Abstract—During the decade of 1670 to 1680, political maneuverings were initiated by prominent property owners north of Albemarle Sound with the ultimate intent of obtaining control of the lucrative tobacco trade developing between New England and the mother country. These activities, aggravated by severe weather and low crop yields, and a perception of excessive crown taxation erupted in a bloodless rebellion against the laws and governance of the crown. The rebellion was ultimately resolved peaceably and without significant bloodshed. The center of activities during these events was the courthouse and customs house reported to be located on the Pasquotank River at Cobb’s Point, South of the current center of Elizabeth City. Early maps show a building near the shore with another rumored to be nearby, not far from the foot of a dock at which shipments of tobacco were sent to customers. Anecdotal evidence and local tradition hold the two buildings to be located near or incorporated into structures located on the Winslow Farm which was developed into a subdivision around 1960. This land has recently become available and accessible for an exploratory survey to ascertain the location of any historically significant structures and to determine the extent of any remains that may yet exist. Aerial photos of the Elizabeth City area, made prior to and just after World War 2, were examined to determine the location of the original shoreline and any structures that may have contained elements of the original colonial era buildings. Modern Digital Orthographic Quarter Quad (DOQQ) aerial photographs were used to provide geo-referencing of the early aerial photographs. The geographic coordinates structures formerly occupying the Cobb’s Point site defined an area that allowed a Ground Penetrating Radar (GPR) survey to be made. The purpose of the survey was to reveal whether any remains of earlier structures are present. The area was covered in transects enabling linear data to be collected. Transects were made at sufficiently small separation to allow computer processing aided re-construction of a three-dimensional visualization of what lies beneath the surface to a depth of about 3 meters. The features appear to be present within the soil depth probed by GPR, their nature and exact location may be determined by a trained archaeologist using a probing device to physically penetrate the soil at locations revealed by the GPR survey. Sufficiently interesting results prompted a request to the property owners to allow excavating any structural remains that have been discovered.

Keywords—Digital Orthographic Quarter Quad (DOQQ), Aerial Photographs, Ground Penetrating Radar (GPR), transects, anecdotal evidence.

Introduction

Privately owned properties in Winslow Acres, an affluent subdivision, located on the Pasquotank River around Cobb’s Point, may contain artifacts of historic significance to North Carolina’s early colonial history. Cobb’s Point became important due to its role as an economic and transportation port for the growing Southern Virginia-North Carolina proto-colony. It was also the central locale during the events marking what is referred to as the Culpeper Rebellion. Later the point was fortified during the Civil War to prevent federal ships gaining access to and usage of the Dismal Swamp Canal.
In the seventeenth-century North Carolinians lived a
difficult life. The Lord’s proprietors were irritating the
Albemarle colony by ignoring their problems. The proprietors
were much more interested in how they could use the colony
to increase their wealth. As time went on, political power
struggles became more frequent. The Plantation Act of 1673,
which authorized customs officials to collect duties on the
shipment of tobacco, adversely affected the economy of
the colony. In 1672, the governor of the Albemarle colony, Peter
Carteret, traveled to England to express the colony’s
dissatisfaction. He left John Jenkins in place as acting
governor. From 1675-1676 when Carteret had not yet
returned, the authority of Jenkins’s commission diminished
and political unrest grew among the populace.

Thomas Eastchurch, speaker of the assembly, sought
the position of Governor for the Albemarle colony and was
ultimately so commissioned by the Lord Proprietors. Since
Eastchurch was delayed in his arrival to the Albemarle area,
his deputy, Thomas Miller, who declared himself as
governor upon his arrival to the colony. By the time Miller
arrived, the people of the land had already established a
great trading network with New England. Miller was infuriated and
began to put the Plantation Act into action. Miller deputized
collectors to go and seize all unauthorized cargoes, collect
dues, and make arrest to those who were not cooperative. The
people of the land became angry and sought a solution to
Miller corrupt government. According to Anecdotal evidence,
Miller arrested Zachariah Gilliam under the charge of
providing arms and protection to colonists of the backwater
communities in exchange for tobacco. Along with arresting
Gilliam, they arrested George Durant, who was the most
famous settler in the colony; he was lobbying against the
authorization of Eastchurch and his proprietors.

A “trouble maker” named John Culpeper took it
upon himself to gather a group of fearless men to rescue
Durant and Gilliam from the prison. Culpeper’s men
succeeded but were later arrested by Thomas Miller and
his deputies. They convened a legislature, chose Culpeper
as governor, and ran the colony for two years. Culpeper
was removed by the colony’s proprietors and tried for
treason but never punished. Miller was going to be tried,
but he soon escaped and arrived in London in 1679. The
proprietors appointed a string of new governors after
Eastchurch’s death in order to bring peace to the colony.

