

HUNTS POINT BURIAL GROUND, DRAKE PARK, BRONX, NEW YORK

Phase 1A Documentary Study and
Ground Penetrating Radar Survey



Prepared for:
New York City Department
of Parks and Recreation

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MANAGEMENT SUMMARY

Involved Agencies: New York City Department of Parks & Recreation
New York Department of Education

Phase of Survey: Phase 1A Documentary Study and GPR Survey

Location Information

Location: Joseph Rodman Drake Park, Hunts Point
County: Bronx County
Block and Lot: 2772 (170)
USGS Topographical: Central Park, NY–NJ Quadrangle (o40073g8)

Survey Area

Perimeter, meters: $115.52 \times 82.36 \times 152.17 \times 77.69$
Perimeter, feet: $379 \times 270 \times 499 \times 255$
Area: 2.49 acres

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ABSTRACT

This report presents the findings of 1A documentary research and two ground penetrating radar (GPR) surveys of the Hunts Point Burial Ground [Drake Cemetery] located in Joseph Rodman Drake Park in the Hunts Point Section of the Bronx conducted for the New York Department of Parks and Recreation. Documentary and photographic evidence supports the existence of a slave burial ground historically located on the south side Old Hunts Point Road across from the family burial ground of the Hunt, Leggett, and Willett families known today as Drake Cemetery. The GPR survey identified four subsurface features consistent with burials at approximately 1.15m to 1.42 meters (3.77'–4.65') below the present ground surface in the area south of Drake Cemetery that correspond with the historical location of the Hunts Point Slave Burial Ground. These features were found in association with, but below, a buried planar geophysical feature that is likely the original 18th–19th-century ground surface before the area was infilled in the early 20th-century to the existing street level. Two areas of archaeological sensitivity have been identified within Joseph Rodman Drake Park.

1. INTRODUCTION

Purpose and Goals of the Investigation

This 1A documentary research study synthesizes and builds upon the previous research efforts of the Hunts Point Slave Burial Ground Project. Employing additional documentary and non-invasive survey methods, the study seeks to determine the background and contemporary extent of the historical burials associated with the Slave Burial Ground, and by necessary reference, the Drake Cemetery. Documentary study and two ground penetrating radar (GPR) field surveys were undertaken with special emphasis given to the Slave Burial Ground to determine the presence and location of any burials, as well as the potential for any associated human remains. The following represents the findings, methods, and recommendations that emerged from the study.

Project Area and Description

Joseph Rodman Drake Park is a 2.49-acre parcel located in the Hunts Point Section of the Bronx, New York (Fig. 1), owned and maintained by the New York City Department of Parks and Recreation. The park is bounded by Oak Point Avenue to the north, Hunts Point Avenue to the east, Drake Park South to the south, and Longfellow Avenue to the west (Fig. 2). Two historical burial grounds are located within the park boundaries, Drake Cemetery, whose standing gravemarkers are enclosed within a gated iron fence entered from the north on Oak Point Avenue, and its unmarked counterpart, the Hunts Point Slave Burial Ground situated across the former Hunts Point Road where the enslaved of the Hunt, Leggett, and Willett families are believed to have been interred.

The Hunts Point Burial Ground is variously referred to as the Hunt Family Burial Ground, the Hunt-Willet-Leggett Family Burial Ground, Hunt or Hunts Point Cemetery, and Drake Cemetery (Inskeep 2001; Raftery 2016; Wells 1904) as named in the New York City Department of Parks & Recreation headstone survey. For the purpose of this report, the Hunts Point Burial Ground will be referred to as the Drake Cemetery. The unmarked burial ground of the enslaved will be referred to as the Hunts Point Slave Burial Ground in keeping with the name given by the students and teachers of P.S. 48 and the project that emerged from their efforts.

Research Goals and Methodology

The following 1A Study has been designed and carried out within the project scope and goals specified by the New York City Department of Parks and Recreation. The study documents the development of the Hunt Point Burial ground and its evolution into Drake Park. It traces the genealogical histories of the Hunts Point area families, in particular those families buried in the Drake Cemetery, and associates the household enslaved for each family line. Lastly, the study reviews the method and results of two ground penetrating radar surveys undertaken to identify the extent and location of any burials associated with the Hunts Point Slave Burial Ground and assesses the likelihood of human remains in the project area.

The 1A Study has four major but interrelated goals: (1) to gather, synthesize and interpret existing information from various sources including PS. 48 student research, Hunts Point Slave Burial Ground Project, NYC Parks, and NYC Landmarks and provide additional research from other archives as required to confirm the history and details of the site as a burial ground and to

document changes over time including development of roadways and parkland that have affected the site; (2) to ensure that particular emphasis is placed on determining the background and extent of the slave burial ground; (3) determine through documentary research and non-destructive survey methods, if human remains are still present on site, and if the remains have been relocated, provide information on the current burial site; (4) should survey results return a positive result and burials exist, to identify to the extent feasible those who were interred there. The findings and recommendations of this research are to be reviewed and agreed upon by Parks, the Landmarks Preservation Commission (LPC), and the consulting archaeologist.

To determine the extent of the historical burials associated with Drake Cemetery and the associated Hunts Point Slave Burial Ground and to ascertain to the extent feasible the identities of those interred in both burial grounds and their connections, if any, to each other, data was gathered from a variety of published and unpublished primary and secondary sources including historic maps and photographs, newspapers, local histories, and previously published archaeological and LPC reports. These documentary resources were accessed at various repositories including the Westchester County Historical Society, Westchester County Archives, Westchester County Clerk's Office, The NYC Municipal Archives and Library, the Archives of the New York City Department of Parks and Recreation, The New York Public Library, The Museum of the City of New York, and The Library of Congress. Online databases and textual archives accessed included Ancestry.com, Hathi Digital Trust, and ProQuest. In addition to documentary research and GPR survey, a complete inventory and transcription of the Drake Cemetery gravemarkers with condition reports was also conducted, both independently and with the assistance of the students of P.S. 48 in the Bronx.

The historical record identifies the earliest known interment in the Drake Cemetery to have been in 1729. With this as reference and supported by the ancillary research, the Drake Park cemetery burials were determined to be associated with the Hunts Point families Leggett, Hunt, and Willett. The documentary record indicates that of these families, all three owned slaves during the early colonial period. The record suggests the likelihood that the slaves interred in the Hunts Point Slave Burial Ground were associated with these Hunts Point families.

With the documentary study confirming the potential for slave burials in the Hunts Point Burial Ground, an initial ground penetrating radar survey was undertaken to determine the geographical extent of the unmarked burial ground and to assess the potential for unmarked burials. The testing followed a scope approved by the Parks Department, and based on the site's potential as a burial ground. The initial survey was conducted at ½ meter, east-west transects [100 x 29.5 meters (328.08' x 96.78')], in the large area to the south of the Hunts Point cemetery where the documentary record suggested there might be unmarked enslaved burials. The survey identified a smaller area within the preliminary test grid reporting the likely presence of reflections indicative of burials. A second refined close-interval survey conducted at .25 meters [17 x 22 meters (55.77' x 72.17')], confirmed and refined the analysis of the preliminary survey, identifying four burials located within the area reporting burial signatures. The close interval survey grid confirmed that the burial signatures were clustered south of road and were confined to park, finding no indication that burials extended into the adjacent roadway or under the sidewalk.

2. ENVIRONMENTAL AND PHYSICAL SETTING

Hunts Point is one of several large salt meadowland peninsulas in the Bronx that jut into the East river (LPC 2009). Hunts Point Sediment bore logs published in 1947 by the City of New York Department of Public Works indicate that tidally-influenced stream erosion scoured the late Pleistocene landscape of Hunts Point. Following the last glaciation period, the Wisconsin episode, Lake Hudson covered much of the Hudson Valley. As its glacial waters receded approximately 12,000 years ago, many smaller waterway remained shaping the subsequent colonial landscape. The receding glaciers and melt waters left in their wake, depositional glacial till that aggraded on top of the scoured Pleistocene bedrock, effectively filling the tidal channels and creating an approximately 1–3-meter-thick (3.37'–9.10') sediment layer across the area (Ottman 2016). The historic sediment bore logs record this till as “fine brown sand and some gravel” (City of New York, 1947). As the area stabilized during the Holocene period, a soil horizon developed on the glacial till which formed the original ground surface of the burial grounds.

The landscape surrounding Drake Park has been significantly modified as a result of the infilling of creeks, streams, and marshes associated with residential and industrial development that began in the early 20th century. Once an elevated hillock surrounded by marshland on three sides (Fig. 3), Drake park is now enclosed by the city street grid within a larger industrial zone and the park's topography now slopes downwards on all four sides from the current street elevation (Fig. 4). Drake Cemetery, enclosed by an iron fence, rises from the flattened well at the center of the park. Walking paths border the graveyard on four-sides and exit out to street level.

3. NATIVE AMERICAN AND HISTORICAL BACKGROUND

Native American Context

A Native American presence is well documented for the Hunts Point area (Bolton 1920; 1922; 1972; HPI 2002). Before European colonization, Hunts Point was associated with the Siwanoy Native Americans, a sub-group of the regionally dominant Wappinger group, which was part of the broader Algonquian cultural and linguistic group (LPC 2009). Although no specific sites have been inventoried within the project area, several have been identified nearby dating from pre-contact to the historical period. HPI documents a lengthy Native American Trail that connected what is contemporaneously Kingsbridge Heights to a village site at what is now Oak Point Avenue, the street bounding the project area to the north (2002:3). The path crossed the Bronx at the northwest corner of Bronx Park and ran south along the Western side of the Bronx River and into Hunts Point.

Bolton identifies several Native American sites on *Quinnahung* or Hunts Point. The first site was identified at the foot of the property of the Charles Dickey estate at Hunts Point Avenue at Randall Avenue northeast of the project area (1922:22; 1974:55). Bolton describes the site as “shell-pits found at the knoll of at the eastern side of the neck” (1920:304). A 1977 New York State Archaeological Site Inventory form reports that *Quinnahung* (A005-01-000028) described by Bolton (22:222) was destroyed by the construction of the Hunts Point Terminal Market.

A second site identified by Bolton was at the site of the first Richardson house, one of the first colonial patentees of West Farms, located west of Joseph Rodman Drake Park where “nearby many shells gave indications of Indian existence at and around the spring which provided the water used in the farm dwelling” (1974:55; see also, 1920:303–304; 1922:222). A third site, or evidence of Native American presence on Hunts Point, was south of the project area at the “extremity of the [Hunts] point in front of Hunts Point Mansion” (1922:222). There, in a gravel pit roughly two feet beneath the surface, W. L. Calver found a “roughly-formed celt” indicative, Bolton writes, of ancient occupation on the point (1974:55).

The inventoried sites in the vicinity of the project area would suggest there is potential for Native American resources within the Park. Typically, pre-contact resources are encountered within several feet of the historic land surface (HPI 2002). The introduction of fill to the park and surrounding area in the early 20th century has altered the depth at which these resources might be encountered. The GPR survey, explained in Section 5, places the historical ground surface at a depth between 0.60–1m (1.96'–3.28') from the present ground surface in the southern portion of the park, thus placing the potential for Native American resources at that depth and below.

Native American presence in Hunts Point continued into the Colonial period with the Sinoway and Reckgawawanc tribes whose territories overlapped at Hunts Point (Bolton 1920; Leggett 1913). Native American ownership of Hunts Point in English legal terms ceased in 1664 with the sale of Hunts Point to English patent holders. A Native American is also identified among the individuals enslaved by the second generation of English settlers in Hunts Point, discussed on page 18.

Development History of Hunts Point

The project site was historically included within the Township of West Farms in the County of Westchester formed in 1683. The Township Act of State Legislature in 1788 divided all counties into townships, divisions that closely followed the lines of the early colonial patents (Jenkins 1912). The Township of Westchester in 1788 included the manor of Fordham, the West Farms tract, and all the land between the Hutchinson River, the Bronx River, and the Long Island Sound or the East River. The Eastchester line from Black Dog Brook to the Bronx River formed the northern boundary (1912:5–6). Morrisania was accessioned in 1791 and remained intact until 1846 when the Township of West Farms was formed out of its territory. West Farms subsequently comprised all the land west of the Bronx River as far as the Harlem River, lying south of Yonkers until 1855 when the township of Morrisania was once more formed from its territory. It thus included the manors of Morrisania and Fordham and the West Farms Patent of 1663. West Farms was included within the county of Westchester, until 1874 when the West Bronx stretching from the Bronx river west was annexed by the City of New York (Jenkins 1912:5–6) and became a part of Ward 23 in the Borough of the Bronx.

English Settlement

English settlement of Hunts Point began in 1663 when Edward Jessup and John Richardson purchased what would become the Manor of West Farms in the Borough town of Westchester in a joint sale by members of the Sinoway and Reckgawawanc tribes (Bolton 1920; Leggett 1913). This sale included ownership of Westchester and “a certain tract of land bounded on the east by the river Aquehung or Bronxkx to the midst of the river, on the norward by the trees marked, &c. by a piece of a hassock meadow, westward by a little brook called Sackwrahung, southward by the sea with a neck of land called Quinnahung, with all the meadows &c., uplands, trees, &c.” (Leggett 1913:4–5). This secondary parcel, Quinnahung, was known to the English as the Planting Neck (Fig. 5). The Sackwrahung brook that flowed southward into the East River originated within an area known as the hassock meadow—an area of coarse grass or sedge that was an elevated island within the marshland to the west. The hassock meadow was to be the subsequent location of Drake Cemetery which came to be situated on its northwestern edge.

Patent of West Farms: From Jessup and Richardson to Hunt and Leggett

In 1666 Edward Jessup and John Richardson secured a patent from the newly installed, first English Governor Richard Nicolls for the land that “hath heretofore been jointly purchased of the Indyan proprietors” (Bolton 1848:260) and agreed to mutually divide the parcel. Jessup dies shortly thereafter, bequeathing his land to his wife, Elizabeth (Bolton 1848; Cook 1913). Elizabeth Jessup subsequently remarries in June 20, 1668 she and her husband “make over unto Thomas Hunt of Westchester [Grove Farm, Throgs Neck],” the husband of Jessup’s daughter, Elizabeth (1654–1719), “aforesaid all those hoeing lands and accommodations that were formerly Edward Jessup’s, within the bounds and limits of aforesaid Westchester, that the said Edward Jessup and John Richardson purchased together and procured patents for from the Hon. Col. Richard Nicolls” (Bolton 1848:260). This is Thomas Hunt, Jr. (1642–1739), married to Elizabeth Gardner (1672–1729), and for whom Hunt’s Point is named. Both are buried in Drake Cemetery.

It is difficult to parse the exact division of lands between Richardson and Hunt, but the basic parameters leave Hunt and Richardson dividing up the land between the Planting Neck and Long

Neck with each retaining access to sedge grass, orchards, cornfields, and other productive land (Fig. 5) (Bolton 1848:262). In 1669, Thomas Hunt, Jr. builds a dwelling at the north end of Long Neck near the old landing road (Cook 1913:90). Richardson builds a dwelling near Bound Brook “west of the Old Hunt Road” (1913:90) that becomes the dwelling of Gabriel Leggett (1637–1700) who married Richardson’s daughter, Elizabeth (1656–1724). In turn, it becomes home to his eldest son, John Leggett (1677–1707) who marries Ann Hunt of Grove Farm (Leggett 1913:8). As the families intertwine it becomes increasingly difficult to establish the homestead of each developing branch. This is made more difficult in 1711 when Thomas Hunt, Jr. and Elizabeth Leggett, widow of Gabriel, along with the other heirs of the original West Farms Patent join in a second division of West Farms (Bolton 1848:265). The patent is surveyed and divided into 12 lots—Thomas Hunt, Jr. and Elizabeth Leggett completed the division by drawing lots, 6 apiece (Cook 1913:92). Hunt divided his six, with the exception of one he sold, among his sons and grandsons. This led to the dispersal of Hunts and Leggetts across West Farms who merged with the Hunt decedents from Grove Farm in West Chester creating a landscape of Hunts and Leggetts for much of the 18th century as the 1781 Skinner and Taylor map illustrates (Fig. 6).

Thus, intermarriage and land transfers associate the Hunts and Leggetts through much of the colonial era. And while no reference to the Drake Cemetery situated at the entrance to the Planting Neck has yet to be found in any records predating 1858, when the island of land within the marsh which on which it sits is sold by Eliza Hunt excluding the burial ground, it can be inferred that the land beneath the burial ground is owned by the Hunts, but serves as a shared burial ground for the Hunt, Leggett, and Willett families whose properties on the Planting Neck, Long Neck, and Leggett’s of Bound Brook/Leggett Creek (Fig. 5) surrounded the burial ground in the 18th and first half of the 19th century. It is also likely that given the topography of the burial ground in this period, namely a grassy hillock surround by marshlands and tidal inlets, Hunts Point would have been a geographically preferred location for a burial ground as can be seen in Figure 3.

The Willett Family at Long Neck

The Willett family begins their tenure in West Farms on what was Cornell’s Neck, and is now Clason’s point, northeast of Hunts Point (Fig. 6). William and Anna Willet of Flushing move to Cornell’s Neck circa 1703 (Westchester County Lib C, pg. 272). Sons Isaac and Thomas, and their descendants, remain on Cornell’s Neck through the 18th century, while son Cornelius Willet (1710–1781) marries Elizabeth Oakley (1720–1792) and settles at Long Neck as indicated on the 1781 Skinner and Taylor map (Fig. 5). Cornelius and Elizabeth are both buried at Drake Cemetery, as are two of their daughter’s families: Leaycraft, Goodyear, and Van Ranst. They remain on Long Neck, or Willett’s Point until the early-19th century when land passed from Joshua Waddington to Francis Barretto in 1828 (Fig. 7) (Westchester County Lib 33, pg. 169). No Waddingtons or Barrettos are buried in Drake Cemetery.

The Hunts of the Planting Neck / Hunts Point

Circa 1700, Thomas Hunt (nd–1739), the eldest son of Thomas Hunt, Jr., and his wife Sarah Ward (1701–1786) acquired the twenty acres of Richardson’s holding at the end of Planting Neck and the Hunts become the proprietors of Planting Neck until the mid-19th century (Cook 1913:91). Thomas and Sarah’s son, Thomas (1727–1808) married Hannah Wright (1740–1812)

and it is they who are the Hunts in residence at the tip of the planting neck on the 1781 Skinner and Taylor map of Kingsbridge in the house that becomes known as the “Grange” (Fig. 5–6). They are both buried in the Drake Cemetery. The Planting Neck thereafter becomes known as Hunts Point, unlike today in which the entire area is referred to as Hunts Point.

Thomas Hunt dies in 1808 and bequeaths his homestead farm on Hunts Point to his son Richard L. Hunt (1780–1840), making allowances for his wife Hannah, and three daughters Sarah, Margaret, and Elizabeth to remain in residence at the house as long as they remain unmarried (NY-WP 1808–1819, Vol. G:26). Richard L. Hunt dies in 1840 in Hunts Point at age 60 (NY Evening Post 1840) and is survived by his second wife, Eliza Hardy Hunt (Bolton 1848:523; NY-WP 1838–1841, Vol W:289). Eliza marries Daniel Winship (n.d.–1851) and the Winship’s continue in residence at Hunts Point, a transition marked in the Sidney’s 1849 Map of Twelve Miles around New York (Fig. 7) and the 1851 Sydney and Neff map of West Chester County (Fig.8)

At his death in 1851, Daniel Winship is recorded as a resident of the City of New York suggesting he no longer resides on Hunts Point (NY-WP 1850–1852, Vol. 33:26). In a codicil to his will he instructs all of his personal property at Hunts Point be sold and the proceeds split equally among his children. Of note, is the fact that Winship does not include his Hunts Point real estate in the sale of his personal property. It appears that the Hunt’s dwelling and the Hunt’s Point Burial Ground remains in the possession of the Hunt family until at least 1858, when Eliza Hunt—surviving youngest daughter of Thomas Hunt, brother of Richard L. Hunt who is 65 in the 1850 census and residing with her sister Margaret who is 80—sells the land surrounding the cemetery to Paul Spofford (Westchester County Lib 411, p. 468), saving and excepting the family cemetery, the Drake Cemetery, with a covenant requiring Spofford to maintain access to, and the condition of, Hunts Point Road. The boundaries of the land transfer outlined in the conveyance is documented on the “Map of Hunts Point in the Town of West Farms, County of Westchester, N.Y.” made by Andrew Finlay, dated May 6th, 1858 (Fig. 9).

The 68.93 acres included in the sale begins in the northwest corner of the map at the gate across Hunts Point Road marking the entrance to the point adjoining the land of Paul Spofford, and continues eastward along Spofford’s land and along the ditch leading to Old Creek. It then follows the line of old creek to the easternmost ditch leading south to Causeway Creek. The boundary line then travels south along Causeway Creek until it reaches the bay and turns northwest to Sacrahung Creek following it north along Francis Barretto’s land until the starting point. Excluded from this sale is “the parcel of ground on lot 16 on said [Findlay’s] map known as the Cemetery.” The defined boundaries of the cemetery excluded from the sale follow the trapezoidal outline of the burial ground seen on the map. The slave burial ground across Hunts Point Road is not a part of the exclusion and becomes the legal property of Paul Spofford. It has yet to be determined who assumed ownership of the burial ground following Eliza Hunt’s death.

The Decline of Drake Cemetery

The last interment in Drake Cemetery, William Whitehead (family association still unknown), was in 1852 and by the late-19th century the burial ground had largely fallen into disrepair. Those seeking the last resting place of romantic poet Joseph Rodman Drake—a frequent guest of the Hunts known for his patriotic verse who died of consumption in 1825 and is buried, along with his sister, in the burial ground, and the New York Times reported in 1898 the following,

Walking from the cars down a country road . . . one comes across the old Hunt's Point Road, running along Long Island Sound. Turning to the left, a small grove of trees and high bushes, through which an occasional glimpse of a tombstone is caught...it is unnecessary to open the creaking wooden gate, whose iron hinges are rusted by the stores of years, for almost directly opposite the grave of Drake the dilapidated fence has fallen entirely down, and one needs but to step over the rail and walk a few feet through the clinging bushes to come upon the last resting place of the poet.

This neglect, and the burial ground's association with Drake, awoke the public's interest in preserving the park. The preservation drive was further spurred by the rapid pace of development Hunt Points was undergoing at the turn of the twentieth century with the arrival of the subway (LPC 2009).

East Bay Land and Improvement Company

In 1890, the East Bay Land and Improvement Company acquired 314 acres of land, including the still rural Hunt's and Barretto's points (Jenkins 1912:388) attracted by the area's low housing density as can be seen on the 1896 Sanborn map of Hunts Point (Fig. 10). The map does not illustrate Drake Cemetery, but depicts the footprint of a frame house immediately adjacent to the Cemetery. The proposed development plan and street grid was only projected, yet to be realized, but became a cause for concern when it was realized that one of the proposed streets, Whitter Street, would pass directly through the middle of the Burial Ground with a proposed public park to the east (Fig. 10). Hunts Point Road—or Old Hunts Point Road as it was already referred to on the 1904 Bromley Map (Fig. 11)—running along the southern perimeter of the burial ground was to be replaced by a new Hunts Point Avenue running on a north-south diagonal down the point.

The public rallied, and came out strongly against the proposal. The New York Historical Society formed a committee in 1904 to protest the destruction (New York Times 1909) and in 1904 Bronx Parks Commissioner James L. Wells, representing the Northside Board of Trade, addressed the Board of Estimate and Apportionment to make the case for expanding the park boundaries to include the Burial ground. The Bronx League, the West Chester County Historical Society for the Preservation of Scenic and Historical Places, among other nascent preservation committees, were also represented (Wells 1904:5). In addition to an impassioned speech appealing to the patriotism of the Board, Wells proposed that the preservation of the burial ground could be achieved “at very moderate expense by discontinuing Whittier Street between the Eastern Boulevard and East Bay and by acquiring for a public park about six acres in area” (Fig. 12)(1904:6). Wells and his fellow advocates were successful in their appeal and the boundaries of the proposed park were reworked to preserve the Drake Cemetery, although the southern boundary was shrunk from East Bay Avenue to the present-day Drake Park South (Fig. 13).

Creation of Joseph Rodman Drake Park

On March 11, 1909 New York City acquired the acreage for the Drake Park by condemnation for \$30,661.03(ASHP 1909:67). In the year following, the park was established, “improved,” and formally opened to the public on May 30, 1910 (NYC Dept. Parks 1910). The park was not officially named, however, until 1915 with a public dedication on the 96th anniversary of the publication of Drake's poem “The American Flag” and the installation of bronze dedicatory tablets at Drake's grave side by the Bronx Society of Arts and Sciences (Smith n.d.:2).

Concurrent with the development of the park were large-scale residential and infrastructure projects on Hunts Point and the areas immediately surrounding Drake Park. A 1912 photograph of Drake Cemetery (Fig. 14) shows a glimpse of this massive development initiative at its beginning with mounds of fill in the foreground that contributed to the infilling of the park and the raising of the street level. A photograph taken at intersection of Oak Point and Tiffany Avenues (Fig. 15), seven blocks west of Drake Park, shows the extent of the land remodeling as the coastal marshes and creeks were filled and the street grid realized. By 1936, the raising of Oak Point Avenue to its current elevation was complete as a photograph of Drake Cemetery with the camera looking west-southwest and down into the park illustrates (Fig. 16).

Subject to a cycle of funding, care, and neglect, Drake Park underwent a series of restorations in 1947, 1953, and a subsequent rededication in 1961 (McNamara 1963; NY Parks 1953; Smith n.d. 2). In 1949, the Parks Department undertook repairs to the grave stones in the Drake Cemetery and in a letter to the Bronx Board of Trade dated September 24, 1949, reported that,

The Park Department repaired all disintegrated stones or those broken by vandals, by removing them to its plant and pouring cement in new moulds and setting the broken parts therein. The five-borough monument man made recommendations as to repair of fence base and Drake's shaft itself, but there was no money available to do the job.

However, the Park Department repaired the iron picket fence.

The improvements in 1953 included “a new gate, hedge and general rehabilitation at the cemetery plot to be paid for by the New York Community Trust, and general rehabilitation, walks, benches and planting in the surrounding park area to be funded by the Park Department” (NY Parks 1953). It is the legacy of these improvements—the iron fence and gate, the pathways through the park, the concrete slabs where the benches sat—that exist in the park today.

4. HUNTS POINT BURIAL GROUNDS

Drake Cemetery

The burial ground, protected by the development and final establishment of the Joseph Rodman Drake Park, has been in existence since at least 1729, the date of the oldest surviving gravemarker belonging to Elizabeth [Gardner] Hunt (1672–1729), the wife of Thomas Hunt, Jr. (1666–1739), who was the first Hunt to settle in West Farms and after whom Hunt's Point was named. It is probable that there are other earlier interments whose grave markers have since disappeared. A slate marker, embedded in concrete, at the front of the burial ground facing Hunts Point Road, reads "A Private Cemetery for the Families of Thomas Hunt, Cornelius Willet, John Leggett" (Fig.17). The gravemarker inventory conducted as a part of this project has confirmed that members of these three families as discussed previously are buried in the Drake Cemetery, although there is no evidence supporting the burial of John Leggett or other members of his immediate family. His grandson Ebenezer (1763–1833) and wife, Mary (1769–1851), and their children are the only Leggett gravemarkers currently present. This does not mean that there are not other Leggett's who are no longer visible on the landscape, but there appears to be some conflation of generations and branches of these families within the available genealogies by early 20th-century historians, and it may be the case that the Hunt-Willet-Leggett stone marking the cemetery may be a Victorian creation. Further research is needed to tease out additional detail concerning the Leggett lineage to determine if more family members, including John, are buried at Drake Cemetery, or if they are buried elsewhere such as in a second Leggett family burial ground excavated in 1891 located northwest of the project area, further discussed in Section 6.1 (Leggett 1913:7).

Primary sources highlighting the graveyard are few. It appears only sporadically on maps, first in 1849 in Sidney's 12 Mile View of New York (Fig.7), followed by the 1851 Sydney and Neff map of West Chester Country (Fig.8) and Beer's 1868 Map of West Farms (Fig. 18). Andrew Findlay's 1858 survey of the planting neck on Hunts Point drawn in advance of the sale of the little neck on which the grave yard sits, provides the most detailed information clearly illustrating the grave yard's perch on a knoll on the left of Hunts Point Road (Fig.19), sloping directly down into the marshland on most of its three sides to the north and west. Its boundary lines are marked and measured, and transcribed in the 1858 conveyance from Eliza Hunt to Paul Spofford (Westchester County Lib 411, p. 468). At the time of this writing, I have found no further mention of the burial ground in wills or land conveyances and it seems to have been subsequently absorbed into the estate of Paul Spofford's despite its exclusion from the 1868 sale.

