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Archaeological and Metal Detection Investigations of a 4-acre Proposed Development at the Levi Jordan Plantation State Historic Site (41B0165), Brazoria, Texas

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Archaeological and Metal Detection Investigations of a 4-acre Proposed Development at the Levi Jordan Plantation State Historic Site (41B0165), Brazoria, Texas

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Archaeological and Metal Detection Investigations of a 4-acre Proposed Development at the Levi Jordan Plantation State Historic Site (41BO165), Brazoria, Texas

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*WSA and experienced volunteers conducted limited metal detection investigations
at the Levi Jordan State Historic Site (41BO165), Brazoria, Texas.*

February 2015

WSA Technical Report No. 2015-03

Texas Antiquities Permit 7083



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a 4-acre Proposed Development at the Levi Jordan
Plantation State Historic Site (41BO165), Brazoria, Texas**

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February 2015
WSA Technical Report No. 2015-03
Texas Antiquities Permit 7083



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ABSTRACT

Report Title: *Archaeological and Metal Detection Investigations of a 4-acre Proposed Development at the Levi Jordan Plantation State Historic Site (41BO165), Brazoria, Texas.*

Report Date: February 2015

Report Number: WSA Technical Report No. 2015-03

Agency: Texas Historical Commission

Permit Number: Texas Antiquities Code (TAC) Permit 7083

Project Description: On behalf of the Texas Historical Commission (THC), William Self Associates, Inc. (WSA), conducted metal detecting and shovel test survey investigations of the east side of the Levi Jordan Plantation State Historic Site (41BO165), Brazoria County, Texas. The THC sponsored the current survey investigations in advance of proposed infrastructure improvements to a currently unoccupied, forested 4-acre tract on the northeast side of the property adjacent to FM 524. The surveys were conducted consistent with the requirements of the Texas Natural Resources Code Title 9, Chapter 191 (Texas Antiquities Code [TAC]) and accompanying Rules of Practice and Procedure (Texas Administrative Code, Title 13, Chapter 26), under Texas Antiquities Permit 7083. The metal detection survey included the participation experienced, volunteer metal detectorists under the guidance of the WSA archaeology team.

The investigations were focused on the proposed location of six boreholes, on an approximately 0.3 mile-long (1,600 ft) by 10 foot wide utilities corridor, as well as the locations of a proposed visitor center, parking lot, maintenance complex, and walking trail. These areas were subject to metal detecting at close spacing (approximately 2-m) by three metal detectorists. This was followed immediately by a shovel test survey, with tests placed at proposed borehole locations and then judgmentally based on metal detector survey results. Thirteen negative shovel tests were excavated in support of the survey investigations.

The metal detecting investigations resulted in the investigation of 106 separate pieces of metal, and the recovery and collection of 64 pieces of historic-age material including three surface finds. Metal detection resulted in the recovery of 25 plantation related artifacts, five possible plantation artifacts, 34 other historic-age artifacts, and 45 items that post-date 1965. One potential plantation related feature was identified as a possible structure remnant located at the south extent of the WSA surveyed portions of the tract. The structure is located along the southern pedestrian path and reconstruction/viewing area, south of the proposed visitor center and northeast of the original plantation slave quarters. No other evidence of plantation-era or other features were identified.

Acres Surveyed: 4

Project Number: WSA 2014-105

Project Location: Brazoria County, Texas

Unevaluated Properties: 1

NRHP Eligible Properties: 0

NRHP Ineligible Properties: 0

NRHP Listed Properties: 0

Isolated Occurrences: 0

Total Project Resources: 0

Recommendations: The location of the structural remnant is recommended for avoidance by the current project. Should there be any proposed ground disturbing impacts to the feature location, WSA recommends additional archaeological investigations in the form of hand excavated test units and metal detection prospection and recovery, to determine the nature, context, and extent of the feature, and any possible association with the plantation and its important historic context as a State of Texas Historic Site. The feature was identified by the metal detectorists as a relatively large area containing a high volume of buried metal that will require extensive excavation and treatment beyond Phase I survey level recording techniques to expose and thoroughly sample.

Indications are from the WSA surveyed portions of the 4-acre tract, that plantation-era artifacts are present, but in low density and widely scattered, and with the exception of the potential feature location (structure remnant), the area contains no intact, plantation-era features. Recovered artifacts are consistent with the use of majority of this area as active cropland during the primary plantation period. WSA recommends and respectfully requests THC concurrence that, except for the feature location as mapped in this report, there is a low probability that additional archaeological investigations will add to our understanding of plantation-age features or events within the investigated area. WSA recommends and respectfully requests that, except for the feature location as mapped in this report, there is little likelihood that any SAL or NRHP eligible components to Site 41BO165 will be impacted by the proposed project. WSA recommends and respectfully requests that, except for the feature location as mapped in this report, no additional archaeological investigations are warranted within the approximately 4-acre project area prior to construction, and that the remainder of the proposed project may proceed to construction with regard to the TAC, and that all TAC reporting-related consultations for the remainder of the proposed project be considered concluded and complete.

All recovered artifacts will be curated at the THC Austin facility. All modern trash documented during the investigations has been discarded.

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CHAPTER 1. MANAGEMENT SUMMARY

On behalf of the Texas Historical Commission (THC), William Self Associates, Inc. (WSA), conducted metal detecting and shovel test survey investigations of the east side of the Levi Jordan Plantation State Historic Site (41BO165), Brazoria County, Texas. The THC owns and manages the Levi Jordan Plantation State Historic Site (41BO165), six miles west of Brazoria, Texas, and four miles southeast of Sweeny, Texas, at the northwest corner of the intersection of Farm-to-Market Road (FM) 521 and FM 524 in Brazoria County, Texas. The THC proposes construction improvements to the northeast side of the property, adjacent to FM 524 (Figure 1). The approximately 4-acre property in question has not been subject to previous survey investigations, however extensive excavations have taken place adjacent to the plantation house and slave quarters (Brown and Cooper 1990; Brown 1995; McDavid 1998; THC 2014). The THC sponsored the current survey investigations in advance of the proposed infrastructure improvements. The surveys were conducted consistent with the requirements of the Texas Natural Resources Code Title 9, Chapter 191 (Texas Antiquities Code [TAC]) and accompanying Rules of Practice and Procedure (Texas Administrative Code, Title 13, Chapter 26), under Texas Antiquities Permit 7083. The metal detection survey included a public involvement component featuring assistance from experienced metal detectorists under the guidance of the WSA archaeology team.

The investigations were focused on the proposed location of six boreholes, on an approximately 0.3 mile-long (1,600 feet [ft]) by 10 foot wide utilities corridor, as well as the locations of a proposed visitor center, parking lot, maintenance complex, and walking trail (Figure 1). These areas were subject to metal detecting at close spacing (approximately 2-meter [m]) by three metal detectorists. This was followed immediately by a shovel test survey, with tests placed at proposed borehole locations and then judgmentally based on metal detector survey results. Thirteen negative shovel tests were excavated in support of the survey investigations.

The WSA 2014 metal detecting investigations of the wooded portion of the property between FM 524 and the existing pipeline corridor resulted in the investigation of 106 separate pieces of metal, and the recovery and collection of 64 pieces of historic-age material including three surface finds (see Chapters 7 and 8). Metal detection resulted in the recovery of 25 plantation related artifacts, five possible plantation artifacts, 34 other historic-age artifacts, and 45 items that post-date 1965. Plantation related artifacts consist of square cut nails, rail spikes, pre- and peri-Civil War lead projectiles, and agricultural items. One potential plantation related feature was identified at the south extent of the WSA surveyed portions of the tract. The location of a potential structure remnant is demarcated by scattered bricks and a large concentration of buried metal identified by the metal detectorists. The structure is located along the southern pedestrian path and reconstruction area, south of the proposed visitor center and northeast of the original plantation slave quarters. No other evidence of plantation-era or other features were identified.

