobe in most areas. No cultural remains were found at this location.

Target 1

Target 1 was one of the alternative targets selected when it was found that it would be too dangerous to dive on Targets 9, 10 and 11. This target was located almost due west of the Navigation Light on Bateman Island. The state plane coordinates for the target are: $x = 2,038,910$; $y = 370,750$. Saltus et al. (2000:77) note that the Target 1 magnetic signature was a “dipolar complex” measuring 140 by 120 ft and with maximum magnetic deflection of 90 gammas. As seen in Figure 4-1, the magnetic signature for this target extends to very near the shoreline.

The results of the diving examination of this target location are presented in Figure 4-9. The buoy on this target was located in 39 ft of water, within the old channel bed of Bayou Boeuf. The bottom sediments proved to be extremely stiff clays into which it was very difficult to sink hydroprobes. Only one hydroprobe was placed at this target because, in

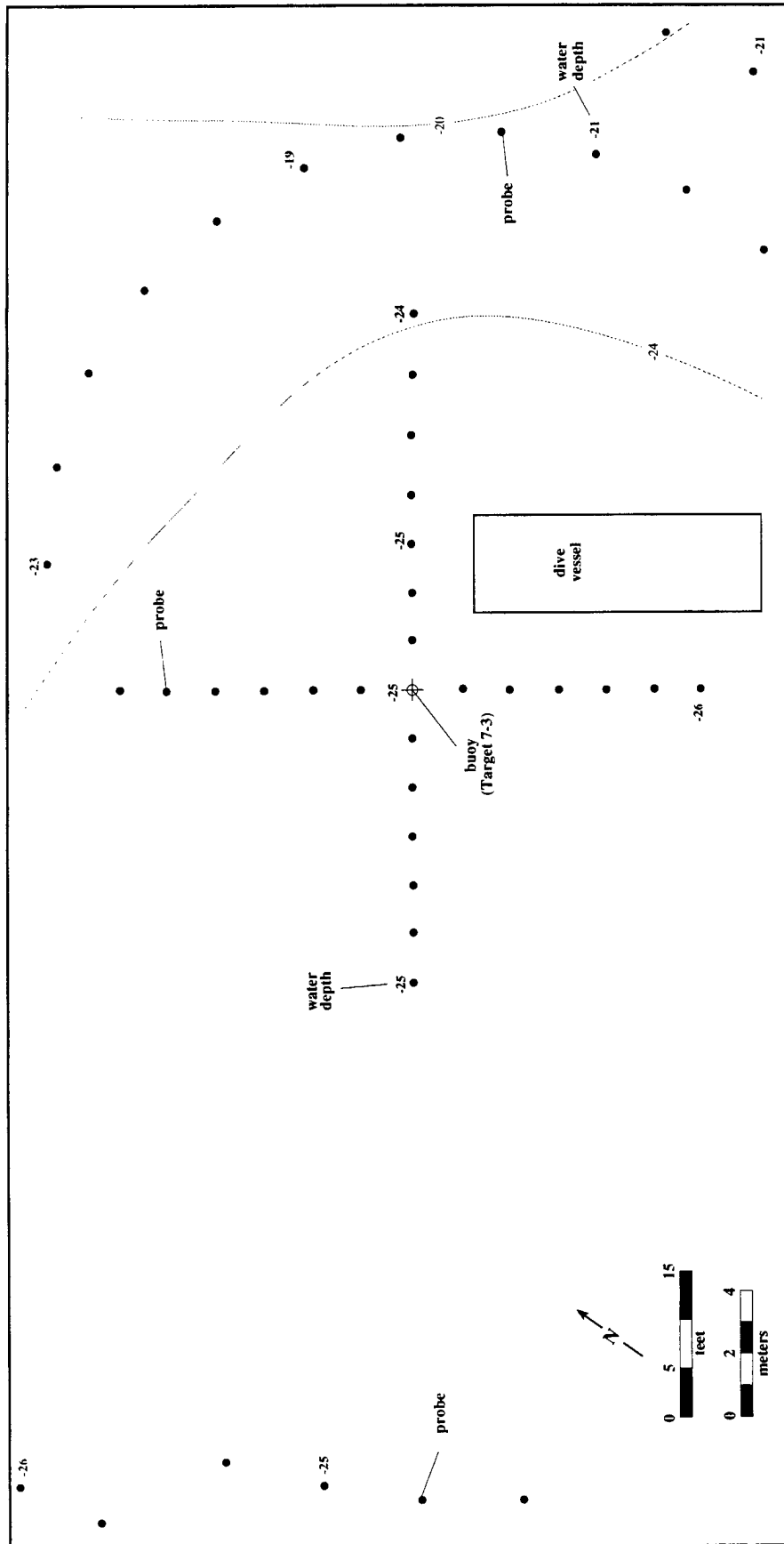


Figure 4-7. Results of diver examination of Target 7-3. All probes extend to 10 ft below the bottom. Water depths in feet.