Written descriptions of the Drake Cemetery are primarily found in the Bronx Histories written in the late 19th and early 20th century and in newspaper accounts, from either a genealogical perspective or in tracing the last resting place of the early 19th-Century romantic poet Joseph Rodman Drake buried within the Cemetery whose surge in popularity coincided with the late-19th-century colonial revival movement. These newspapers account emphasize the neglected nature of the burial ground as illustrated in an 1881 *The New York World* article "A Poet's Neglected Grave."

Half way down to the point the road—Hunt's Point road, as it is called—slopes down to the marsh meadows which surround the point on all sides except that washed by the waters of the sound. In this little valley, on the left side of the road, rises a little knoll surrounded by four or five small trees and covered with a growth of dense brushwood,

out of which rise four small white tombstones. The knoll has been the burying ground of the Hunt family for nearly two centuries past. A dilapidated picket fence surrounds it on three sides, while the fourth opens into a poultry yard. No signs of care are visible. Some of the tombstones are broken, and nearly all are covered with moss and hidden in the underbrush. . . to the east the marsh lands stretch away to the Bronx River where it leaves the woods around West Farms. On the other side the dismal, chilly marsh still wearies the eye till the sunlit waters of the Sound.

A circa 1910 photo (Fig. 20) of the Cemetery illustrates a low stone wall on either side of wooden gate and the overgrown nature of the burial ground. A second photo, taken circa 1915, shows a two-story wood frame house with a one-story ell at the rear adjacent to the burial ground to the east, the likely home of the poultry yard. Hunts Point Road is in the foreground and the Drake Cemetery can be seen on a rise beyond the cottage. The cottage first appears on the 1868 Beer's map of West Farms (Fig. 21) with the initials PNS—or Paul N. Spofford who owned much of the point by this time. The cottage last appears on the 1921 Bromley map (Fig. 13), which depicts the structure within the bounds of Joseph Rodman Drake Park.

Hunts Point Slave Burial Ground

Evidence for the existence and location of the Hunts Point Slave Burial Ground comes from secondary sources with the exception of a photograph in the Museum of the City of New York photograph collection (Fig. 22) dated by the museum to circa 1910. A handwritten note on its reverse reads "Slave Burying Ground Hunts Point Road". This is the image that kick-started the documentary search by Department of Education official Phil Panaritis and P.S. 48 teacher Justin Czarkas and their efforts to determine the location of the burial ground of the enslaved.

The photograph depicts an overgrown lot with a series of standing fieldstones with others protruding from the grass. Two in the middle-foreground, appear as if they may have been the gate-posts of a former entrance. The photograph appears to have been taken looking south, southwest, with marshland visible at back right with fast-land of another point on the horizon beyond, possibly that of Barretto's Point.

The secondary record provides better evidence for the existence of an associated slave burial ground, as well as the location of the burial ground in relation to the extant Drake Cemetery. "On the neck there is located the old burying-ground of the slaves belonging to the Hunt and the Leggett families," wrote Bronx historian Stephen Jenkins in 1912 (386). Theodore Leggett, writing on the Early settlers of West Farms reported that "near the old graveyard [Drake Cemetery] is the burying place of the slaves of the Leggett family and other families, containing a good many irregular shaped headstones. I have often heard, and the wills which I will later record, show that there were a good many slaved owned by the family" (1913:7).

In his 1904 address to the Board Estimate and Apportionment arguing for the preservation of the Drake Cemetery, James L. Wells orients the graveyard of the enslaved "on the southerly side of the Old Hunt's Point Road, where rest the remains of Bill, the colored pilot of the ill-fated British frigate *Hussar*, and of the slaves of the colonists" (1904:12). Historian Harry T. Cook suggests the slave burial ground is to be found across from the Hunt Burial Ground, "directly Opposite the Hunt burying ground is a small enclosure in which the slaves of early residents were interred" (1913:101). Cook also references the burial of Bill Swan, the pilot of the *Hussar*,

a British frigate that was wrecked off Morrisania in 1780, and reported to have been enslaved by the Hunt family.

William Calver more pointedly notes, writing in *Slave Burials in New York*, that:

it was a custom, more forcible than law—though laws there were, too—that the servant could not be consigned to consecrated Ground. For further proof of this one need only to stroll out to the Hunt’s Point Road to where that thoroughfare first reaches the Sound, and there where rest other ancient lords and masters of the soil in the “Hunt and Leggett burial ground” may be seen the usual adjunct—a slave plot—just across the roadway. (1920:153)

Hunts Point Road historically ran along the southern perimeter of Drake Cemetery. Gated access was gained from the south, off Hunts Point Road, which is the opposite of today (Fig. 23).

Potential for Disinterment

An 1881 article in *The New York World* makes the suggestion that the burials from the slave burial ground were disinterred and relocated.

On the opposite side of the [Hunts Point] road, was until recently, the burial plot of the slaves of the Hunt estate. Their remains were transferred some time ago to the same ground as that occupied by the bodies of their masters. The curious headstones, with the roughly-cut initials of the servants, were also preserved. (7)

This is the only mention found to date of burials from the slave burial ground being moved. It is possible that some were relocated to the Hunt family cemetery, but two lines of evidence suggest at least some of the interments remained in place. Harry T. Cook’s history of *The Borough of the Bronx* written in 1913, some 32 years after the article in *New York World* was published, contains the printed image of the slave burial ground now in the collection of the Museum of the City of New York (1913:101). The photograph itself is dated by the Museum as circa 1910.

Similarly, Theodore A. Leggett writing in 1913 describes the Hunts Point slave burial ground as “containing a good many irregular shaped headstones” (1913:7) suggesting a first-person observation. Leggett was a descendent of the Hunts Point Leggett family and made at least one personal visit Hunts Point in 1891 to “excavate an Indian burying-ground” that turned out to be the graves of William and Sarah Leggett located in a separate Leggett family burial ground, unassociated with the Drake Cemetery. It is in his reporting of this account that he describes the headstones in both the Hunt-Willett-Leggett burial ground and the slave burial ground.

In the southwest corner of Drake Cemetery, a collection of seemingly unworked fieldstone gravemarkers are located just at ground level (Appendix A, 2.4–2.5; 2a–2d; 3.4–3.9). These may be the broken stems of early gravemarkers, but if they prove to be to be unworked or with rough-cut initials, it is possible they are evidence of relocated burials. The likelihood is good however, as the 1910 MCNY photographs suggests, that at least some of the interments remained in place and would have likely been buried during the infilling and creation of Drake Park and the surrounding street. To address this question, two Ground Penetrating Radar studies were conducted within the park to determine the presence of unmarked burials south of the Drake

Cemetery in the area identified in the documentary record as the potential location for the burial ground of the enslaved.

5. GROUND PENETRATING RADAR SURVEYS

Two ground penetrating radar (GPR) surveys were conducted in October 2015 and March 2016 as a means of determining the presence of unmarked burials in the area identified through documentary research as the historical location of the slave burial ground south of the present-day Drake Cemetery. GPR is a non-invasive remote sensing tool requiring no excavation that uses radar pulses to image below-ground features such as buried roads or walkways, burials, building foundations, or different geologic layers. Radar pulses are sent into the ground from a cart mounted antenna (Fig. 24) pulled along the ground surface. The time it takes for the radar energy to reach buried materials of different properties and reflect back to the antenna is digitally measured and recorded, as is the strength of the signal (Conyers 2006, 2012). With each pass of the antenna along a uniform pathway or transect within a closely-gridded area (Fig. 25), a profile slice—like a slice of bread from the middle of a loaf— of the subsurface is created recording features located at different depths. Back in the laboratory these profiles are combined along with geospatial information using GPR computer software to generate two and three-dimensional data maps that can be examined in plan or profile views (Conyers 2006, 2012; Hartgen 2016).

Soil scientist Edwin Muñiz of the Natural Resources Conservation Service (NRCS), a division of the United States Department of Agriculture (USDA) based in Somerset, NJ, conducted the GPR survey and data collection on both occasions. The data was collected using a Geophysical Survey Systems Incorporated (GSSI) Subsurface Interface Radar (SIR)-3000 with a 400 MHz antenna. Dr. Lawrence B. Conyers of the University of Denver and his associate Shayleen Ottman conducted data processing and analysis.¹

GPR can be an effective means of locating unmarked graves because it is capable of measuring physical and chemical changes in the ground in three dimensions and thus depth as well as the spatial distribution of graves can be determined (Conyers 2016:65).² Burials generate particular signatures that vary depending on the presence of a grave-shaft, voided spaces generated by a coffin or burial vault, or human remains themselves. Coffins, for example, will typically generate a human sized anomaly when viewed in plan and a point-source hyperbola when viewed in profile (Conyers 2006). Reflection profile 136 in Figure 26 from Drake Park Survey, for example, shows a point-source hyperbola likely originating from a coffin in what appears to be a burial shaft. The truncated geologic strata above the point-source hyperbola indicate the burial shaft. When point-source hyperbola reflections such as this can be seen in three or more consecutive reflection profiles they are recorded as likely graves. Individual rocks, in contrast, unless very large, are generally visible in only one profile.

¹ Dr. Conyers was assisted in the analysis of the October 2015 data by Brandon Ackermann, Maeve Herrick, and Jasmine Saxon also of the University of Denver.

² See Conyers 2006 and Hartgen 2016 for an expanded discussion of the mechanics and interpretation of ground penetrating radar signatures.

The two GPR surveys conducted at Drake Park differed slightly in scope and method.³ The October 2015 survey was designed to cover a larger area with the intent of identifying areas of sensitivity to return to with a more refined close-interval GPR survey (Fig. 27). The March 2016 survey subsequently concentrated on a single area identified during the initial survey and included a baseline survey of Drake Cemetery as a point of reference for burial signatures in the area of the unmarked Slave Burial Ground.

The datum for the two GPR surveys grids established outside Drake Cemetery is the interior point of the southwest corner of Drake Park at the intersection of the sidewalks along Longfellow Avenue and Drake Park South (Fig. 27, bottom left). The northwest corner post of the iron fence enclosing Drake Cemetery served as the datum for the interior survey of the Cemetery.

Ground Penetrating Radar Survey, October 2015

Survey Area

The October 2015 survey consisted of four collection plots (Table 1) covering an overall area of 100 × 29.5 meters (328.08' × 96.78') that concentrated on the southern portion of Drake Cemetery extending southward (Fig. 27). The southwest corner of the survey area (0,0) was located 22 meters (72.17') east of the survey datum and 4 meters (13.12') north of the sidewalk along Drake Park South. The GPR data within the four survey plots were collected using an east-west bi-directional survey method along transects spaced at 0.50 m (1.64') intervals.

Table 1. October 2015 GPR Collection Plot Measurements

Plot Number	Meter	Feet
1	100m × 26.5m	328.08' × 86.94'
2	38m × 3m	124.67' × 9.84'
3	30m × 6m	98.42' × 19.68'
4	28m × 6m	91.86' × 19.68'

GPR Data and Analysis

Data processing determined that of the data collected, survey Plot 1 contained the clearest delineation of the natural and cultural features necessary to determine where in the study area unmarked burials were most likely to be located. These included modern surface features such as sidewalks, utilities, fencing, vegetation, and landscaping that are visible in plot 1 providing a benchmark for identifying historical and geological features (Fig. 28; Appendix B, Figure 2). Geologic features identified in Plot 1 include ancient tidal channels filled with sediment and the bedrock. Bedrock is at a depth between 1.5 and 2 meters (4.92'–6.56') below the present ground surface (Appendix B, Figure 3). This delineation of visible features allowed for a detailed

³ Muñiz conducted a previous GPR Survey at Drake Park in 2013 in collaboration with Philip Panaritis of the NYC Office of School Programs & Partnership. That survey established the viability of GPR in Drake Park but the results of the survey are not included in this reporting.

analysis of Plot 1, an area that is relatively undisturbed and retains features of the Hunts Point Landscape in the 17th to the 20th century. The exception was underneath the sidewalks where the attenuation of energy—the weakened force of GPR radar pulses—made it impossible to interpret the GPR data in these locations. Plots 2, 3, and 4 were removed from the analysis.

Analysis of the GPR data in Plot 1 indicated a cluster of point-sourced hyperbolas suggestive of burials. A composite of the point-plotted hyperbolas and the other geological features in Figure 29 shows all potential graves to be located in one small area of Plot 1. Analysis of the GPR data reveals clustered hyperbolas located between the historical tidal channels and above the underlying bedrock that are likely multiple burials. These are located between 0 and 10 meters in the x direction, and 60 to 70 meters in the y direction within Plot 1 (Fig. 29). This analysis suggests that the burials likely took place prior to the filling of the tidal channels. This interpretation is consistent with the infilling of the marshland that occurred in the early 20th century that surrounded the “island within the marsh” that characterized the landscape of Drake Cemetery until the 1920s.

Close-Interval GPR Survey, March 2016

Having identified a discrete area with GPR signatures consistent with burials, we returned to the Drake Park in March 2016 to conduct a more refined survey of the target area with the goal of confirming the presence, the number, and if possible, the orientation of the suspected burials. The grid was located 11 meters south of the southwest corner of Drake Cemetery on the southern side of the present pathway that overlays the path of the Old Hunt Point Road.

Survey Area

The March 2016 survey grid, Survey 2, measured 17×22 meters ($55.77' \times 72.17'$) with transect profiles collected every 0.25 meters (0.82') (Fig. 27). The X-axis of the survey grid was 48 meters (157.48') east of the datum. The survey grid extended one meter onto the sidewalk adjacent to Drake Park South. A total of 75 data transects were collected moving back and forth, east to west, to develop a 3D model with a starting point (0,0) in the northwest (upper left) corner of the survey grid. A manual gain was established during the data collection to avoid auto calibration as a response of several obstructions and changes in the surface material.

Comparative Baseline Survey: Drake Cemetery

A segment of Drake Cemetery was surveyed using a comparative 0.25 meter (0.82') close-interval to generate a baseline for grave reflections within the park. The majority of the reflections identified as graves within the cemetery, were small planar reflections, suggesting collapsed caskets (Fig. 30). The other type of reflections identified were point-source hyperbola reflections, which may indicate the presence of intact coffins, or those which still have a convex curvature to the top of the coffin (Fig. 31). Profile 179 in Figure 30, shows a hyperbolic reflection appearing at 1.37 meters (4.59') below the ground surface within the range expected for reflections produced by buried caskets. Reflections that appeared in two or three consecutive profiles are those most likely to indicate a buried coffin and have been circles in Figure 32.

GPR Data and Analysis

The primary focus of our efforts, Survey 2, identified four subsurface features indicative of burials at a depth between 1.15m to 1.42m (3.77'–4.65') below the present ground surface in the

area immediately south of Drake Cemetery that corresponds with the historical location of the Hunts Point Slave Burial Ground identified in the documentary record (Table 2). These features were found in association with, but buried below, a buried planar geophysical feature that is suggestive of a compacted buried 18th–19th-century ground surface located at a depth between approximately 0.60m and 1m (1.96'–3.28') below the present ground surface (Appendix C). The potential burials are oriented north/south at a depth of .50m–.60m (1.64'–1.96') beneath the possible historical ground surface. Interestingly, a 2016 GPR Survey at Schenck Playground in Brooklyn, a school house and cemetery lot associated with the New Lots Dutch Reformed Church, identified a similar planar feature—a potential ground surface—located at 0.7–1.1 meters (2.45'–3.73') below ground surface, a depth that closely correlates with the possible ground surface in Survey 2.

Table 2. Subsurface Features Identified in Survey Area 2.

Feature	Interpretation & Orientation	Profiles	Estimated Depth Below Present Ground Surface	Estimated Depth Below Buried Ground Surface
A	Grave 1 (north/south)	102, 103, 104	1.15m (3.77')	0.55m (1.80')
B	Grave 2 (north/south)	129, 130, 131	1.3m (4.26')	0.80m (2.62')
C	Grave 3 (north/south)	134, 135, 136, 137	1.42m (4.65')	0.92m (3.01')
D	Grave 4 (north/south)	135, 136, 137	1.36m (4.46')	0.86m (2.82')
E	Unidentified (east/west)	122, 123, 124	0.75m (2.46')	Concurrent with
F	Buried Ground Surface	All Profiles in 001	0.60–1m (1.96'–3.28')	N/A

*Annotated and original profiles can be found in Appendix D and E.

As discussed previously, the soil horizon continued to develop over the depositional glacial till and served as the ground surface during the 17th and 18th-century, a period consistent with the documentary evidence of slave burials in the Drake Cemetery. Development initiatives in the early 20th century caused the 18th-century living surface to be buried under a layer fill. New York City bore logs indicate the fill was comprised of cinders, sand, clay and stone, and was deposited most deeply in areas closest to sea level, or the modern Drake Park South (1947). The fill layers are visible in the survey data and results have been read to screen out areas where hyperbolic reflections may be due to geologic conditions. There is no evidence of a buried ground surface in Drake Cemetery because was historically situated on a knoll. Survey Area 2, conversely, was buried under 0.60–1 meter of fill (1.96'–3.28') from the imposition of the street grid and associated change street elevation.

Grave Orientation

The burials identified in Survey Area 2 are set apart from Drake Cemetery in location and orientation. The burials in Drake Cemetery are oriented in an east-west direction, a conclusion supported by the east-west orientation of the grave reflections documented in the in the GPR survey (Fig. 32). In contrast, the unmarked graves of the slave burial ground are oriented north-south (Fig. 33). The burials in the Family cemetery, or Drake Cemetery, are oriented east-west. The east-west orientation is traditionally associated with Christian burials (Baugher & Veit 2014;

Jamieson 1995), particularly those associated with churches or church yards (Mytum 2004). There is variability in grave orientation in family burial grounds in the Colonial period depending on factors such as topography and property boundaries. There are two other examples of north-south burials in NYC, one comes from the Washington Square Potters Field (Geismar 2009) and the other from City Hall Park (Bankoff and Loorya 2008).

Washington Square Park was the location of New York City's second Potters' Field, active from 1797 until 1825. In 2009, Joan Geismar documented 16 burials associated with the Potter's Field Burial Ground. Of those identified in situ, all were buried in a north-south orientation (2009:51) and identified as European (Geismar, Personal Communication 2017). As a point of comparison, Geismar cites the New York African Burial Ground (ABG), active from about 1650 until 1795, as offering the most relevant and available data to compare with the Potter's Field sample (see Perry et al. 2006). While both the ABG and Washington Square Park Potters Field, Geismar writes, "are assumed to represent low socio-economic populations, similarity as well as differences abound: coffin burials appear dominant in both populations, but those in the ABG were predominately oriented with the head to the west, Potter's Field burials were basically north to south (2009:42)." Three burials found in City Hall Park were similarly oriented north-south (Bankoff and Loorya 2008:31). The buried individuals were adult and laid supine, on their backs. Analysis of the bones was made in situ, without removing the remains and as a result, no determination of age, sex, or race was made. It is not known from the report if the excavators were able to link the burials to a specific burial ground that might provide a reason for the burial orientation, such as a potter's field or quarantine cemetery.

There is not enough evidence to conclude a rationale for the differentiation of burial orientation between the two burial grounds. The practice of segregated burial ground by race or religion has been clearly documented (Baugher & Veit 2014; Harris 2004). Grave orientation, in contrast, may for example reflect the conditions of burial—individual shaft burials versus mass burials in trenches—or might mark an unconsecrated death. The variation of grave orientation calls for a localized examination of the specific burial practices in colonial and post-Colonial New York City. What is clear, however, is that there is a difference in the orientation of the anglo-American families buried in Drake Cemetery from those individuals, presumably of African ancestry, buried in the adjacent slave burial ground, individuals whose burials were set apart in location and orientation.

There is one set of paired reflections in Survey Area 2 that are oriented east-west and are not associated with a coffin (Fig. 33, circles; Appendix D, E—Profiles 122 and 124). These small, moderately-reflective objects are located directly on top of the buried ground surface at 0.75 meters (2.46') below the present ground surface. Ottman (2017:9) interprets these reflections as a possible headstone and footstone of a grave oriented east-west that were buried during the infilling of the Drake Park in the early 20th Century. It is also possible that these are stone gate-posts marking an entrance to the slave burial ground similar to the slender vertical stone in the left side of the circa 1910 photograph of the Slave burying ground (Fig. 22) marking a break in the stone wall running along the south side of Hunts Point Road visible in Figure 23 that would have separated the slave burial ground from the roadway.

6. WHO IS BURIED IN THE HUNTS POINT SLAVE BURIAL GROUND?

In order to begin to answer more definitively the question of who is buried in the Hunts Point Slave burial ground, it is necessary to determine who was buried across the way in the Drake Cemetery and their individual chronologies. This information provides a baseline of individuals to cross-reference with wills, census records, and other secondary sources to identify slave ownership and to begin to name the enslaved who may have been buried at Hunts Point.

The inventory of individuals interred in the Drake Cemetery was synthesized from four sources. A physical survey of the graveyard I conducted on June 2016 documenting the condition, location, and transcriptions of the grave markers. This information will be submitted to the New York Department of Parks and Recreation under separate cover. The grave marker inventory was cross-referenced with an 1884 inventory of “Hunt’s Point Cemetery” in the New York Genealogical and Biographical Record (1884), a 1905 inventory published by the Underhill Society (1908:25–27), and a second survey conducted in 1905 (Eardly 1914:85–87). A number of monuments identified in 1905 are no longer legible and could not be ascribed to specific gravestones, but those that could be were given marker numbers and tied into the map of Drake Cemetery (Appendix A).

Private family burial grounds were common in 18th and 19th-Century New York and many contemporary Bronx families, including the Van Cortlandt and Ferris families, maintained burial plots on their properties (Inskeep 2001; Meade 2016; Raftery 2016). As outlined in section two, the Drake Cemetery was shared by three families—the Hunts, Leggetts, and Willetts and those related by marriage—who owned abutting properties (Fig. 5) in the 18th and early part of the 19th century. Poet Joseph Rodman Drake and his sister, Caroline, were orphaned as children and spent time with the Hunt family on Hunts Point during their childhood but as Drakes, they were also lineal descendants of early settlers in West Farms (Comfort 1906; Cook 1913). Both were buried as adults in Drake Cemetery. There are five other individuals whose association with the three families are still unknown, and may prove related with additional genealogical research.

The Hunt, Willett, and Leggett families were slave owners. Family wills, the 1755 Westchester Slave Census (O’Callaghan 1850:510–511), and the US Federal Census—including the 1698 Town Census of Westchester (NYGBR 1907:129–135), document family ownership of enslaved individuals of African descent. The following set of paired tables are a summary for each family of the individuals buried in the Drake Cemetery, and what can be gleaned of the individuals they enslaved who may have been buried in the Hunts Point Slave Burial Ground. This is a conservative list, however, consisting of only the family members known to be buried in the Drake Cemetery. There may be earlier interments for which we no longer have gravestones, such as Elizabeth Leggett (1655–1724) daughter of original West Farms patentee John Richardson and wife of Gabriel, whose 4 enslaved at the time of her death (Bolton 1881:529) are not included in the summary below.⁴ Future research may add their names to the individuals believed to have been interred in the Hunts Point Slave Burial Ground.

⁴ These enslaved individuals are Robin, Hannah his wife, and their children Abram and Jenny. Robin is identified as Native American.

Data Tables: Drake Cemetery Families and their Enslaved

Table 3a: Hunt Family in Drake Cemetery

Marker	Name	Born	Died	Notes	West Farm Census
4.1	Henry Alfred Talman	12/28/1798	March 16, 1859	Son of Peter Talman / and / Sarah Hunt / his wife / Born in N.Y. / Aged 60 Years	
Unknown	Cornelia Talman	11/30/1789	February 26, 1819	Daughter of Peter and Sarah [Hunt]; wife of John Boyce Fleming; aged 68	
4.8	Sarah Hunt		Aged 70	"Daughters of the late Thomas Hunt"	
4.8	Margaret Hunt	[1775]	Aged 80		1850
4.8	Eliza Hunt	[1785]	Aged 90		1850
5.2	Hannah Talman		February 26 th , 1819	Wife of Isaac [Talman]; daughter of Thomas Hunt; aged 56; "Blessed be they who die in the lord"	
5.3	Hannah Hunt		September 15, 1812	Wife of Thomas Hunt; aged 72; "I wait for the lord my / My soul...do I" ["Milicent"]	
5.4	Thomas Hunt	[1727]	July 4, 1808	Aged 81; "He pofsesed the Cardinal- / Virtues in an eminent degree. / He was temperate, brave, patient, / and just. / The folid rock fhall sink be- /neath the iron hand of time / but virtue dwells / with immortality"	1755 Slave Census
5.5	Elizabeth Hunt		April 27, 1729	Wife of Capt. Thomas Hunt; Aged 57 [nee Gardiner]	1693
5.7	[Capt.] Thomas Hunt		October 29, 1739	Aged 73	1693
5.10	Christian Hunt		December 12, 1749	Wife of Robert Hunt; aged 41 years, 11 months, & 17 days	
6.1	Andrew A Bartow	[1773]	1861	Aged 88, husband of Mary Hunt	
6.1	Mary [Hunt] Bartow	[1772]	1861	Wife of Andrew; aged 89	
Unknown	Richard L. [Hunt]	[1780]	January 21, 1840	Youngest son of Thomas and "Milicent" [Hunt]; aged 59-9-0	1810 1820 1830
Unknown	Elizabeth [Tice]		March 10, 1837	Wife of Richard L; daughter of Henry & Lydia Tice; aged 56	

Unknown	Winship [no more legible]			[Daniel Winship married Eliza Hunt, Richard Hunt's 2nd wife]	
Unknown	William Whitehead		May 12, 1859[2]	Aged in his 31st year; son of W_ and Elizabeth; in the Winship family	

Table 3b: Hunt Census Records and Slave Ownership

Census Year	Head of House	Free White Males	Free White Females	All Other Free Persons	Slaves	Free Colored Men / Free Colored Women	Citation
1755 Slave Census	Thomas Hunt				Abram, Titus, Tobe, Lillie, & Gin		O'Callaghan 1850: 510-511
1790	Thomas Hunt, Esq.	4	5	1	10		137(2)
1800	Thomas Hunt	2	5		10		69(3)
1810	Richard Hunt	4	9		6		254(1152)
1820	Richard L. Hunt	4	12		1 female 45+	1 <14; 1 45+ 2 <14; 1 26-45	189(5)
1830	Richard L. Hunt	6	4	2 white in count, not foreigners			125-126 (19/20)
1840	Elisa Hunt	5	3				127/253
1840	Jno Wind[ship]	2	2				127/253
1850	Margaret Hunt		Age 75	Tenant			314(94)
1850	Eliza Hunt		Age 65	family of 4			314(94)

At his death in 1808, Thomas Hunt of Hunts Point leaves his “Homestead Farm” on Hunt’s Point, where he now dwells, to his son Richard L. Hunt. His wife Hannah is given permission to live there as long as she remains a widow. His will was probated in 1808 (NYWP 1808–1819:26–33), and his gravemarker along with Hannah’s, who died two years later, can be found in the Hunts Pont Burial Ground (Table 3a). Hunt’s 1800 will instructs the sale of his other two farms in Westchester—Embree farm and Gore Lot, along with his house on James Street, followed one year after his death by the sale of “all my stock on the farm of every kind, also my Negroes—and the money arising from such sale” is directed to his four daughters equally. The number of enslaved sold by his estate is not known, or the properties with which they were associated, nor are the names of people sold—a suggestive path for additional research.

Table 4a: Leggett Family in Drake Cemetery

Marker	Name	Born	Died	Notes	Census
1.1	Sarah Dixon		September 12, 1852	Listed in the household of Mary Leggett in 1850 Census for Township of New Rochelle, aged 60	1850 Census (New Rochell)
2.2	Ebenezer Leggett	1763	December 5, 1833	Aged about 70 years	1790 Census
2.2	Mary Leggett	1769	September 1, 1851	Aged 82	1840 Census 1850 Census (New Rochelle)
2.2	Robert Leggett	1797	June 20, 1816	Aged 18-9-0	
2.2	Cornelia Leggett	1792	February 20, 1820	Aged 28	
2.2	Nancy Leggett	1793	August 18, 1852	Aged 58-8-13	
2.3	Modern Commemorative Stone			Leggett family, Gabriel (1637–1700) & wife, Elizabeth Richardson (c.1656–1724) and families of sons John, Thomas, Gabriel, & William. Installed A.D. 2001, by Leggett descendant J.M.L.	