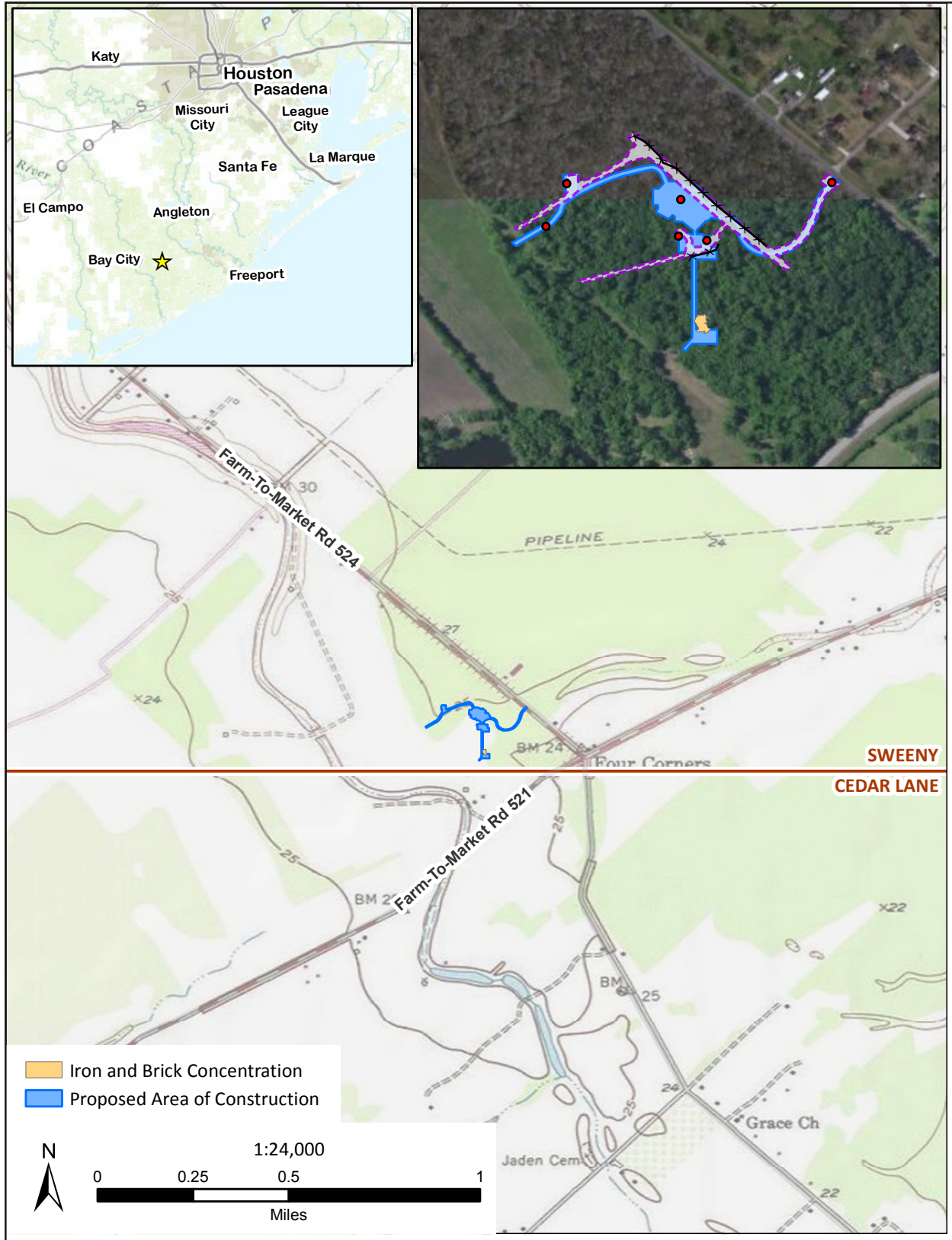


Figure 1. Project Area Location map.

The location of the structural remnant is recommended for avoidance by the current project. Should there be any proposed ground disturbing impacts to the feature location, WSA recommends additional archaeological investigations in the form of hand excavated test units and metal detection prospection and recovery, to determine the nature, context, and extent of the feature, and any possible association with the plantation and its important historic context as a State of Texas Historic Site. The feature was identified by the metal detectorists as a relatively large area containing a high volume of buried metal that will require extensive excavation and treatment beyond Phase I survey level recording techniques to expose and thoroughly sample.

Indications are from the WSA surveyed portions of the 4-acre tract, that plantation-era artifacts are present, but in low density and widely scattered, and with the exception of the potential feature location (structure remnant), the area contains no intact, plantation-era features. Recovered artifacts are consistent with the use of majority of this area as active cropland during the primary plantation period. WSA recommends and respectfully requests THC concurrence that, except for the feature location as mapped in this report, there is a low probability that additional archaeological investigations will add to our understanding of plantation-age features or events within the investigated area. WSA recommends and respectfully requests that, except for the feature location as mapped in this report, there is little likelihood that any SAL or NRHP eligible components to Site 41BO165 will be impacted by the proposed project. WSA recommends and respectfully requests that, except for the feature location as mapped in this report, no additional archaeological investigations are warranted within the approximately 4-acre project area prior to construction, and that the remainder of the proposed project may proceed to construction with regard to the TAC, and that all TAC reporting-related consultation for the remainder of the proposed project be considered concluded and complete.

All recovered artifacts will be curated at the THC Austin facility. All modern trash documented during the investigations has been discarded.

CHAPTER 2. INTRODUCTION

The Levi Jordan Plantation site (41BO165) is a historic sugar cane and cotton plantation established in 1848 by Levi Jordan and enslaved African-Americans and the plantation house was occupied continually up until the 1990s. The state historic site occupies approximately 93 acres in Brazoria County, Texas (See Figure 1). The current project is identified as a proposed visitor center, parking lot, maintenance complex and walking trail that encompasses approximately four heavily wooded acres located east of the historic plantation complex. The area that was proposed to be metal detected is a 0.3 mile long (1,600 feet) by 10 foot wide utilities corridor that was cleared of vegetation and that connects six proposed boreholes for sampling purposes. There are no indications that the proposed project area was ever developed or utilized for any purpose other than pasture or crop lands in support of the historic occupation.

The Levi Jordan Plantation Historic Site represents the antebellum and Reconstruction period of Texas and provides a unique opportunity to understand the agricultural history of the south and the early African American experience in Texas. Levi Jordan came to Texas in 1848 and purchased more than 2,200 acres in Brazoria County. The successive construction of the two-story Greek Revival-style house (Photo 1) and the slave quarters and ancillary buildings utilized the forced labor of enslaved people. The operation of the plantation, which primarily produced sugar and cotton, used some 134 enslaved laborers. After the Civil War and emancipation, many of the formerly enslaved person continued to work the land as tenant farmers, primarily producing cotton. The tenant farmers occupied the former slave quarters as freedmen until at least the 1880s (THC 2014).

From previous research, the area of the plantation house and slave quarters is known and has been subject to a number of investigations. The THC proposes construction improvements to the northeast side of the property, adjacent to FM 524 (See Figure 1). The area of the proposed improvements, as outside of the area of those structures, is presumed to have been agricultural field during the plantation era. The primary means of investigation of the proposed project area was with the use of metal detectors operated by experienced metal detectorists. The metal detection survey was followed immediately by a traditional shovel test survey of the area to meet the minimum requirements of the THC under the TAC and to serve as a control.

Metal detection investigations were conducted on December 20, 2014. Metal detection investigations were spearheaded by Dr. Greg Dimmick (Houston Archeological Society, DDC & Associates) and his crew of metal detectorists Gary Ralston (Calhoun County Historical Commission) and Kenneth Sabrsula (DDC & Associates). Dr. James Karbula functioned as WSA principal investigator for the project under Texas Antiquities Permit No. 7083; Deidra Black of WSA served as project archaeologist. Zachariah Jamieson of WSA served as staff technician. Limitations were very minimal and largely consisted of the boundaries of the project area. The weather (cool and overcast) and ground (nearly



Photo 1. Levi Jordan Plantation main house, view to the north.

completely saturated and generally devoid of rocks and large roots) were ideal for metal detection. WSA achieved complete coverage of all the planned project areas, including areas not initially slated for metal detection but within the project area. Artifacts as deep as 30 centimeters below surface (cmbs) were recovered.

Dr. James Karbula and Deidra Black are co-authors of the report. Deidra Black is responsible for the artifact analysis. Jimmy Mack of WSA contributed GIS expertise and report illustrations. Myriam Arcangeli of WSA is chief editor of the report. Draft report production occurred in late December 2014 through February 2015. All collected artifacts will be permanently curated at the THC curation facility in Austin, Texas.

This Introduction section (Chapter 2) is followed by a brief summary of the Environmental background (Chapter 3). The Previous Investigations and Archaeological Background (Chapter 4) draws heavily from McDavid (1998) and the THC (2014) summary of the plantation. In Chapter 5, there is a summary discussion of the project Field Methods. Chapter 6 effectively summarizes the Results of Field Investigations, and explains transects, shovel tests, and recovery from the project archaeologist perspective. Chapter 7 presents artifact analyses and interpretations. Chapter 8 presents the Assessment of Results, followed by Chapter 9 Summary and Regulatory Recommendations.

CHAPTER 3. ENVIRONMENTAL BACKGROUND

The project area is located on the coastal plain of Texas, on the Coastal Prairies province; this province has a general topography of nearly flat floodplains, with an elevation rise of less than one foot a mile (Bureau of Economic Geology [BEG] 1992). The surrounding ecoregion is Gulf Coast Prairies and Marshes (BEG 2010), and the river basin is Brazos-Colorado Coastal Bend (BEG 1996). The major vegetative/cover is a mix of Bluestem Grassland, Pecan-Elm Forest, and cropland (BEG 2000). The climate is warm and subtropical, with the weather largely dominated by the Gulf of Mexico. Hurricanes and tropical storms are not uncommon in the area (United States Air Force 1986).

