

## UNDERWATER SURVEY AT PARRIS ISLAND

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The 1989 search for remains of Charlesfort included an underwater component which was conducted by SCIAA underwater staff, Judy Wood, from the Savannah District, Corps of Engineers, and an array of volunteers. Our marine search involved a reconnaissance of Means' Creek, underwater metal detection, visual inspection of targets, and a profile of the creek just below 38BU1193 (Fig. 48, Area A). These events occurred between May 11th and July 28th of 1989, and they represent only a cursory attempt to locate 16th century artifacts that might lie at the bottom of Means' Creek, which runs between the site search area and the eastern marshes.

As an adjunct to the primary goal of searching for Charlesfort was the secondary objective of locating evidence of Le Prince (El Principe in contemporary Spanish accounts), a French ship which ran aground in Port Royal Sound in late December, 1576. Chester DePratter, co-principal investigator of the Charlesfort search, discovered archival information which places the shipwreck in the vicinity of Parris Island. Our Le Prince search included a reconnaissance of the waters east of Parris Island, a magnetometer run from the Marine Corps yacht basin south to a point just off Parris Island spit, a series of magnetometer transects over an identified anomaly target, and a test probe of suspected signatures (Fig. 48).

### Charlesfort Search

#### Purpose

A marine archaeological component to the Charlesfort search was initiated due to three propositions: 1) if survivors of Charlesfort were unable or unwilling to take their artillery with them on their heroic departure from the island (See Appendix I), then there is a high probability that some of these guns may have been thrown into Means' Creek; 2) if Charlesfort were positioned adjacent to the creek, then one would expect to find artifacts that were thrown into the water through everyday activity of its inhabitants; and 3) if the site of Charlesfort has been destroyed by Means' Creek through erosion, then artifacts originally in or around the fort should now be incorporated in creek sediments.

We anticipated that a magnetometer survey along the creek channel would provide a good sampling of iron debris on the creek bottom or beneath its surface. Handheld metal detectors and divers would be used to pinpoint locations of anomalies identified with the magnetometer. Finally, a profile of the creek deposits related to the water level would provide preliminary data on erosion conditions along the creek and types of bottom sediments.

### Magnetometer Survey

Charlesfort survivors built a twenty ton vessel to escape the island in 1563, and they could have used some of the fort's cannons as ballast. A preliminary study of the cannons by Chester DePratter indicate there would have been too much weight using all eight guns (See Appendix I). Two of the guns were brass falcons probably weighing 700 to 800 pounds each and the other six were iron culverins probably weighing between 1,200