According to anecdotal evidence and old maps a
courthouse and customs house existed near Cobb’s point
between 1670-1680. These structures mark the spot
where the Culpeper rebellion took place.

The location of these two structures remains
unknown. However, local lore states that the Winslow
home (no longer standing) incorporated at least one of
these buildings while the other is reputed to have been in a
field close by. The team’s objective is to use modern
technology to discover remnants of the
buildings/structures that were critical to these historic
events. (e.g. customs house, courthouse, and dock pilings)

Methodology and Results
The first step in our analysis involved obtaining two
different aerial photos from the United States Geological
Survey (USGS) website gallery and the Digital
Orthographic Quarter Quads (DOQQ); the DOQQ image is
dated March 7th, 1993, which gives the team a visual of
what the present land looks like, and the USGS photo is
dated April 1st, 1952, this photo allows the team to see
structures that once stood at Cobb’s point and allows the
team to see how the shoreline looked before shoreline
modifications such as riprap and fill. These images
confirmed the anecdotal stories saying that there were
barn like structures very close to the shoreline. The team
then used Exelis ENVI software to find common geographic
points so they would be co-registered and geo-rectified the
1938 image to the 1993 image. The team then enhanced
the images to increase the contrast & lighting.

See figure 1.0.

![Actual Aerial images](image)

Figure 1.0 gives a display of aerial images taken of cobbs
point at 1938 and 1993.

The team then mapped out the structures and
shoreline and overlaid it onto the 1993 image. See figure
1.1.
With the 1993 DOQQ, the team is given an idea to where the structures were originally on the present land today. The team also noticed how much the shoreline changed over the years due to shoreline modification such as riprap and fill. The team then used the geo-coordinates of distinct vertices of two-barn type structures found on Cobb’s Point, which based off of anecdotal evidence was very close to the location of the courthouse and customs house that was around during the Culpeper Rebellion.

We then relayed this information to Edward “Clay” Swindell; the Archaeologist who directed our data collection. After the 1993 DOQQ was enhanced to increase contrast and lighting.

Edward Swindell pointed out there was a visible difference on the surface of a certain part of the land in an area adjacent to the where our analysis showed the barn-like structures had stood.

We followed the archaeologist’s lead and helped him set up a 25 by 25 meter grid on an area he defined. We then commenced data collection with the ground penetrating radar (GPR). The Ground Penetrating Radar is an instrument that collects and records information about subsurface density and what objects may lie beneath. Before we could start the GPR survey we had to set a Dielectric constant\(^1\) from 12-16 because of the type of land cover. The team then adjusted the grid by changing the distance of the transacts; so they begin at .25 meters from the beginning of the grid to avoid the interference of a small. Each transect was .5 meters apart and we began collecting data using the GPR from the Northeast corner of the grid to the Northwest corner, and then coming back on the other side of each transect from the Northwest to the Northeast. We repeated this process until we finished at the Southeast corner. In total we had 50 different files stored on the GPR using just 25 profile lines.

The team then transferred the files from the TerrSIRch SIR-3000\(^2\) monitor to the Windows PC via USB. The files then went through extensive processing, consisting of changing the gain, time correcting, and migrating so that quality of the readings are maximized. All 50 files were then merged together into a three dimensional display that showed the locations of significant radar reflections. Figure 1.2 and 1.3 show all the files together that give a three-dimensional display showing various colors, the darker red colors show the locations of subsurface material.

For a better, well-defined visual look at Figure 1.2, which shows the areas of where there are significant clusters of subsurface features.

These readings of subsurface features began at 4 meters westward of the teams staring point on the grid and occur again at 20 meters westward of the starting point. Each of the features begins at 30 centimeters in depth and persists to nearly two meters.

**Conclusion and Future Plans**

The GPR survey produced promising results of subsurface features. There were two significant readings at the same depth that resemble potential chimney foundation. The team compared the readings to a picture of an old colonial home around the time of the Culpeper Rebellion. See Figure 1.4. Other features in the GPR Data indicate the existence of other potentially more complex structures.

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\(^1\) Dielectric constant

\(^2\) TerrSIRch SIR-3000
Figure 1.4 shows that there are some prominent readings that resemble the same locations of chimneys from an old colonial home.

All in all, the GPR survey gave the team promising results that there were subsurface features. It revealed the presence of a structure whose identity remains unknown until future work. The team relayed this information to Edward Swindell.

Led by Edward “Clay” Swindell (Archeologist) additional GPR surveys may be taken in areas surrounding the original GPR survey grid. Also sonar may be done in the surrounding water areas to reveal relics of the dock. (e.g. dock pilings or piling holes) Physical probing or excavation may be done of the subsurface features revealed by the team’s work.

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