Soils, Geology, Topography, Drainages

The Geologic Atlas of Texas, Houston and Beeville-Bay City Sheets (BEG 1982, 1987) show that the project area is mapped as Qal (Holocene Alluvium). The soil mapped in the area is Asa silty clay loam (United States Department of Agriculture [USDA] 2014a). This very dark, very clayey soil forms on the flat floodplains of the Brazos and Colorado rivers (USDA 2014b).

The topography of the area is quite flat. The nearest drainage is Cacklebur Slough, located approximately 190 m (623 ft) southeast of the project area (United States Geologic Survey [USGS] 1972a, 1972b). This drainage runs along the west side of the plantation house and slave quarters.

Current State, Disturbances

At the time of the survey, the area had experienced several weeks of recurring rain. This included a large rainstorm of several inches just the night before survey. The area was quite slick underfoot due to the saturated clays. The biggest disturbance in the area is an existing subsurface pipeline and maintained Right-of-Way (ROW). The pipeline traverses through the east-most slave cabin and was in place by the 1940s (Google Earth 2014).

CHAPTER 4. PREVIOUS INVESTIGATIONS, ARCHAEOLOGICAL BACKGROUND, AND HISTORY OF DEVELOPMENT

Previous Investigations

There have been no intensive surveys performed in the current project area based on the available records. However, there have been extensive excavations conducted at the location of the plantation house and slave quarters. The earliest of these was about 1986, with excavations conducted from then through the 1990s under the direction of Dr. Kenneth Brown and Carol McDavid (McDavid 1998; Brown and Cooper 1990).

Based on those extensive efforts, the location and nature of the plantation house and slave quarters, as well as some ancillary structures is known. Based on previous investigations, the area of the current project was presumed to be the location of cropland.

Historic Context

A comprehensive description of Antebellum South or Texas, and the particulars of chattel slavery in Brazoria County will not be presented in this study, but have been detailed elsewhere. The context of the project area, Levi Jordan Plantation, within the framework of the Antebellum South and chattel slavery has been put forth by both Brown and McDavid in a number of publications and briefly summarized here (McDavid 1998).

Levi Jordan was born at the end of the eighteenth century in Georgia. In 1848, he acquired some 2,200 acres in Brazoria County and traveled to the area with at least 12 enslaved persons and much of his family. The enslaved persons built the plantation house, slave cabins, a brick sugar-house, and a large sugar mill for processing sugar cane. The primary product of the plantation was sugar cane, with some cotton also being grown. After the Civil War, many of the enslaved persons stayed on the property as tenant farmers, but production shifted largely from sugar cane to cotton. Levi Jordan died in 1873 and the property was divided amongst his grandsons but not his granddaughter. By the early 1880s, most of these grandchildren were dead. In the 1880s the northern half of the property, which contained the plantation house and former slave quarters, was in possession of the four sons of the granddaughter of Levi Jordan. Shortly after a series of lawsuits and creditors in 1892, the land was divided among the four boys and they reportedly forced the remaining tenant farmers off the property (McDavid 1998; THC 2014).

In the mid-1990s, the Levi Jordan Plantation Historical Society was created as an advocacy group for the site and included site descendants and community members. The site was privately owned by site descendants until 2001 when it was transferred to the State of Texas. In 2008, the site management was transferred from Texas Parks and Wildlife Department to the Texas Historical Commission (McDavid 1998; THC 2014).

CHAPTER 5. FIELD METHODS

WSA coordinated with the management staff of the Levi Jordan State Historic Site regarding the 811 utilities call and locating all underground utilities to ensure that all buried utilities in the project area were marked. WSA conducted an archaeological metal detecting survey within the identified approximately 0.3 mile long (1,600 feet) by 10 foot wide utilities corridor that was cleared of vegetation and that connects six proposed boreholes for sampling purposes. Approximately three overlapping 2-m wide metal detecting transects were conducted through the cleared 10 foot wide (3 m) utilities corridor. WSA conducted six shovel tests at proposed bore test locations, and six additional shovel tests in other areas of proposed disturbance within the approximately 4 acres of proposed project. WSA worked with volunteer metal detectorists with state-wide experience metal detecting at Texas' historic sites to thoroughly survey the utilities corridor. Highly saturated ground and cool weather conditions resulted in very high penetration by the sensors of the metal detectors and thus, very thorough recovery of historic materials. The provenience of all investigated metal detecting hits was recorded with ground positioning system (GPS) hand-held units, differentially corrected and accurate to within 50 centimeters (cm).

Under the direction of WSA and Dr. Gregg Dimmick (experienced metal detectorist), two teams of two to three individuals each—a volunteer detectorist and one WSA archaeologist, and two volunteer detectorists with one WSA archaeologist—proceeded along the established utilities corridor. All detected metal objects were immediately tested by shovel and/or probes by WSA staff archaeologists; possible historic artifacts were collected, bagged with appropriate provenience information, and removed for laboratory analysis and curation. All the positive “hits” were recorded by a WSA GIS specialist using a sub-meter global positioning system (GPS) receiver, and recorded on an artifact log. Shovel tests of metal detector “hits” continued until the absence of metallic objects was indicated by the metal detector. All modern trash was discarded. All excavation, recording, and collection of historic material was conducted and supervised by WSA professional archaeologists. The metal detection survey proceeded with such efficiency that the three detectorists were able to conduct three overlapping transects approximately 1.5 to 2.0 m wide within the cleared corridor, and then were able to conduct two sets of three transects over the location of the proposed parking lot, visitor center, walking and interpretive trail, and reconstruction area.

The specific metal detection equipment utilized varied by individual, but included machines similar to Fisher 1236-X2, White 5900/DI PRO SL, and White Sierra Madre 950. All of these models essentially employ the same technology: they are very low frequency (VLF) detectors, or induction balance detectors, that have transmitter and receiver coils that generate a magnetic field, transmitting it into the ground and receiving a signal reflected by conductive objects (e.g., metal). These signals are interpreted by the specific unit and transmitted to the operator via audible signals into their headphones. A VLF detector's effective survey depth is dependent on the specific model, but also by the use of discriminator settings that can be varied from “pinpoint” to more broadly “iron” (or other metal settings);

in most cases, this effective depth ranges from the surface to at least 12 inches deep. In addition, as Dr. Dimmick has participated in a previous metal detection survey, with WSA for the THC, and possesses a more powerful, 2010 MineLab Etrac metal detector that is able to identify and recover more (and more deeply buried) artifacts, he and his equipment were employed to the maximum extent possible across the survey area to confirm the termination of any specific hit and subsequent artifact identification and recovery. A sub-meter accurate GPS device was used to map the locations of metal detector shovel tests, and all artifacts recovered in metal detection probes.

After the conclusion of the metal detector survey, a traditional shovel test survey was conducted in all the proposed project elements. The shovel test locations were the six proposed bore holes, as well as additional areas based on the results of the metal detector portion of the survey. The shovel tests were 30 cm in diameter and excavated to the depth of anthropogenic deposits revealed by the metal detector survey, or 30 cmbs. All excavated materials from shovel tests was placed in screens of quarter-inch hardware cloth, but did not go through the screen; the material was instead subject to trowel sorting to look for artifacts.

CHAPTER 6. RESULTS OF FIELD INVESTIGATIONS

Summary

Field investigations at Levi Jordan Plantation Historic Site (41BO165) consisted of a metal detecting survey with associated recovery shovel probes, traditional shovel test survey, GPS Trimble mapping, and subsurface artifact collection. Field crews were supervised by the principal investigator and project archaeologist, and consisted of two teams. Each team included one WSA mapping specialist and excavator and one to two metal detectorist volunteers (Photo 2). The metal detection survey identified one anomaly feature during field investigation in addition to a number of historic artifacts and modern debris. In total, nine transects were subject to metal detecting survey and 106 shovel probes were excavated, resulting in the recovery of 61 artifacts from probes and 3 artifacts from the surface, 25 of which relate to the plantation era of the site (Figure 2). An additional five artifacts may possibly date to the plantation era of the site, and 34 historic-age artifacts post-date the plantation era. The remainder of the materials recovered from the metal detector probes post-date 1965 and was discarded. The investigations achieved significant archaeological sampling data in an area that was thought to be an agricultural field during the plantation era and was expected to have a very low volume of artifacts. Survey efforts in the proposed project area produced content information on artifacts and artifact distribution on the plantation era and following historic use of the area. This survey indicated that plantation era remnants are located in the project area, and that remote sensing equipment in the form of metal detectors are useful tools in exploration of the project site type and context.

Metal Detector and Shovel Probe Survey

Prior to the survey, personnel from the THC marked and cleared a 0.3 mile, 10 foot wide utility corridor connecting the proposed borehole locations, and marked the proposed test boreholes. Some areas of proposed infrastructure were marked with wooden stakes. Most of the boreholes were marked with plastic stakes and/or rebar driven into the ground. Outside of the cleared area, the vegetation consisted of a hardwood canopy with sparse woody brush such as oleander mid-canopy, and an understory of saw palmetto, greenbrier, poison ivy, and other small leafy plants. Ground visibility was generally zero due to a layer of leaves on the surface.