Table 4b: Leggett Census Records and Slave Ownership

Census	Head of House	Free White Males	Free White Females	All Other Free Persons	Slaves	Source Citation/Page
1790	Ebenezer Leggett	2	1	0	6	137(2)
	George (Leggett?)			2		69(3) Free blacks w/Leggett surname?
1810	Ebenezer Leggett	2	3	1	1	253(1151)
1820	Ebenezer Leggett	1	2			189(5)
1830	Ebenezer Leggett	2 (70–80 yrs)	5			124–125 (17/18)
1840	Mary Leggett	1	5			126(251)
1850	Mary Leggett, 81	Charles Baxter, 13	Ann Leggett, 50; Sarah Dixon, 60			New Rochelle, Westchester Census (273)

Table 5a: Willett / Van Ranst Family in Drake Cemetery

Marker	Name	Born	Died	Notes	Census
4.7	William Leaycraft	2/2/1795	October 22, 1796	Son of Willet and Elizabeth Leaycraft; aged 8 mos and 10 days	
4.9	Cornelius Willett		May 4, 1781	Aged 75	No enslaved recorded in 1755
4.10/11	Elizabeth [Willett]		May 14, 1792	Wife of Cornelius, aged 71 years, 4 mo. 4 d.	1790
4.11/10	Elizabeth Willett		June 19, 1772	Daughter of Cornelius & Elizabeth Willett; aged 27 years 3 months / "Behold and See as you Pass By / As you are Now so Once was I / As I am Now you Soon will Be / Prepare for Death and Follow Me."	
Unknown	Eliza Goodyear	1/1/1788	April 12, 1830	Daughter of Cornelius Willet and Jane Van Ranst	
Unknown	John Van Ranst		October 9, 1828	Aged in his 43 rd year; son of Cornelius W[illett] Van Ranst] and Jane [Jane, 1st wife]	
Unknown	Jane Van Ranst		May 5, 1793	Wife of Cornelius W[illett]. Van Ranst, aged 30 years, 5 months and 1 day. [Jane, 1st wife]	
Unknown	Cornelius Willett		February 8, 1834	Son of C_W_ and Eleanor; Aged 9 years, 7 months, and 27 days [Eleanor, 3 rd wife]	

Table 1b: Willett / Van Ranst Census and Slave Ownership

Census	Head of House	Free White Males	Free White Females	All Other Free Persons	Slaves	Source Citation/Page
1790	Elizabeth Willett		2		6	137(2)
1790	Cornelius Van Ranst	2	2		2	137(2)

Table 2: Drake Family and Unidentified Others

Marker	Name	Born	Died	Notes
6.4	Frances Tillou			Possible reference to husband Frances Redding Tillou buried in Greenwood Cemetery, or child named Francis. Westchester Co cemeteries Volume, records this as Frances Tillou, died March 5, 1837 aged 0-17-2 but dates are after Caroline's death. Grandchild?
6.4	Caroline Matilda Tillou		October 4, 1825	Aged 33; sister of Joseph Rodman Drake
6.5	Joseph Rodman Drake		September 21, 1820	Aged 25; "None knew him but to love him, Nor named him but to Praise."
Unknown				
2.1	D. P. Morthier		January 19, 1807	Aged 32 years; "Virtue is beloved in this life / And rewarded i[n] [t]he [l]ife to come"
Unknown	Levi Beales		September 12, 1846	31-5-11
Unknown	Eve Mary Francis		January 4, 1850	Aged 57-6-17; wife of Thomas G. [?] Mantle
Unknown	Francis William Pond		December 30, 1835	Aged 2-3-19; son of Theron and Mary
Unknown	Ward [no more legible]			

Pattern of Slave Ownership

One distinct pattern of slave ownership emerges from the documentary record, a pattern that correlates with the trajectory of gradual emancipation in New York City. The 1799 Emancipation Law in New York City decreed that children born to slaves after July 4, 1799 were to be given their freedom, but remain as indentured servants to their mother's owner until age 28 if male, and 25 if female (Harris 2003). Full emancipation was not granted until 1827. Concurrent with this gradual emancipation, 1790 marked the height of slave ownership on Hunts Point. Thomas and Hannah Hunt owned 10 enslaved (Table 3b), Ebenezer and Mary Leggett owned 6 individuals (Table 4b), as did Elizabeth Willett (Table 5b).

As full emancipation in 1827 drew closer, the pattern of slave ownership shifts as well. The 1820 census is the last record of an enslaved individual on Hunts Point. A woman of 45 years or older, is still held in bondage by Richard L. Hunt (Table 3b). The household, however, does include five free people of color: a man of 45 years and older, a woman between the ages of 26–45, and 2 girls and a boy under the age of 14. Are these six individuals—free and enslaved—the same six who were fully enslaved by Hunt in the 1810 census? This shift in slave ownership also mirrors the shift from full-scale agriculture in the 18th century to the downsizing of farms and properties in the early decades of the 20th century as the families transitioned away from farm production to more industrialized pursuits. The final demographic shift occurs in 1850 when the birth origins of domestic and agricultural laborers on the estates of the "new" families of Hunts Point, the Winships, Spoffords, Barrettos, shift from New York to England, Ireland, and Scotland emulating the changing immigration trends of the City at large.

Prior References to Interments in the Hunts Point Slave Burial Ground

“Bill the Pilot”

In several of the Victorian Bronx histories and late-19th-century newspapers (Comfort 1910, Cook 1913; New York World 1881) there are repeated references to “Bill the Pilot,” who was at the helm of the British Frigate Hussar, when she was wrecked off Port Morris, the entrance of Harlem Kills”. He was purported to belong to the Hunt Family leading to his interment in the Hunts Point Slave Burial Ground following the sinking of the Hussar. No evidence has been found to support or negate this association.

“Aunt Rose”

The narrative of Aunt Rose, the last individual to be buried in slave burial ground at Hunts Point comes from 19th-century archaeologist William L. Calver writing in *Slave burials in New York* about the “occupants of the slave plot at Hunts Point”.

Ms. Tiffany’s mother, who died in 1897, had a clear recollection of the last black interred in the slave plot. This was an old negress named “Aunt Rose.” She had formerly been a slave in the Leggett family, but she and her children had been manumitted . . .

She was buried in the slave plot some time away back in the forties (1920:154).

Another Victorian memoir suggests differently. In the Elizabeth Seaman Leggett’s 1888 memoir, she writes that Thomas Leggett lies in the “Friends Burial Place [in] St. Peter’s yard, and his old slave Rose . . . lies at his feet by his request.” Thomas Leggett (1755–1843) is listed in the burial records “Quaker burial yard” at St. Peter’s Episcopal Church at Westchester Square (Minor & Hildebrant 1910:244, Index #1078) and has no association with the Drake Cemetery. When the Quaker meeting houses were disbanded, and sold, their burial grounds were absorbed by St. Peter’s and the burial records of the Church are thus grouped by churchyard. Rose’s grandson, John Cornell, is said to have been John Leggett’s coachman in 1830 providing a potential last name for Rose. While by no means conclusive, the St. Peter’s records a marker with the initials R. C. among the common field stone markers in the Quaker Cemetery (Minor & Hildebrant 1910:248, Index #1148). Tracing the manumission records might confirm a surname for Rose and help to elucidate her final resting place.

A Second Leggett Family Burial Ground: The Exhumation of William and Sarah Leggett
Theodore Leggett in *Early Settlers of West Farms*, reports on the exhumation of William and Sarah Leggett in 1891.

In the latter part of March, 1881, I went with Mr. Francis H. Leggett to West Farms to be present at the opening of certain graves, which proved to be those of William Leggett, 3rd son of Gabriel 1st, and of his family and others. On the lawn of the big white house which for half a century has stood on this estate (on Hunt’s Point), grew six cedar trees until comparatively recent times, and tradition had told the owners that within the mound where they grew was an Indian burying-ground. Mr. J. L. Spofford, who now has control of this property, has his men dig into this mound, and found underneath lying flat, a gravestone bearing this inscription: “1744 Sarah Leggett—died August 30, 1744, aged 52 years.” Nine bodies were removed from this mound, or what was found of them, and buried in St. Peter’s yard at Westchester. They should not have been disturbed, for I have

since learned that when the property was sold by the Leggetts it was with the understanding, that the stones being laid flat, they never should be removed.” (1913:7).

This Leggett family cemetery has been conflated with Drake Cemetery over time, including the inscription of a modern commemorative stone tracing the Leggett family from its arrival in West Farms in Drake cemetery that was placed by a Leggett descendant in 2001 that concludes with “the nearby grave of fourth son, WILLIAM [Leggett], 1691–1763, and his family, were removed to St. Peters, 1891.” On this last point, we have confirmation: on August 28, 1891 Sarah Leggett and “others from Spoffords” were reinterred in St. Peter’s Episcopal Cemetery and can be found in their burial records (Minor & Hildebrant 1910:350, Burial Index #1165).

Bronx historian Harry T. Cook provides the potential location of this burial ground as “in the field opposite the George Fox mansion erected about 1848, on the long slope below the Spofford mansion, is the site of the Leggett burying ground, where 10 bodies of early settlers were removed, one being that of Mayor [William] Leggett of Westchester” (Cook 1913:110).⁵ The Leggett burial mound adjacent to the “big white house” located on Hunts Point associated with Mrs. Leggett’s residence on 1851 Sidney and Neff map or L.B. Brown’s property on the 1867 Beers Plate 4, which is south of A. S. Fox’s estate “Springhurst” and P. Spoffords residence further to the north.

⁵ Leggett and Cook disagree on the number of individuals removed from the Leggett burial mound.

7. CONCLUSIONS AND RECCOMENDATIONS

Various primary and secondary documentary resources were consulted for this 1A study of the Drake Cemetery to determine the extent of all historic burials associated with Joseph Rodman Drake Park with particular attention given to determine the background and extent of the slave burial ground believed to be historically associated with Drake Cemetery. These sources included historical maps and atlases, photographs, land conveyance, probate, and census records, along with newspapers and local histories. Two ground penetrating radar surveys were also conducted within the park as a non-invasive means of establishing the presence of human burials. The information gleaned from these sources informs the following conclusions.

The Hunts Point Slave Burial Ground

The historical photographic and documentary evidence supports the existence of a slave burial ground historically located on the south side of Old Hunts Point Road across from the family burial ground of the Hunt, Leggett, and Willett families known today as Drake Cemetery. The historical photograph of the “Slave Burying Ground, Hunts Point Road” from the Museum of the City of New York taken circa 1910, corresponds with a series of late-19th and early 20th-century Bronx histories and visitors accounts of Hunts Point describing the Hunts Point Burial Ground (Drake Cemetery) and its adjacent slave burial ground across the way—the two are repeatedly mentioned in tandem. Randall Comfort’s 1910 “Excursion planned for the City History Club of New York” for example, sends his readers to the Hunt Burying Ground to “see the ancient gravestones of the earliest members of the Hunt Family” (1910:196–197). “Across the road is the Graveyard of the slaves of early residents” of Hunts Point, he concludes.

The historical orientation of Drake cemetery was to the south, unlike access today which is from the north. The 1905 photograph of Hunt Cemetery in the Westchester County Archives (Fig. 23) shows the cemetery gate opening on to Hunts Point Road. Findlay’s 1858 survey (Fig. 19) shows the north side of Drake Cemetery bordered by marshland to the west, north and partially to the east. The only road passing the Cemetery was to the south, orienting the location of the Slave Burial Ground across Hunts Point Road to the south. This conclusion informed the location of the GPR survey.

The Ground Penetrating Radar Survey

The GPR survey identified four subsurface features consistent with burials at approximately 1.15m to 1.42 meters (3.77’–4.65’) below the present ground surface in the area south of Drake Cemetery that corresponds with the historical location of the Hunts Point Slave Burial Ground. These features were found in association with, but below, a buried planar geophysical feature that is likely the original 18th–19th-century ground surface before the area was infilled in the early 20th-century to the existing street level at a depth of 0.7–1.1 meters (2.45’–3.73’). These burials are oriented with their long axis in a north-south direction. The GPR survey area extended south from Drake Cemetery into the sidewalk adjacent to Drake Park South (Fig. 27). All burials identified were found within the current boundaries of Drake Park and do not extend into the adjacent roadway.

7.3 Areas of Archaeological Sensitivity

There is no work currently planned for Drake Park, but two areas of archaeological sensitivity should be noted:

- 1) The unmarked burials associated with the Hunts Point Slave Burial Ground are an area of high archaeological sensitivity.
- 2) The potential exists for buried foundations along with a privy, well and/or cistern features associated with the wood-frame house that stood circa 1868–1930 due east of Drake Cemetery (Fig. 12; 21). It is recommended that any work planned in this area should be tested in advance.

7.4 Recommendations

The following are recommended next steps to refine and enhance our understanding of the historical background of the Drake Cemetery and Hunts Point Slave Burial Ground in Drake Park, but they in no way, negate the findings of this report.

- *Second-Level GPR Study:* A second close-interval GPR survey is recommended within the same 17 × 22-meter survey grid (Site 01) along 0.25-meter interval transects laid in a north-south direction perpendicular to the orientation of the transects in the previous survey. Because graves oriented the same direction as the survey transects can sometimes be difficult to see in GPR profiles, an additional north-south survey will aid in the identification of any additional burials that may be oriented east-west. This will refine our understanding of the number of unmarked burials associated with the Hunts Point Slave Burial Ground.
- *Topic-Intensive Documentary Study:* Additional research is suggested to trace primary source documentation to determine which members of the Leggett family were historically in residence at which property location. The Victorian historians, from which many Leggett family genealogies have been extracted, combines several distinct branches of the family. This further documentary study will help to link Leggett family slave ownership with individuals who may be buried in the Hunts Point Slave Burial Ground.
- *Sediment Borings within Drake Park:* It is recommended that a series of small-bore sediment cores be collected within Drake Park. This would help to refine our understanding of the historical and geologic history of the park. As it stands, the sediment bores taken in the 1940s by the New York Department of Public Works (Appendix F) give us only a broad overview of the sediment packages within the area. No bores were taken in the park itself, so the elevation of the original 18th-century living surface as well as other geologic information must be interpolated from the historical and GPR data. The resolution of the records kept by New York's Department of Public Works is not as high as would be ideal for this application; a subtle soil horizon would not have been recorded in these historical bore logs. Minimally invasive cores can be taken with 1" or 1 ¼" sediment coring devices, and would be sufficient for this purpose. It is recommended this take place in areas of the park that do not contain human remains, but will also be representative of the stratigraphy of Survey Area 2.

- *Topographic Survey*: A topographic survey of the park using GPS or a Total Station is recommended to record the current surface elevations within the park. This would help to more accurately correlate the depth of the features identified in the GPR survey.

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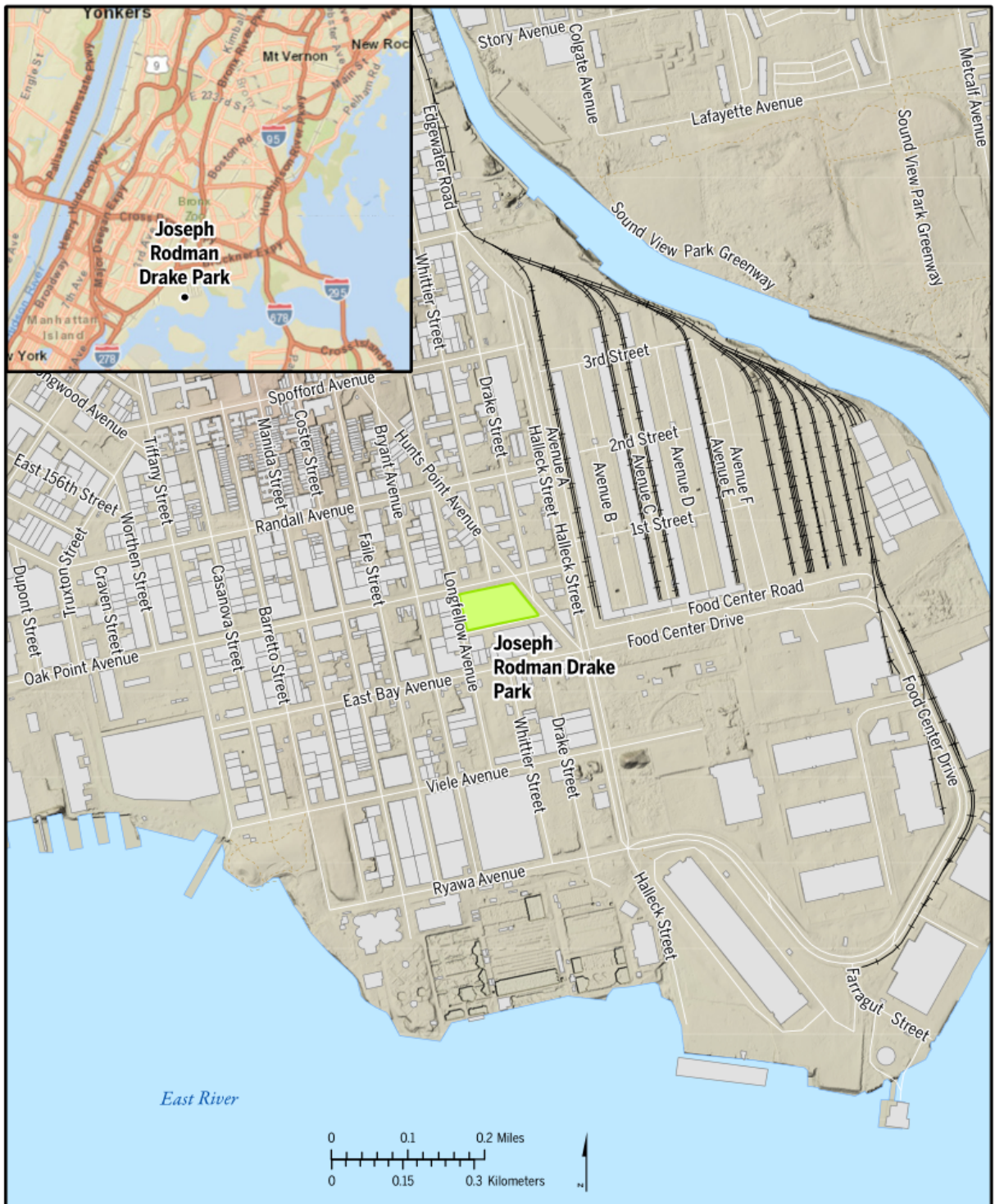


Figure 1. Project Site, Joseph Rodman Drake Park, Hunts Point, Bronx, NY. Graphic by Kevin P. Russell.

Hunts Point Burial Ground, Joseph Rodman Drake Park, Bronx, New York
Phase 1A Documentary Study and GPR Survey

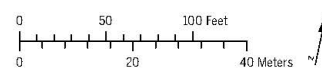


Figure 2. Project area and surrounding streets, Hunts Point, Bronx, New York. Graphic by Kevin P. Russell.



Figure 3. 1875 Topographical Map of Westchester County, New York Department of Public Parks. Library of Congress.



Figure 4. Drake Cemetery within Joseph Rodman Drake Park looking east at Hunts Point Avenue and Drake Park South at right. The top of the burial mound, at center, now lies at a lower elevation than the surrounding street as a result of extensive infilling at the turn of the 20th century.



Figure 5. Detail of 1781 *A Map of the Country Adjacent to Kingsbridge* with 17th and 18th-century place names. Project site in red, not marked in original. Andrew Skinner and George Taylor, Surveyors. William L. Clements Library, University of Michigan.

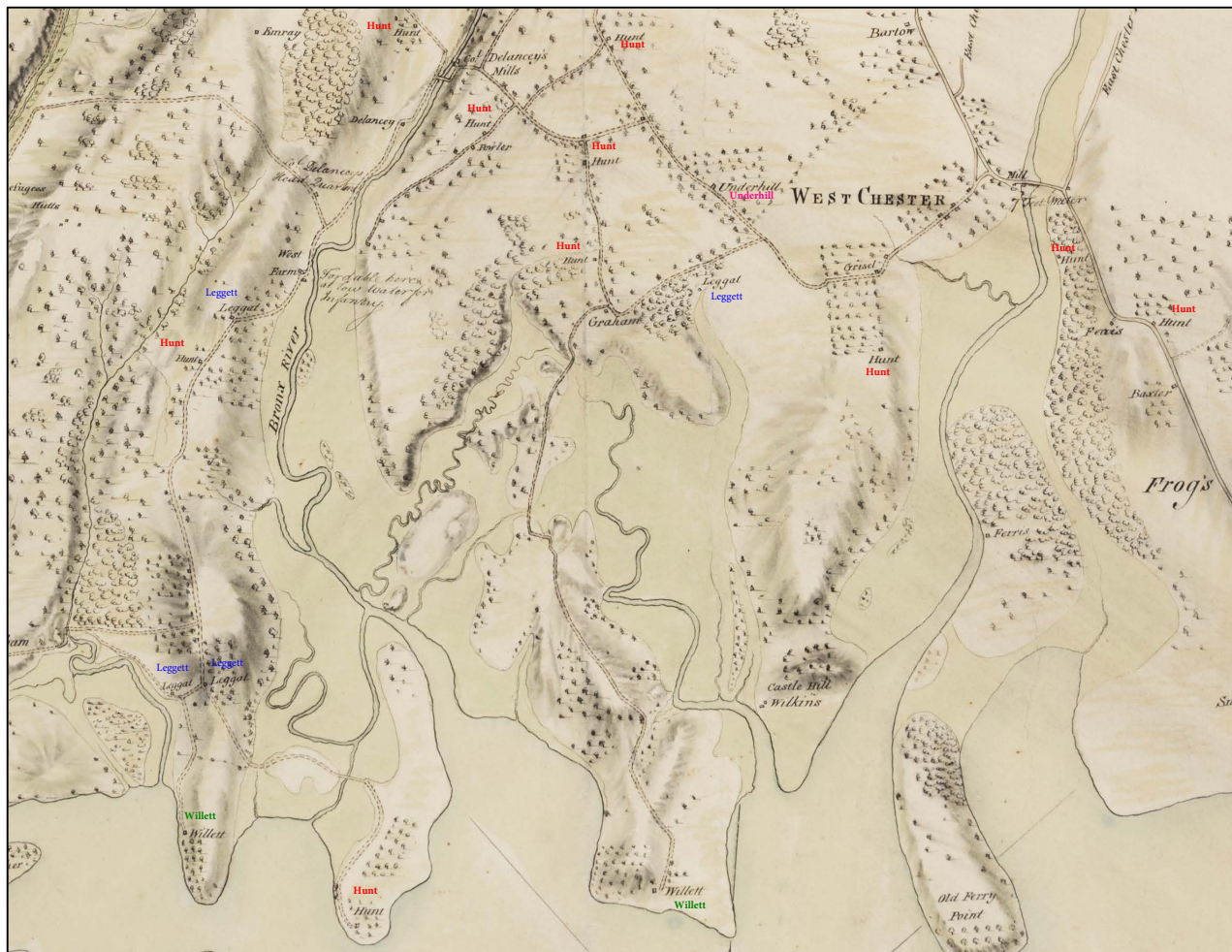


Figure 6. 1781 "A map of the country adjacent to Kingsbridge, surveyed by order of his excellency General Sir Henry Clinton K.B., commander in chief of his majesty's forces," 1781 by Andrew Skinner and George Taylor. Clements Library, University of Michigan.



Figure 7. 1849 Sidney's Map of Twelve Miles Around New York, J. C. Sidney. New York Public Library.



Figure 8. 1851 Sydney and Neff Map of West Chester County. New York Public Library.

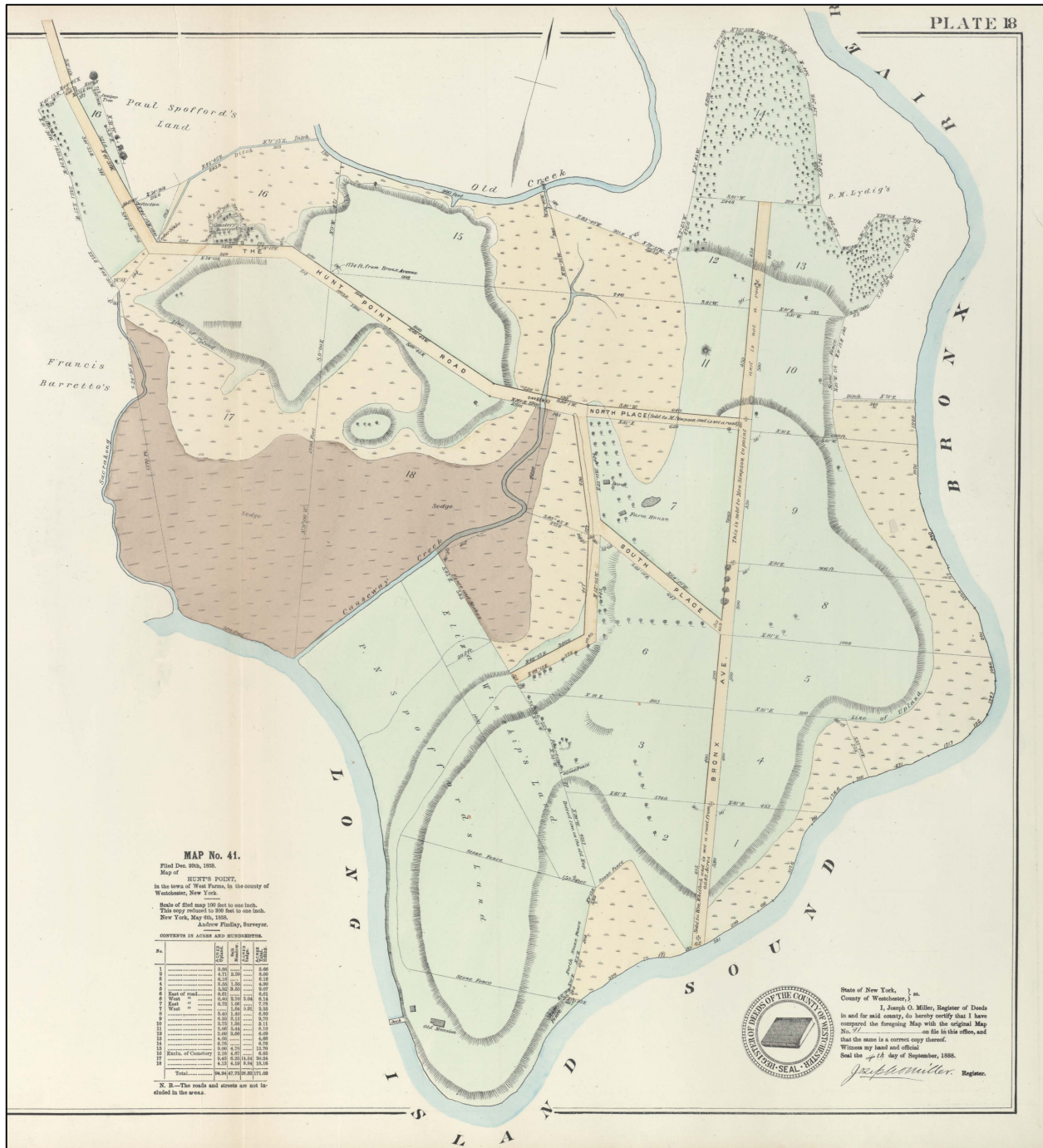


Figure 9. Andrew Findlay's 1858 "Map of Hunts Point," a survey of Eliza Hunt's conveyance to Paul Spofford. NYPL. The Hunt family cemetery at top left along Hunts Point Road, was excepted from the sale.



Figure 10. 1896 Sandborn Map, Volume 12, Plate 259. New York Public Library. The Hunts Point Burial Ground is not depicted but shows Whittier Street bisecting its location. The cottage adjacent to the Burial Ground is shown at intersection of Hunts Point Road and Whittier Street. Hunts Point Road is integrated into the street plan.



Figure 11. 1904 Bromley map, Atlas and Owners Names, Borough of the Bronx, Section 10, Plate 18. New York Public Library. Whittier Street continues to bisect the Hunts Point Burial Ground and Hunts Point Road is replaced by a new Hunts Point Road [Avenue] east of the project area running diagonally south to the point.