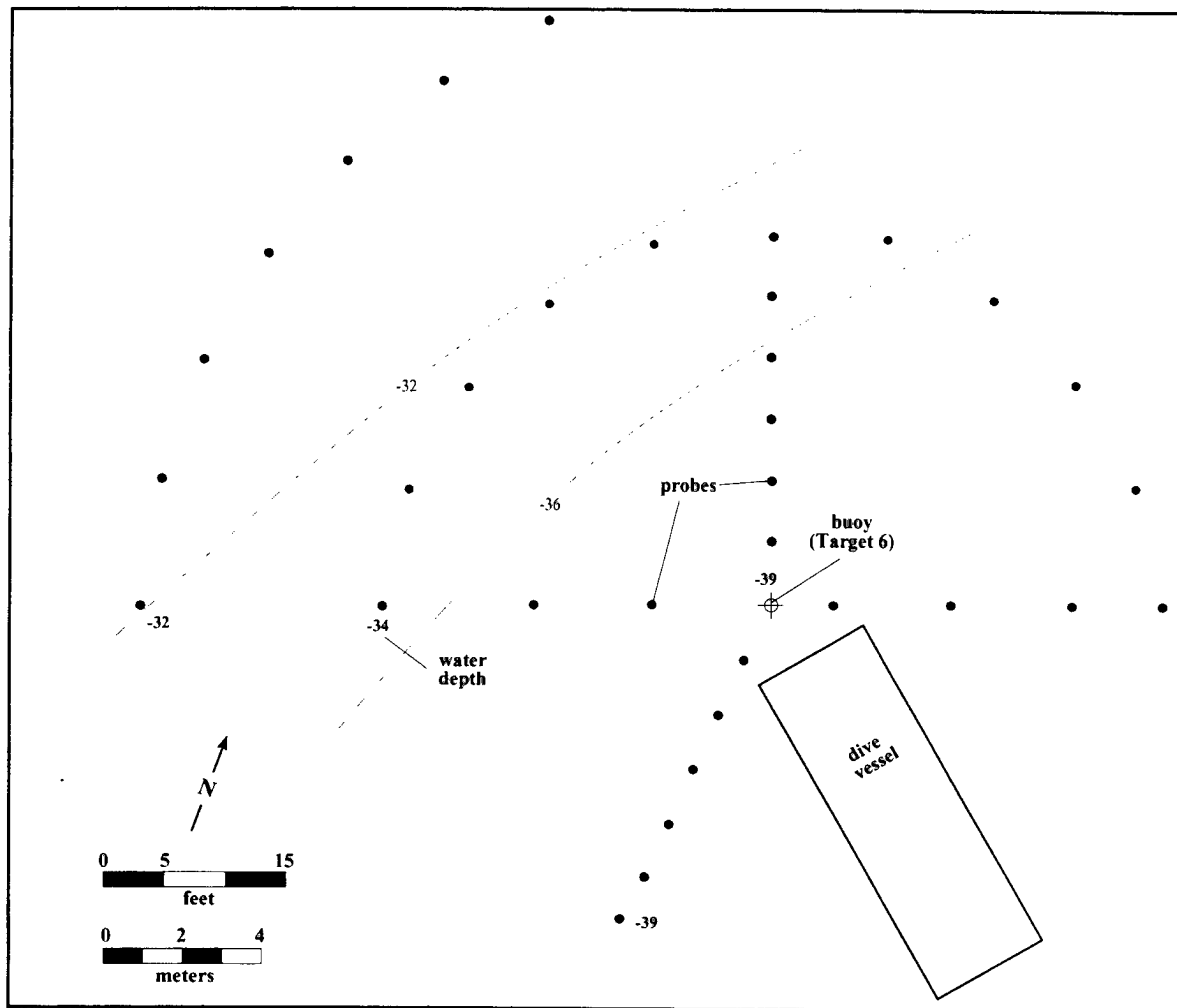


Figure 4-8. Results of diver examination of Target 6. All probes extend to 10 ft below the bottom. Water depths in feet.

addition to the difficulty involved in sinking probes, it was reasoned that these bottom sediments are quite old such that it is unlikely that the remains of the *Kinsman* will be buried within or beneath them. Any wreckage in this area will be on top of these old channel bed sediments. Therefore, diver examination involved physical examination of the bottom along two large arcs, one of which crossed the buoyed target location (Figure 4-9). When conducting these searches the diver normally spread his body out and moved across the bottom feeling for objects with hands, arms and legs. Thus, each arc or "swath" made by the diver covered an area about 6 ft across. This coverage was essentially the same technique used to cover all of the other targets, even during hydroprobing.

This target location falls on the sloping side of the old Bayou Boeuf channel. South of the target buoy, the water shallows and the bankline is located less than 50 ft away. Divers found numerous sticks, small logs and other debris covering the river bottom near the bankline in depths less than 17 ft. Down in the old channel, divers discovered a number of large cypress stumps, in growth position. Most of these were at water depths greater than 30 ft (see Figure 4-9). West of the target, a long flexible plastic hose measuring 4 inches in diameter was

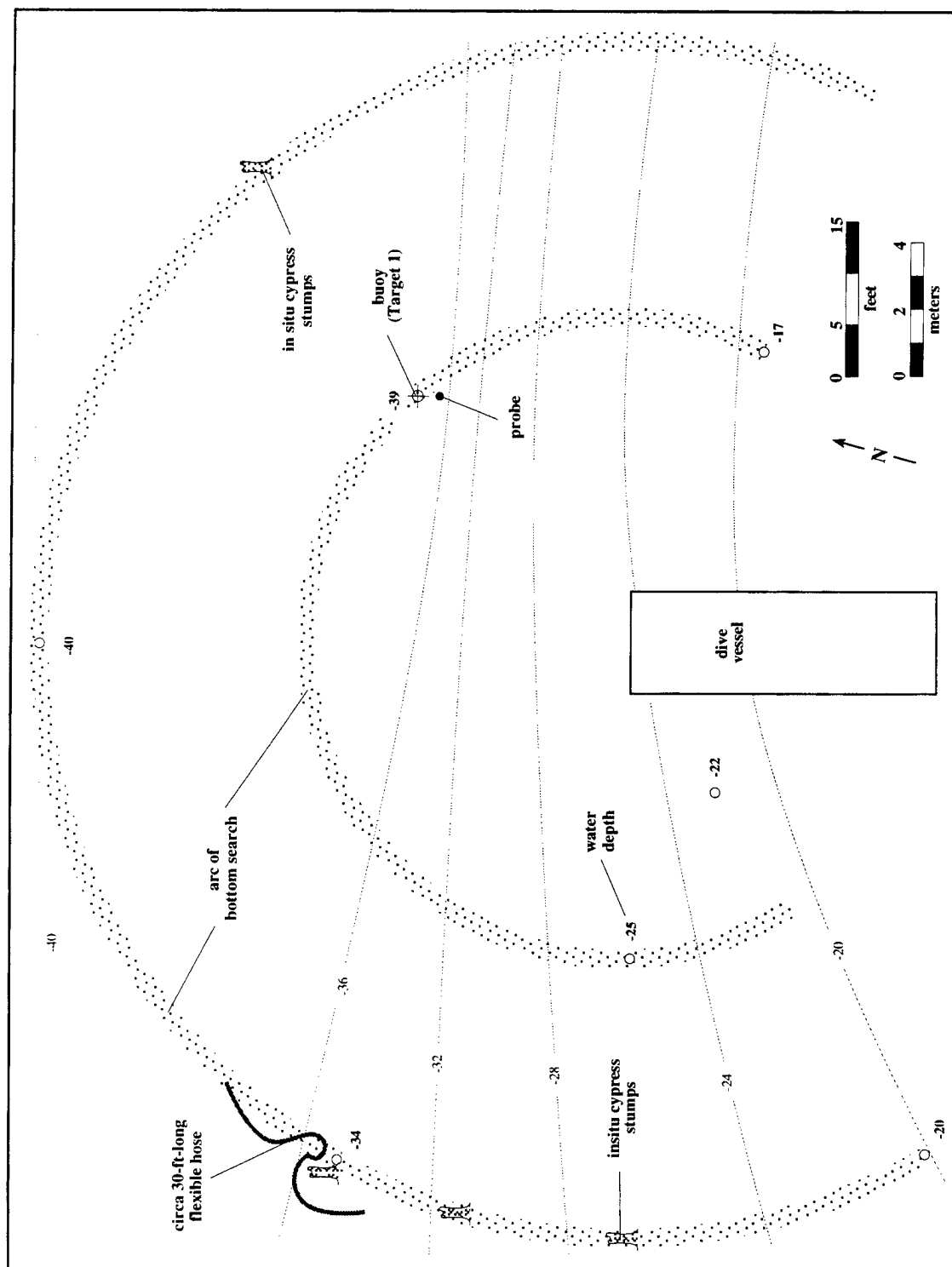


Figure 4-9. Results of diver examination of Target 1. Water depths in feet.

discovered twisted around one of these stumps. The ends of the hose were buried, but about 30 ft was exposed. Several metal couplings or joints could be felt on the hose. The diver identified the hose as similar to flexible fuel hose.