On the day of survey, WSA archaeologists were joined by three volunteer metal detectorists (Photo 3). The volunteers provided their own well-calibrated metal detectors, experienced operators, pinpoint handheld metal detectors, and probing shovels, allowing WSA archaeologists to quickly and efficiently record location data and respond in real time to any important discoveries (Photo 4). The two metal detector teams started from either end of the cleared utility corridor. The team with one metal detectorist scanned the corridor concentrating on the center of the corridor. The team with two metal detectorists scanned



Figure 2. Distribution and relative age of recovered metal objects in the project area.



Photo 2. Cleared utility corridor, view to the east.



Photo 3. Expert metal detectorists, L-R Kenneth Sabrsula, Gregg Dimmick, Gary Ralston.



Photo 4. WSA staff archaeologist Zach Jamieson and volunteer metal detectorist Gary Ralston examine the survey area.

the corridor focusing on the corridor edges. Each team covered the entirety of the cleared corridor. This resulted in a 10 foot (3 m) swath covered by 1.5-2.0 m wide transects that significantly overlapped. Any time a potential historic sensor hit was located, the location was probed with shovels until the metallic object that triggered the sensor was found. In the field, the items were examined and a rough determination of “likely plantation age,” “possibly plantation age,” “historic but not plantation age,” and “modern” were made. All potentially historic materials were collected, labeled, and the depth of the object recorded. All investigated metal detector sensor hits were logged into the Trimble GPS. All artifacts were then recorded in the field log and boxed for transportation to the WSA office in Austin, Texas. Modern items were discarded on-site.

After the initial metal detector survey of the utility corridor was completed, additional metal detecting was conducted in the heavily vegetated proposed parking lot, visitor center, pedestrian interpretive trail, and reconstruction area at the southern terminus of the trail. The metal detectorists volunteered to conduct these additional studies on site. Working together, the three metal detectorists surveyed much of the proposed visitor center in one set of three short transects. The metal detecting team then conducted one set of three long transects that spanned from the proposed parking lot, through the remaining unsurveyed portion of the

visitor center, down the proposed pedestrian interpretive trail, and ending at the proposed reconstruction area, resulting in complete coverage of the proposed infrastructure.

Very few obstacles were encountered by the metal detecting investigations. Both the weather (cool and overcast) and soil conditions (nearly saturated, minimal rocks or large roots) were ideal for thorough, deep metal detector coverage. The cleared path was very easy to traverse, aside from a few slippery spots and water filled hog wallows (Photo 5). The vegetated areas were not particularly dense and were easily walked and examined with the metal detectors. The operators and WSA archaeologists are confident that a significant majority of metallic plantation era artifacts present in the proposed project area were recovered, with the exception of a concentration in the southwest corner (See Chapter 8).



Photo 5. An example of a large hog wallow near the center of the project area, view to the southwest.

Shovel Test Survey

After the conclusion of the metal detecting investigation, a traditional shovel test survey was conducted in the proposed project area. The first six shovel tests were excavated adjacent to the proposed borehole locations. An additional seven shovel tests were excavated and placed judgmentally based on the results of the metal detector survey (Photo 6). The shovel tests were 30 cm wide and excavated to a depth of 30 cm based on the depth of artifacts found in the metal detector survey. The tests confirmed the mapped soil conditions in the area as

a very thick, sticky wet clay (Table 1). Archaeologists were not able to force the excavated soil through quarter inch hardware cloth screens, so instead resorted to trowel-sorting the material in search of artifacts. The shovel tests were all negative for cultural material. It is possible that small artifacts were missed during shovel sorting because they blended into the matrix, but it is more likely that the metal detectors were successful at recovering artifacts prior to the shovel testing.



Photo 6. WSA staff archaeologist Zach Jamieson excavates a shovel tests in the area of high metal detector sensor hits that suggest a likely structure location. Note the two very large live oak trees in the background. View to the south-southwest.

Table 1. Results of shovel test investigations.

ST Letter	ST Number	Profile	Depth (cmbs)	Termination Pos/Neg
C	1	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	2	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	3	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	4	0-30 cmbs 10YR 3/3 dark brown silty clay	30	Neg
C	5	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	6	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	7	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	8	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	9	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	10	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	11	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	12	0-30 cmbs 10YR 2/1 black silty clay	30	Neg
C	13	0-30 cmbs 10YR 2/1 black silty clay	30	Neg

CHAPTER 7. ARTIFACT ANALYSIS

Methods

All artifacts were examined visually prior to any other work. Artifact types included metal, paper, and ceramic. Metals recovered included iron/steel/ferrous alloy, copper/copper alloy, lead, and chrome. Due to the nature of the environment in the iron, iron preservation was poor; ferrous items were very corroded. All artifacts were dry brushed or washed with water as appropriate, dependent on the material and state of preservation. Any item that was washed with water was allowed to dry thoroughly.

All artifacts were weighed to the nearest tenth of a gram if possible. All artifacts were examined visually with no magnification, and then under tabletop lighted magnifying glass if necessary. Lead items were examined for any impressions or seams. All artifacts were measured in multiple dimensions and described in general terms. Artifacts with identifiable characteristics were researched in an attempt to determine date(s) of manufacture, potential association with the plantation, and other useful information. Only cleaned artifacts were photographed.

All observations were recorded in a project-specific Microsoft Excel database.

Each artifact was assigned a catalog number, labeled, tagged, and bagged in accordance with THC curation policies, which were confirmed to be the same as those of the Texas Archeological Research Laboratory (TARL).

Artifact Descriptions

In total, 64 artifacts were analyzed, although some comprised multiple fragments (Table 2, Appendix A). If more than one fragment from a single location was determined to belong to the same object, those fragments together were treated as a single artifact. Unfortunately a long use-time of some of the artifacts that spans from the plantation era to after the plantation era, and continued occupation of the plantation during that time, mean that some of the artifacts could only be declared likely or possibly plantation age, not absolutely. Historic artifacts that have a terminus post quem of after the American Civil War could be declared definitely post-plantation era. All artifacts classified as being of “historic-age” are at least 50 years old. Several of the artifacts were of indeterminate age and may meet the 50-year age criterion or could be modern in origin (i.e., less than 50 years old). Each of these categories is discussed below.

Table 2. Artifact tabulations.

Likely Plantation Age	25
Brick	5
Bullet	1
Chain link	1
Forged iron fragment	2
Hoe	1
Lead blob	1
Musket ball	4
Pot lid	1
Rail spike	3
Square nail	6
Possibly Plantation Age	5
Bullet	1
Can Lid	1
Vessel side	2
Wire	1
Not Plantation Age	34
Barbed wire	8
Can and Bottle Opener	1
Chain link	1
Coin	1
Handle	1
Hook	1
Nail	3
Pocket knife	1
Shell casing	2
Shotgun shell cap	6
Tractor till (?)	1
Wire	8
Grand Total	64

Plantation Related

No artifact could be absolutely associated with the plantation era of the site. However, based on the use and purpose of artifacts, base metals, general morphology, and form and manufacture techniques, combined with a terminus post quem and terminus ante quem favorably spanning the plantation era of the site, the category of “Plantation Related” could be applied to 25 of the 64 artifacts. These are: brick (n=5), lead bullet (n=1), lead blob (n=1),

lead musket ball (n=4), square nail (n=6), rail spike (n=3), pot lid (n=1), hoe (n=1), forged iron fragment (n=2), and chain link (n=1).

A total of five brick fragments were recovered during the project (Photo 7). Two of the fragments are rather small, and recovered in association with metal items; the other three were found on the surface associated with the likely structure location. All of the bricks save the largest are bright red; the largest is a dark reddish brown and appears to have been subject to repeated exposure to high heat. All of the bricks have the appearance of being hand packed and bear a close resemblance to the bricks that were observed on the surface in the location of the slave quarters. Shortly after the American Civil War, powered machinery capable of mass producing brick appeared and the resulting bricks became available on the market (Clayton 1855, De Hoop 2014); this along with the resemblance to known plantation era bricks suggests these bricks are from the plantation era. Red bricks on the plantation are seen in foundations, fireplaces, and the well.

A total of four lead musket balls, ranging in size from 8.1 to 13.7 grams, were found; in addition a lead blob 14.1 grams in weight with a similar patina to the musket balls was found (Photo 8). Musket balls have been around in this form since at least the eighteenth century and in the smaller pistol size since the turn of the nineteenth century, but are generally obsolete by 1870 as more accurate bullets come into popularity. Further, a bullet that matches the description of the Civil War era 0.44-0.45 caliber CSA Tennessee Rifle was recovered (Henrique 2014, McKee and Mason 1980, Thomas and Thomas 1996), with a tight use-time of the mid-1850s to the mid-1860s.