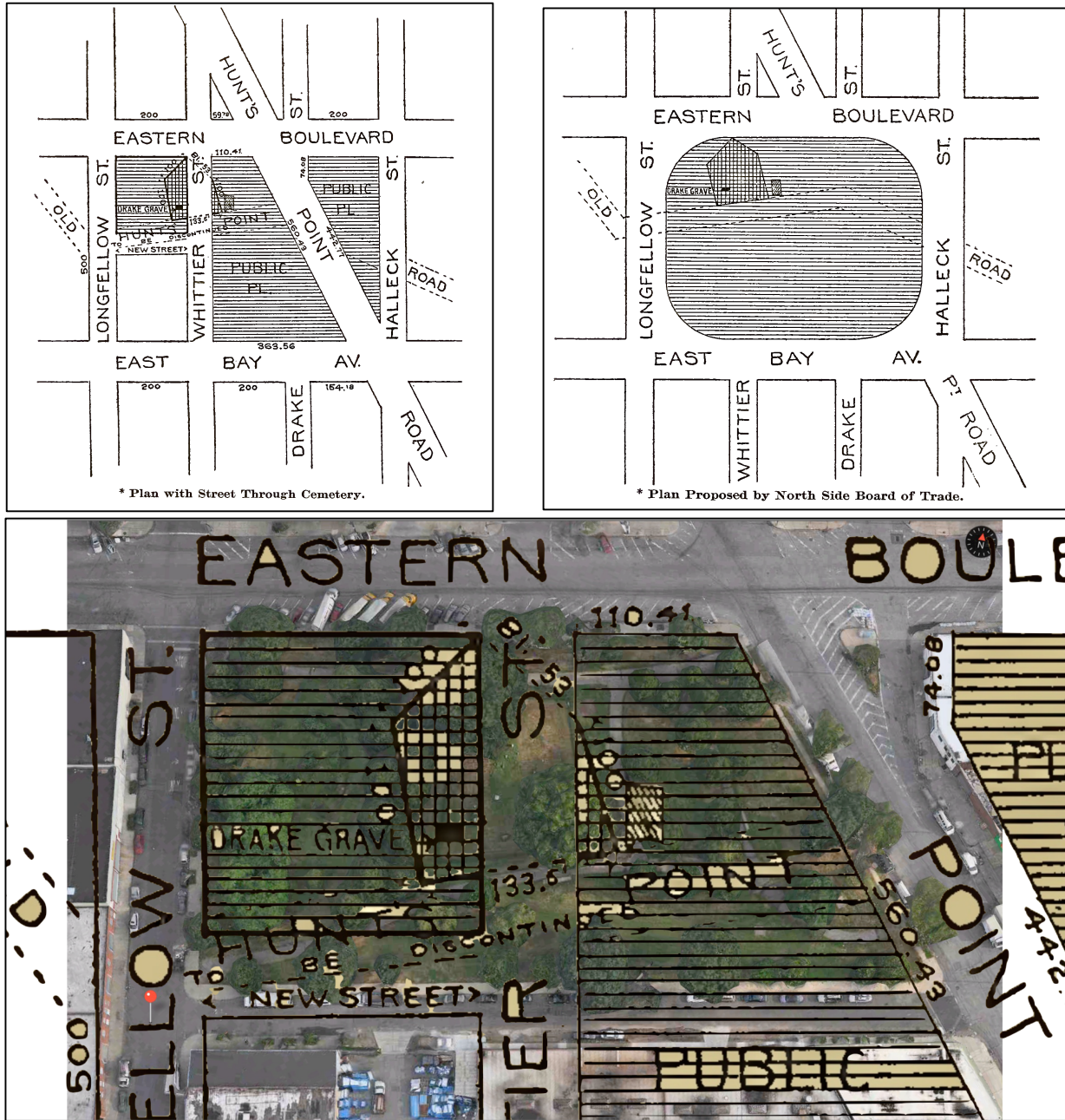


Figure 12: Top left: proposed street plan outline in Bromley 1904 impacting Hunt Burial Ground as presented in evidence by James Wells to the Northside Board of Trade September 16, 1904 (Wells 1904:7–8). Top right: amended street plan proposed by Albert E. Davis, President of North Side Board of Trade, preserving the Hunts Point Burial Ground. Bottom: Bromley 1904 street grid projected on current project site. Map graphic by Jacob Kayen.

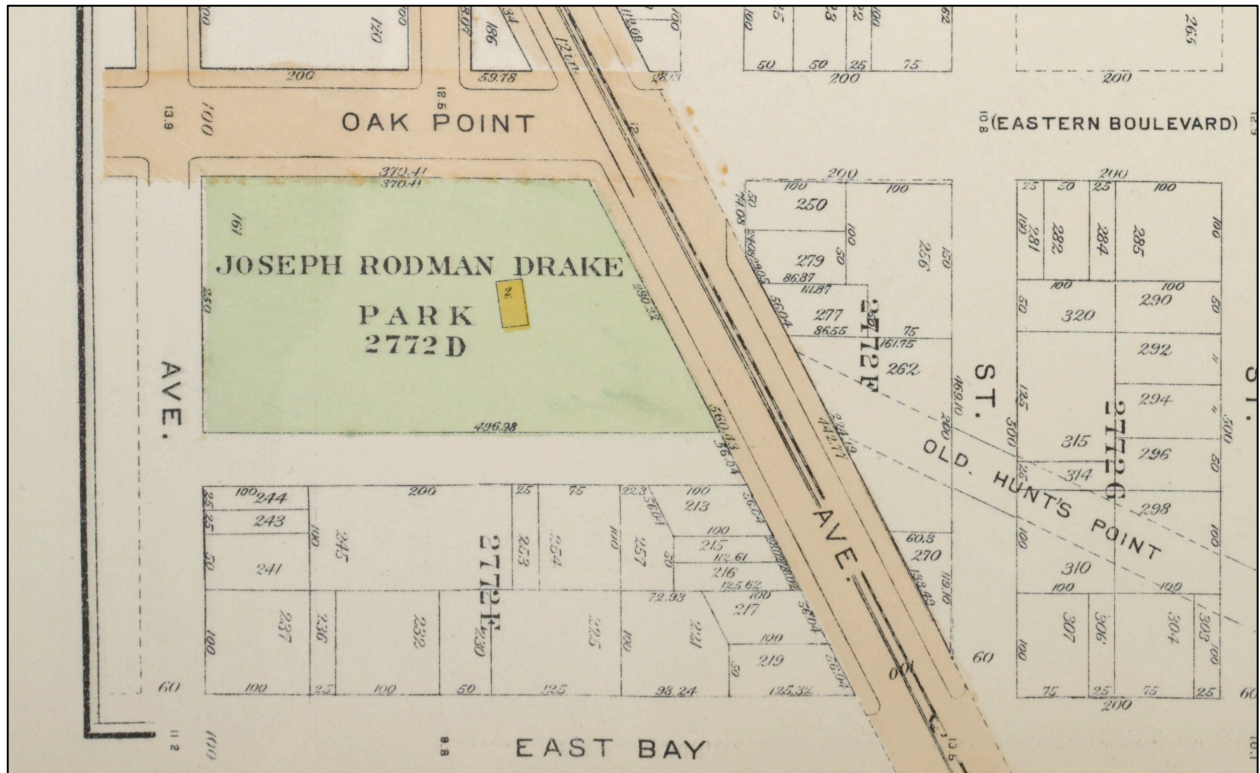


Figure 13. 1921 Bromley map showing current configuration of Drake Park and surrounding streets as it stands today. The cottage is shown still standing as of 1921.



Figure 10. Drake Cemetery circa 1912, looking west-southwest. The picket fence of the wood-frame house is at left with mounds of fill in the foreground. Westchester County Historical Society [F_HN-545].



Figure 11. The beginning of infrastructure and residential development in Hunts Point at Oak Point Avenue and Tiffany Avenue, looking north, ca. 1920. Drake Park is at the eastern end of Oak Point Road. MCNY [X2010.11.6888].



Figure 12. 1936 photograph of Drake Cemetery looking west-southwest. The photographer is standing on Oak Point Avenue elevated above Drake Cemetery. New York City Department of Park and Recreation Photo Archives.



Figure 137. "A Private Cemetery for the families of Thomas Hunt, Cornelius Willet, John Leggett." Photograph ca. 1912. Westchester County Historical Society [H-1363].

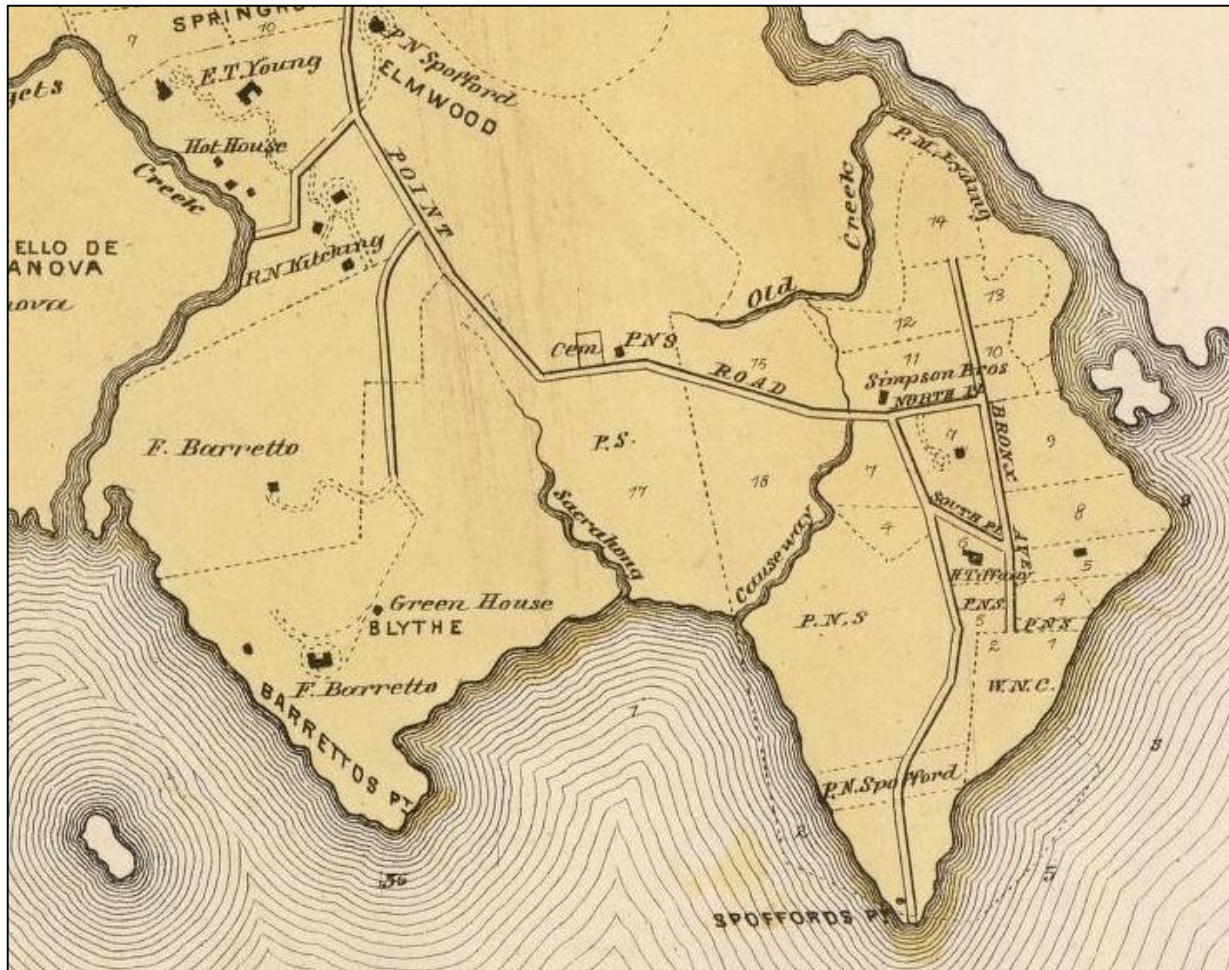


Figure 14. 1868 Beer's Map of West Farms. First map containing footprint of house adjacent to Hunts Point Burial Ground. The house is also illustrated in Figure, the 1871 Topographical Map of Westchester.



Figure 15. Detail of Findlay's 1858 survey of Eliza Hunt's conveyance to Paul Spofford. The Hunts Point Slave Burial Ground, not marked, would be to the south across Hunts Point Road from the Cemetery. New York Public Library.



Figure 20. Looking north at original gated access to "Old Hunts Point Cemetery," from Hunts Point Road. Museum of the City of New York [X2010.11.6777], ca. 1910.

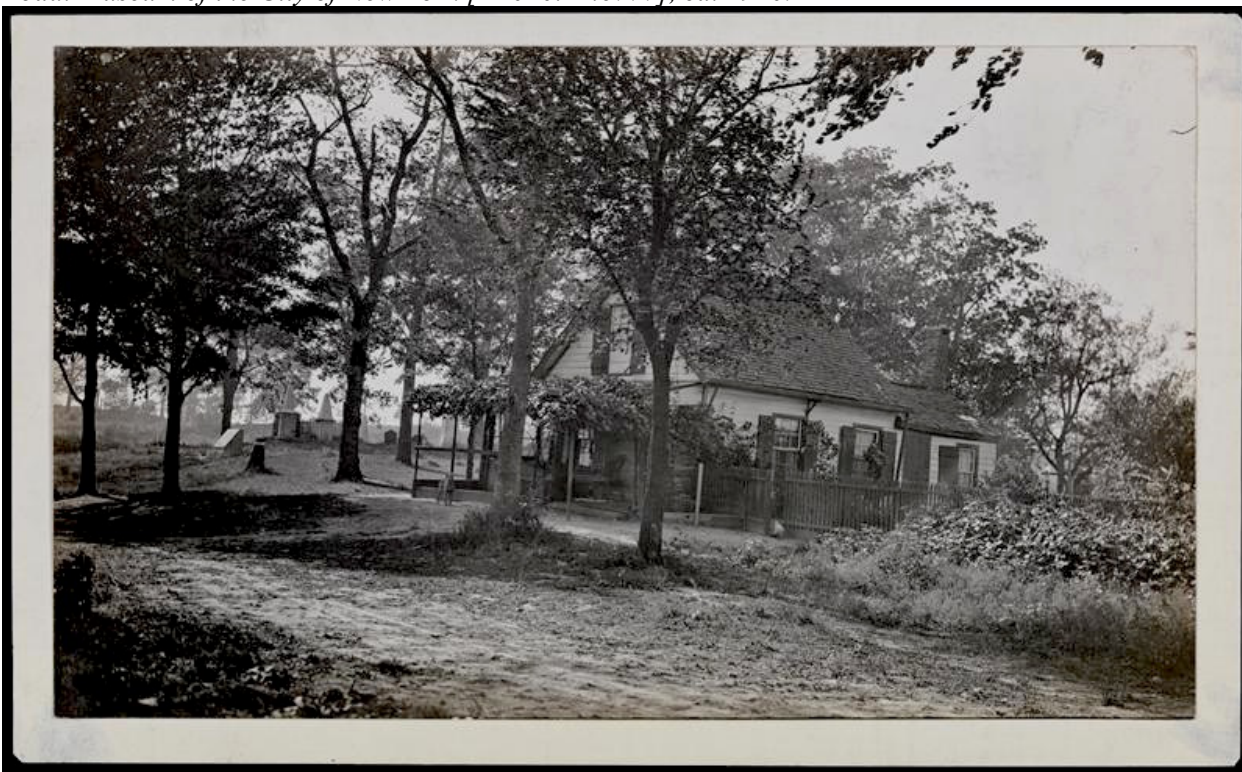


Figure 21. Hunts Point Road looking northwest. "Rodman Drake Park, Hunts Point," Museum of the City of New York [X2010.11.6946], ca. 1915.



Figure 22. "Slave burying ground, Hunts Point Road," circa, 1910. Museum of the City of New York [X2010.11.6774].



Figure 23. "Hunt Cemetery" on the north side of Hunts Point Road, looking north-northwest, 1905. Westchester County Archives [Print H-3167].



Figure 16. GSSI SIR-3000 Ground Penetrating Radar with 400 MHz antenna operated by Edwin Muñiz of the USDA.



Figure 175. Collecting GPR data points along a north-south transect marked by the yellow tape within Drake Cemetery.

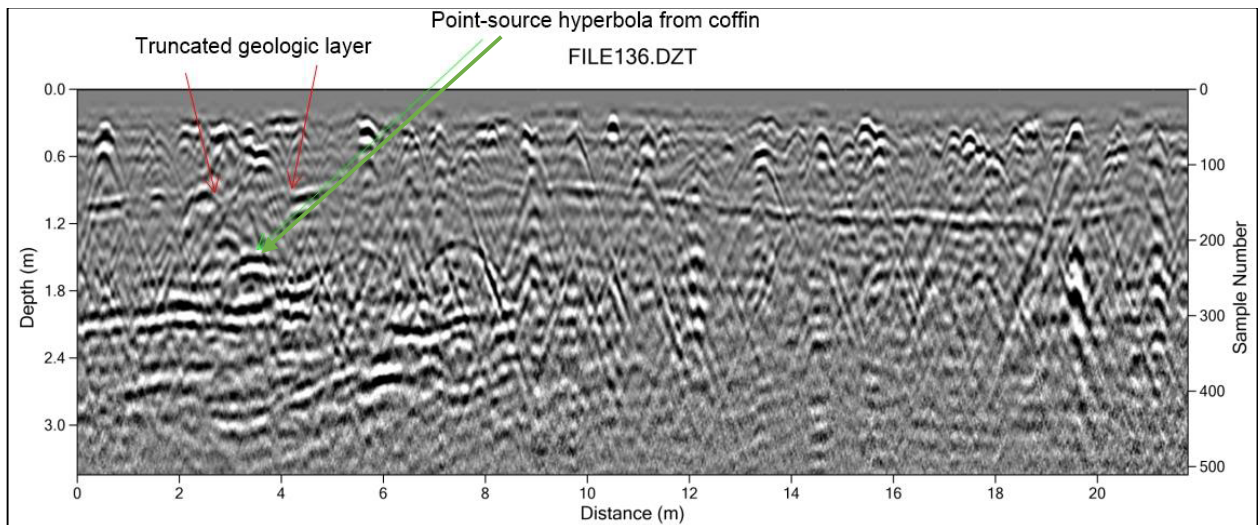


Figure 18. A point-source hyperbola reflection from a coffin. The grave shaft indicated by the truncated geologic layer in the buried ground surface above. Drawing by Shayleen Ottman.

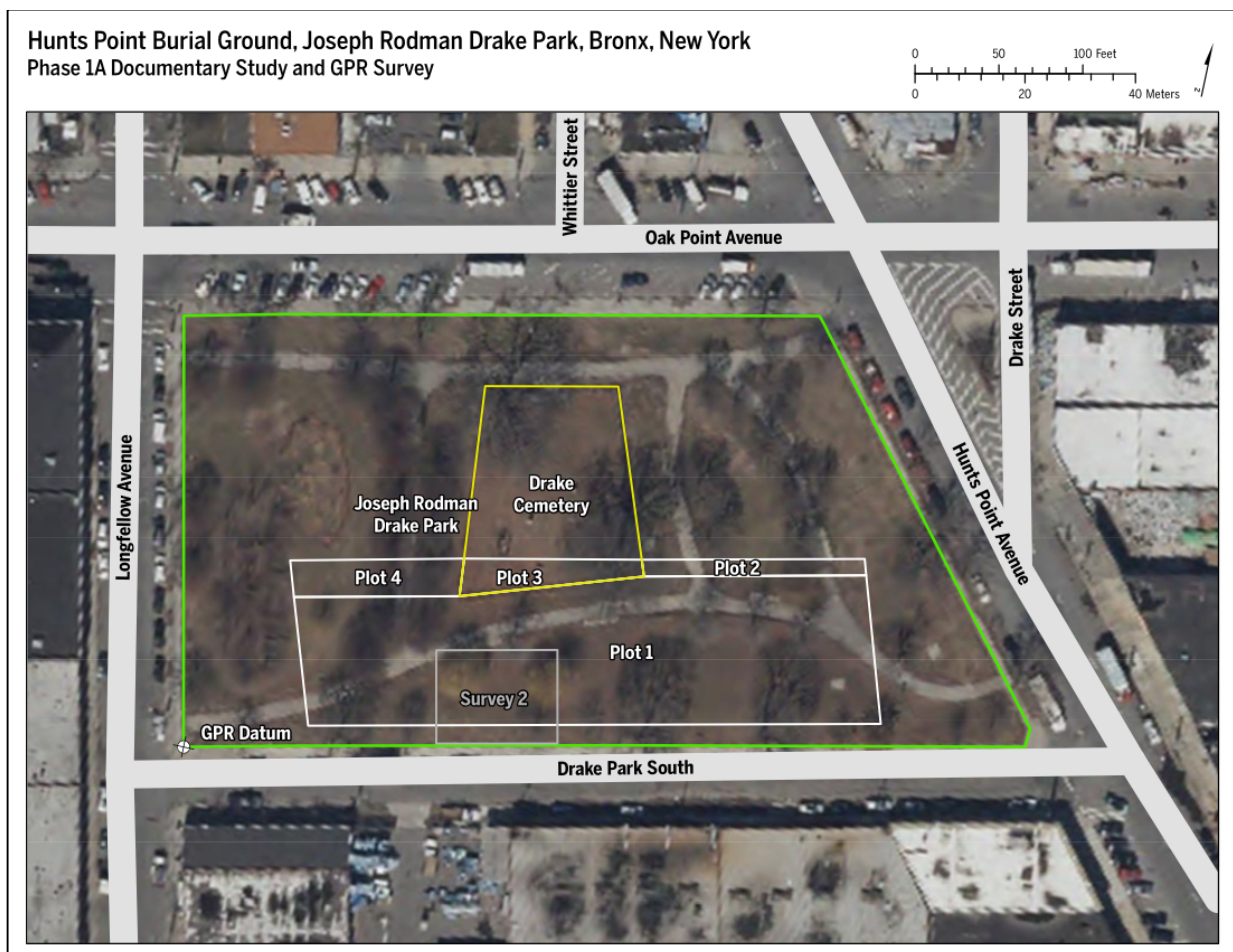


Figure 19. GPR survey area. Plots 1–4 were surveyed in October 2015 and Survey 2, a close-interval survey was conducted in March 2016. Graphic by Kevin P. Russell.



Figure 208. GPR Plot 1 looking west from the eastern perimeter of Plot 1 with concrete utility cover in foreground. Notice the downward slope from Drake Park South at top left to the southern fence line of Drake Cemetery at right as a result of infilling.

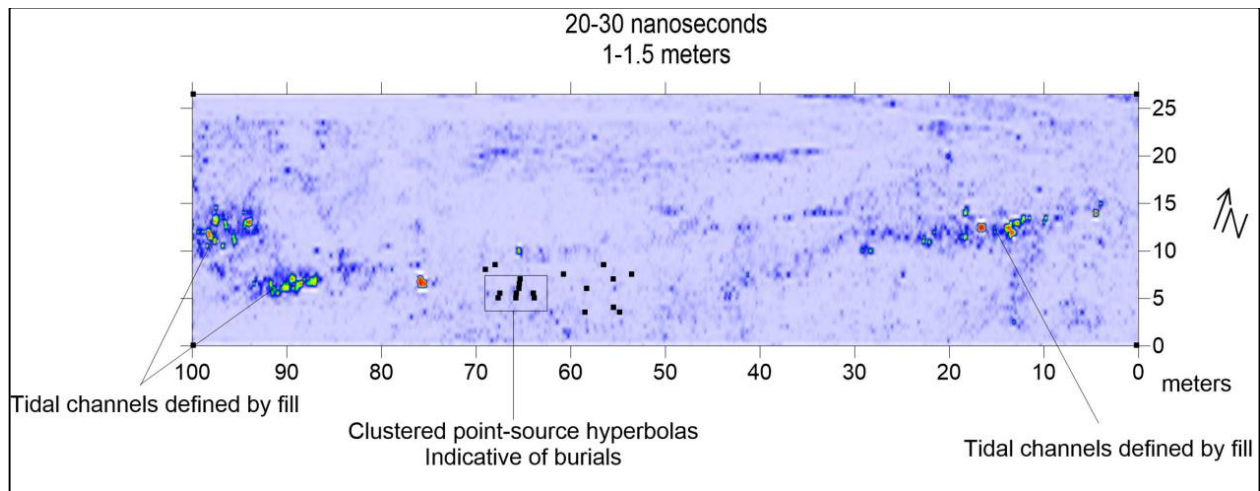


Figure 29. Point-source hyperbolas located in profiles mapped within Plot 1. Graphic by Lawrence Conyers.

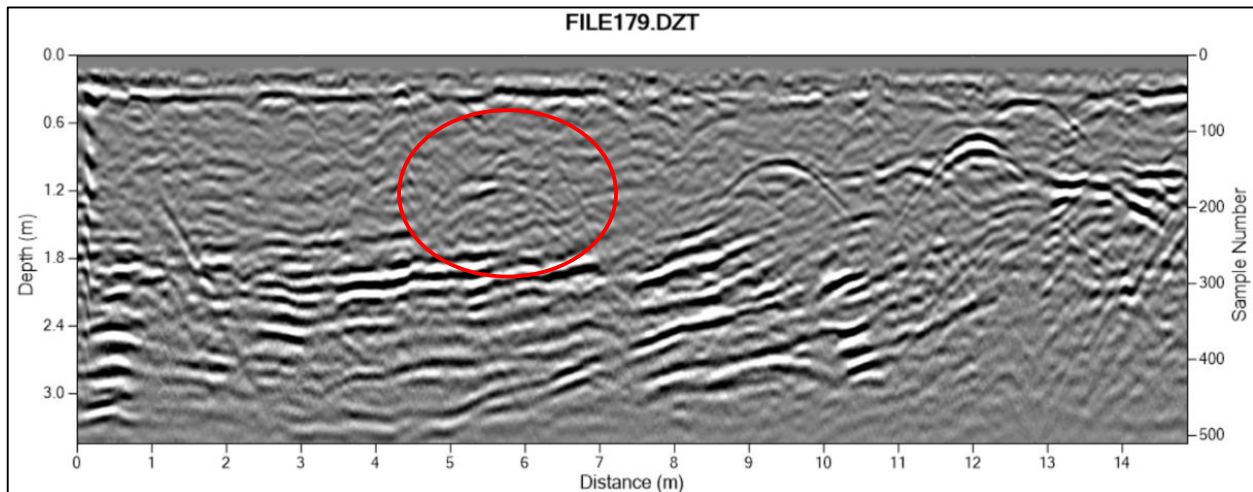


Figure 30. Profile 179 collected from within Drake Cemetery 0.5m east of the datum, which shows a small planar reflection, which may indicate the presence of a collapsed coffin. This profile corresponds to reflection #7 in Figure 32.

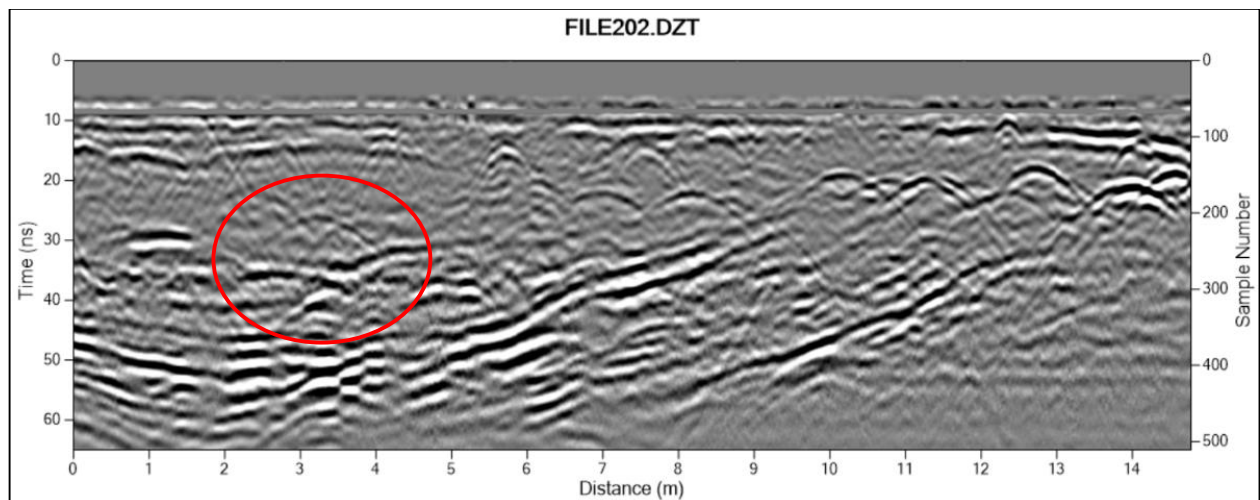


Figure 31. Profile 202 collected from within Drake Cemetery 9.25m east of the datum, which shows a low amplitude hyperbola reflection which may indicate the presence of an intact coffin. This profile corresponds to reflection #18 in Figure 32.