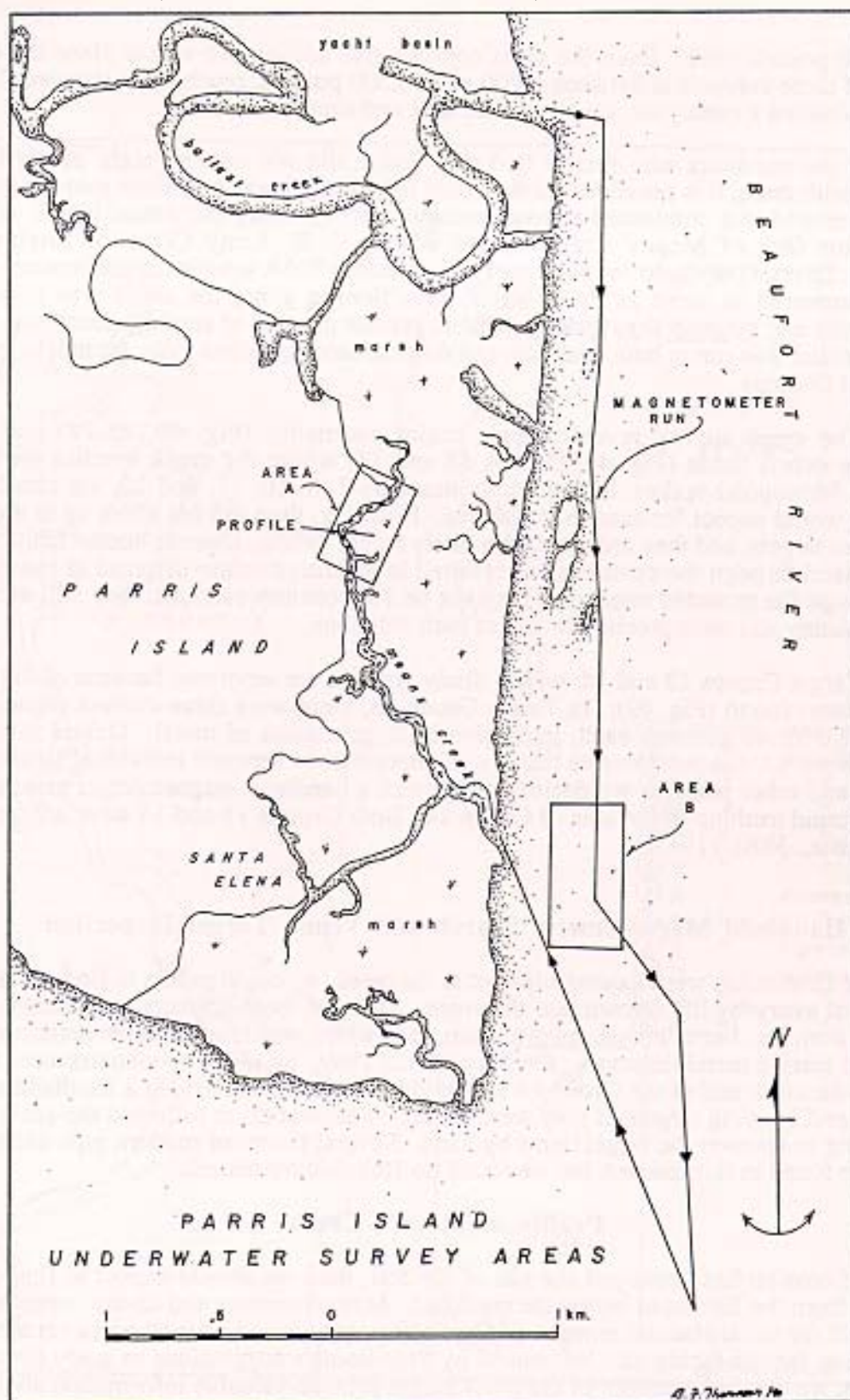


Figure 48. Underwater survey areas in Means' Creek and the Beaufort River.



and 2,000 pounds each. Even the most conservative accounting would place the total weight of these cannons at between 8,700 and 13,500 pounds, much more than would be needed to ballast a twenty ton vessel with 22 men and supplies on board.

If the survivors who finally fled Charlesfort did not take all eight of the fort's cannons with them, it is possible that they may have thrown some of them into the creek. For this reason, we conducted a magnetometer survey along the entire length of the Charlesfort fork of Means' Creek. Judy Wood, U. S. Army Corps of Engineers, Savannah District, arranged for the use of a Geometrics 806A marine magnetometer. She also volunteered to serve as its operator. Positioning along the creek was done by timekeeping and ranging, thus making difficult precise plotting of anomaly locations. The magnetometer was run in both upstream and downstream directions in an attempt to cross-check our findings.

The creek survey revealed eight major anomalies (Fig. 49, #5-12) and two extensive debris fields (Fig. 49, Groups 13 and 14) where the creek touches the high ground. Monopolar spikes, like anomaly numbers 7, 8, 10, 11, and 12, are similar to what we would expect for cannon signatures. However, time did not allow us to ground truth these targets, and they are more than likely recent debris. Diverse human activity on Parris Island through the centuries has resulted in extensive refuse disposal in the creek; even though the recorded anomalies may not be 16th century cannons, they still warrant closer scrutiny and more precise plotting of their locations.