The piece of hose was the only cultural artifact found in the examination of Target 1. The hose does contain metal fittings, however, it is not known if it represents the source of the magnetics of Target 1.

Target 3

Target 3 was one of the alternate targets selected after consultation with the Corps of Engineers. This target was located fairly close to the shoreline of Bateman Island, southwest of the Navigation Light (see Figure 4-1). The state plane coordinates for the target are: $x = 2,038,710$; $y = 370,465$. Saltus et al. (2000:82) note that this magnetic signature was a "dipolar complex" covering an area 200 ft across producing a magnetic deflection of 560 gammas. As shown in Figure 4-1, this magnetic anomaly lay very close to the shoreline. As seen in Figure 4-10, the buoy location was in 40 ft of water, within the old Bayou Boeuf channel. As at Target 1, the river bottom at this location consisted of very stiff clay which was almost impossible to penetrate with the hydroprobe. Because it is believed that the remains of the *Kinsman* (or any other historic wreck) will be resting on or near the top of this hard clay surface, it was decided to just conduct a physical search of the bottom across the area of the target. This was accomplished by swinging the diver across the target area in a series of arcs, as shown in Figure 4-10.

The examination of Target 3 covered the southern slope down into the old Bayou Boeuf channel and the bed of the channel itself. In the shallow water to the south of the buoy, divers found numerous pieces of sticks, small logs and other natural detritus as had been found at Target 1. This material all seems to be confined to water less than 15 ft or so deep and within 40 ft or so of the bankline. A length of 1-in-diameter steel or iron cable was found in about 15 ft of water approximately 42 ft south of the target buoy and less than 50 ft from the shoreline.

Approximately 15 ft of the cable was exposed on the bottom, but some unknown length was buried beneath the recent sediments found in the shallower water close to shore. As seen in Figure 4-1, the relative intense magnetic low of Target 3 does appear to lie very close to the bankline and it is possible that this cable is the source for some, if not all, of the magnetics at this target.

Target 8

Target 8 was located some 400 ft off the north end of Bateman Island, almost directly in the center of the navigable channel leading into Bayou Boeuf. The state plane coordinates for the target are: $x = 2,039,015$; $y = 371,280$. Boat traffic over this point was fairly heavy, with as many as a dozen large crewboats and barge tows crossing daily. Because it took as long as an hour to buoy a target location, anchor the dive boat and prepare for diving, it was recognized that it would be impossible to dive safely on this target unless vessel traffic could be diverted. Discussions were conducted with the U.S. Coast Guard, Morgan City, to determine if and how we could dive on Target 8. The Coast Guard determined that there was enough room to divert most large vessels to the north of Target 8, between it and the north shore of Bayou Boeuf. Small vessels could be diverted south of the target and pass near the north end of Bateman Island. However, the Coast Guard stated that if a large barge tow had to pass into or out of Bayou Boeuf, we would have to suspend diving and move the dive vessel. With their constant radio contact and video monitoring of traffic through this area they felt that there would be sufficient time to move the dive vessel upon the approach of a large barge tow or large vessel. They did request that we conduct the diving as rapidly as possible and try to

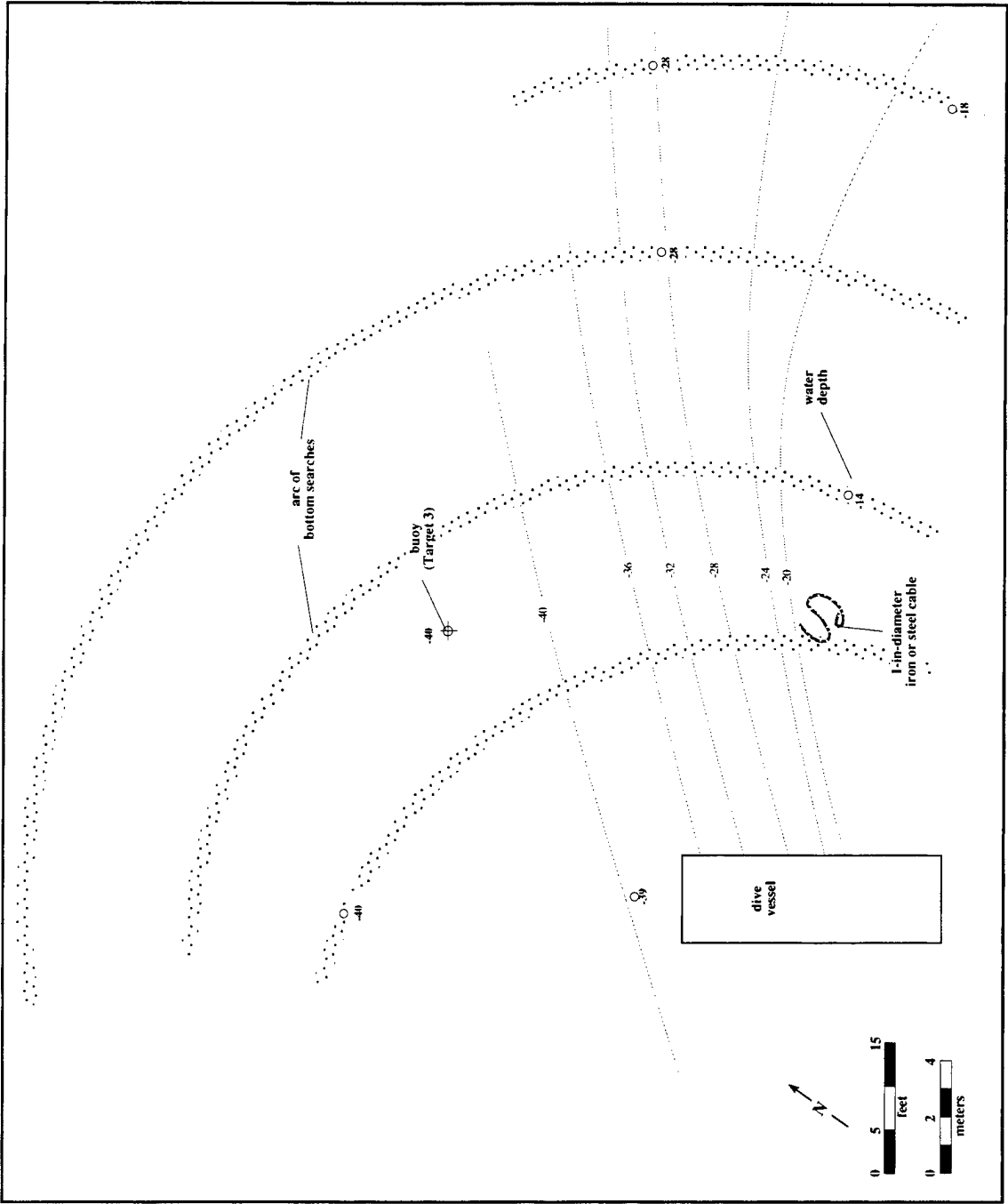


Figure 4-10. Results of diver examination of Target 3. Water depths in feet.

spend less than 2 hours on the target. The Coast Guard, also, thought that it would be unsafe to dive on Targets 9, 10 and 11 because they would be unable to divert large vessels around these targets and they were hesitant to stop traffic while we dove, which would be the only safe alternative when working at these three locations.