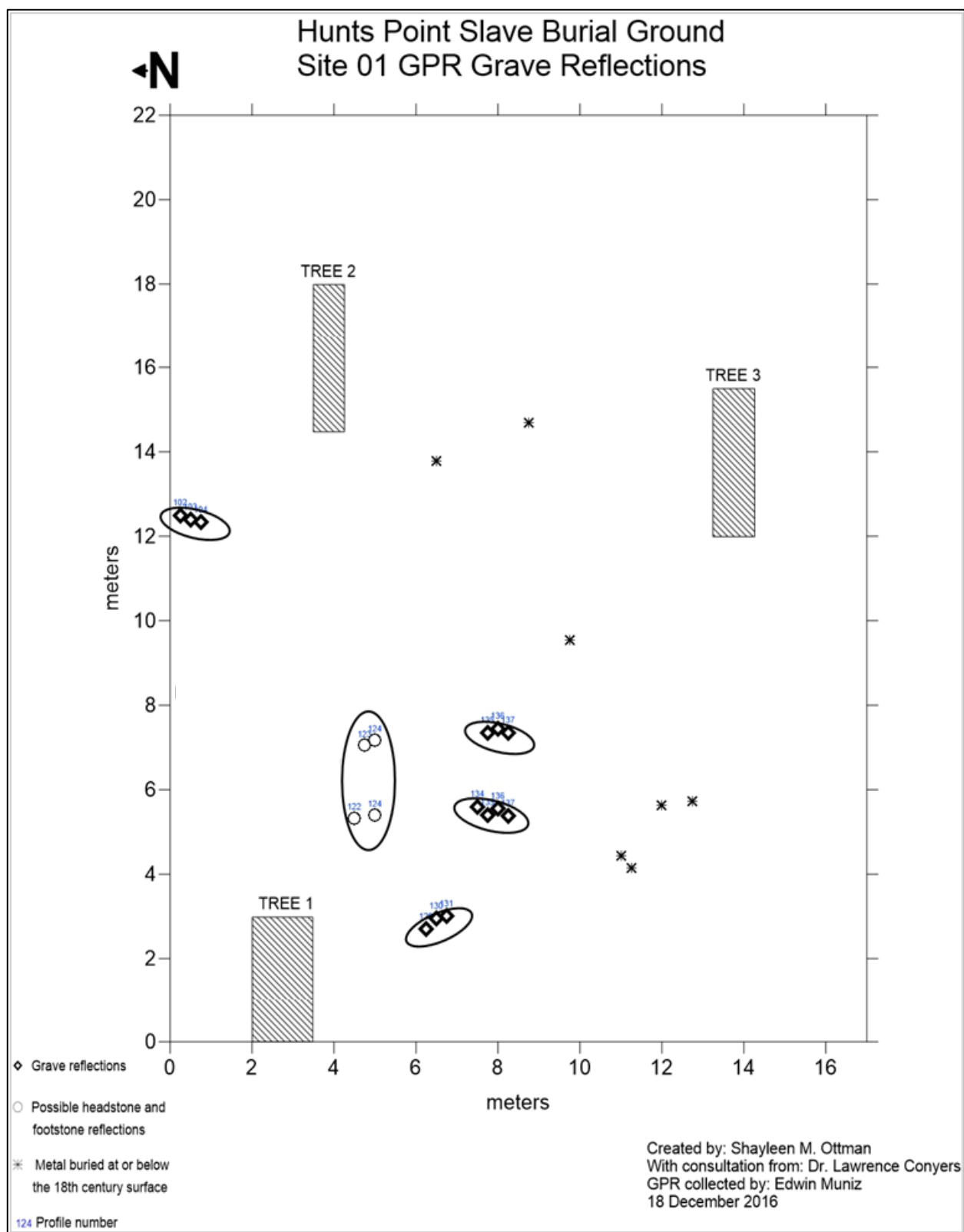
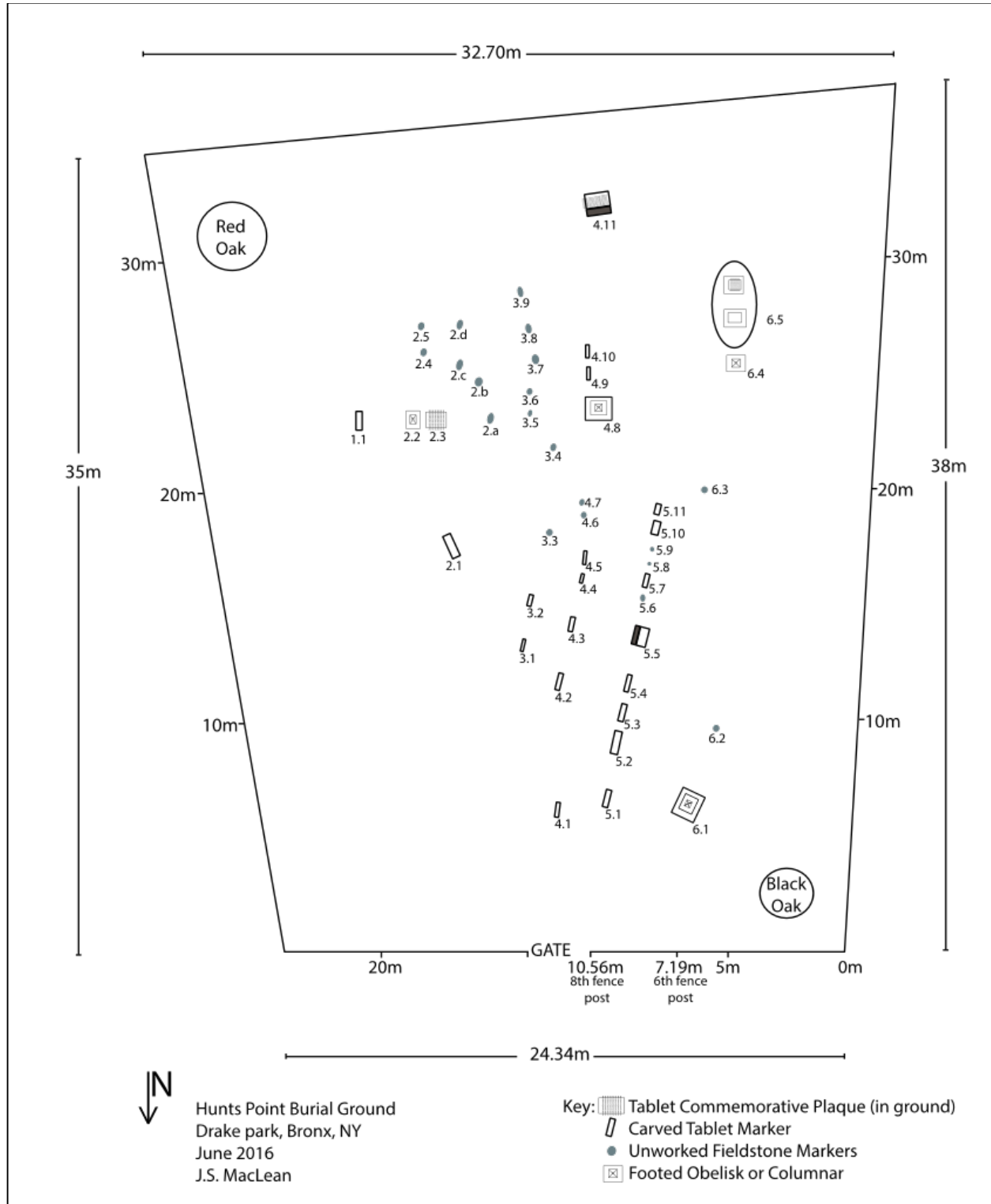


Figure 33. A plan-view of Survey Area 2, consistent with the area historically documented as Hunts Point Slave Burial Ground. Reflections indicating likely graves have been circles to highlight the grave's orientation.

Appendix A. Map of Gravemarkers in Drake Cemetery as of June 2016
 Numbers correspond with individuals in Tables 3a–6.



Appendix B: Ground Penetrating Radar Survey Results, November 15, 2015

Ground-penetrating Radar Results, Joseph Rodman Drake Park, Bronx, New York.

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November 15, 2015

Introduction:

A ground-penetrating radar (GPR) survey was conducted by Edwin Muñiz on October 19, 2015 in order to research the possibility of burials extending outside the known cemetery located within Joseph Rodman Drake Park. Data were collected by a GSSI SIR-3000 system with a 400 MHz radar antenna to transmit radar energy into the ground along transects separated 50 cm within four grids. The grids are measured as follows: Grid 1, 100 meters by 26.5 meters; Grid 2, 38 meters by 3 meters; Grid 3, 30 meters by 6 meters; Grid 4, 28 meters by 6 meters (Figure 1).



Figure 1. Aerial map showing locations of GPR collection plots within Joseph Rodman Drake Park (Data courtesy of Jessica MacLean)

Recorded traces were collected at 40 per meter within a time window of 45 nanoseconds (two-way travel time). The elapsed time between when pulses were sent and then recorded from geological and other features in the ground was then converted to depth, with approximately 10 nanoseconds of time equaling about 50 cm in the ground. This velocity was calculated by hyperbola fitting (Conyers 2013).

Data Analysis:

The data analysis presented here focuses on Grid 1 as it displays a much better representation of the stratigraphy, as well as all the graves discovered. Grids 2, 3, and 4 are much in size, and show only the usual stratigraphy in the park, with nothing anomalous. Many modern surface features are visible within Grid 1 including sidewalks, fencing, vegetation, and landscaping. Geological features are also visible including tidal channels filled with sediment or anthropogenic fill. There is also bedrock of unknown type visible at about 35 nanoseconds, or between 1.5 and 2 meters below the surface. The delineation of these natural and cultural features was a prerequisite to defining where in the study area burials were likely to be located (Conyers 2012) (Figures 2 and 3). In general we assumed burials would not have taken place within the tidal channels (but perhaps on their margins), and attenuation of energy took place under the sidewalk, so we were unable to interpret the GPR data in those locations. This delineation of visible features allowed for a detailed analysis of one area that is relatively undisturbed and retains features of this historic landscape that would have been possible burial areas.

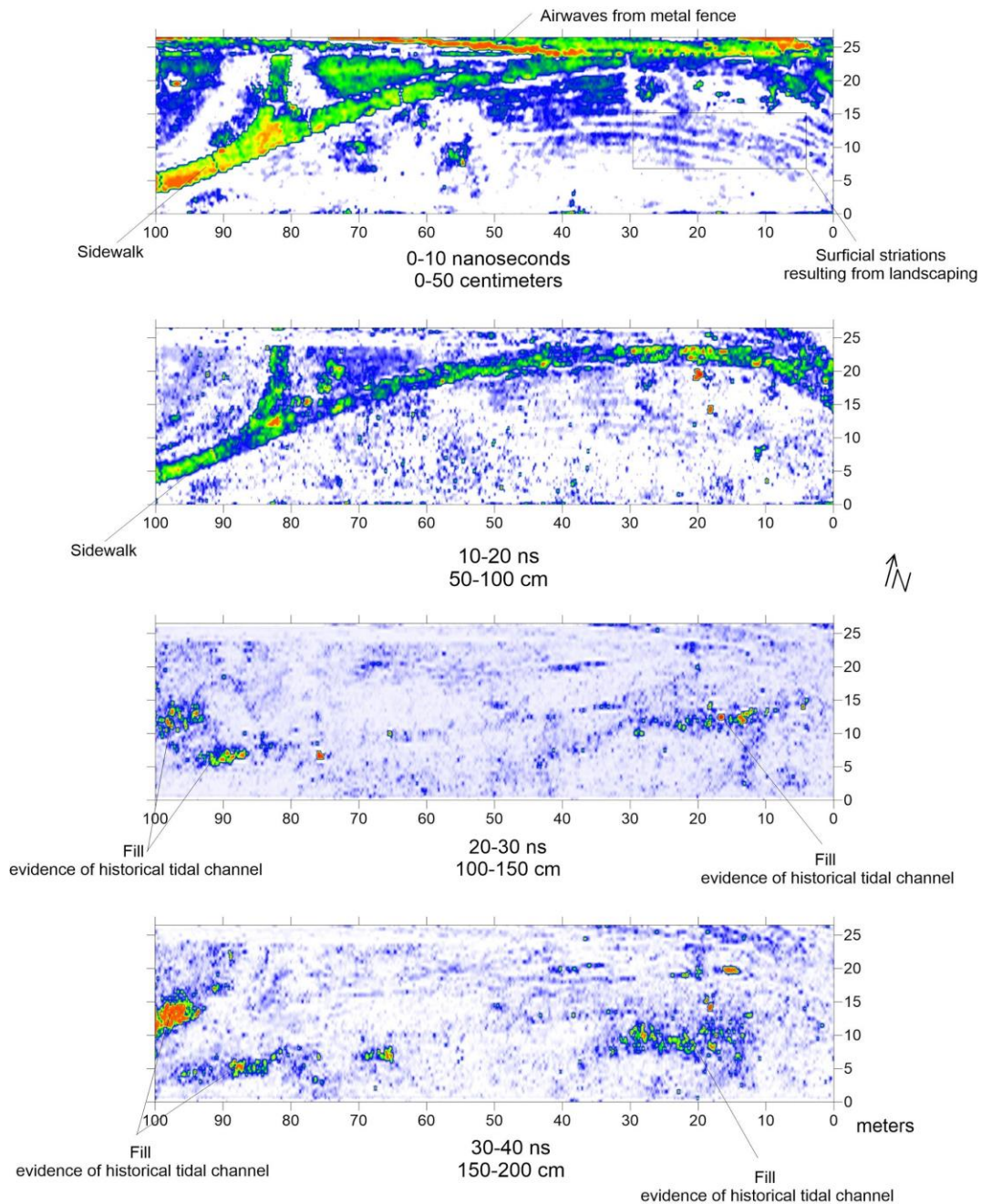


Figure 2. Amplitude maps of the radar waves showing both geological and anthropogenic features. The amplitude maps have been sliced into four nanosecond ranges which reveal certain features at different depths. Each slice is approximately 50 centimeters in depth, which was calculated by hyperbola fitting.

The presence of a historical tidal channels, which are clearly visible in profiles, and displayed in Figure 3, was a vital factor in the analysis of the data. It is likely that the tidal channels were present when the burials took place. Bedrock between 1.5 and 2 meters in the ground suggests that potential burials are likely located above that horizon. We saw no incision into the bedrock other than the tidal channels, which includes both historical burials and modern utilities. It can also be assumed that burials do not occur within about 80 cm of the surface. Only

roots and the sidewalk, with some possible landscaping scars were visible in the shallow horizons. The sidewalk, bedrock, and a tidal channel with associated fill can be seen in profile 115 (Figure 3).

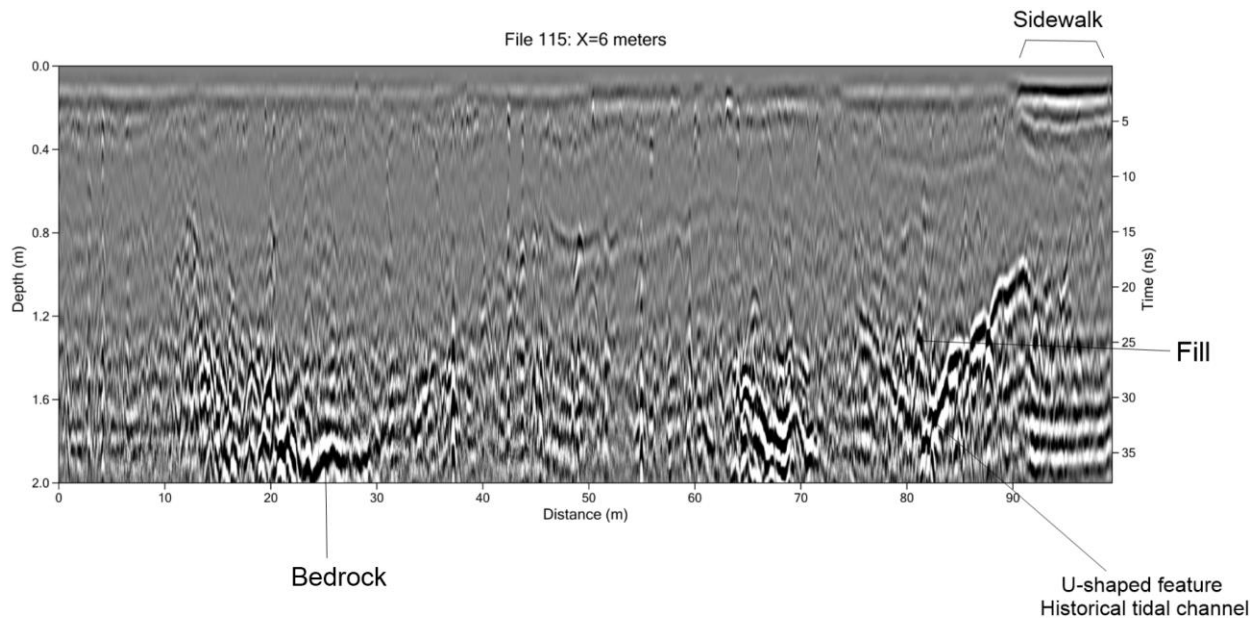


Figure 3. The tidal channel is defined in profile 115. Bedrock can be seen between 1.5 and 2 meters depth. The sidewalk and the attenuated waves that result from conducting GPR over the surface of the sidewalk can also be seen between 90 and 100 meters.

In order to locate burials, we analyzed amplitude maps and profiles in tandem. Burials are typically identified through distinct point-source hyperbolas in profiles, generated from caskets, which are “point source” reflection sources (Conyers 2012). Profile 113 contains three point-source hyperbolas from caskets, located at the correct depth and just above bedrock (Figure 4).

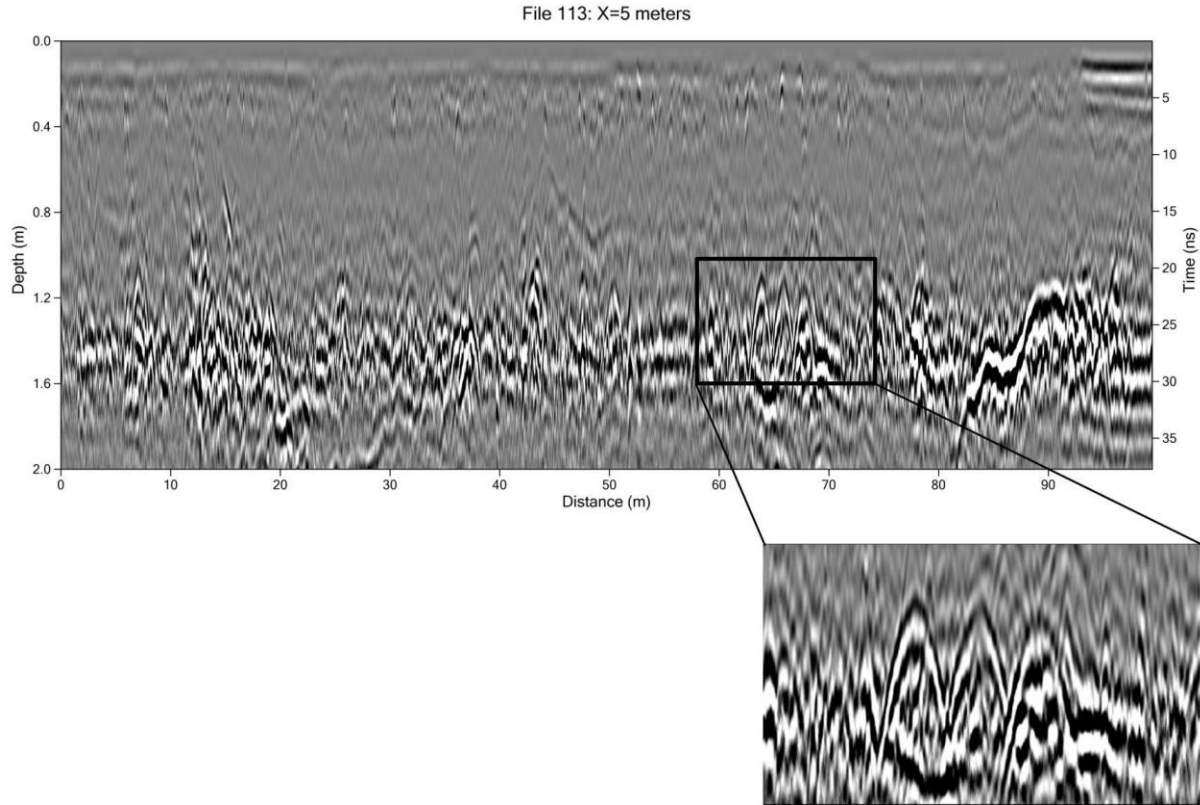


Figure 4. Profile 113 contains three point-source hyperbolas that are characteristic of burials. The three hyperbolas are all located at the same depth, approximately 1.2 meters below the surface. The tidal channel can also be seen between 75 and 100 meters in profile 113.

All large and distinct hyperbolas located above bedrock and between tidal channels were then recorded in space. Their average depth is between 1 and 1.5 meters (20 to 30 nanoseconds) (Table 1). Those locations were then point-plotted and overlain on the amplitude maps, confirming that all are located on what would have been a relative high area, bounded by tidal channels on the historical landscape.

Table 1. Table showing the locations of point-source hyperbolas within Grid 1. The locations of point-source hyperbolas were measured within profiles as seen in Figure 4.

X axis	Y axis	Nanoseconds
3.5	54.8	20.96
3.5	58.48	21.14
4	55.45	19.37
5	67.68	25.1
5	65.8	24.48
5	63.85	24.13
5.5	67.5	23.78
5.5	65.75	24.31
5.5	63.95	23.69
6	65.48	23.69
6	58.3	19.02
6.5	65.43	20.87
7	65.35	20.78
7	55.48	18.58
7.5	53.53	17.52
7.5	60.75	19.55
8	69.03	20.17
8.5	56.5	16.38
8.5	68	16.91

A composite of the point-plotted hyperbolas and the other geological features on one map shows all potential graves to be located in one small area of Grid 1 (Figure 5). It is evident from both Table 1 and Figure 5 that some hyperbolas that are clustered together, and others that are isolated. Clustered hyperbolas are likely multiple reflections from the same burial, visible in adjacent profiles. Singular hyperbolas, which “appear” to be graves may be burials or other grave goods (or even rocks of some sort) that happen to exist within the narrow bounds of our hypothesized burial area on the historical landscape.

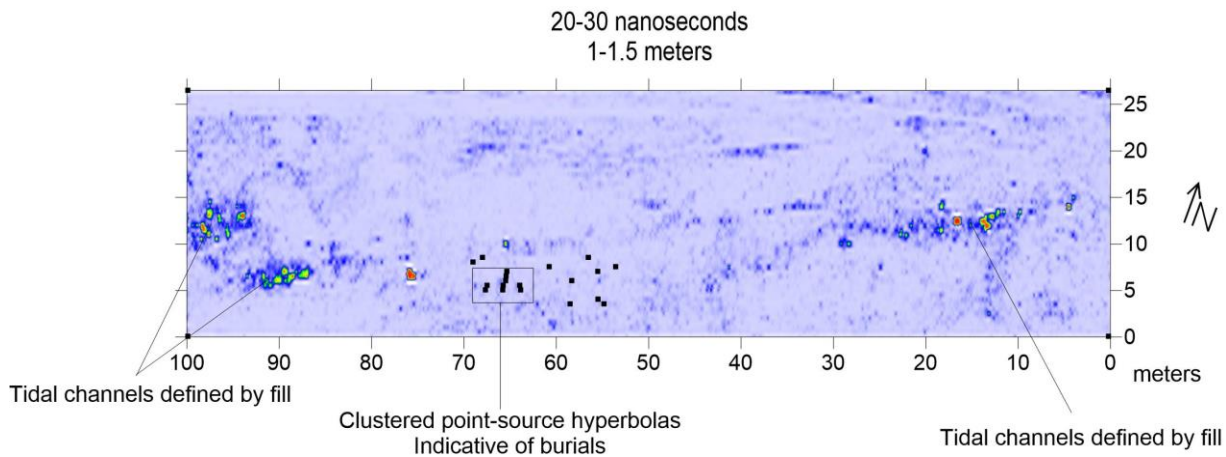


Figure 5. Point-source hyperbolas located in profiles mapped within Grid 1. They have been mapped onto the third amplitude slice, which shows amplitudes from 20 to 30 nanoseconds and at 1-1.5 meters in depth, because most of the hyperbolas were located within that range.

Conclusions:

Analysis of the GPR data reveal clustered hyperbolas located between the historical tidal channels and above the underlying bedrock that are likely multiple burials. These are located between 0 and 10 meters in the x direction, and 60 to 70 meters in the y direction within Grid 1. This analysis suggests that the burials likely took place prior to the filling of the tidal channels.

The general area was used as a cemetery recently, but those graves are marked and presumably well-ordered. The graves visible in Grid 1 are much less ordered, and clustered only in one small area of the present-day park. It is unknown whether the presumed burials identified in Grid 1 are a continuation of that known cemetery or if they represent an independent burial program from an earlier period. Our analysis suggests a small plot that was less formal than a usual European cemetery. However, the depth of the burials, and their appearance in GPR profiles are consistent with burials seen throughout the U.S and in New York., so we feel fairly confident that they are human internments.

Recommendations for Future Work:

One way in which GPR can be used to answer questions about their age and possible affiliation is by increasing the spatial resolution of the radar reflection data. Spatial resolution in the ground is particularly dependent upon the spacing in which transects are laid out in collection grids, and several studies have demonstrated that transects collected with .25 meter spacing or even less, are ideal when investigating burials. Datasets with higher resolution can often result in the identification of attributes such as casket type, metal used in their manufacture, their specific origin, their exact dimensions, and many other factors that would be useful in learning more about these graves (Conyers 2006; Damiata et al. 2013). If more resolution and a greater understanding of the very interesting area in the park that appears to hold graves is desired, it is recommended that an additional smaller, but very high resolution GPR survey be conducted only over those graves identified with profile transect spacing at .25 meters (or even .125 cm) to

produce this type of high resolution information. In addition, it is recommended that a survey be conducted within the nearby known cemetery, even though it is probably from a different time period. Data from the known graves could act as a very important model of known graves that will serve as a baseline in which data from suspected burials can be compared and contrasted to refine our understanding of burials in this ground.

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2006 Ground-penetrating Radar Techniques to Discover and Map Historic Graves.
Historical Archaeology 40:64-73.

Damiata, Brian N., John M. Steinberg, Douglas J. Bolender, Gudny Zoega

2013 Imaging Skeletal Remains with Ground-Penetrating Radar: Comparative Results over Two Graves from Viking Age and Medieval churchyards on the Stora-Seyla Farm, Northern Iceland. *Journal of Archaeological Science* 40:268-278.

Appendix C: Ground Penetrating Radar Survey Results, December 21, 2016

Analysis of Ground-penetrating Radar Results to Reveal the Location of the Slave Burial Ground, Hunt's Point Cemetery, Site 01, Bronx, New York.

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Shayleen M. Ottman, shayleenottman@gmail.com

Prepared for: Dr. Jessica Striebel MacLean, 733 Jefferson Avenue, Brooklyn, NY 11221

21 December 2016

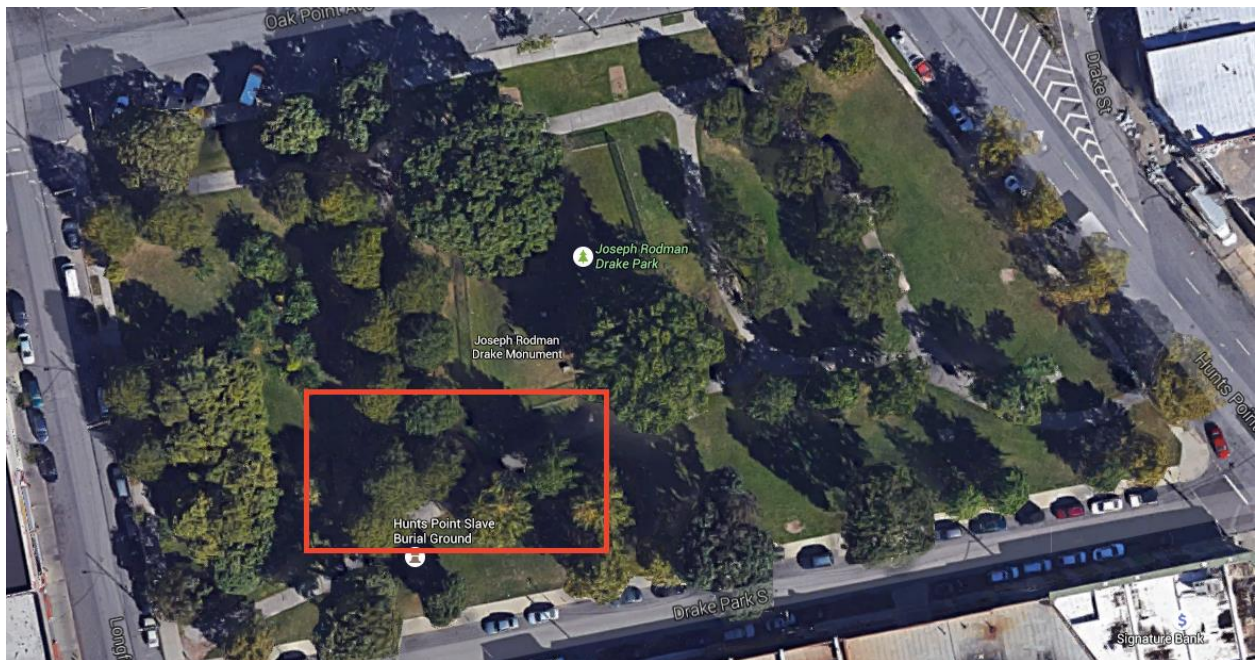


Image courtesy of Google Earth

Introduction

This is a preliminary report on the search for graves in Joseph Rodman Drake Park in the Hunt's Point neighborhood of Bronx, NY. Joseph Rodman Drake, a 19th century poet, is buried in the historic cemetery in the park. Historic documents indicate that slaves and freed slaves were also buried within the park, however, outside the formal cemetery. Ground-penetrating radar (GPR) was employed in order to aid in the search for these graves.