Target Groups 13 and 14, within Study Area A, are separated because of the type of signatures found (Fig. 49). In Target Group 13, there were three distinct monopolar spikes of over 40 gammas each, indicative of large masses of metal. Debris revealed within Group 14 was so extensive that it was impossible to separate individual signatures. For this and other reasons, we decided to attempt a handheld magnetometer search and visual ground truthing in the area of Group 14. Both Groups 13 and 14 were adjacent to the land site, 38BU1193.

### **Handheld Magnetometer Search and Visual Target Inspection**

If Charlesfort were located adjacent to the creek, we could expect to find artifactual remains of everyday life thrown into the creek. Many of these artifacts would have been made of iron, i.e., barrel hoops, spikes, scrap, etc., which would make them detectable by handheld marine metal detectors. On May 11-12, 1989, an initial reconnaissance of the creek at the north end of the Group 14 area involved one diver carrying a handheld metal detector and bouying targets as they were found. A second diver followed the same path attempting to uncover the target items by hand. Several pieces of modern pipe and scrap iron were found in this manner, but we found no 16th century material.

### **Profile of Mean's Creek**

If erosion has destroyed the site of the fort, then we should expect to find some artifacts from the fort on or below the creekbed. Magnetometers and divers were used in our search for the artifactual remains of Charlesfort, but we had no method as yet to study the erosion factors facing us. Influenced by Stan South's suggestions to study the creek make-up, we decided a profile of the creek might provide valuable information about the way in which the area has changed over the years. The the profile was taken adjacent to the terrestrial search area (Site 38BU1193), where there was easy access to the creek and a relatively workable water depth at low tide (Fig. 48, Area A).