Saltus et al. (2000:83) report that the magnetic anomaly at Target 8 was a dipole with a 120 gamma intensity covering an area 150 by 230 ft in size. No side-scan sonar features were noted at this target, which lay at the northern edge of the dredged area. Figure 4-11 presents the results of the diving operations at Target 8. It was recognized that it would be impossible to conduct additional diving this far out in the channel, so an effort was made to conduct as extensive an examination of the target as was possible within the short time allotted. Ultimately, 64 hydroprobes were placed over this target. Sixty-one of these were made with the 10-ft long probe used on the other targets, but 3 probes were made with a 20-ft-long probe rigged in the field. The 20-ft probe was used to see if the source object could be this deeply buried and, also, to gather on the characteristics of deeper portions of the shoal/sandbar and, possibly, on its thickness.

The sediments over the entire area examined were moderately stiff silts and silty clays with some fine sand. These deposits were fairly easy to penetrate with the hydroprobe. Sixty feet east of the target buoy, a probe encountered a fairly stiff sediment layer 7 ft below the bottom. Additional probes placed around this location revealed that the layer probably represented a stiff clay deposit which was confined to a fairly small area. This stiff clay layer could be penetrated with some amount of effort and proved to be only a few inches thick. The 20-ft-long probes revealed relatively homogeneous deposits to depths of 20 ft below the bottom. Sediments seemed to become slightly stiffer with depth, but no obvious sediment strata were felt. These deep probes did not encounter stiff clays that could be associated with the old Bayou Boeuf channel deposits, indicating that the shoal/sandbar at this location is greater than 20 ft thick. No cultural remains were found during the examination of Target 8.

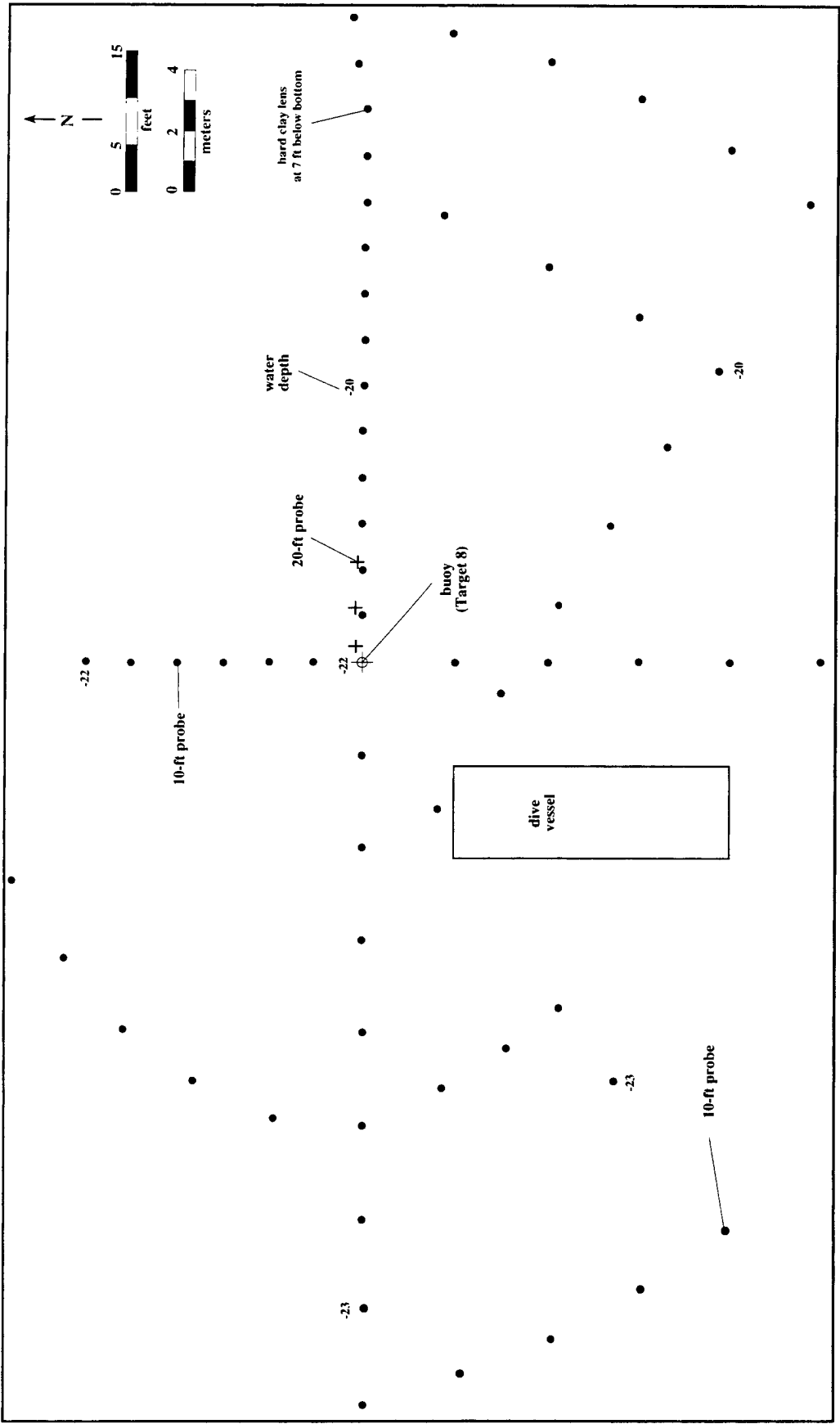


Figure 4-11. Results of diver examination of Target 8. Except as noted, all probes extend to 10 ft below the bottom. Water depths in feet.

CHAPTER 5

CONCLUSIONS

Summary of Findings

The diving operations described in this document failed to locate any evidence of the U.S.S. *Kinsman*. In fact, the sources of most of the magnetic anomalies examined were not found. All of the reasons for this lack of discovery are unknown, but some possible factors are considered here.

The lack of discovery does not seem to be related to inadequate coverage of those targets that could be safely examined. Figure 5-1 presents information on the area covered during the examination of each target in relationship to the magnetic anomalies identified by Saltus et al. (2000). As can be seen, all of the "foci" of the targets of concern were encompassed within the areas examined. A particular effort was made to examine the western edge of the shoal where it sloped down into the old channel of Bayou Boeuf, roughly along the eastern edge of Anomaly 7 (Figure 5-1). This effort was emphasized when it became apparent during the course of field work that the wreck of the *Kinsman* was going to be in fairly deep water and certainly not on top of the relatively recent shoal sediments.