The majority of the square nails and rail spikes were recovered from the same general area. The nails are all L-headed and have a rectangular cross-section (Photo 9). The switch from square to rectangular cross section being most common occurs around the turn of the nineteenth century as partial-animation of nail production begins and nail production switches from hand forged type A nails to cut type B nails. Cut nails are generally phased out with the appearance of machine made draw wire-cut nails in 1890 (Nelson 1963, Visser 2014). The rail spikes (Photo 10) are of a form that has been virtually unchanged from 1832 to the modern era, except that high carbon spikes have usually been embossed with “HC” on the top since about 1910 (Iles 1912, Scientific American 1898).

The other iron/ ferrous alloy objects are generally related to domestic and agricultural uses. The cast iron pot lid fragment with heavily worn hanging hook area on the handle is domestic. The hoe, completely worn to a nub, is the most obvious agricultural item (Photo 11). Of the fragments of hand-forged iron, one is unidentifiable but one may be a fragment of a horse or mule shoe, also generally agricultural-related. Finally, the hand-forged chain-link has a number of potential plantation relations, from the hoists for sugar cane to the shackles that were sometimes used on the enslaved persons. When compared to domestic and agricultural items throughout the history of the area, these generally fit within the morphology and manufacture of the mid-nineteenth century.



Photo 7. Bricks, handmade. (top L-R A66, A81, S2; bottom L-R S1, S3).



Photo 8. Lead artifacts. Top row, L-R: lead blob (B10), flat bottomed bullet (A73), fired musket ball (A59). Bottom Row, L-R: musket ball (A73), musket ball (A56), musket ball (B6), cf. CSA Tennessee Rifle 0.44-0.45 caliber two ring lead bullet.



Photo 9. Cut nails, bottom right reworked into a hook. (top row L-R A19, A13, A10; bottom row L-R A9, A45, A62).



Photo 10. Rail spikes, note patina on the left. (L-R A11, A15, A3).



Photo 11. Hoe, worn to a nub (A60).

Possibly Plantation Related

There were additional artifacts with a terminus post quem and terminus ante quem that overlapped the plantation era of the site, but whose span was so large and appearance so general that they could only be assigned the category “Possibly Plantation Related,” based on some time overlap and nothing more (n=5). These are: lead bullet (n=1), can lid (n=1), copper alloy vessel panel (n=2), and wire (n=1).

The lead bullet has a flat bottom that is the only identifiable feature of a bullet nearly flattened by impact. Some flat bullets are in existence of the American Civil War and thus the plantation era, but concave bottoms are much more common (Henrique 2014, McKee and Mason 1980, Thomas and Thomas 1996).

The can lid is a ferrous alloy of some sort, and is about the size of a modern food or drink tin; lids of this sort have been around since the early nineteenth century but could date as late as from the mid-twentieth century (Blumenthal 1990). The can lid is very fragmented and fragile.

The wire is copper or a copper alloy, has some degree of shaping into a rectangle, and is fragmented and fragile. The ability to draw copper and copper alloy wire has been around for over a thousand years and is still in use (Newbury and Notis 2004). Further, copper and brass wire were used in the nineteenth century for accoutrements such as buckle components (Alexander 1955). However, drawn copper wire is still in use today, largely in electronic and jewelry applications.

The copper alloy vessel panels are fairly thick (1 millimeter [mm]) but also lacking in any surviving decoration or markings (Photo 12). Careful unfolding and refitting of the panels show that they were likely once a single panel that has since broken apart. Copper and copper alloy was commonly used for vessels in the sugar cane industry in the region and at the time (Few and Dial 1999). However, the fragmented and partial nature of the two panels does not lend evidence to a definable form. Copper and copper alloy flattened into panels were used during much of the nineteenth century for accoutrements and containers (Alexander 1955).

Historic Not Plantation Related

The largest category of recovered historic-age artifacts were those with a terminus post quem that post-dates the plantation era of the site (n=34). These are: barbed wire (n=8), can and bottle opener (n=1), chain link (n=1), coin (n=1), handle (n=1), hook (n=1), nail (n=3), pocket knife (n=1), shell casing (n=2), shotgun shell cap (n=6), wire (n=8), and a possible tractor till tine (n=1).

The most common potentially historic items recovered during survey were barbed wire fragments. Barbed wire was patented in the 1870s and many of the hundreds of designs patented in the nineteenth century are still in use (Krell 2002; Randall 2007; NPS 2008). There are two patents found in the barbed wire recovered from this site. The less common is Baker Flat, also referred to as “Baker’s Viscious” wire, patented in 1883, but it generally fell out of use by the twentieth century. The other is J.F. Glidden “The Winner”, patented in 1874 and it is setting the stage for all the others. “The Winner” first appeared as two-pronged, like that found at the site, and is still available today, though the four-prong version of “The Winner” became the most popular model sometime in the mid twentieth century (NPS 2008).

The next most common artifact is drawn wire, mostly steel/ferrous alloy. Many of these are likely unwound non-barbed sections of barbed wire. Reliably consistent drawn wire of steel and other ferrous alloys was generally available after 1870. Two of these are actually staples for barbed wire. These could date to anytime from after 1860 to today (Randall 2007).

The shotgun shells are all 0.12 gauge and are the caps of paper cartridges (Photo 13). The headstamps for these date them from the 1880s to 1910s. Modern shotgun shells, post-1965, were also observed but not collected in the project area. The shell casings are from a 0.44



Photo 12. Copper vessel panel (B16).



Photo 13. Turn of the century shotgun shell heads. (top L-R B4, B3, B5, bottom L-R B7, B8, B9).

dating from between the 1880s and 1920s and a 0.310 dating from the 1950s. Additional shell casings, mostly for 0.22 and 9 mm rounds but dating post-1965 were observed in the project area, but not collected (Budd 2014; Steinhauer 2014).

The nails are all round head wire cut; one of them has a lead-head commonly used for roofing. These could date to any time after 1890, but there is a good probability they are less than 50 years in age (Nelson 1963, Visser 2014). The can and bottle opener is of the “Yankee” variety produced between 1902 and 1906 (Snodgrass 2004). The twisted chain link could date to any time in the twentieth century. The hook is of a style used for block and tackle, likely from sometime between 1870 and the 1930s. The pocketknife is a Case, with a logo typical for the period between 1940 and 1966 (Case 2014). The handle is a ferrous alloy clad in chrome, and is the interior pull handle of a truck from the 1930s, such as the International Harvester Company Truck (Bogomolov 2002). One large ferrous alloy item appears to be a tine from a tractor till, and the association with a tractor places it in the twentieth century. Finally, the coin is a 1944 “Walking Liberty” silver half dollar (Photo 14).



Photo 14. 1944 “Walking Liberty” silver half dollar (A59).

Conclusions and Recommendations

Of the 64 artifacts collected during the recent metal detecting work at Levi Jordan Plantation, none could be absolutely related to the plantation era. A total of 25 can be considered likely associated with the plantation era. Five additional items may possibly be related to the plantation era. An additional 34 items are historic-age but post-date the plantation era at the site. An additional 45 items were investigated but discarded as modern on-site. In general, the artifact assemblage skews heavily to the nineteenth century.

The lead items collected from the survey have the potential to provide more information than is possible to gather based on visual examination. Lead isotope analysis could indicate the source of the lead used to make the projectiles and thus leads to a potential history for the items. It is likely some of it is associated with plantation activities. It is also possible some of it could be related to the expression of the American Civil War at the plantation, such as Levi Jordan's blockade running smuggling ship business.

CHAPTER 8. SYNTHESIS AND ASSESSMENT OF RESULTS

The WSA 2014 metal detecting investigations of the wooded tract adjacent to FM 524 resulted in the investigation of 106 separate metal detector probes, 13 standard shovel tests, and the recovery of 64 artifacts of historic-age (Appendix A). Of these, 25 are related to the plantation era of the site, an additional five may possibly be plantation era, and 34 are historic in age but post-date the plantation era.

In reviewing the artifacts, artifact distribution, and notes from the survey, the results of investigations can be assessed in four broad topics: Spikes and Nails in the Northwest Corner; Plantation Era Munitions Distribution; Post-Plantation Era Barbed Wire and Munitions Distributions; and a Structural Remnant (Figure 3).

Spikes and Nails in the Northwest Corner

The majority of the cut square nails and all of the rail spikes come from within the corridor in the northwest corner of the survey area. It is probable that additional artifacts of this type are present outside of the survey corridor as well, given the observed artifact density and distribution in this area. These items were generally recovered between 10 and 30 cmbs. There is no historic record nor any indication from the metal detector results of a structure at this location. There is also no rail line recorded in the area. The closest is the Brazos and Colorado Railroad, established in 1856, and located about nine miles north. It is possible there were spurs built to remove sugar cane to the large mill, but there are no remaining ties, rails, or grade. It is more likely that used rail ties may have been used in an agricultural feature, possibly something like a wooden road to remove sugar cane in bulk through the muddy fields. Unfortunately, these materials have only a general nineteenth century provenience and not any more resolute dating.