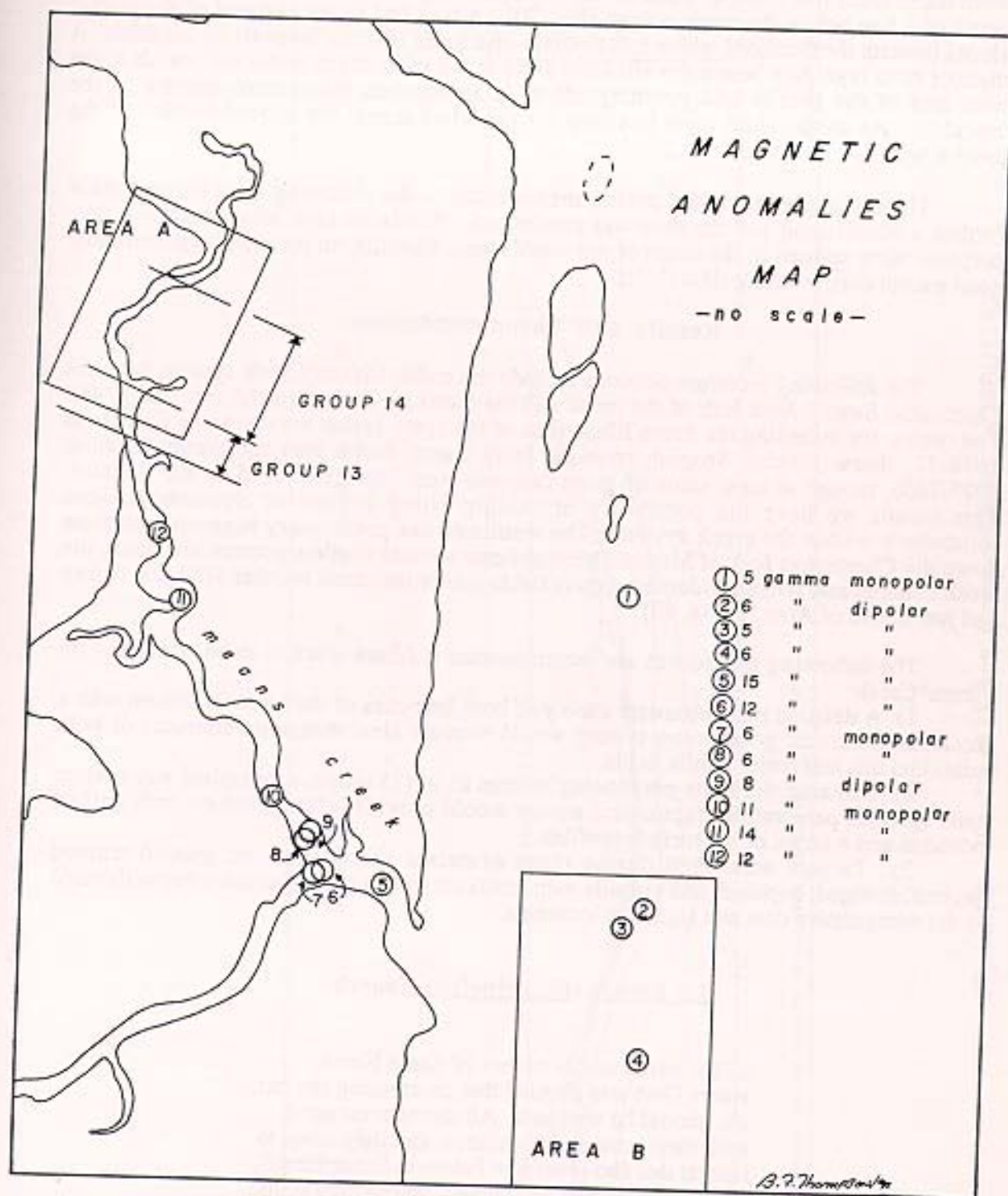


Figure 49: Plot of magnetic anomalies in Means' Creek and the Beaufort River.

A line was stretched and leveled above and across the creek, then measurements were taken from line level to water level, to the creekbed and through sediment beds to a depth of 1.5 m below the creek bottom (Fig. 50). A clay bed in the east end of the profile slopes beneath the creekbed where it is overlain by a loose silt/clay layer 40-80 cm thick. A distinct sand layer lies below the silt /clay zone at 1.2 m in depth under the marsh at the west end of the profile and pinching off as it approaches the eastern quarter of the creekbed. An oyster shell layer lies atop the creekbed across the central portion of the creek's width.

Upon completion of the profile measurements, the incoming tidal current made further work difficult and the dive was terminated. Within an hour after mean low tide, porpoise were spotted to the south of our work area. Visibility in the creek was normally good except during strong tidal flows.

### Results and Recommendations

The following recommendations include the entire Means' Creek system, both the Charlesfort Search Area fork of the creek and the Santa Elena fork of the creek (Fig. 48). The reason for including the Santa Elena fork of the creek is that we know the French, in 1576-77, threw several Spanish cannons from Santa Elena into the water (Connor 1925:265), though at least some of those cannons were later recovered by the Spanish. This means we have the possibility of finding either French or Spanish cannons somewhere within the creek system. The results of our preliminary magnetometer run down the Charlesfort fork of Means' Creek indicate several single signature hits along the creek channel and two considerable debris fields where the creek touches land just before and just inside of Area A (Fig. 49).

The following procedures are recommended if future work is to be attempted on Means' Creek:

- 1) A detailed magnetometer survey of both branches of the creek in unison with a precision electronic positioning system would provide clear magnetic contours of both individual hits and major debris fields.
- 2) Utilizing the same positioning system as in (1) above, a complete sub-bottom sonar (ground penetrating electronics) survey would provide information on both artifact locations and a series of subsurface profiles.
- 3) Targets uncovered during these exercises should then be ground truthed (probed, dredged, exposed, and visually inspected) utilizing a prioritization scheme dictated by the comparative data and signature locations.

### Le Prince (El Principe) Search

..."she came to this harbor of Santa Elena, where God was pleased that on crossing the bar, she should be wrecked. All the men escaped, with their arms and munitions, and they came to land at this fort [Fort San Felipe at Santa Elena], which was burned and ruined, where they found your Majesty's artillery that was here, and threw it into the sea."