The relatively dense placement of hydroprobes at Targets 6, 7, 8 and 17 would certainly have encountered any large segment of boat wreckage, if it lay within 10 ft of the bottom, or at Target 8, within 20 ft of the bottom. While it is possible that deeply buried wreckage might exist at some of these targets, it is unlikely that the remains of the *Kinsman* will be buried beneath the stiff clays associated with the old channel bed of Bayou Boeuf. These clays were exposed as bottom at most or all of Targets 1, 3, 6, and 7-1, and parts of Targets 7B and 17. If wreckage of the *Kinsman* did exist at these targets, it would have been resting on top of, or very near the surface of, these older clay sediments where it would have been readily found by divers.

Is there, then, a possibility that wreckage of the *Kinsman* lies buried beneath the areas of thick shoal sediments in parts of Target 7 and at Target 8? While this is certainly a possibility, currently available evidence suggests that it is unlikely. After the first three days of diving, when no evidence of the *Kinsman* was found at what had been considered the most likely spots, a systematic magnetometer survey was conducted over all of the project area as a check and verification of the magnetic data being used to direct the diving. This survey was conducted by Dan McDonald of G&N Services using differential GPS positioning and the navigation program HyPack. All of the magnetometer and positioning data were stored in computer and a magnetic contour map was produced in the field at the completion of the survey. This map revealed the same magnetic anomalies in the same locations as identified in Saltus et al. (2000), however, some differences in the configuration of the contoured magnetic signatures was noted. Most importantly was the indication that Target 7, which Saltus et al (2000) identified as a single entity composed of

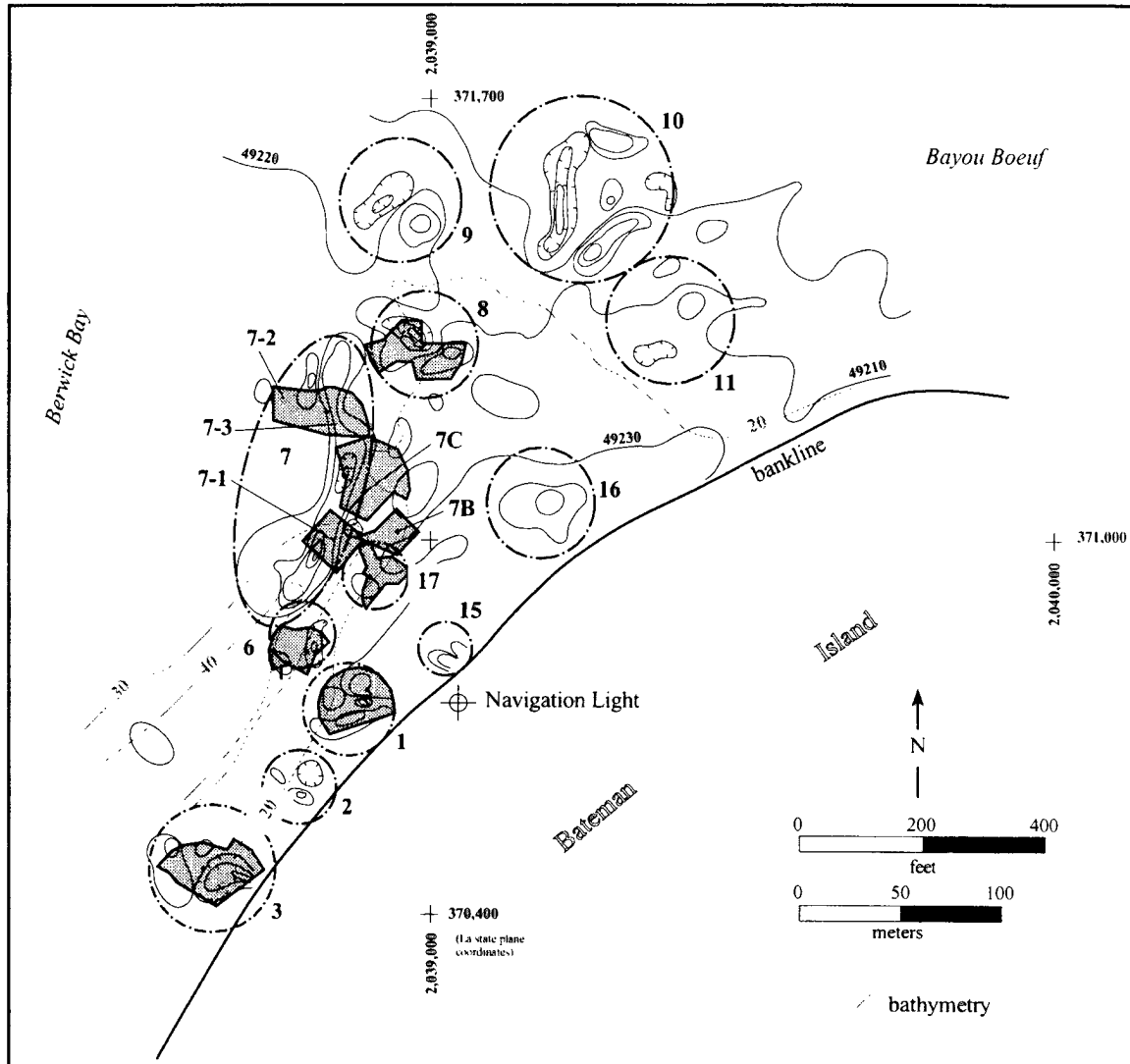


Figure 5-1. Magnetic contour map of the project area with areas examined by diving shaded.

several magnetic “foci,” could most reasonably be interpreted as a group of distinct magnetic signatures, each probably produced by a single and relatively small object. The newly collected magnetic data did not support the contention that a large object, such as a major portion of boat wreckage, produced Anomaly 7, but it was possible that the individual signatures comprising Anomaly 7 might represent separate objects scattered from a wreck. In light of the extensive hydroprobing conducted at various locations within Anomaly 7, it can be argued that the individual source objects are buried more than 10 ft below the bottom or are so small as to be missed by the over 140 probes placed over this target. The 4-ft-long iron rod or bar found on the bottom at Target 7B might have been responsible for some of the magnetic readings recorded in this area (see Figure 4-5), but this one object certainly did not produce all of the magnetics of Anomaly 7. However, it is believed that this bar is representative of the types of modern debris scattered within the project area. If the magnetometer sensor passed within 10 ft or so of these objects, they could produce many of the magnetic signatures recorded by Saltus et al. (2000). However,

if even minimally buried these types of objects would not be found by divers, plus they would be very difficult to locate through probing.

The size, configuration and intensity of the magnetic signature of Anomaly/Target 8, as contoured by Saltus et al. (2000) and as recorded in our magnetometer survey, is suggestive of an object that is larger or of greater mass than the individual objects producing the several magnetic "foci" comprising Anomaly 7 (see Figure 5-1). However, as a simple "dipole" consisting of a magnetic high and a magnetic low, the source object for Target 8 is believed to be a single item, such as a piece of ferrous metal, rather than a larger object such as a portion of a vessel. In light of the extensive hydroprobing conducted at Target 8, the source object is either deeply buried, certainly more than 10 ft below the bottom and possibly more than 20 ft below the bottom, or it is so small that it was missed by probing.