Plantation Era Munitions Distribution

The scant but present munitions, in the form of lead musket and pistol balls, and the one CSA Tennessee Rifle bullet, were recovered in an area located approximately 40-150 m due north of the eastern-most slave cabin remains. These artifacts likely are related to plantation activities that occurred in the fields behind or north of the main building complex. To speculate, it could be hunting small game in the field behind the garden associated with the slave cabins, target practice, enforcement of the bonds of chattel slavery, or possibly items dropped during transport associated with the Levi Jordan's blockade-running smuggling boat during the Civil War.

Post-Plantation Era Barbed Wire and Munitions Distributions

The distribution of the barbed wire and post-plantation era munitions is best understood in review of an aerial image from 1943. In this image, there are fence lines in the location of two observed fences in the field. The northwest-southeast running line is the best defined and in the 1943 aerial is already heavily wooded. This suggests that this portion of the property was reverted to woods for several decades. This wooded area was the location of most of the turn of the twentieth century shotgun shell heads, the ca. 1902–1906 can opener, and the can lid. Likely these materials were all deposited in a short series of years, shortly after the reported removal of tenant farmers by the Martin boys. The majority of the barbed wire fragments are also found in close proximity to this well-defined fence line, and likely represent an ongoing history of barbed wire installation and replacement. In general, these distributions do give some insight as to the use of the property in the early- to mid-twentieth century.

Likely Structure Location

The most significant of the findings is a possible structure remnant identified with the metal detectors (Figure 4). The metal detectors all identified a concentration of various types of metal objects at varying depths, which typically signifies the remains of a structure, in an area approximately 300 square meters in size, measuring 25 m north to south and 12 m east to west. This concentration was lightly probed but every sensor reading was not investigated due to the likelihood this would disturb any intact subsurface features, and potentially compromise documentation of the context and tight provenience more likely to be achieved with controlled and broad hand excavations. Interestingly, in the 1943 aerial image, there is some sort of anomaly at the corner of a field that correlates to the location. What this anomaly is, is not readily apparent on the image, but it is very similar in appearance to the anomalies observed in the locations of the known slave cabins and cisterns in the same photograph. The possible structure remnant, slave cabins and cisterns all exhibit similar anomalies in the 1943 photograph (Figure 4). Around and in this possible structure remnant is a concentration of items that relate to the plantation era of the site. This includes several fragments of handmade bricks, the previously discussed musket balls, a square nail, a fragment of a cast iron cooking lid, wrought iron fragments including a possible horse or mule shoe fragment, and a hoe that has been worn down to a nub. The bricks are very similar to those that can be observed at the remains of the known slave cabins (Photos 15, 16). However, artifact density is moderate to low and the possible structure does not have the foundation type as seen in the slave cabins. It may be the remains of some ancillary structure related to the goings-on of the plantation. Also of note, there are two very large live oak trees which demarcate the southern corners of the likely structure location.

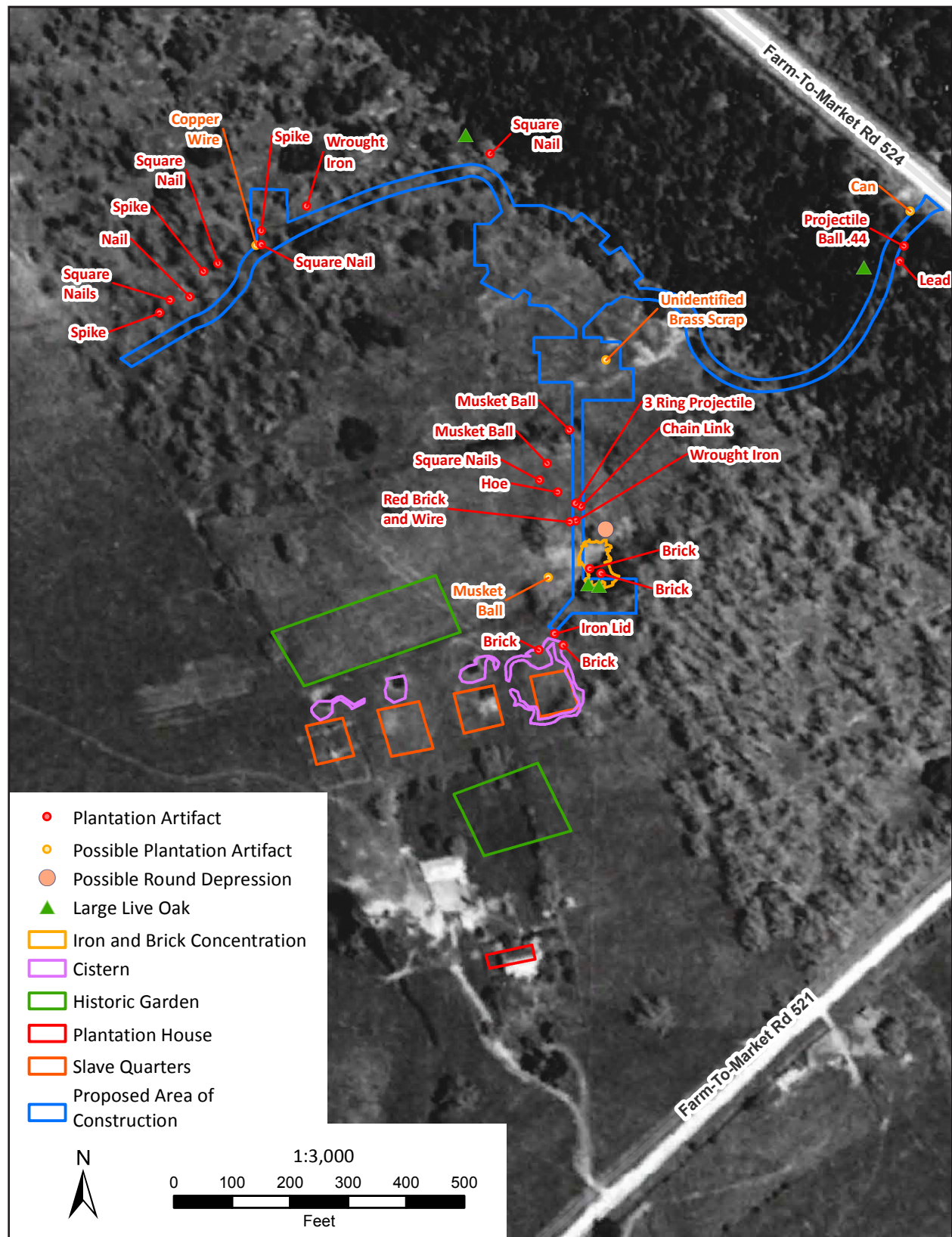


Figure 4. Plantation-age artifact distributions over a 1943 aerial photograph. Note the southern concentration of plantation artifacts and the similarity of “anomalies” on the aerial photograph between the slave quarters and the area of the round depression and artifacts identified to the north.



Photo 15. The location of the four blocks of known slave cabins,
recently cleared of brush. View to the west.



Photo 16. A hand-made brick observed on the surface in the
vicinity of the excavated slave cabin remains.

This location is approximately 45 m north-northeast of the northeast corner of the eastern-most known slave cabin. This location has the potential to yield more archaeological data and information about the history of the site.

CHAPTER 9. SUMMARY AND REGULATORY RECOMMENDATIONS

Work Conducted

On behalf of the THC, WSA conducted metal detecting and shovel test survey investigations of the wooded project area of Levi Jordan Plantation Historic Site (41BO160) adjacent to FM 524. The site has been subject to previous state agency regulatory coordination and extensive archaeological and architectural investigations of the slave quarters and plantation house. The current project is identified as a proposed visitor center, parking lot, maintenance complex and walking trail that encompasses approximately four heavily wooded acres located east of the historic plantation complex. The THC proposed metal detecting and shovel test survey investigations in advance of these proposed construction elements. The surveys were conducted consistent with the requirements of the Texas Natural Resources Code Title 9, Chapter 191 (TAC) and accompanying Rules of Practice and Procedure (Texas Administrative Code, Title 13, Chapter 26), under Texas Antiquities Permit 7083. The metal detection survey included a public involvement component featuring assistance from experienced metal detectorists under the guidance of the WSA archaeology team.

The WSA 2014 metal detecting investigations of the approximately 4-acre tract adjacent to FM 524 resulted in the investigation of 106 separate metal detector sensor hits (45 modern trash), and the recovery and collection of 64 artifacts of historic age. Metal detection resulted in the recovery of 25 plantation age, five possibly plantation age, and 34 historic-age but not plantation age artifacts. In total, nine overlapping transects were surveyed by three metal detectorists in two teams, resulting in extensive survey coverage of the approximately 4-acre tract. The 25 plantation age artifacts are composed of lead ammunition, and both domestic and agricultural items.