Edwin Muniz first collected four small grids of GPR data in the known cemetery, to be used as a model for what graves of similar age and context “look like” in this ground. GPR data was also collected over Site 01, the area of the park which likely contains the remains of the Africans and African Americans buried there. In consultation with Dr. Conyers, I have analyzed the GPR data taken in the known cemetery; and, using the information available to me, I have used the data to inform my analysis of Site 01. In addition to this model, I have analyzed historic photos,

newspaper clips, maps, and sediment bore logs to build a narrative that places Site 01 into an historic and geologic context. I present below our conclusions concerning the data. These conclusions are based on the types of analyses that Dr. Conyers has performed in over 200 cemeteries all over the world.

Formal Cemetery as a Model

Data were collected using ground-penetrating radar in the historic Hunts Point Cemetery in a grid which measured 10 by 15 meters, with one profile collected every 25 centimeters along the southern axis of the grid. Areas which contained rows of headstones were left un-surveyed, and are indicated by the cross-hatched areas in Figure 1. By analyzing each profile taken in the cemetery, reflections which may indicate the presence of buried human remains were identified and their coordinates mapped in Surfer. By mapping these reflections, the image below was created. Reflections which appeared in two or three consecutive profiles are those most likely to indicate a buried coffin, and have been circled in Figure 1.

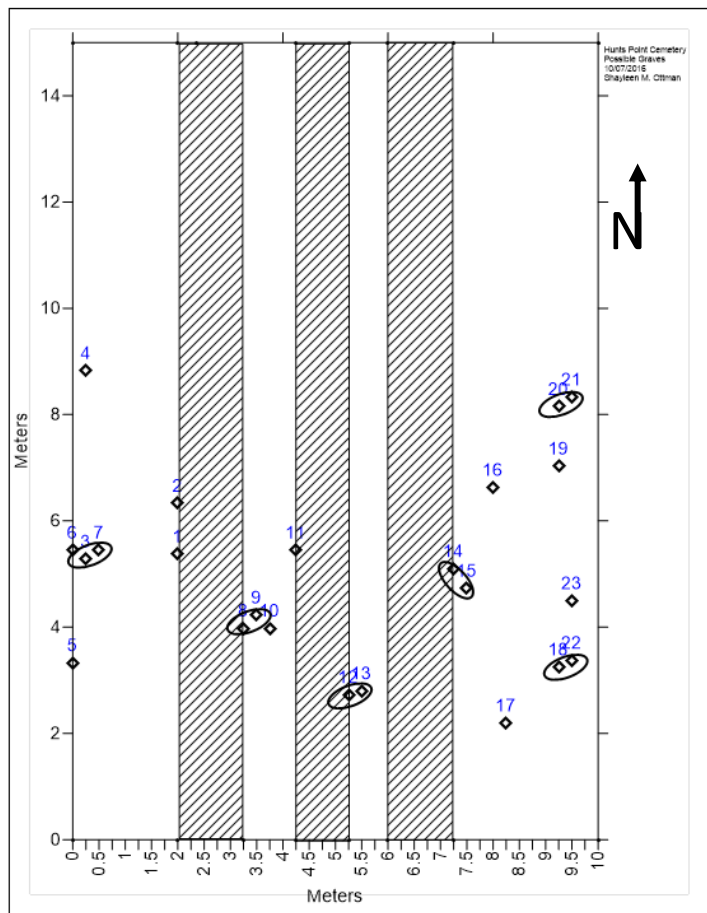


Figure 1. Reflections created by possible buried human remains are shown above, and those which appear in consecutive profiles.

Typically, in Euro-American cemeteries, the upper surface of caskets which reflect GPR energy can be calculated at 1.2-1.5 m in depth, however, burial depth can vary widely (Conyers 2012). This has been taken into consideration when marking reflections in this area and in Site 01 as possible graves. It is also more likely to find burials above bedrock rather than incised into it. The profiles show a geologic layer at approximately 1.8 meters, which at first appeared to be bedrock. However, according to geology maps of the area and personal communication with Edwin Muniz, this geologic layer may actually be what is known as a densic layer, or a layer saturated with water, which could show up in profiles as a high amplitude planar reflection (Muniz 2016).

The majority of the reflections identified as graves are small planar reflections, which may indicate collapsed caskets. Given that these graves are historic, this is not a surprising scenario. An example of

these reflections is shown in Figure 2. This profile shows a small planar reflection at approximately 1 meter below the ground surface.

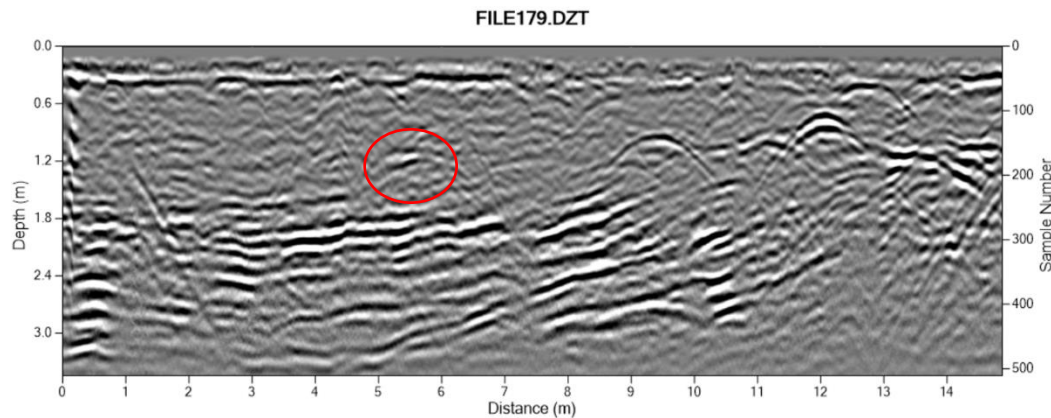


Figure 2. Profile 179, collected 0.5m east of the datum, which shows a small planar reflection which may indicate the presence of a collapsed coffin. This profile corresponds to reflection #7 in Figure 1.

The other type of reflections identified in this work were point-source hyperbola reflections, which may indicate the presence of intact coffins, or those which still have a convex curvature to the top of the coffin. An example of this can be seen in Figure 3. This hyperbolic reflection appears at 1.37 meters below the ground surface, which falls squarely in the range expected for reflections produced by buried caskets.

A grouping of high amplitude hyperbolic reflections was visible in the northern portion of all profiles. Because these reflections appeared in all the profiles, these are likely not graves, but are most likely a modern disturbance.

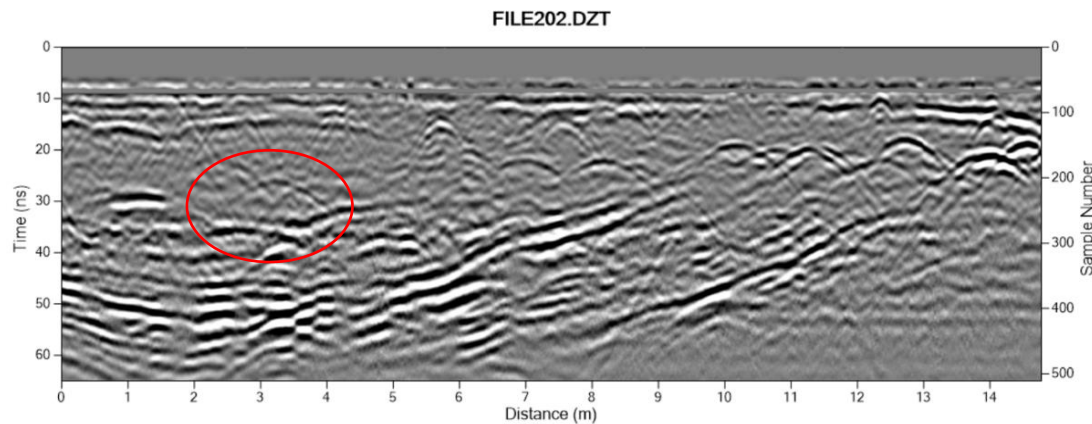


Figure 3. Profile 202, collected 9.25m east of the datum, which shows a low amplitude hyperbola reflection which may indicate the presence of an intact coffin. This profile corresponds to reflection #18 in Figure 1.

Methods

After analyzing the cemetery data, and coordinating the presence of grave reflections with the location of headstones at the surface, an analysis of Site 01 could take place. The GPR data

collected in the known cemetery acted as a model for what GPR reflections could be expected to “look like” for graves in the area. Data were collected using ground-penetrating radar in an open space containing three trees directly across the sidewalk south of the Hunt’s Point Cemetery. The grid measured 17 x 22 meters, with one profile collected every 0.25 meters (25 cm) in an east-west trend, beginning in the northwest corner of the grid, moving south. This area was chosen for two reasons. In 2015, GPR data was taken over four large plots in the park. Dr. Conyers identified this area as the likely location of the slave burial ground, due to the presence of clustered point-source hyperbolas indicative of burials (Conyers, et al 2015). Historic documents, including photos and newspaper clips, affirm this interpretation. The data analyzed herein was collected at a closer interval spacing, giving a higher resolution to better aid in the identification of materials buried within the ground.

Ground-penetrating radar has utility in applications where minimal disturbance to a site is desired. Grave sites fall precisely into this category. No digging is required in order to collect GPR data. GPR data sets are acquired by collecting and analyzing reflections of radar energy produced by an antenna that is moved along the ground surface. The antenna propagates energy into the ground, and reflections are created by velocity changes in the energy reflected back to the antenna as the energy encounters materials of differing chemical and physical properties (Conyers 2012). Each pass with the antenna produces a profile, like a snapshot of the geology and the archaeology within the ground along that specific transect. When collected in a tightly-spaced grid, these profiles can reveal the geologic context of a site, as well as buried anthropogenic features and materials. However, this requires careful analysis and a suitable understanding of the geologic and historic background of the area.

By analyzing each profile taken, reflections which indicated the presence of buried human remains were identified and their coordinates recorded in a spreadsheet, to be mapped after further analysis was completed. Figure 4 below represents an example of reflections which may indicate the presence of a grave. Profile 136 shows a point-source hyperbola at an appropriate depth likely originating from a coffin, in what appears to be a burial shaft. The burial shaft can

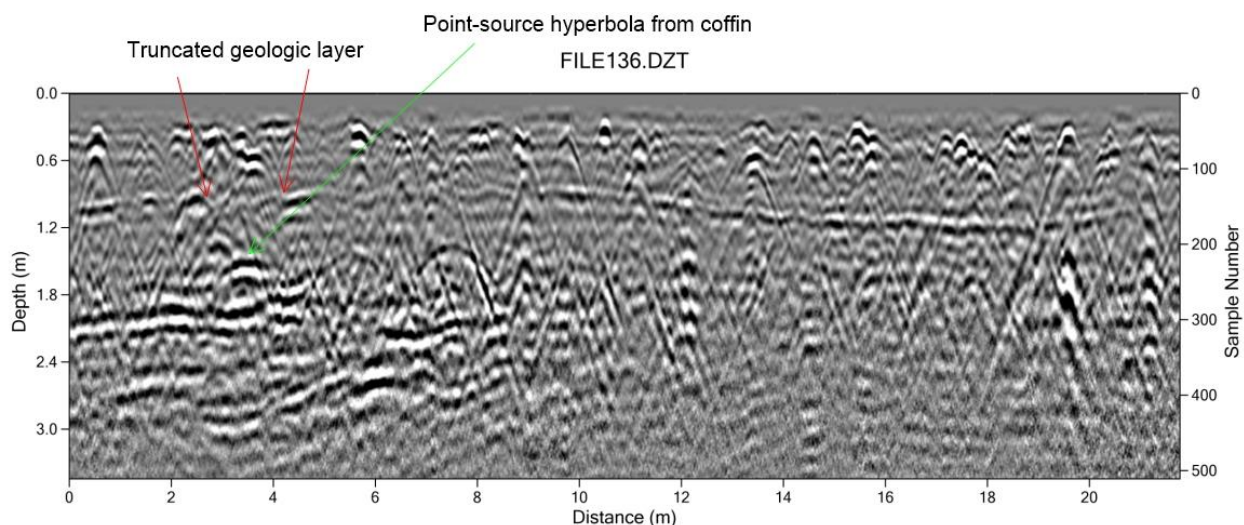


Figure 4. A reflection from a coffin at the bottom of a burial shaft

be seen as it truncates a geologic layer identified as the historic 18th century living surface, visible in almost all profiles throughout the grid of Site 01. When reflections such as these can be seen in at least three adjacent profiles, they are recorded as likely graves.

It must be noted, however, that GPR has its limitations in the detection of graves. Very old graves, or those with highly decomposed coffins, remains, and associated materials, often no longer retain great differences in their chemical and physical properties compared to the surrounding matrix. If the ground is also not layered with distinct sediment or soil units, making detection of the burial shaft possible, it may be very difficult or impossible to detect and map some burials (Conyers 2012). This must be considered in the following interpretation of the GPR results from Site 01.

Geologic Context

Below, Figure 5 illustrates the general geologic trends that have been observed in the Site 01 GPR grid. What follows is a discussion of what these reflections reveal, and their importance in the interpretation of this data.

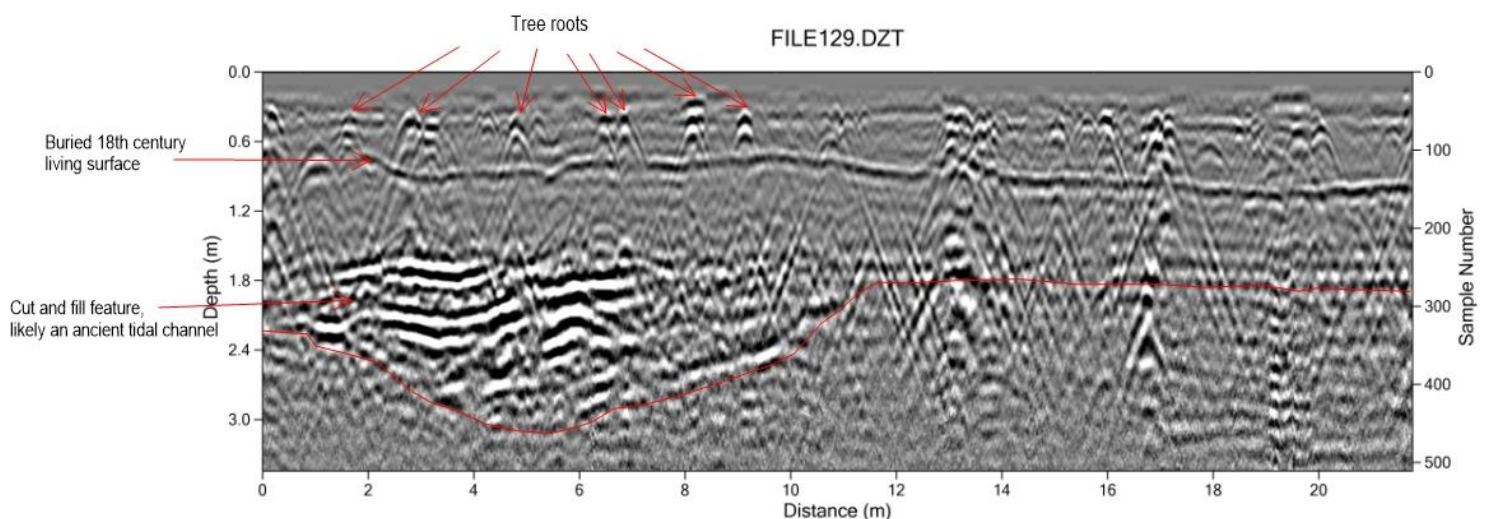


Figure 5. Two geologic layers of interest. The topmost has been identified as the ground surface present during the time of the burials. The surface was buried by a layer of fill during efforts to build-up the park and surrounding area. The bottom geologic layer has been incised, likely by a tidal channel, and later filled by glacial till.

Figure 5 shows the two geologic layers visible in almost all profiles taken at Site 01. Information from historic maps, photographs, newspaper clips, and sediment bore logs was used to create the following analysis of the geologic history of the site. This geologic narrative is vital to understanding the context in which the burials took place, so that they could be located with more accuracy.

Sediment bore logs published in 1947 by the City of New York Department of Public Works confirm the following narrative with descriptions and depths of sedimentary layers taken along the streets surrounding Joseph Rodman Drake Park. Tidally-influenced stream erosion scoured the late Pleistocene landscape of Hunts Point. This erosion can be seen as the lower channel

outlined in red in Figure 5. Glacial till, from great amounts of sediment carried by the melt water of the receding glaciers approximately 12,000 years ago aggraded on top of this scoured Pleistocene bedrock, effectively filling the tidal channels and creating an approximately 1-3 meters thick sediment layer across the area. The historic sediment bore logs record this till as “fine brown sand and some gravel” (City of New York, 1947). As the area stabilized during the Holocene period, a soil horizon developed on the glacial till. This soil horizon continued to grow and served as the ground surface during the 1700s-1800s, the period in which the African and African American burials took place. At least some of these burials were marked by fieldstones or more formal markers, as can be seen in Figure 6. In an effort to build-up the park and the surrounding area for development, the 18th century living surface was buried by a layer of fill at some point in the late 1800s or very early 1900s. The thickness of this fill layer, described in the historic bore logs as “Fill: cinders, sand, clay and stones,” varies across the park (City of New York 1947). Given this description, some hyperbolic reflections may have been created by stones used for fill. In the areas closest to modern Drake Park South Street, the fill layer is thickest, because during the 1800s, this area was at or very near sea level and needed to be built up more than the surrounding, higher-elevation areas. Historic newspaper clips describe the area as “marshy meadows,” and maps dating from 1776-1885 (Figures 7-8) show the area as two small islands surrounded by water or marsh (Carlin, et al 2015).



Figure 6. Photograph of the Hunts Point Slave Burial Ground showing grave markers, and marsh in the background, ca. 1910.

Carlin, et al 2015

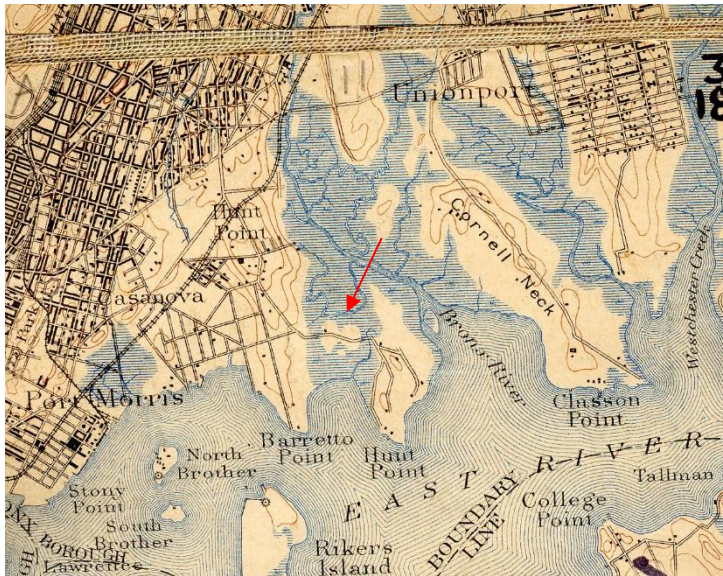


Figure 7. 1885 US Coastal Survey Map. Arrow points to Joseph Rodman Drake Park.
Carlin, et al 2015

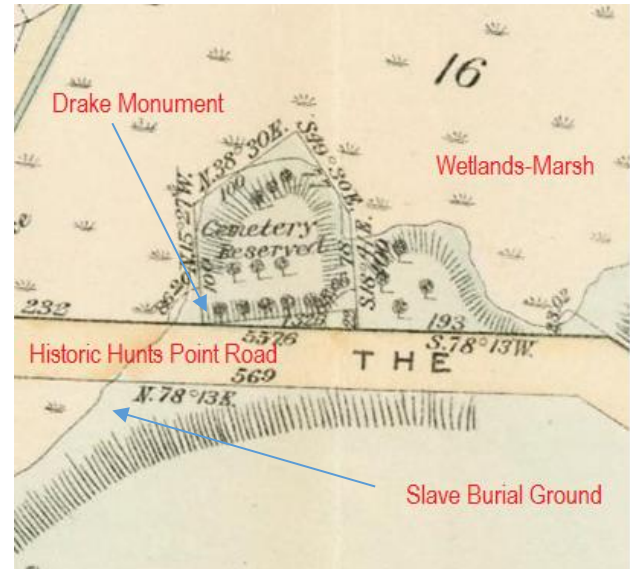


Figure 8. Detail view of 1858 New York Public Library topographic map shows Joseph Rodman Drake Cemetery, 1800s topography, and the Hunts Point Slave Burial Ground.
Carlin, et al 2015

An historic photo dating to 1915 shows that the known cemetery is located on a small knoll that rises above the surrounding marshy meadows. It is indicated in an 1840 newspaper clip that the slave cemetery was located “directly opposite,” or across an historic road, which would have been just south and downhill of the cemetery. It is believed the modern sidewalk in the park that lies just south of the Hunts Point Cemetery follows the route of this historic road. A photo from 1926 seems to show the area as built up and leveled off, indicating the fill was laid down sometime between 1840-1926. It is possible the filling episode may have occurred between 1915-1926, however, the 1915 photo does not make this specifically clear (Carlin, et al 2015).

The location of the Hunts Point Cemetery on top of a knoll explains why the 18th century living surface can be seen buried beneath a fill layer in Site 01, but cannot be seen in the profiles taken at the known cemetery. The known cemetery, which today has headstones, monuments, and a fence around it, was not covered with fill during the building-up of the park, and its surface today is roughly the same as that in the 1800s. Instead, the rest of the park was built up to be more level with the top of the knoll, where the cemetery is located. So, the slave burials, which were located at a slightly lower elevation, were covered over with a layer of fill measuring approximately 60-100 cm thick, preserving the 18th century living surface as a geologic layer able to be defined within the GPR profiles.

Grave Locations

Dr. Conyers and I have consulted on this project. Regarding his initial analysis from the GPR data taken in 2015, he identified the presence of more graves than are illustrated in this report. His initial interpretation made in 2015 was undertaken only in order to identify possible graves,

with no information on the site stratigraphy, and was done with lower-resolution profile spacing. Therefore, Dr. Conyers' 2015 report selected features that "might" be graves based only on their depth. It is likely that there are more graves in Site 01 than are marked out in the plan-view below. However, only those which could be identified with certainty were included in Figure 9. Now that we understand the 18th century living surface is buried below fill, and can identify that surface on GPR reflection profiles, a more refined interpretation is possible. That interpretation is submitted here.

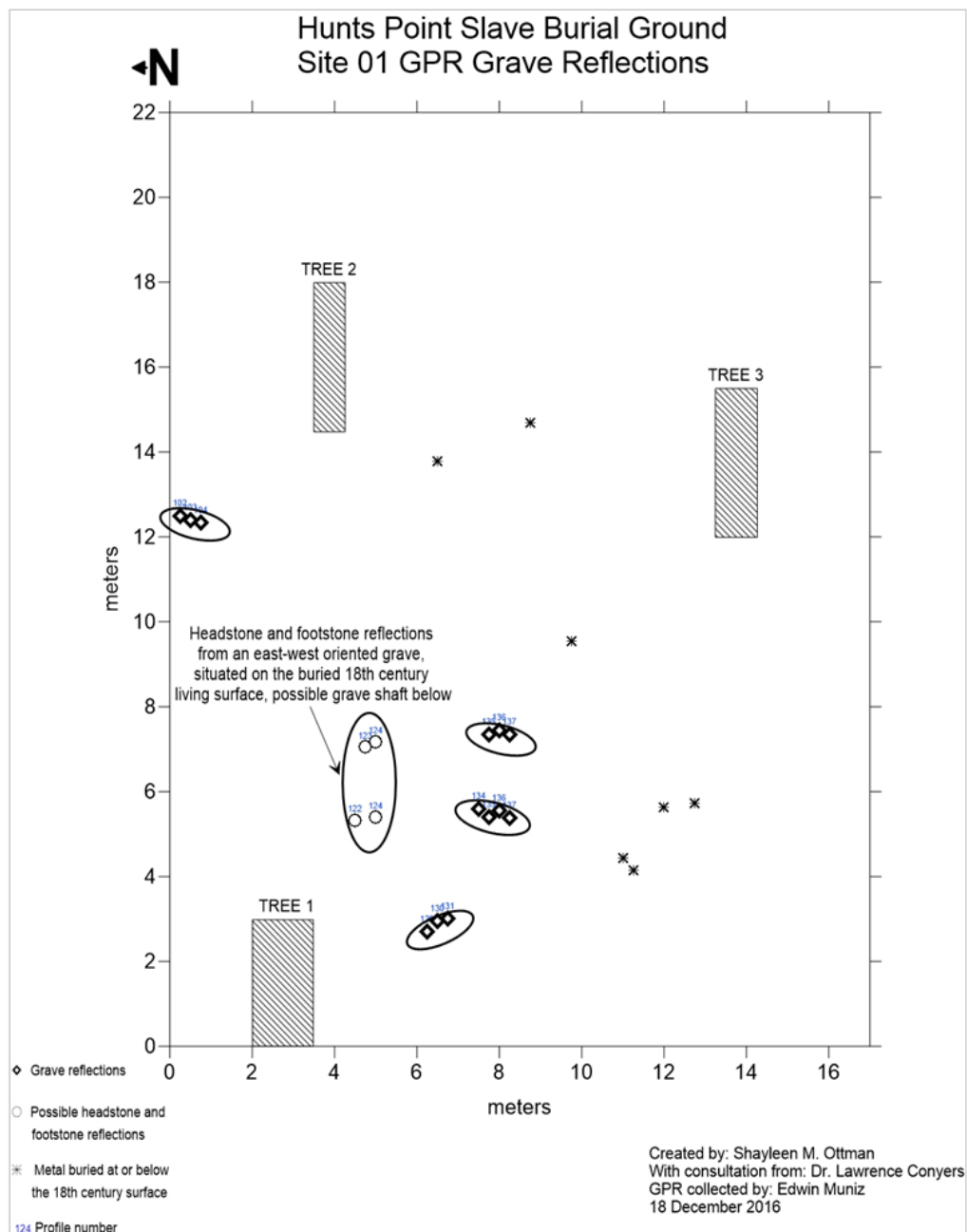


Figure 9. A plan-view of the Hunts Point Slave Burial Ground. Reflections indicating likely graves have been circled to highlight the grave's orientation.

Identifying the 18th century living surface was vital to the interpretation and analysis of the GPR data. Reflections indicating buried coffins could only be considered if they were located below the 18th century living surface. Above, Figure 9 shows the locations of reflections that appear to originate from buried human remains. These reflections were mapped because they are present in three or more adjacent profiles, which is standard in the search for graves in a GPR grid of 25 cm transect spacing, and are located below the 18th century ground surface. Four graves in a north-south orientation have been circled.

One set of reflections marked in the above plan-view, those oriented east-west, do not come from coffin reflections. Instead, there appear to be small and moderately-reflective objects located directly on top of the 18th century surface, that were buried during the building-up of the park. These can be seen in profile in Figure 10 below. These I have interpreted as possible headstone and footstone grave markers, from a grave that was oriented in an east-west direction.