The same can be said for the source objects at Targets 6 and 17 where extensive hydroprobing was conducted. It seems most likely that the source objects for these anomalies are fairly small items, most likely modern trash and debris. The shoal sediments that encroach into the eastern one half of the area examined at Target 17 (see Figure 4-2) might have buried the source object(s) if located here, but the lack of these sediments in the western portion of this Target 17 and most of the area examined at Target 6 suggests any source object located here would be resting on the bottom or be only slightly buried.

Only one hydroprobe was placed at Target 1 and none at Target 3, because the most likely location of the source objects was within the old channel of Bayou Boeuf. The bottom in the area of the old channel consists of very dense and stiff clays which were extremely difficult to penetrate with the hydroprobe. More importantly, it is highly unlikely that any remains of the *Kinsman* would be buried very deeply into these older sediments. The pieces of modern iron cable and probable fuel hose found at these two targets might have contributed to their magnetics (see Figure 4-9 and 4-10), but it is unknown if these objects were responsible for all of the magnetics recorded at these targets. Like the iron rod found at Target 7B, these objects are seen as representative of the types of modern debris scattered throughout the project area. These are either fairly small objects or are long and linear in shape, making them very difficult to discover with probes. Also, only a few inches of sediment would cover these types of objects, making them difficult to find by divers in the typical zero visibility conditions encountered in the project area.

Thus, a careful review of the magnetic signature information provided in Saltus et al. (2000), an assessment of magnetometer data collected during this study, plus the results of the diver examination all seem to suggest that the six magnetic anomalies examined are more than likely the product of relatively small ferrous objects similar to the small number of items discovered by divers. Further, it is believed that these objects are most likely to consist of modern debris and trash accidentally lost or purposefully discarded from vessels traveling across the project area or anchored along the north shore of Bateman Island. No evidence of large pieces of boat structure of any type was discovered in the project area and it is considered improbable that any exist at the targets examined.

In addition to magnetics, Saltus et al. (2000:88-90) identified a bottom feature on sonar and multibeam records with a "boat-shaped form." This object included parallel, linear bottom features covering an area approximately the same size of the *Kinsman*. Saltus et al. (2000:90) suggested that these features might represent the hull of the gunboat but, alternatively, could represent bottom features produced by Corps of Engineers dredging which had been conducted shortly before their remote-sensing records were collected. Dredging, also, had been conducted several months prior to the present study and the most prominent evidence of that activity is the very distinctive linear "ridge" left at the western limit of dredging (see Figure 4-2). This 1-to-3-ft-high ridge was encountered on a number

of dives and was found to run roughly north-south along the eastern edge of Anomaly 7 for at least 200 ft, at the same orientation and in the same location as the linear bottom features identified by Saltus et al. (2000:88-90). There seems to be no doubt that the linear feature or features that Saltus et al. (2000:90) tentatively identified as boat-like were actually bottom features produced by dredging.

Conclusions

The historical record is clear; the United States gunboat *Kinsman* did sink at Morgan City and probably very near the project area. However, it is also clear that the vessel sank in deep water, deeper than is found in most of the present study area. Diving and reevaluation of magnetic data supports the contention that none of the targets examined represent remains of the *Kinsman*. It is unknown if the three targets that could not be examined, Anomalies 9, 10 and 11, represent remains of the gunboat. A review of the contoured magnetic data developed by Saltus et al. (2000) does suggest that of these three Anomaly 10 is most likely to have been produced by boat wreckage. Even so, this anomaly does not appear to be of sufficient areal size or magnetic intensity to have been produced by more than a piece of wreckage; it almost certainly does not reflect the entire hull of the *Kinsman*. The magnetic signatures of Anomalies 9 and 11 are more consistent with those produced by fairly small, single source objects. The information collected during the present study revealed that modern debris of various types is scattered throughout the project area and it is believed that these are most likely to have produced Anomalies 9 and 11. Anomaly 10 is located in water that is on the order of 23 ft deep, just below the 20-ft-depth maintained by the Corps of Engineers at this location. Based on all of the foregoing discussions, even if the source of Anomaly 10 is wreckage of the *Kinsman*, that wreckage is going to be deeply buried, well beyond the impacts of dredging as it is currently conducted by the Corps of Engineers.

Impetus for the earlier Earth Search study, as well the present research, was partially driven by the reports of Mike Davis of his discovery of the remains of a wreck in the project area thought to be the *Kinsman*. As discussed earlier, and as has been amply demonstrated in this study, the reports of Mr. Davis must be considered to be false. It has been impossible to contact Mr. Davis such that the reasons and rationale behind his reports of discovery remain unknown.

Some suggestions as to the probable location of the wreck of the *Kinsman* have been put forth in Chapter 3. In summary, it is believed that significant portions of the vessel might very well remain intact, particularly the hull. Even if the gunboat did break up when it sank, heavy items such as the guns, armor, paddlewheel shafts, engine(s), etc., will not have moved very far from the original sinking spot. Based on a review of the historical record and the natural setting of the area where the sinking occurred, it is believed that the wreck most likely lies just north of the present project area. This would place the wreck south of the railroad bridge and just off (west) of the area once known as the flats and in water that is over 40 or 45 ft deep. If any part of the wreck does lie in the upper part of the project area it is going to be buried by more than 20 ft of recent shoal sediments and will lie well below the impacts of Corps of Engineers dredging.

The career of the steamboat *Gray Cloud* was certainly more diverse and more interesting than the careers of the vast majority of nineteenth century western river steamers in America. The boat's activities with the United States Quartermaster Department in two wars and its service during the Civil War as a Confederate gunboat and as a United States gunboat renamed *Kinsman* not only make an extremely interesting story, but add to the historical significance of the vessel. There is no doubt that the wreck of the *Kinsman*, wherever it may lie, will represent a significant cultural resource.

REFERENCES CITED

Bureau of Marine Inspection and Navigation (BMIN)

- 1854 Enrollment Certificate No. 28 for the steamer *Gray Cloud*, March 7, 1854, Port of Pittsburgh. Ship's Enrollment Papers, Records of the Bureau of Marine Inspection and Navigation, Record Group 41, National Archives and Records Administration, Washington, D.C.
-
- 1859a Surveyor's Certificate of Admeasurement, for the steamer *Gray Cloud*, April 2, 1859, Port of New Orleans. Ship's Enrollment Papers, Records of the Bureau of Marine Inspection and Navigation, Record Group 41, National Archives and Records Administration, Washington, D.C.
-
- 1859b Enrollment Certificate No. 44 for the steamer *Gray Cloud*, April 5, 1859, Port of New Orleans. Ship's Enrollment Papers, Records of the Bureau of Marine Inspection and Navigation, Record Group 41, National Archives and Records Administration, Washington, D.C.
-
- 1860 Enrollment Certificate No. 24 for the steamer *Gray Cloud*, February 7, 1860, Port of Mobile. Ship's Enrollment Papers, Records of the Bureau of Marine Inspection and Navigation, Record Group 41, National Archives and Records Administration, Washington, D.C.
- Casey, Powell A.
1983 *Encyclopedia of Forts, Posts, Named Camps, and Other Military Installations in Louisiana, 1700-1981*. Claitor's Publishing Division, Baton Rouge.
- Clow, Richmond L.
1986 General William S. Harney on the Northern Plains. *South Dakota History* 16:230.
- Coggins, Jack
1983 *Arms and Equipment of the Civil War*. The Fairfax Press, New York.
- Cook, Dr. John K.
1855 Letter from Dr. John K. Cook, Sioux City, Iowa, to Major D.H. Vinton, St. Louis, December 14, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

Covington, James

- 1966 An Episode in the Third Seminole War. *Florida Historical Quarterly* 45:48-49.