-Pedro Menendez Marques to the King,  
Santa Elena, October 21, 1577 (Connor 1925:269)



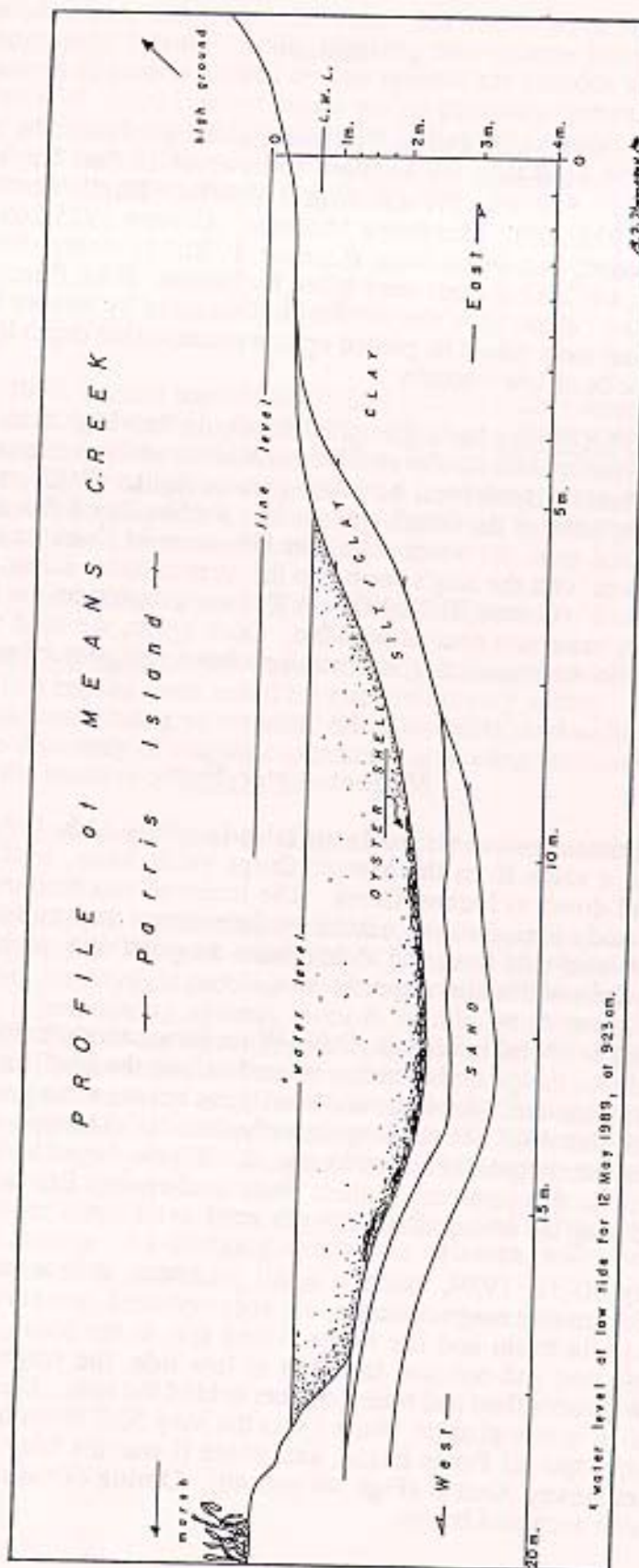


Figure 50: Profile of Means' Creek adjacent to 38BU1193.

## Purpose

According to both Menéndez and Íñigo Ruíz de Castresana, the poop of Le Prince was visible in 1577 as the ship lay aground somewhere in Port Royal Sound (Connor 1925:269, 1930:27). She was French-owned, possibly English-built, with 500 tons capacity (Connor 1925:269). Menéndez Marqués (Connor 1925:269) says there were only 180 men aboard, but Íñigo Ruíz (Connor 1930:27) states that there were 280 Frenchmen aboard, and 200 of them were killed by Indians. If Le Prince ran aground on a sandbar off Fort San Felipe, then she should be detectable by remote sensing. Her iron cannons, fittings, and tools would be picked up to a considerable depth by a magnetometer, but the signal might be of low intensity.