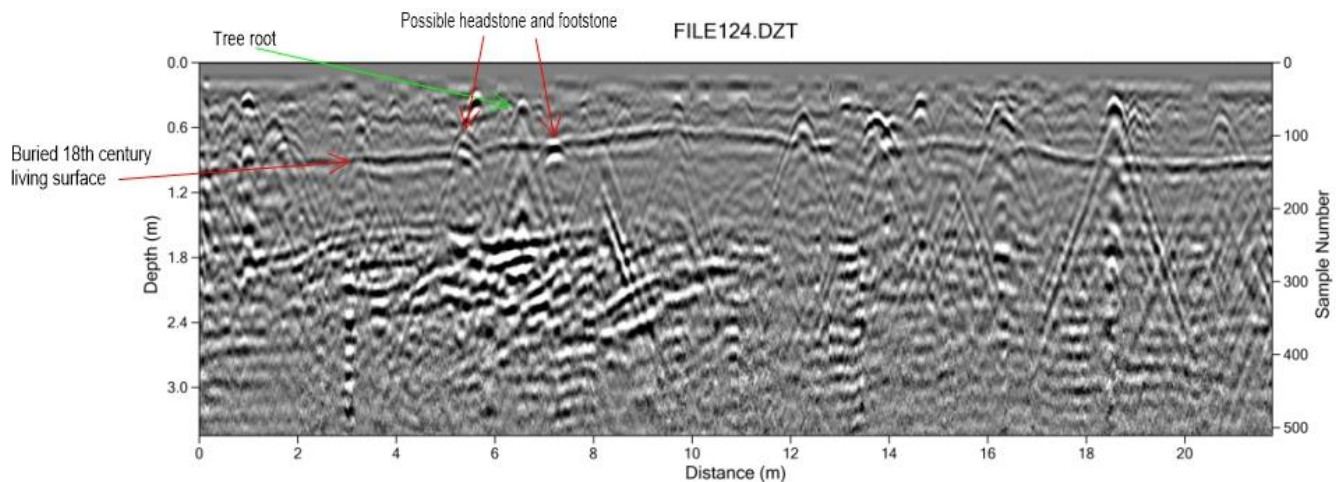


Figure 10. Reflections suggesting buried grave markers at the surface of the buried 18th century ground surface

As mentioned previously, the reflections in Figure 9 above are only those which could be mapped with relative certainty as those created by buried human remains. It is likely more burials are present in the immediate area, and they may be identified more readily with additional GPR surveys.

Recommendations for Future Work

Foremost, it is recommended that additional GPR data be collected in the same grid at Site 01 along 0.25 meter interval transects laid out in a north-south direction. This will aid in the identification of graves that may be oriented in the east-west direction, as is common in most contemporary Christian burials. Grave reflections can sometimes be difficult to see in profiles which run parallel to a grave's orientation. Additional sediment coring, preferably by a trained geoarchaeologist, would also be beneficial to the understanding of the historic and geologic context of the site. As it stands, the sediment bores taken in the 1940s by the New York Department of Public Works give us only a broad overview of the sediment packages within the

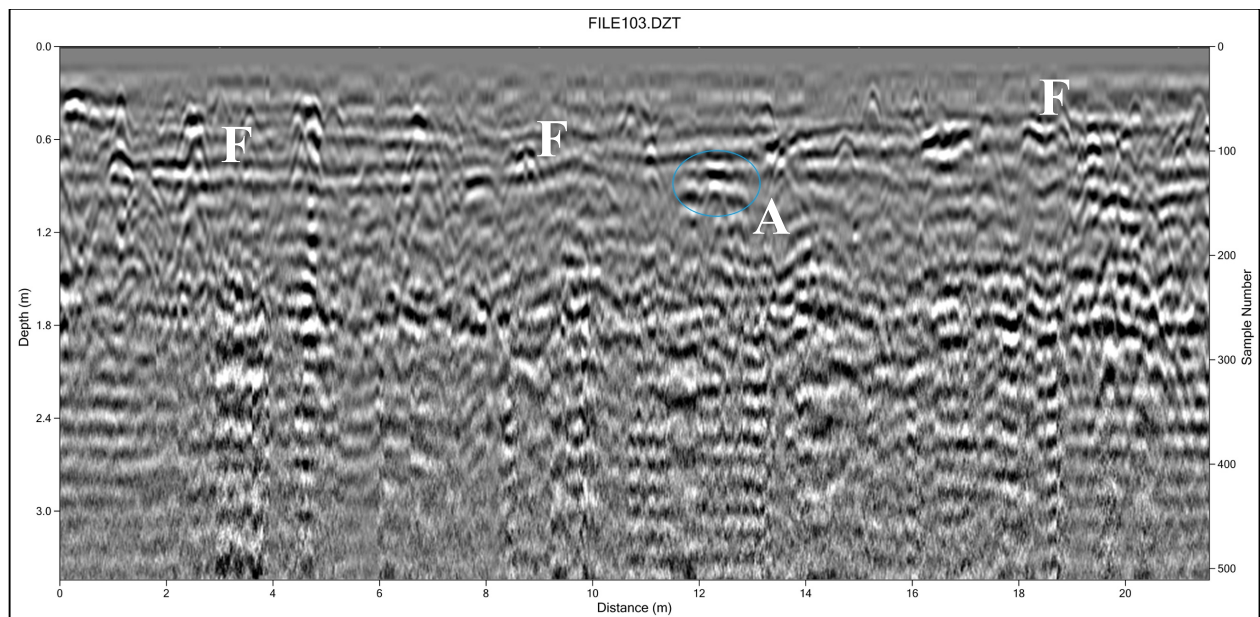
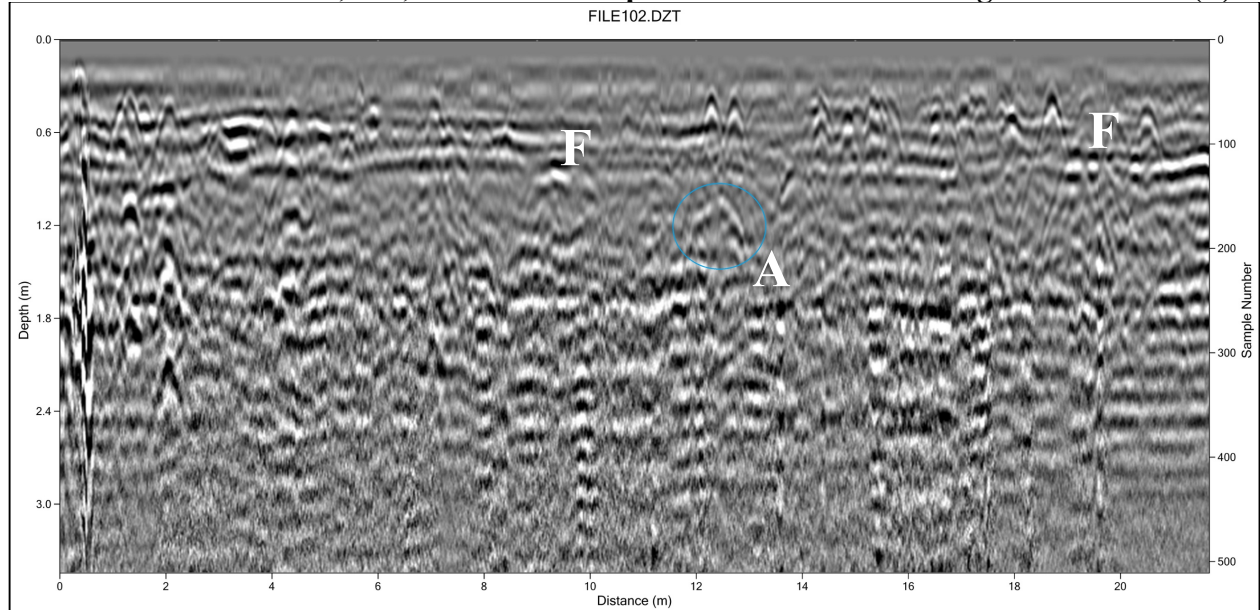
area. No bores were taken in the park itself, so the elevation of the original 18th century living surface as well as other geologic information must be interpolated from the historic and GPR data. The resolution of the records kept by New York's Department of Public Works is not as high as would be ideal for this application; a subtle soil horizon would not have been recorded in these historic bore logs. Minimally invasive cores can be taken with 1" or 1 ¼" sediment coring devices, and would be sufficient for this purpose. It is recommended this take place in areas of the park that do not contain human remains, but will also be representative of the stratigraphy of Site 01. Lastly, topographic measurements of the area, taken with GPS elevation or a Total Station would aid in the construction of the geologic and historic context of the site.

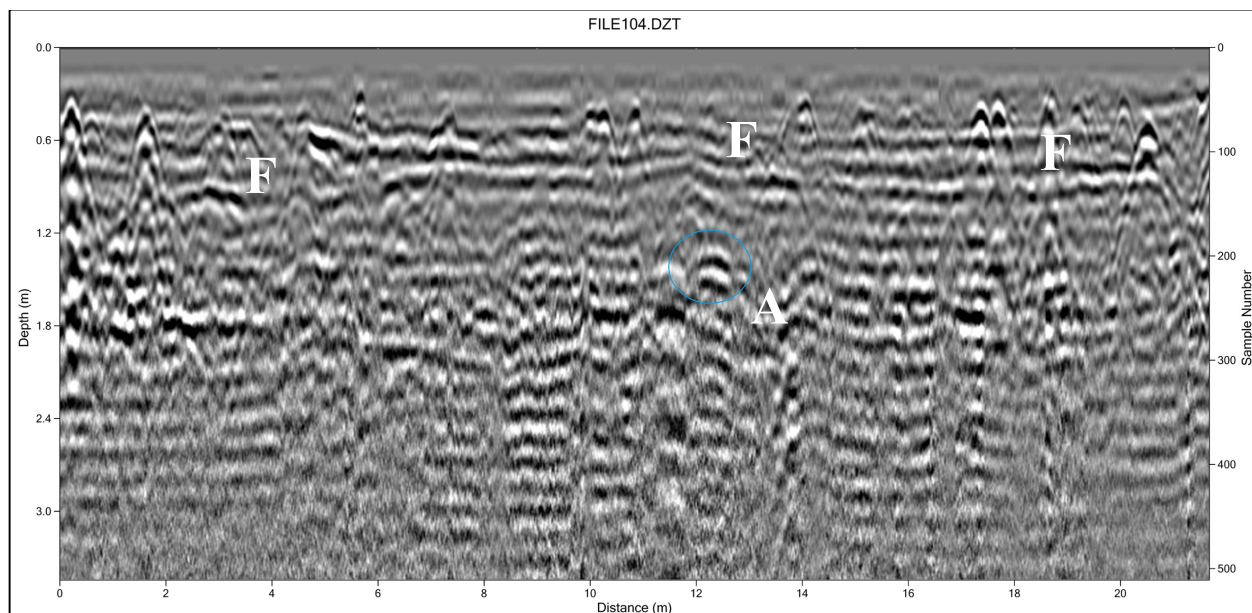
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- Muniz, Edwin
2016 Personal e-mail communication

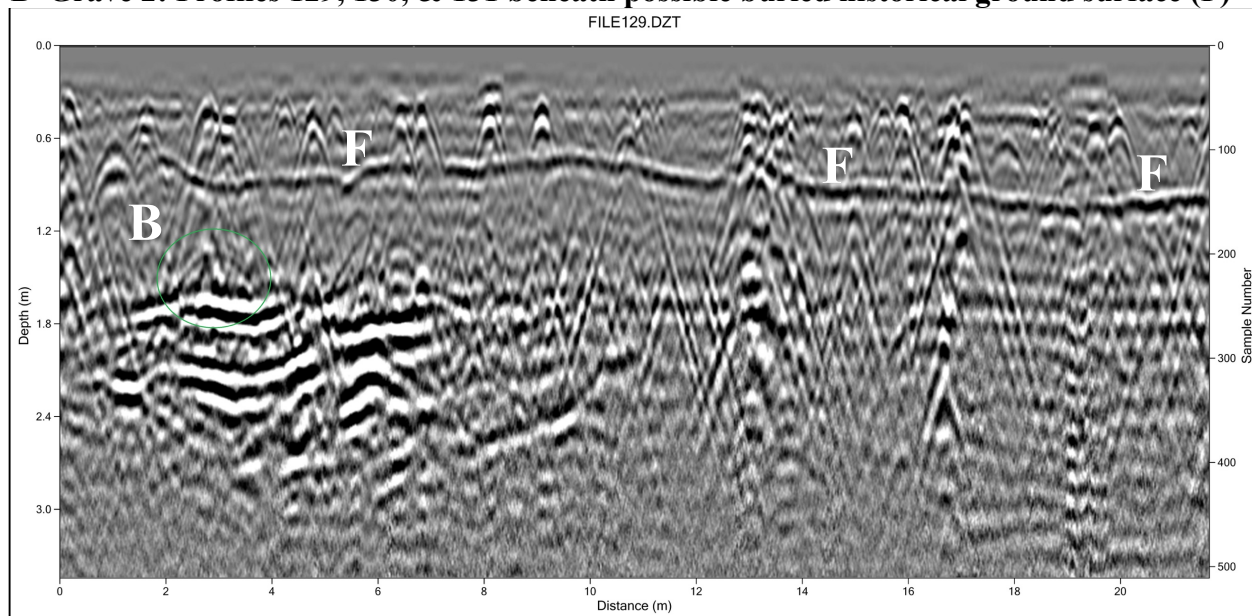
Appendix D: GPR Profiles, Survey Area 2 with Annotations

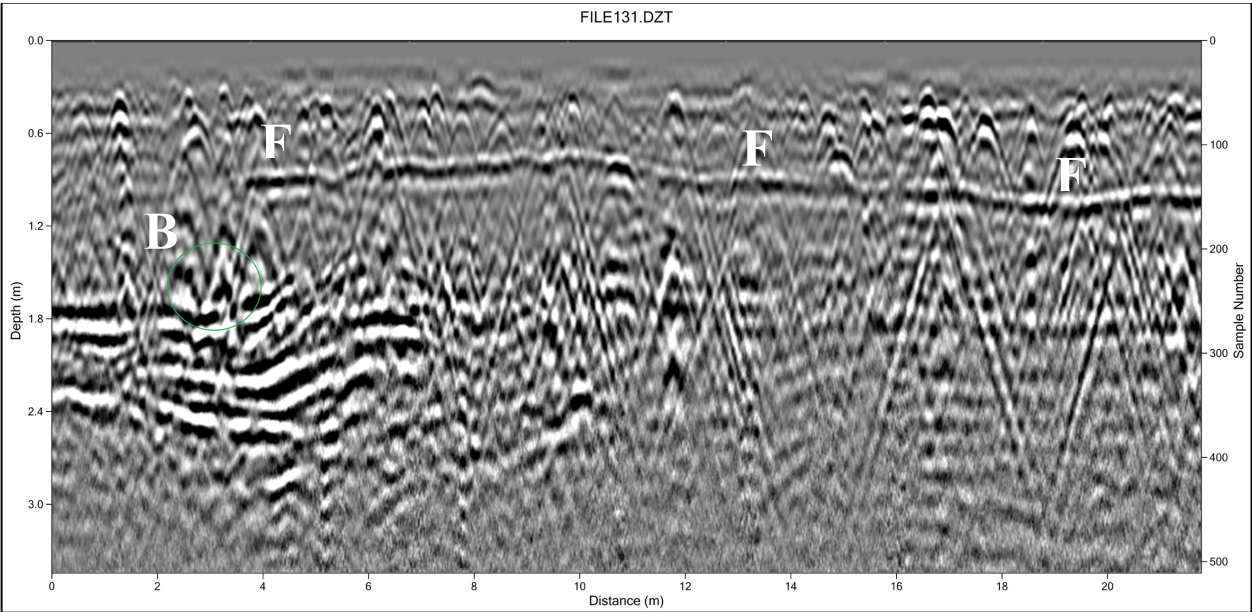
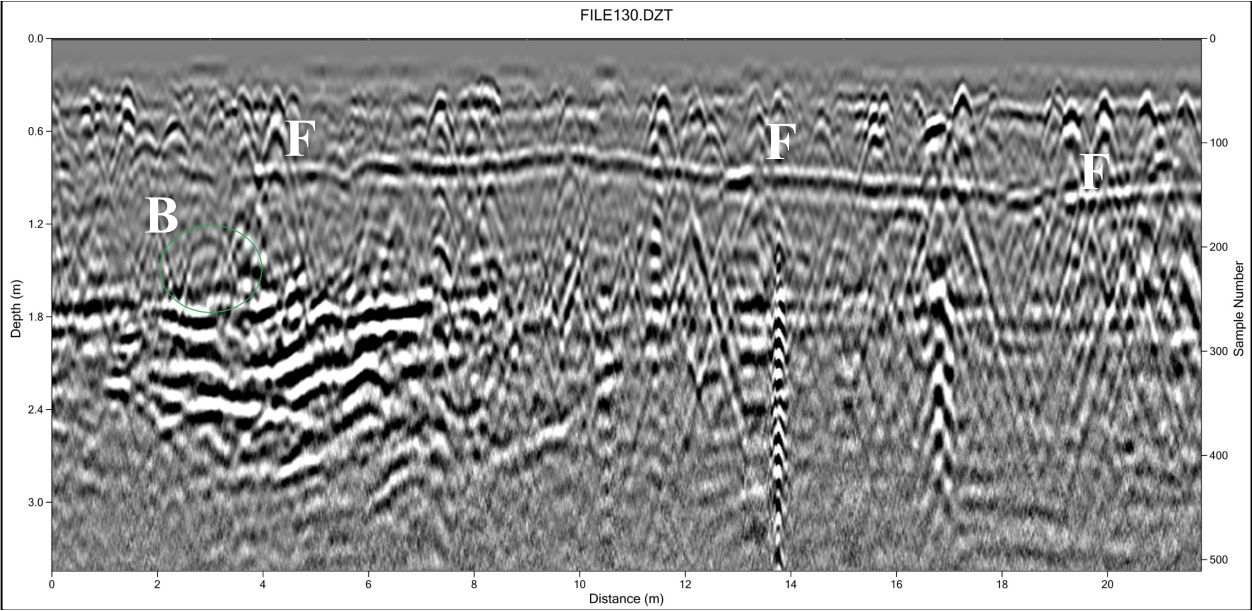
A—Grave 1: Profiles 102, 103, & 104 beneath possible buried historical ground surface (F)



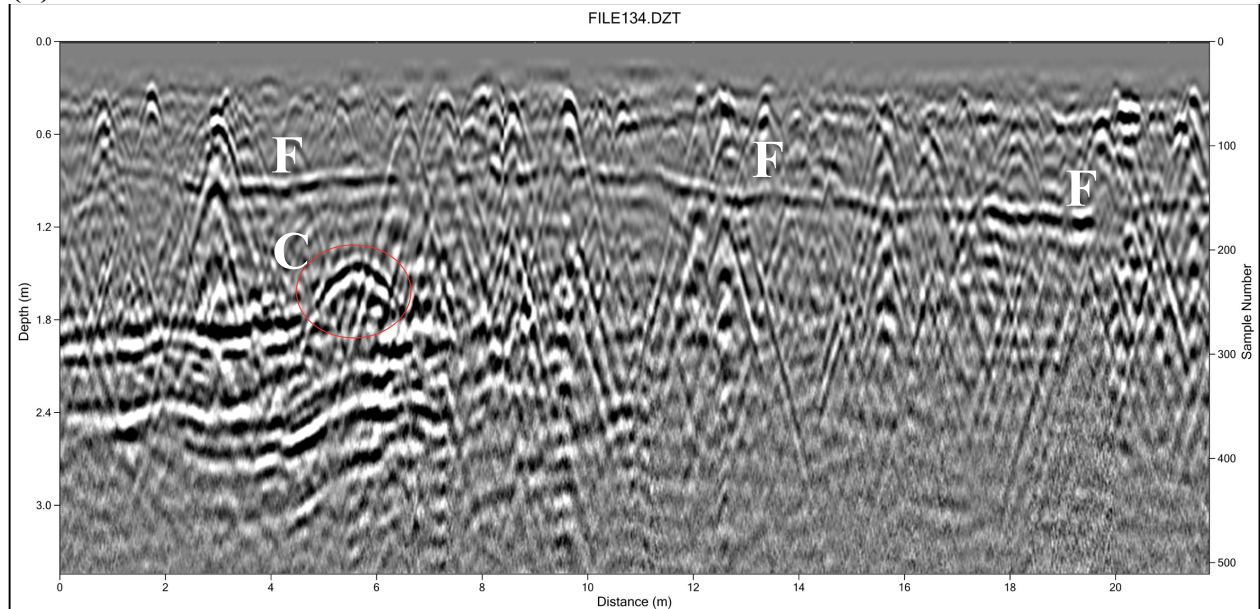


B-Grave 2: Profiles 129, 130, & 131 beneath possible buried historical ground surface (F)

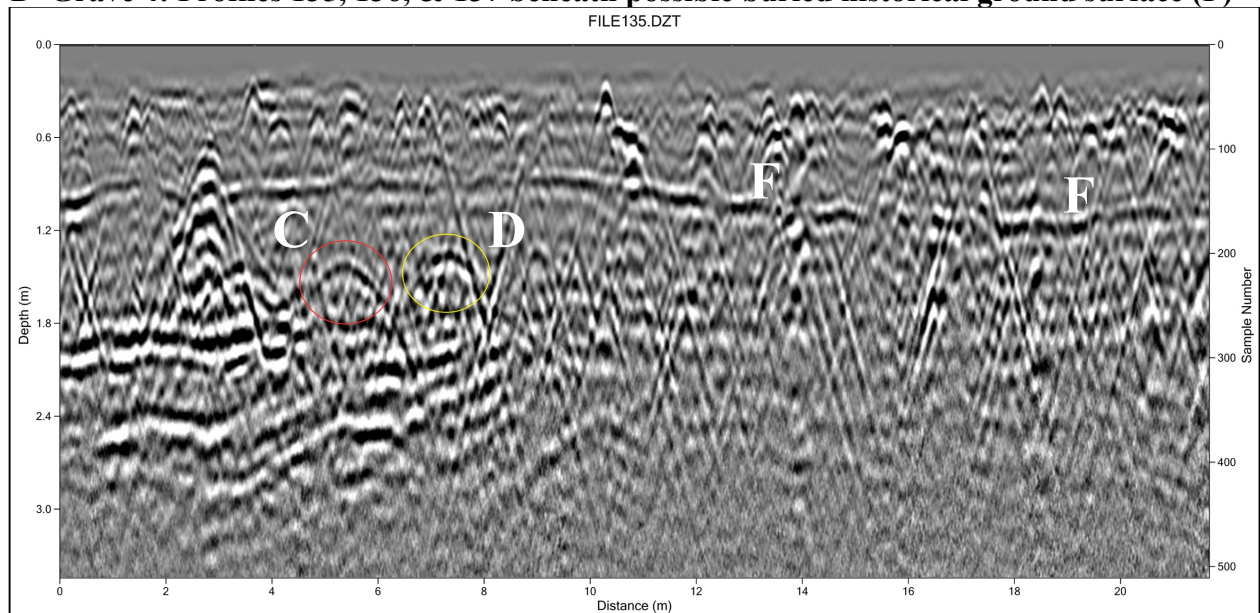


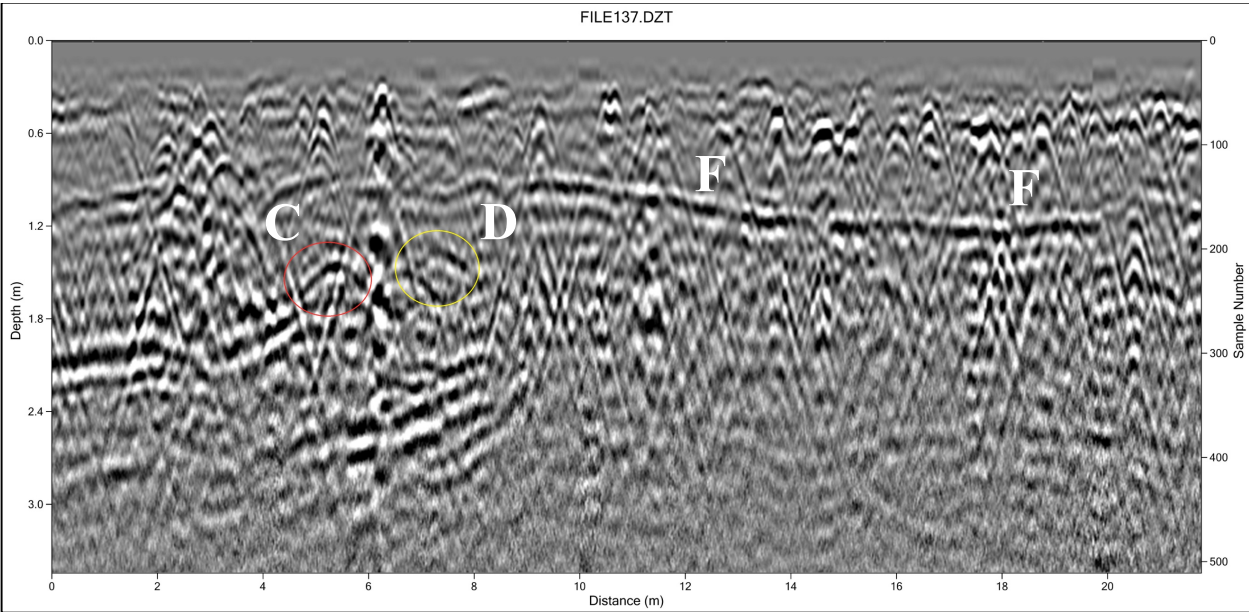
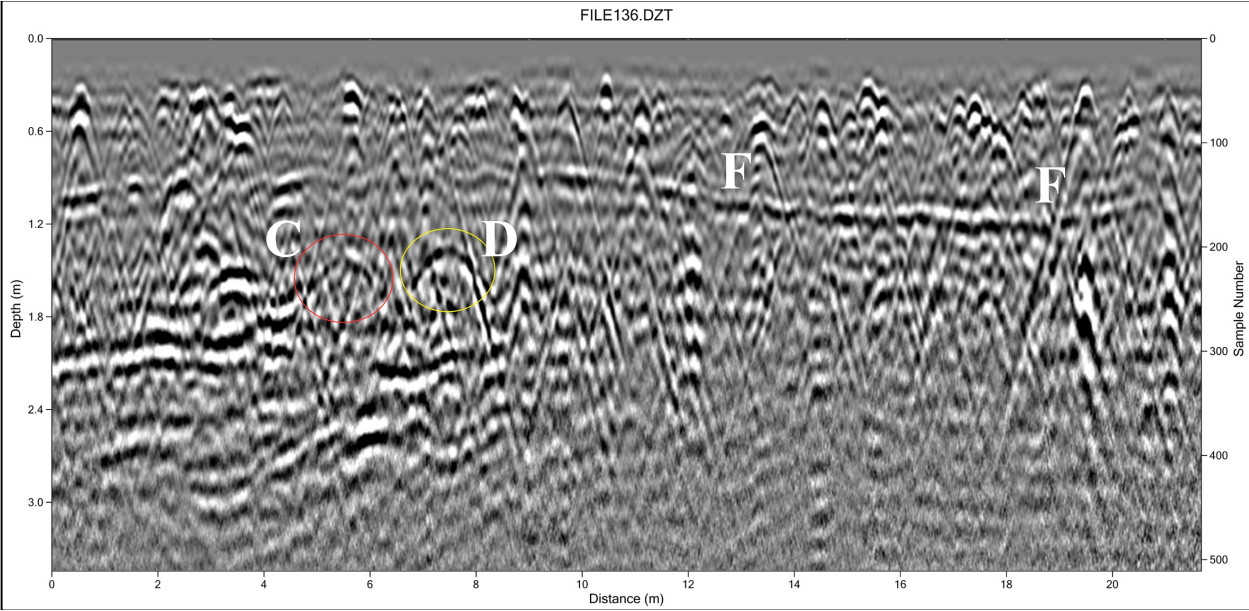


C–Grave 3: Profiles 134, 135, 136, & 137 beneath possible buried historical ground surface (F)