Crosman, G.H.

- 1856a Letter from Major G.H. Crosman, St. Louis, to Major General T.S. Jesup, Washington, D.C., June 27, 1856. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

- 1856b Letter from Major G.H. Crosman, St. Louis, to Major General T.S. Jesup, Washington, D.C., July 1, 1856. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

- 1856c Letter from Major G.H. Crosman, St. Louis, to Colonel D.D. Tompkins, New Orleans, November 24, 1856. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

Daggett, J.D.

- 1855 Report of Captain J.D. Daggett, St. Louis, to Major D.H. Vinton, St. Louis, September 11, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

Farlis, Rofuna

- n.d. File of claim made by Rofuna Farlis, August 25, 1889. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

Fishbaugh, Charles P.

- 1970 *From Paddle Wheels to Propellers: The Howard Ship Yards of Jeffersonville in the Story of Steam Navigation on the Western Waters.* Indiana Historical Society, Indianapolis.

Fisk, H.N.,

- 1952 *Geological Investigations of the Atchafalaya Basin and the Problems of Mississippi River Diversion.* U.S. Army Corps of Engineers, Mississippi River Commission, Vicksburg, Mississippi.

Gibbons, Tony

- 1989 *Warships and Naval Battles of the Civil War.* W.H. Smith Publishers, Inc., New York.

Gibson, Charles D. and E. Kay Gibson

- 1995 *Dictionary of Transports and Combatant Vessels, Steam and Sail, Employed by the Union Army, 1861-1868.* Ensign Press, Camden, Main.

Goins, Charles Robert, and John Michael Caldwell

- 1995 *Historical Atlas of Louisiana.* University of Oklahoma Press, Norman.

Goodwin, R. Christopher, Jill-Karen Yakubik, Galloway W. Selby, and Kenneth R. Jones

- 1985 *Cultural Resources Survey of the Morgan City and Vicinity Hurricane Protection Project.* Submitted to the New Orleans District, U.S. Army Corps of Engineers.

- Gosnell, H. Allen
1949 *Gunboats on the Western Waters: The Story of the River Gunboats in the Civil War*. Louisiana State University Press, Baton Rouge.
- Groene, Bertram H.
1985 A Brief survey of the Principal Naval Actions on the Mississippi Sound--Lakes Borgne, Pontchartrain and Maurepas, 1861-1865. *Regional Dimensions* 3:26-46. Center For Regional Studies, Southeastern Louisiana University, Hammond, Louisiana.
- Hall, Tom
1896 Naval Battle on Mexican Gulf. *Confederate Veteran* 4:280.
- Harney, William S.
1855 Special Order No. 78, issued by Brigadier General William S. Harney, December 17, 1855, Headquarters of the Sioux Expedition, Fort Pierre, N.T. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.
- Harper's Weekly*
1863a The Fight at Corney's Bridge, Bayou Teche, Louisiana, and Destruction of the Rebel gun-Boat "Cotton," January 14, 1863. *Harper's Weekly*, vol. 7, no. 320, February 14, 1863, p. 101.
- 1863b Brashear City, Berwick's Bay, LA., Base of General Banks' Operations. Illustration from a sketch by F.H. Schell. *Harper's Weekly*, vol. 7, no. 332, May 9, 1863, p. 292.
- Hunter, Louis C.
1949 *Steamboats on the Western Rivers: Economic and Technological History*. Harvard University Press, Cambridge.
- Langford, Glenn
2000 Our Family Involvement in the Florida Indian Wars: 1835-1856. Internet web page: www.gate.net/~glang/indian.html.
- Maygarden, Benjamin, Aubra Lee, Roger Saucier, Melissa Braud, and Jill-Karen Yakubik
1997 *National Register Evaluation of the Bayou Jean Louis Cemetery (16SM89), Atchafalaya Basin Project, St. Martin Parish, Louisiana*. Submitted to the New Orleans District, U.S. Army Corps of Engineers, New Orleans
- Merrick, George Byron
1909 *Old Times on the Upper Mississippi: the Recollections of a Steamboat Pilot From 1854-1863*. A.H. Clark Co., Cleveland, Ohio
- Mitchell, C. Bradford (editor)
1975 *Merchant Steam Vessels of the United States, 1790-1868: The Lytle-Holdcamper List*. The Steamship Historical Society of America, Inc. Staten Island, New York.
- Montgomery, A.
1858 Letter from Captain A. Montgomery, New Orleans, to Major J. McKinstry, Fort Brooke, Florida, May 25, 1858. Vessel Papers, steamer *Gray Cloud*, Office of

the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

Naval History Division

1971 *Civil War Naval Chronology: 1861-1865*. Compiled by Naval History Division, Navy Department. Government Printing Office, Washington, D.C.

1968 *Dictionary of American Naval Fighting Ships*, vol. 3. Compiled by Naval History Division, Navy Department. Government Printing Office, Washington, D.C.

New Orleans District, U.S. Army Corps of Engineers

1999 Scope of Work issued October 1999. New Orleans District, U.S. Army Corps of Engineers.

Official Records of the Union and Confederate Armies in the War of the Rebellion (ORA)

1885 *Official Records of the Union and Confederate Armies in the War of the Rebellion*, Series 1, Vol. 12. Government Printing Office, Washington, D.C.

1886 *Official Records of the Union and Confederate Armies in the War of the Rebellion*, Series 1, Vol. 15. Government Printing Office, Washington, D.C.

1887 *Official Records of the Union and Confederate Armies in the War of the Rebellion*, Series 1, Vol. 21. Government Printing Office, Washington, D.C.

1889 *Official Records of the Union and Confederate Armies in the War of the Rebellion*, Series 1, Vol. 25. Government Printing Office, Washington, D.C.

1890 *Official Records of the Union and Confederate Armies in the War of the Rebellion*, Series 3, Vol. 3. Government Printing Office, Washington, D.C.

Official Records of the Union and Confederate Navies in the War of the Rebellion (ORN)

1903 *Official Records of the Union and Confederate Navies in the War of the Rebellion*, Series 1, Vol. 17. Government Printing Office, Washington, D.C.

1905 *Official Records of the Union and Confederate Navies in the War of the Rebellion*, Series I, Vol. 19. Government Printing Office, Washington, D.C.

1906 *Official Records of the Union and Confederate Navies in the War of the Rebellion*, Series I, Vol. 20. Government Printing Office, Washington, D.C.

1917 *Official Records of the Union and Confederate Navies in the War of the Rebellion*, Series I, Vol. 27. Government Printing Office, Washington, D.C.