Regulatory Recommendations

The potential structure remnant spatially overlaps the proposed reconstruction area at the southern terminus of the pedestrian walking and interpretive trail (see Figures 3 and 4). The location of the structural remnant is recommended for avoidance by the current project. Should there be any proposed ground disturbing impacts to the feature location, WSA recommends additional archaeological investigations in the form of hand excavated test units and metal detection prospection and recovery, to determine the nature, context, and extent of the feature, and any possible association with the plantation and its important historic context as a State of Texas Historic Site. The feature was identified by the metal detectorists as a relatively large area containing a high volume of buried metal that will require extensive excavation and treatment beyond Phase I survey level recording techniques to expose and thoroughly sample.

Indications are from the WSA surveyed portions of the 4-acre tract, that plantation-era artifacts are present, but in low density and widely scattered, and with the exception of the potential feature location (structure remnant), the area contains no intact, plantation-era features. Recovered artifacts are consistent with the use of majority of this area as active cropland during the primary plantation period. WSA recommends and respectfully requests THC concurrence that, except for the feature location as mapped in this report, there is a low probability that additional archaeological investigations will add to our understanding of plantation-age features or events within the investigated area. WSA recommends and respectfully requests that, except for the feature location as mapped in this report, there is little likelihood that any SAL or NRHP eligible components to Site 41BO165 will be impacted by the proposed project. WSA recommends and respectfully requests that, except for the feature location as mapped in this report, no additional archaeological investigations are warranted within the approximately 4-acre project area prior to construction, and that the remainder of the proposed project may proceed to construction with regard to the TAC, and that all TAC reporting-related consultations for the remainder of the proposed project be considered concluded and complete.

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APPENDIX A. ARTIFACT ANALYSIS

Metal Detector/ Shovel Test/ Surface Find	Letter	Number	Depth (cmbs)	Item	Material	Description	Weight (g)	Terminus Post Quem	Terminus Ante Quem	Dates to time of Plantation?
MD	A	66	10	Brick	fired clay	red brick fragment, possible a weathered corner. 14 mm (9/16") wide, 13 mm (1/2") thick, 19 mm (3/4") long	2.7	17th C	ca. 1860s	Likely
MD	A	81	20	Brick	fired clay	red brick fragment, possibly a weathered face. 17 mm (11/16") thick, 15 mm (5/8") wide, 22 mm (7/8") long	5.4	17th C	ca. 1860s	Likely
Su	S	1	0	Brick	fired clay	very dark reddish brown brick (appears very burned), about 3/4 of a full size brick, hand-packed, 4 faces. 105 mm (4 1/8") wide, 57 mm (2 1/4") thick, 152 mm (6") long	>500	17th C	ca. 1860s	Likely
Su	S	2	0	Brick	fired clay	red brick fragment, most of 1/2 of a hand-packed brick, 1 face has fragments of white mortar. 65 mm (3 3/8") wide, 58 mm (2 1/4") thick, 95 mm (3 3/4") long	474.8	17th C	ca. 1860s	Likely
Su	S	3	0	Brick	fired clay	red brick fragment, most of 1/2 of a hand-packed brick, 4 faces, shell inclusions, iron spot (possibly nail stain), 110 mm (4 5/16") wide, 60 mm (2 3/8") thick, 108 mm (4 1/4") long	>500	17th C	ca. 1860s	Likely
MD	B	22	10	Bullet	lead	pointed bullet, 2 smooth grooves, recessed bottom, concentric rim cavity, cf. 44-45 caliber CSA Tennessee Rifle, 18 mm (3/4") long, 12mm (7/16") diam.	15.4	ca. mid 1850s	ca. late 1860s	Likely
MD	B	21	10	Chain link	steel/ferrous alloy	hand-wrought chain link, square cross section, open end cut/pinched, 65 mm (2 1/2") long, 30 mm (1 3/16") wide, 7 mm (1/4") thick, inner diameter 15 mm (5/8") by 55 mm (2 1/8")	27.2	17th C	--	Likely
MD	A	30	10	Forged iron fragment	iron/ferrous alloy	hand-wrought iron fragment, bent bar shape, 25 mm (1") long, 13 mm (1/2") wide, 6 mm (1/4") thick	8.1	17th C	--	Likely
MD	A	65	8—10	Forged iron fragment	iron/ferrous alloy	flat, rectangular fragment of hand worked iron, possibly a horseshoe fragment. 16 mm (1/2") wide, 6 mm (1/4") thick, 30 mm (1 3/16") long	9.3	18th C	ca. early 20th C	Likely
MD	A	60	5—10	Hoe	iron/ferrous alloy	hoe, blade completely worn down. Internal diameter of tool shaft 56 mm (2 3/16"), front to back 75 mm (2 15/16"), side to side 82 mm (3 1/4"), top to bottom (43 mm (1 11/16"), widest part 82 mm (3 1/4"))	238.4	17th C	ca. mid 20th C	Likely
MD	B	10	12	Lead blob	lead	lead blob, heavy palina. 26 mm (1 5/16") by 14 mm (9/16") by 21 mm (13/16")	14.1	ca. 17th C	--	Likely
MD	A	56	10	Musket ball	lead	musket ball, round, one end deformed (bad pour?), sprue detach point visible. 12 mm (1/2") diam., 10 mm (3/8") narrowest dimension	8.7	18th C	ca. 1870	Likely
MD	A	59	10	Musket ball	lead	fire, distorted, 9 mm (5/16") thick, 17 mm (11/16") width, 23 mm (1 5/16") length	13.7	18th C	ca. 1870	Likely
MD	A	73	10—15	Musket ball	lead	Round, faceted, 11-12 mm (7/16") diam	8.7	18th C	ca. 1870	Likely
MD	B	6	10	Musket ball	lead	musket ball, round, faceted, likely pistol shot, 11 mm (7/8") diam.	8.1	ca. 1800	ca. 1870	Likely
MD	A	10	10	Square Nail	iron/ferrous alloy	L-head, cut square nail in wedge shape, rectangular cross-section. 26 mm (1") long, 3 mm (1/4") thick	1.2	ca. 1800	ca. 1890	Likely
MD	A	79	0—5	Pot lid	iron	cast iron pot domed lid fragment with handle; heavily worn hook spot in middle of handle. 7 mm (1/4") thick, 38 mm (1 1/2") tall, 125 mm (4 7/8") wide, 132 mm (5 3/16") long	494.4	18th C	--	Likely
MD	A	3	0—10	Rail spike	iron/ferrous alloy	rail spike: square profile, oblong head. 120 mm (4 3/4") long, 13 mm (1/2") thick, wedge 22 mm (7/8") long, top 28 mm (1 1/8") by 33 mm (1 5/16") and 6 mm (1/4") thick	152.6	1832	--	Likely
MD	A	11	15—20	Rail spike	iron/ferrous alloy	rail spike: square profile, oblong head, spike bent into an arc, lots of palina similar to lead artifacts. 118 mm (4 5/8") long, 13 mm (1/2") thick, head 30 mm (1 3/16") by 37 mm (1 3/4") and 6 mm (1/4") thick	163.9	1832	--	Likely
MD	A	15	20	Rail spike	iron/ferrous alloy	rail spike: square profile, oblong head. 108 mm (4 1/4") long, 13 mm (1/2") thick, wedge 16 mm (5/8") long, head 29 mm (1 1/8") by 37 mm (1 7/16") and 7 mm (1/4") thick	151.3	1832	--	Likely
MD	A	13	10	Square nail	iron/ferrous alloy	L-head cut square nail in wedge shape, rectangular cross-section. 3 mm (1/8") thick, 33 mm (1 5/16") long	1.3	ca. 1800	ca. 1890	Likely
MD	A	19	10	Square nail	iron/ferrous alloy	L-head cut square nail in wedge shape, rectangular cross-section, tip missing. 4 mm (3/16") thick, 42 mm (1 11/16") long	5.1	ca. 1800	ca. 1890	Likely
MD	A	62	10	Square nail	iron/ferrous alloy	L-head cut square nail in wedge shape, rectangular cross section, bent into hook shape. 5 mm (3/16") thick, 58 mm (2 1/4") long	12.8	ca. 1800	ca. 1890	Likely
MD	A	9	30	Square nail	iron/ferrous alloy	L-head cut square nail in wedge shape, rectangular cross section. 4 mm (3/16") thick, 75 mm (3 1/16") long	7.1	ca. 1800	ca. 1890	Likely
MD	A	95	20	Square nail	iron/ferrous alloy	L-head cut square nail in wedge shape, rectangular cross section, tip missing. 4 mm (3/16") thick, 68 mm (2 11/16") long	6	ca. 1800	ca. 1890	Likely
MD	A	22	10—15	Barbed wire	steel/ferrous alloy	Baker Flat ("Baker's Viscious") 2-point barbed wire. 55 cm (21 3/5") long	18.7	1883	ca. early 20th C	No
MD	A	32	10	Barbed wire	steel/ferrous alloy	J.F. Glidden "The Winner" two point barbed wire, 121 mm (4 3/4") long	10.6	1874	--	No
MD	A	34	10	Barbed wire	steel/ferrous alloy	Baker Flat ("Baker's Viscious") 2-point barbed wire. 55 cm (21 3/5") long	27.7	1883	ca. early 20th C	No
MD	A	36	10	Barbed wire	steel/ferrous alloy	Baker Flat ("Baker's Viscious") 2-point barbed wire. 15 cm (5 7/8") long	10.5	1883	ca. early 20th C	No
MD	A	38	10—15	Barbed wire	steel/ferrous alloy	J.F. Glidden "The Winner" two point barbed wire, several circles of a roll	1162.9	1874	--	No
MD	A	50	15—20	Barbed wire	steel/ferrous alloy	J.F. Glidden "The Winner" two point barbed wire, 32 mm (1 1/4") long	7.5	1874	--	No