Should the Le Prince have grounded firmly before high tides and winds could dislodge her, she would have slowly sank into the sands and have been further buried by wave action, sediment dynamics, and her own weight. With archival references mentioning only the poop of the vessel, there is also the likelihood that a portion of her hull might have separated from the wreck site. The Governor of Cuba was told by Menéndez Marqués that a storm "cast the ship's poop into the river of Santa Elena, but it is not known where the hull struck" (Connor 1925:337). With these considerations in mind, we set out to collect as much basic site data as possible. Once again, we used the handheld metal detectors, Geometrics magnetometer, and metal probes as our search implements.

## Magnetometer Run

A reconnaissance team visited Parris Island on May 11th, 1989, in order to take a small boat along a route from the Marine Corps yacht basin, south along the island's eastern shore and down to Means' Creek. The intent of this reconnaissance was to look over the entire study area, to note natural sedimentation as it occurred along the sand islands, and associated tidal flats, and to determine the possibility of there being remains of Le Prince somewhere within the suspected area.

According to a local informant (Steve Wise, personal communication), winter is the season that produces the greatest erosion of sands along the sandbars, which includes the large island, three smaller tidal flats, and sand spits between the yacht basin and Means' Creek (Figs. 48 and 49). Reworking was obvious on the large sand island where a channel had been cut diagonally across its midriff. We employed handheld metal detectors to sample debris on this sandbar. Bullets from modern-day Parris Island were the only artifacts noted during the reconnaissance.

On May 30-31, 1989, using a small johnboat, four crew members, and the Geometric 806A marine magnetometer, we accomplished two survey runs between the Marine Corps yacht basin and the Parris Island spit to the south. Due to the shallow waters, between one and ten feet in depth at low tide, the magnetometer sensor was attached to a swimmer's float and trailed 50 feet behind the boat. The magnetometer survey was accomplished in two phases: phase I was the May 30th reach from the yacht basin to the southern sand spit off Parris Island, and phase II was the May 31st ranging over the 300 m X 650 m survey Area B (Figs. 48 and 49). During our study, corners of Area B were marked with anchored bouys.



We positioned targets along both the reach and within Area B by ranging along bouy lines and geographic features, while marking two-minute intervals on the chart recorder. The locations of targets plotted by this method are tenuous at best, but they do provide a general view of metal concentrations within the study waters. Single signature targets 1 through 4, although low in intensity, are indicative of older and deeply buried remains. Targets 1 through 3 fall within the suspected Le Prince study area and were recognized on three of six passes made during the second phase of our magnetometer survey.

### Probe Test

On July 28, 1989, a small team of volunteers and the author returned to the Area B search field to perform a probe test in the vicinity of high probability signatures. A 1.5 m probe was pushed into the sand over a 10 m X 10 m square grid at regular intervals of 50 cm. We anticipated striking ballast stones within 1.5 m of the surface, if these anomalies were, in fact, indicative of a shipwreck, but we found nothing to indicate the source of the magnetic anomalies. Clearly, more work is needed in this area.

### Results and Recommendations

Although the Le Prince search was secondary in importance to the Charlesfort search, several positive results were noted by our preliminary survey. We were able to gather environmental data relating to currents, tides, visibility, and sediment movements. A real bonus was the discovery of magnetic signatures indicating the presence of iron in an area suspected to be the location of Le Prince.

The following recommendations are offered for future work at the Le Prince search site:

- 1) Work in Area B will require fencing off areas to be surveyed and tested, because shark activity in the Beaufort River is considerable. Several sharks and porpoises were seen by the crew during the daylight probing exercise accomplished in July.
- 2) Utilizing a positioning system, Area B should be re-magged with precise changes in the magnetic field of the area mapped. A detailed contour of those changes will produce visual evidence for the layout of the site and its debris field.
- 3) The magnetometer survey could better cover the study area if the magnetometer box and batteries are secured in a floating container while the sensor is "walked" over the ranges at low tide. This would eliminate the problem of maintaining course headings in a small boat subjected to tidal currents and wind.
- 4) Once contour maps have been drawn, dredges and caissons can be used to ground truth suspect targets. As dredging lowers the caissons, test probing should be carried out to a depth of several meters.



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