1921 *Official Records of the Union and Confederate Navies in the War of the Rebellion*, Series II, Vols. 1 and 2. Government Printing Office, Washington, D.C.

Page, Francis

1856 Letter from Captain Francis Page, Fort Brooke, Florida, to Colonel D.D. Tompkins, New Orleans, November 24, 1856. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

- Pearson, Charles E. and Thomas C.C. Birchett
 1999 *The History and Archaeology of Two Civil War Gunboats: The Ironclad Gunboat USS Eastport and the Steamer Ed. F. Dix.* Coastal Environments, Inc., Baton Rouge. Draft report submitted to the Vicksburg District, U.S. Army Corps of Engineers.
- Pearson, Charles E., and Stephen R. James, Jr.
 1997 *Diving Assessment at Port Ingleside, GIWW-Corpus Christi Bay, Nueces County, Texas.* Coastal Environments, Inc. Submitted to Galveston District, U.S. Army Corps of Engineers.
- Pearson, Charles E., Stephen R. James, Jr., and J. Barto Arnold, III
 n.d. *History and Archaeology of the Nineteenth Century American Steamer Mary Summers.* Article submitted for review, *The American Neptune*.
- Pearson, Charles E. and Allen R. Saltus, Jr.
 1991 *Remote-Sensing Survey of the Atchafalaya Basin Main Channel, Atchafalaya Channel Training Projects, Sts. Martin and Mary Parishes, Louisiana.* Coastal Environments, Inc., Baton Rouge. Submitted to the New Orleans District, U.S. Army Corps of Engineers.
- Pearson, Charles E. and Allen R. Saltus, Jr.
 1996 *Underwater Archaeology on the Lower Pearl and West Pearl Rivers, Louisiana and Mississippi: The Examination of 11 Target Areas and Excavation of the Gunboat CSS Arrow.* Coastal Environments, Inc., Baton Rouge. Submitted to the Vicksburg District, U.S. Army Corps of Engineers.
- Pearson, Charles E. and Joe J. Simmons III
 1995 *Data Recovery of the Wreck of the Steamship Mary (41NU252) and Assessment of 7 Anomalies, Corpus Christi Entrance Channel, Nueces County, Texas.* Coastal Environments, Inc., Baton Rouge. Submitted to the Galveston District, U.S. Army Corps of Engineers.
- Peltier, C.J. Jr., and Lela King Lehmann
 1960 *A History of Morgan City, Louisiana.* The Morgan City Historical Society, Morgan City.
- Peterson, William J.
 1968 *Steamboating on the Upper Mississippi.* The State Historical Society of Iowa, Iowa City.
- Petsche, Jerome E.
 1974 *The Steamboat Bertrand: History, Excavation and Architecture.* National Park Service, Washington, D.C.
- Radford, R.D.
 1856 Letter from Captain R.D. Radford, Master of the *Gray Cloud*, to Major G.H. Crosman, St. Louis, June 27, 1856. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.
- Raphael, Morris
 1993 *A Gunboat Named Diana.* Harlo Press, Detroit.

Ripley, Warren

- 1984 *Artillery and Ammunition of the Civil War*. The Battery Press, Charleston, South Carolina.

Saltus, Allen R., Benjamin Maygarden, and Roger T. Saucier

- 2000 *Analysis and Technical Report of Remote Sensing Data for the USS Kinsman*. Earth Search, Inc., New Orleans. Draft report submitted to the New Orleans District, U.S. Army Corps of Engineers.

Sawyer, William D.

- 1978 The Western River Engine. *Steamboat Bill* 23(2):71-80.

Silverstone, Paul H.

- 1989 *Warships of the Civil War Navies*. Naval Institute Press, Annapolis, Maryland.

Stansbury, Roland R.

- 1999 *Remember the U.S.S. Col. Kinsman*. Report submitted to the Young-Sanders Center for the Study of the War Between the States, Morgan City, Louisiana.

Stern, Philip Van Doren

- 1992 *The Confederate Navy: A Pictorial History*. Da Capo Press, New York.

Tompkins, D.D.

- 1856a Letter from Colonel D.D. Tompkins, New Orleans, to Major General T.S. Jesup, Washington, December 5, 1856. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

-
- 1856b Telegram from Colonel D.D. Tompkins, New Orleans, to Major General T.S. Jesup, Washington, December 17, 1856. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

Tucker, Spencer

- 1989 *Arming the Fleet: U.S. Navy Ordnance in the Muzzle Loading Era*. Naval Institute Press, Annapolis.

Turnley, P.T.

- 1855a Letter from Captain P.T. Turnley, Fort Pierre, Nebraska Territory, to J.D. Radford, Master of the *Gray Cloud*, Between Leau Qui Court & White River, November 1, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

-
- 1855b Instructions from Captain P.T. Turnley, Fort Pierre, Nebraska Territory, to J.D. Radford, Master of the *Gray Cloud*, November 3, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

-
- 1855c Letter from Captain P.T. Turnley, Fort Pierre, Nebraska Territory, to Major D.H. Vinton, St. Louis, November 5, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

Turnley, P.T.

- 1855d Letter from Captain P.T. Turnley, Fort Pierre, Nebraska Territory, to Major D.H. Vinton, St. Louis, December 18, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

United States Army Engineer Department

- 1863 *Diagram Showing the Position of Our Works at and About Brashear City.* U.S. Army Engineer Department, Washington, D.C. Map copy on file at the Young-Sanders Center, Morgan City.

United States Geological Survey (USGS)

- 1994 *Morgan City, Louisiana.* 7.5-min topographic quadrangle. Scale 1:24,000. United States Geological Survey, Washington, D.C.

Vinton, D.H.

- 1855a Letter from Major D.H. Vinton, St. Louis, to Lieutenant Colonel Charles Thomas (?), Washington, September 13, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

-
- 1855b Telegram from Major D.H. Vinton, St. Louis, to Lieutenant Colonel Charles Thomas, Washington, October 23, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

-
- 1855c Telegram from Major D.H. Vinton, St. Louis, to Lieutenant Colonel Charles Thomas, Washington, October 25, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

-
- 1855d Letter from Major D.H. Vinton, St. Louis, to Dr. John K. Cook, Sioux City, Iowa, November 23, 1855. Vessel Papers, steamer *Gray Cloud*, Office of the Quartermaster General, Record Group 92, National Archives and Records Administration, Washington, D.C.

Way, Frederick

- 1994 *Way's Packet Directory: 1848-1994.* Ohio University, Athens, Ohio.

Winters, John D.

- 1963 *The Civil War in Louisiana.* Louisiana State University Press, Baton Rouge.

Work Projects Administration (WPA)

- 1942 *Ship Registers and Enrollments of New Orleans, Louisiana.* vols. 1-6. Prepared by the Survey of Federal Archives in Louisiana, Service Division, Work Projects Administration. On file at Hill Memorial Library, Louisiana State University, Baton Rouge.

Newspapers:

New Orleans Delta, 1861

New York Times, 1863