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MD	A	70	5—10	Barbed wire	steel/ferrous alloy	J.F. Glidden "The Winner" two point barbed wire. 50 cm (19 3/5") long	47.5	1874	--	No
MD	B	19	10	Barbed wire	steel/ferrous alloy	J.F. Glidden "The Winner" two point barbed wire. 54 cm (2 1/8") long	4.7	1874	--	No
MD	A	55	10	Can and Bottle Opener	steel/ferrous alloy	"Yankee" corkscrew with combination can and bottle opener. 136 mm (5 3/8") long, 9 mm (3/8") thick in middle	36.7	1902	1906	No
MD	B	25	10	Chain link	steel/ferrous alloy	drawn wire chain link, welded. 1/2 twist. 52 mm (2 1/16") long, 21 mm (1 1/16") wide, inner diameter 12 mm (1/2") by 31 mm (1 1/4")	22	ca. late 19th C	--	No
MD	A	59	10	Coin	Silver, misc. alloys iron/ferrous alloy, chrome/brass/ copper alloy	1944 silver U.S.A. half dollar, "Walking Liberty", .30 mm (1 3/16") diam., 1.5 mm (1/16") thick cast (?) iron pull handle with chrome cladding, brass pins in the hinge. Interior door handle, cf. International IHC Truck. 20 mm (9/16") wide, 5 mm (3/16") thick, 140 mm (5 1/2") long	12.2	1944	--	No
MD	A	80	0—5	Handle	iron/ferrous alloy	large hook/pulley tackle, cast (?) iron, likely handmade, tip broken and base very worn, .98 mm (3/78") long, 17 mm (11/16") average thickness	89.9	ca. 1930	ca. 1940	No
MD	A	63	10—15	Hook	iron/ferrous alloy	lead head drawn wire nail, round top. 50 mm (2") long, shaft 4 mm (3/16") diam., head 11 mm (7/16") diam.	128.6	ca. 1870s	ca. 1930s	No
MD	A	28	10	Nail	steel/ferrous alloy, lead	round top drawn wire nail. 92 mm (3 5/8") long, shaft 5 mm (3/16") diam., head 8 mm (5/16") diam.	5	ca. 1890s	--	No
MD	A	28	10	Nail	steel/ferrous alloy	round top drawn wire nail. 92 mm (3 5/8") long, shaft 5 mm (3/16") diam., head 8 mm (5/16") diam.	7.7	ca. 1890s	--	No
MD	A	28	10	Nail	steel/ferrous alloy	round top drawn wire nail. 92 mm (3 5/8") long, shaft 5 mm (3/16") diam., head 8 mm (5/16") diam.	7.7	ca. 1890s	--	No
MD	A	4	10	Pocket knife	bakelite or plastic or tortoise shell	"CASE" pocketknife, diamond shaped brass plate on faux wood case, brass ends, steel blades. 84 mm (3 5/16") long, 11 mm (3/16") thick	45.3	1940	1966	No
MD	A	43	5	Shell casing	copper/copper alloy	.310 shell casing headstamp "866 WW SUPER WINMAG" 14 mm (9/16") thick, 63 mm (2 1/2") long	15.5	ca. 1950s	ca. 1950s	No
MD	B	12	10	Shell casing	brass/copper alloy	.44 shell casing, headstamp "WRA CO 44 WCF". 13 mm (1/2") diam., 18 mm (3/4") long	3.7	1886	1928	No
MD	B	3	10	Shotgun shell cap	copper/copper alloy, paper	.12 gauge shotgun shell cap, paper inside, headstamp "WRARIVAL", 22 mm (7/8") diam.	3.4	1890	1899	No
MD	B	4	10	Shotgun shell cap	copper/copper alloy, paper	.12 gauge shotgun shell cap, paper inside, headstamp "UMC CO RACK CLUB" 22 mm (7/8") diam., 22 mm (7/8") long	4.3	1895	1899	No
MD	B	5	12	Shotgun shell cap	copper/copper alloy, paper	.12 gauge shotgun shell cap, paper inside, headstamp "UMC NO 12 NEW CLUB", 22 mm (7/8") diam.	3.6	1911	1915	No
MD	B	7	10	Shotgun shell cap	copper/copper alloy, paper	.12 gauge shotgun shell cap, paper inside, headstamp "PETERS TARGET" with a large P around the center pin, 22 mm (7/8") diam.	5.8	1910	1924	No
MD	B	8	10	Shotgun shell cap	copper/copper alloy, paper	.12 gauge shotgun shell cap, paper inside, headstamp "REM UMC NEW CLUB" 22 mm (7/8") diam.	1.4	1911	1914	No
MD	B	9	10	Shotgun shell cap	copper/copper alloy, paper	.12 gauge shotgun shell cap, headstamp "WINCHESTER REPEATER", 22 mm (7/8") diam.	3	1896	1901	No
MD	A	76	10	Tractor till (?)	iron/ferrous alloy	possible till from tractor, nut and bolt attached. 345 mm (13 1/2") long	>500	ca. 1910s	--	No
MD	A	33	0—10	Wire	steel/ferrous alloy	drawn wire fragment. 3 mm (1/4") diam. 35 cm (13 7/10") long	16.4	ca. 1860s	--	No
MD	A	37	10	Wire	steel/ferrous alloy	drawn wire staple, 32 mm (1 1/4") long, 4 mm (3/16") thick, 20 mm (13/16") wide, 10mm (3/16") inner opening	5	ca. 1870s	--	No
MD	A	39	0—10	Wire	steel/ferrous alloy	drawn wire staple, 32 mm (1 1/4") long, 4 mm (3/16") thick, 20 mm (13/16") wide, 10mm (3/16") inner opening	5.1	ca. 1870s	--	No
MD	A	57	10	Wire	steel/ferrous alloy	drawn wire. 32 mm (1 1/4") long, 3 mm (1/8") diam.	1.2	ca. 1860s	--	No
MD	B	13	10	Wire	steel/ferrous alloy	drawn wire fragment. 2 mm (1/16") thick, 29 mm (1 1/8") long	1	ca. 1860s	--	No
MD	B	25	15	Wire	steel/ferrous alloy	drawn wire, loose coil at one end. 122 mm (4 13/16") long, 2 mm (1/16") thick	4.6	ca. 1860s	--	No
MD	B	75	10	Wire	steel/ferrous alloy	drawn wire, eye wire shape (loop at one end). 115 mm (4 5/8") long, 3 mm (1/8") thick, loop inner diameter 12 mm (1/2"), outer diameter 19 mm (3/4")	5.9	ca. 1860s	--	No
MD	A	73	110—15	Bullet	lead	flat bottom, fire, very deformed. 5 mm (3/16") thick, 17 mm (11/16") diam, flat bottom 9 mm (3/8") diam	9.5	ca. 1855	--	Possible
MD	B	2	10—15	Can Lid	steel/ferrous alloy	metal can lid, fragmented. 12 mm (1/2") thick, 55 mm (2 3/16") thick	9.3	ca. 1810	ca. mid 20th C	Possible
MD	B	16	10	Vessel side	brass/copper alloy	rectangular metal plate, likely a vessel side, possibly assoc. with sugar cane production. 140 mm (5 1/2") by 165 mm (6 1/2")	61.2	?	--	Possible
MD	B	16	10	Vessel side	brass/copper alloy	rectangular metal plate, likely a vessel side, possibly assoc. with sugar cane production. 165 mm (6 1/2") by 159 mm (6 1/4")	77.3	?	--	Possible
MD	A	18	10	Wire	copper/copper alloy	drawn copper wire. 22 cm (8 7/10") long, 3 mm (1/8") thick	6.1	ca. 17th C	--	Possible
MD	A	66	10	Wire	steel/ferrous alloy	drawn wire fragment, possibly barbed wire counter-wrap. 3 mm (1/8") diam, 89 mm (3 1/2") long	2.9	ca. 1860s	--	No