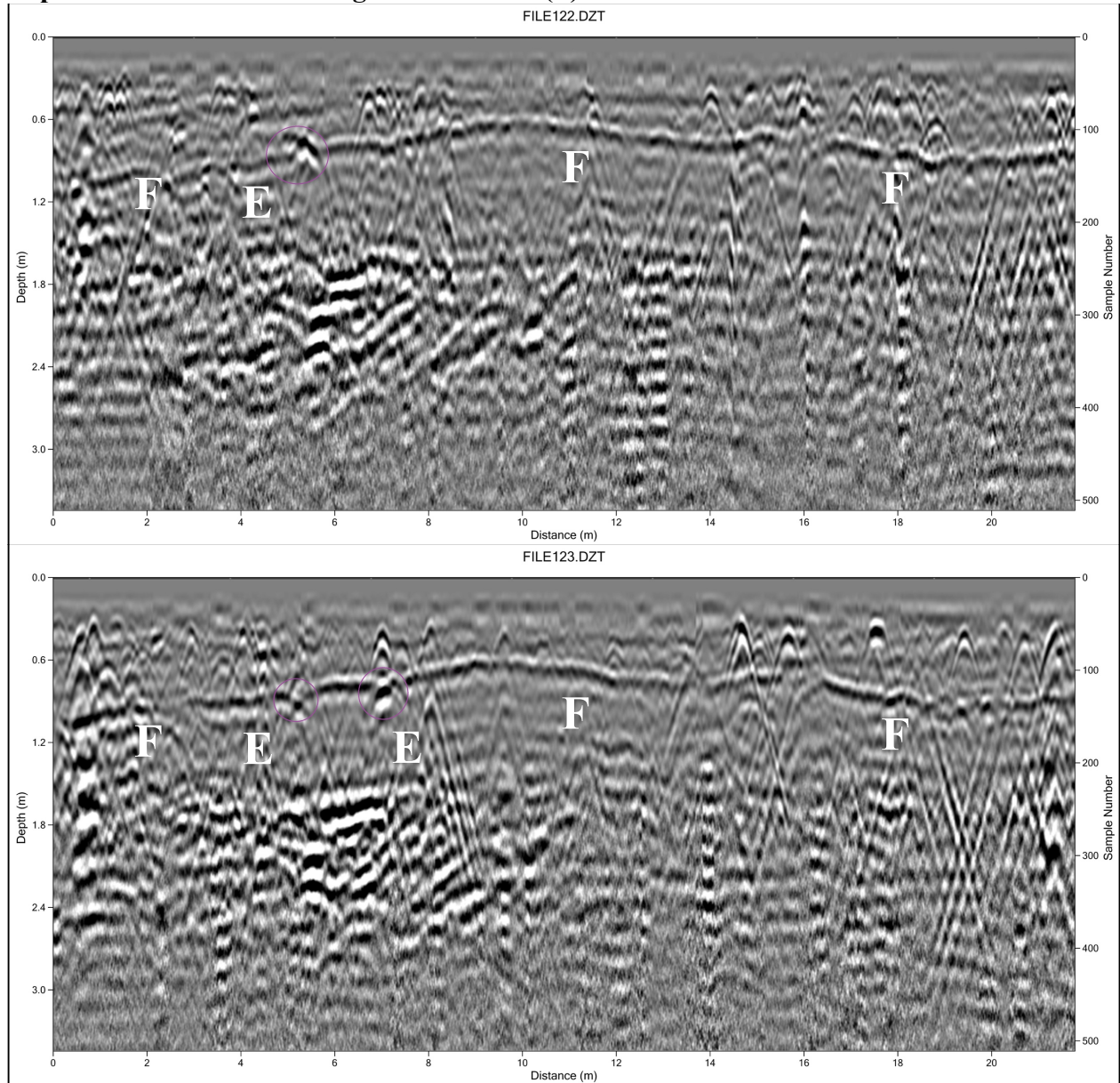


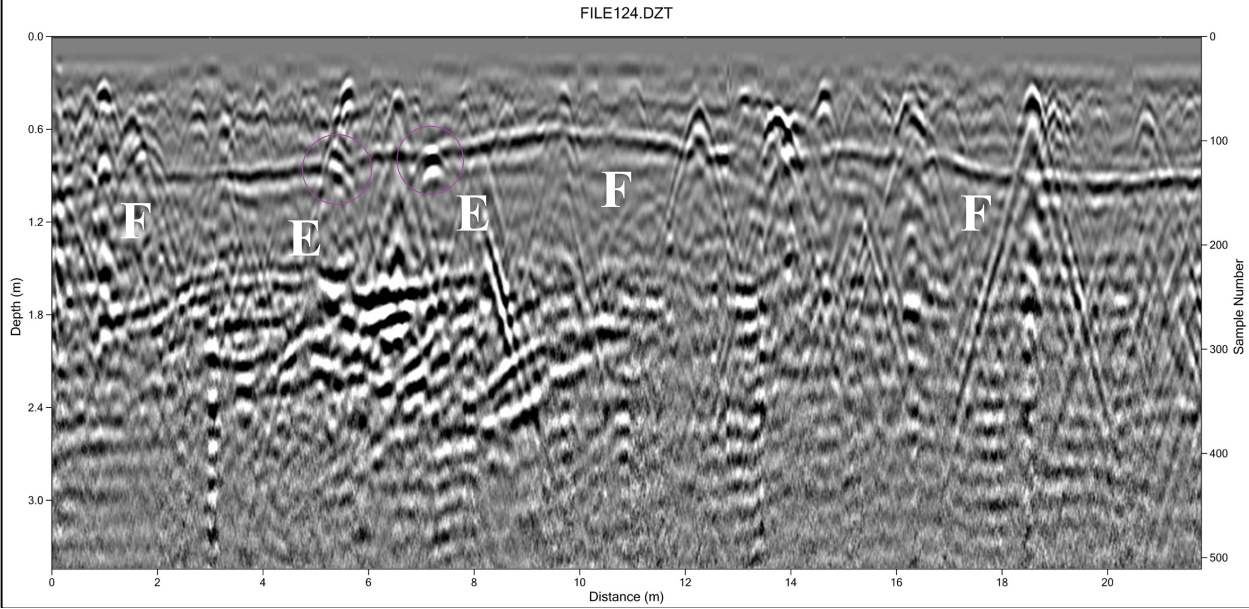
D–Grave 4: Profiles 135, 136, & 137 beneath possible buried historical ground surface (F)



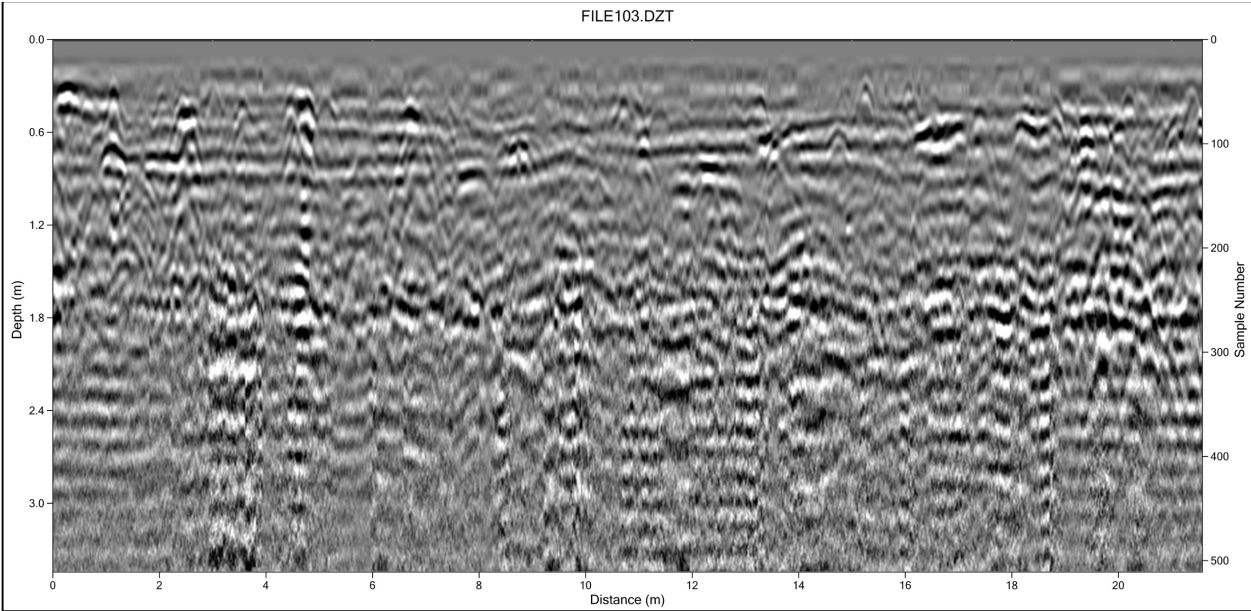
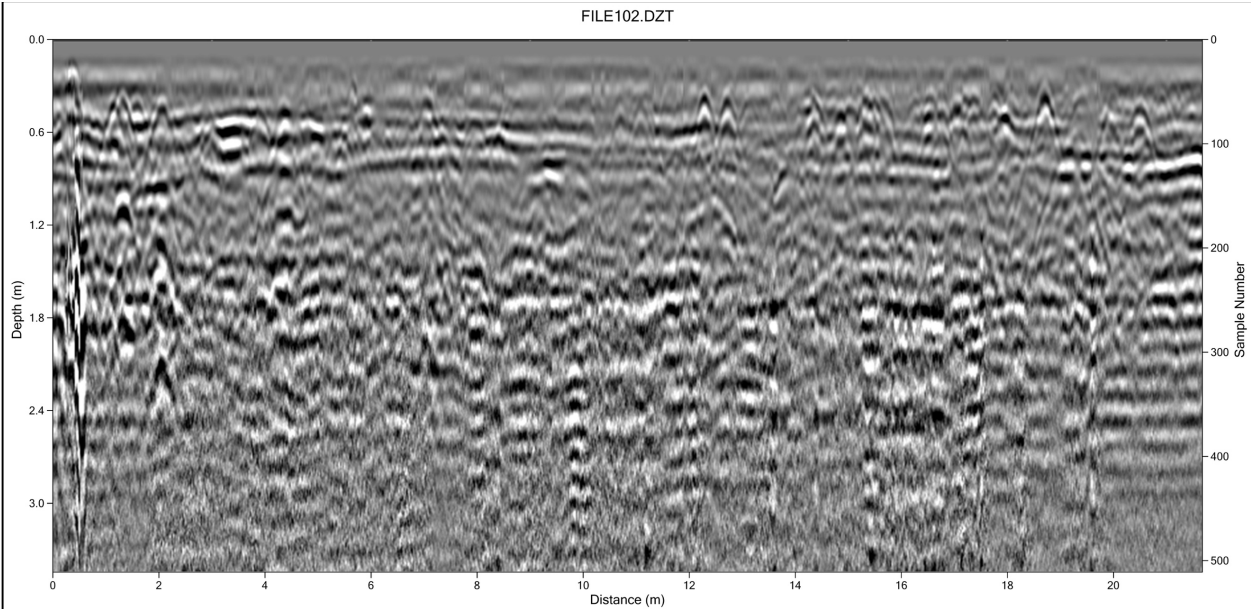


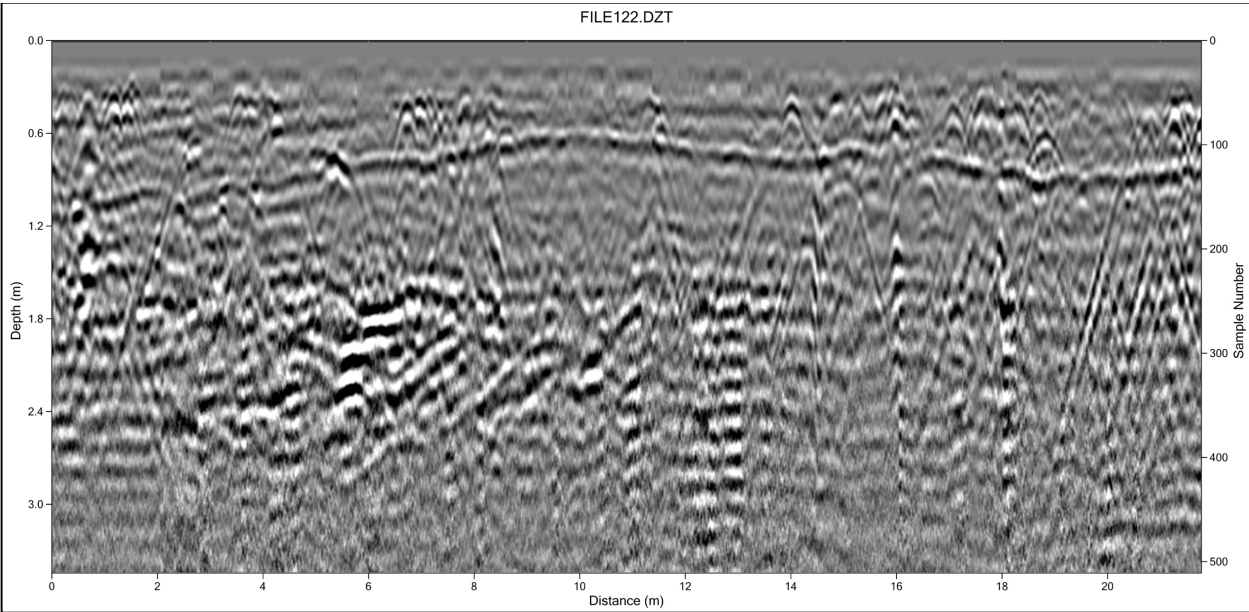
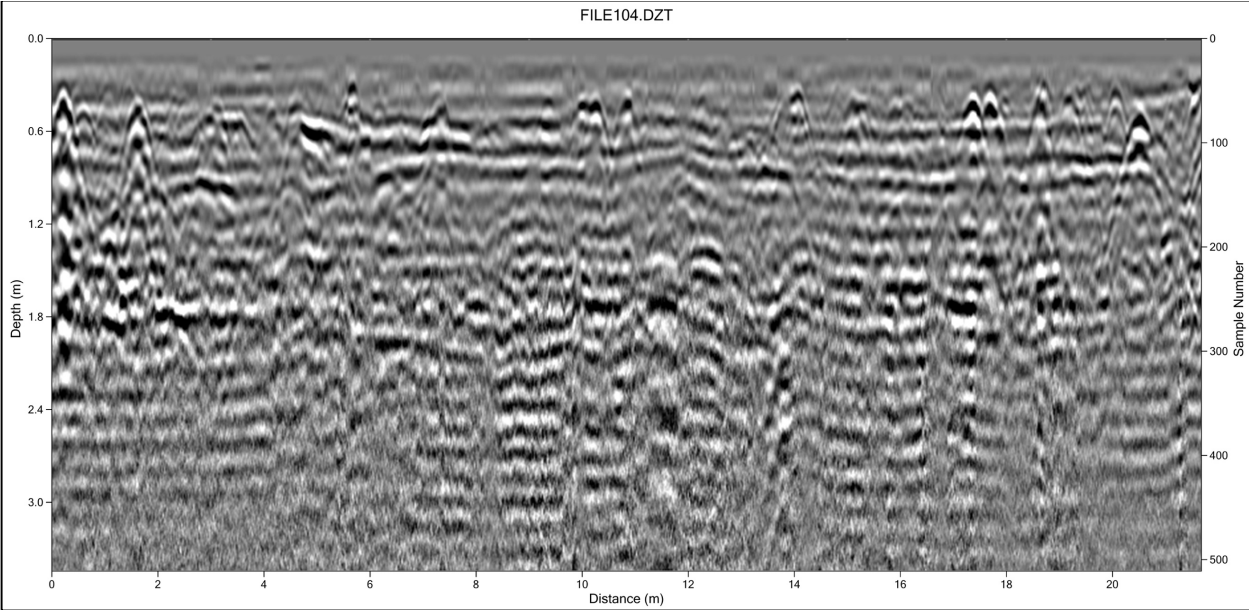
E—Unidentified Discontinuity, Possible Stone Markers: Profiles 122, 123, & 124 at the level of possible buried historical ground surface (F)

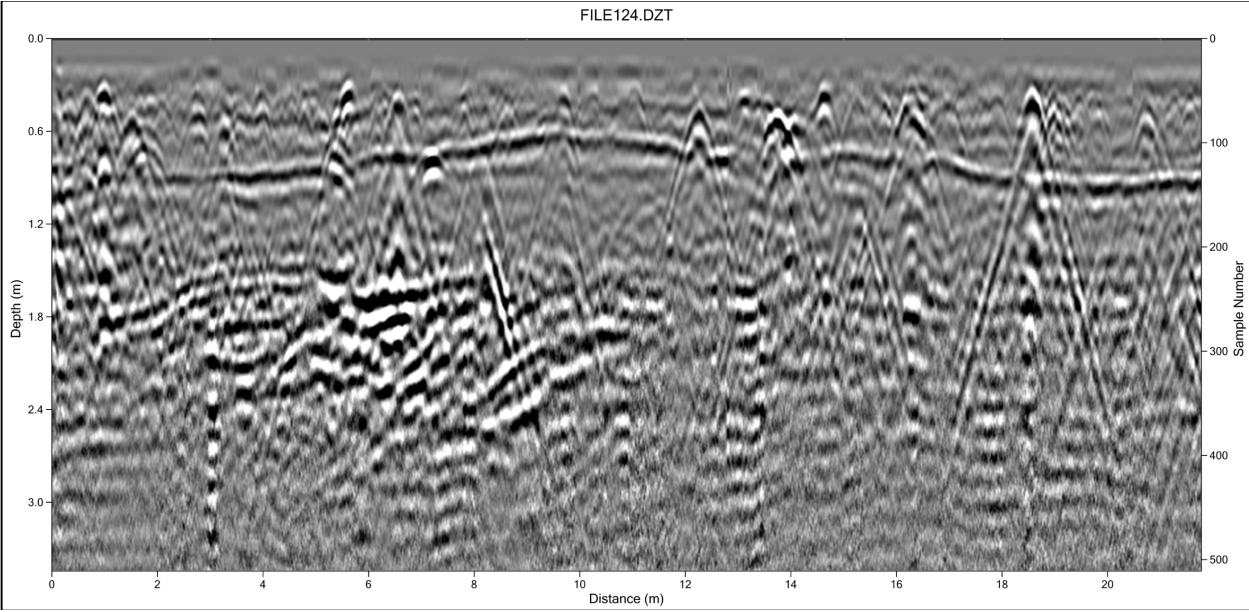
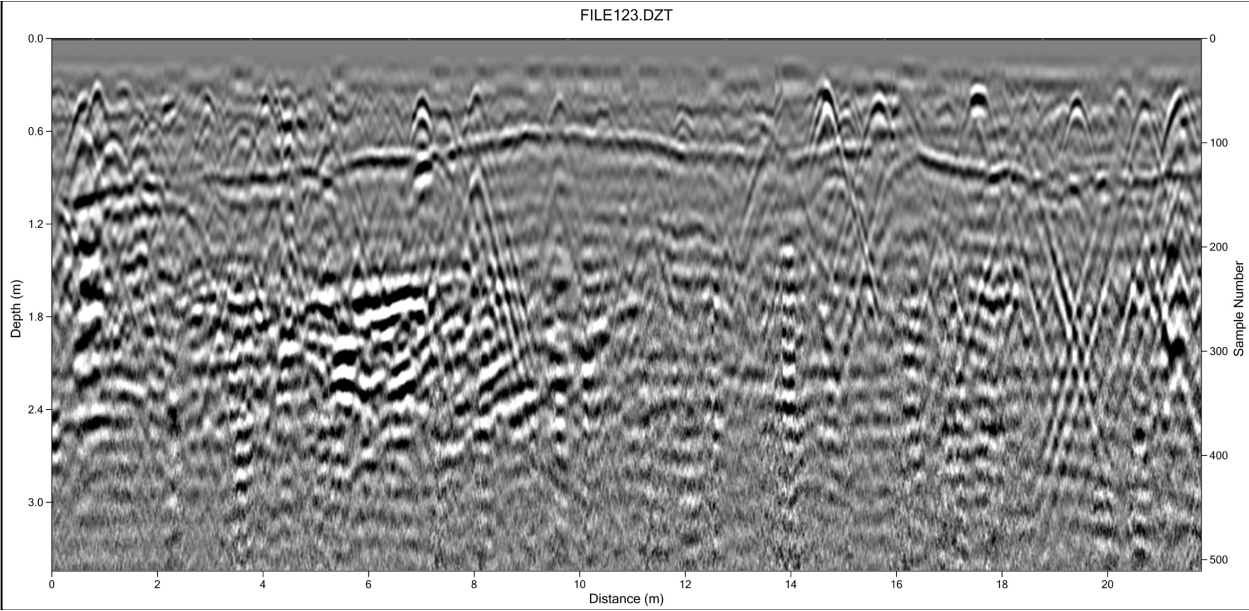


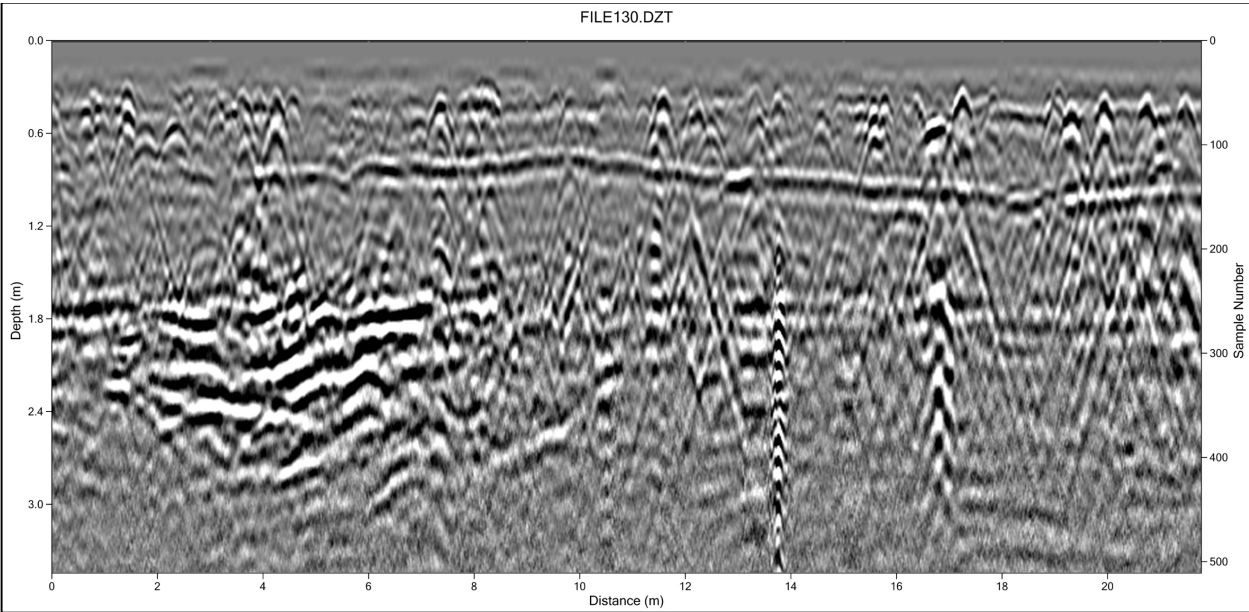
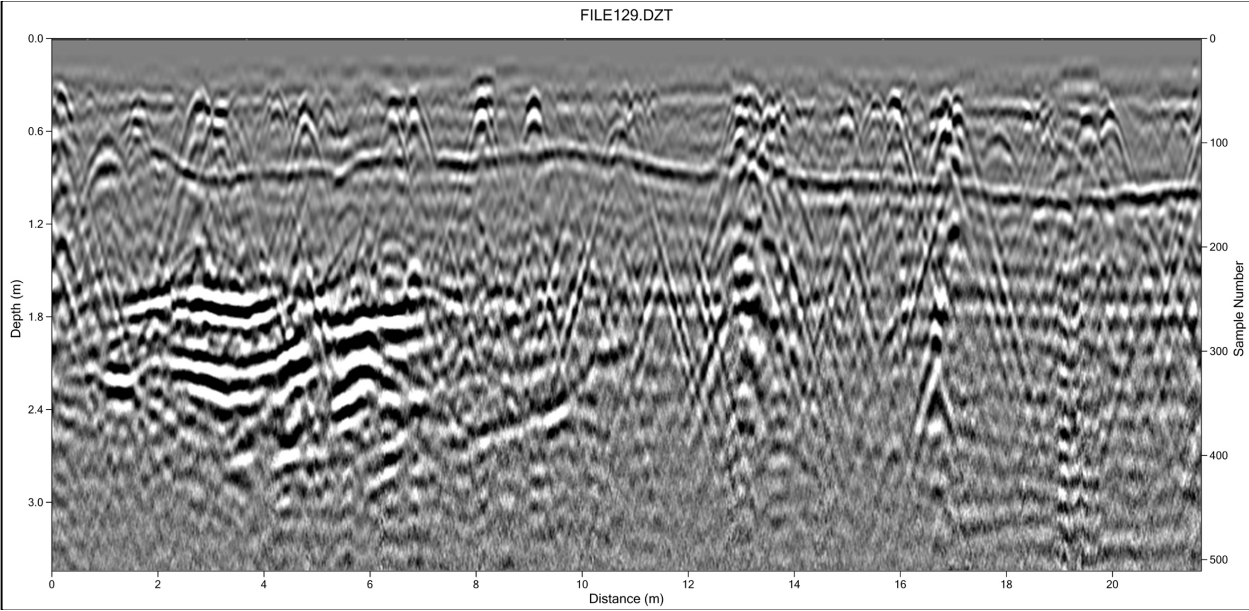


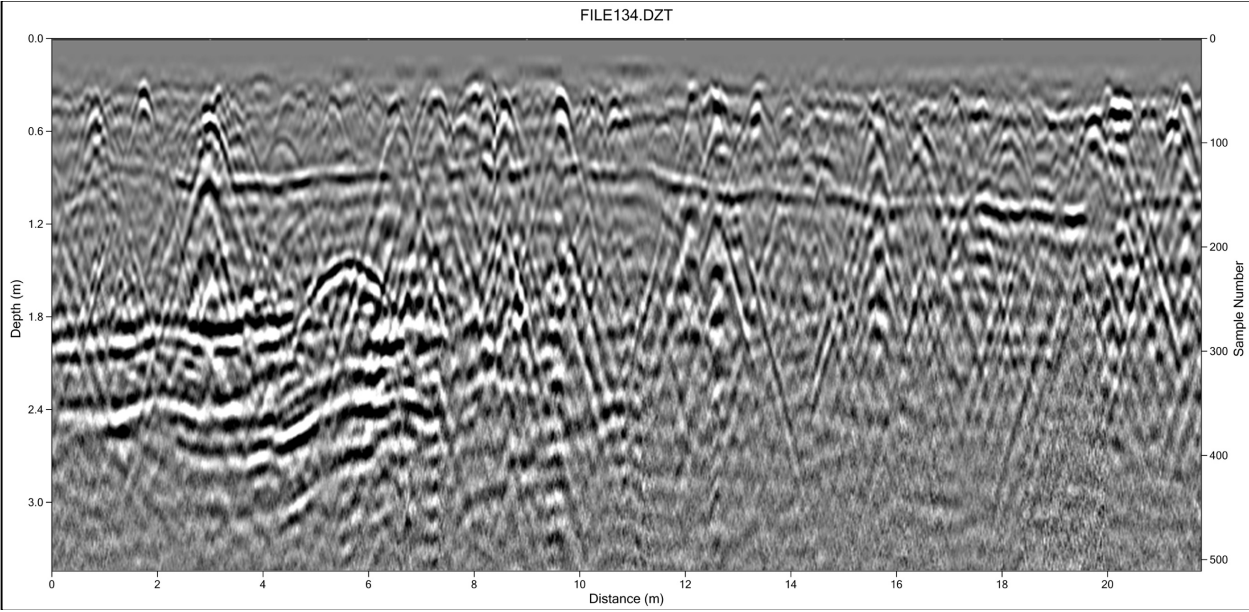
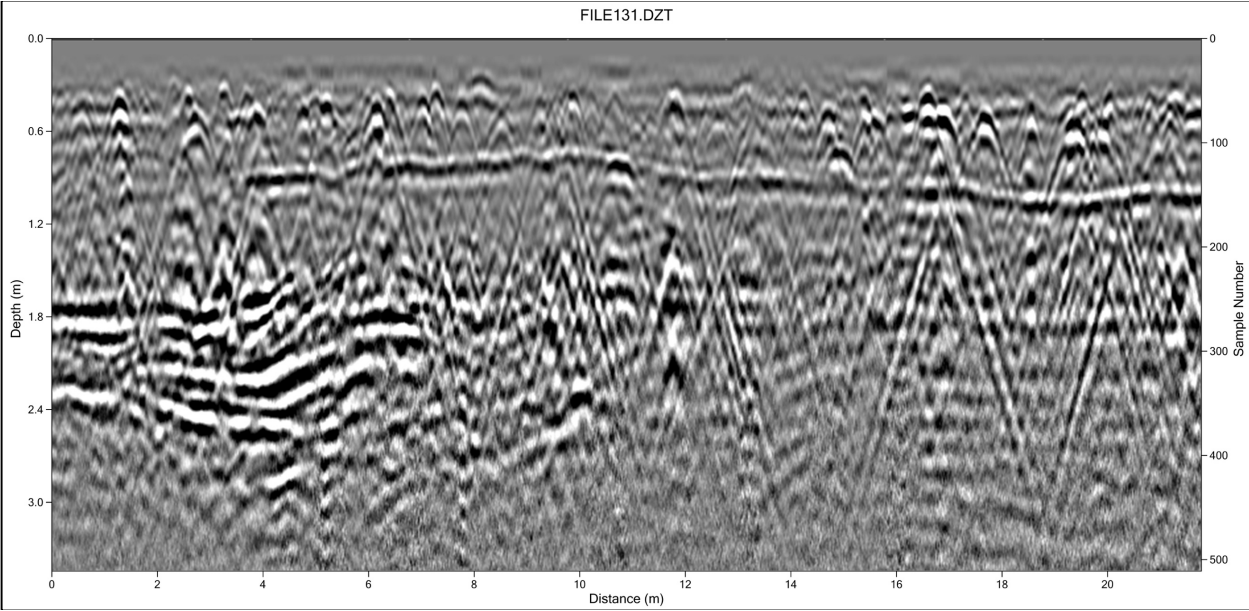
Appendix E: GPR Profiles without Annotation

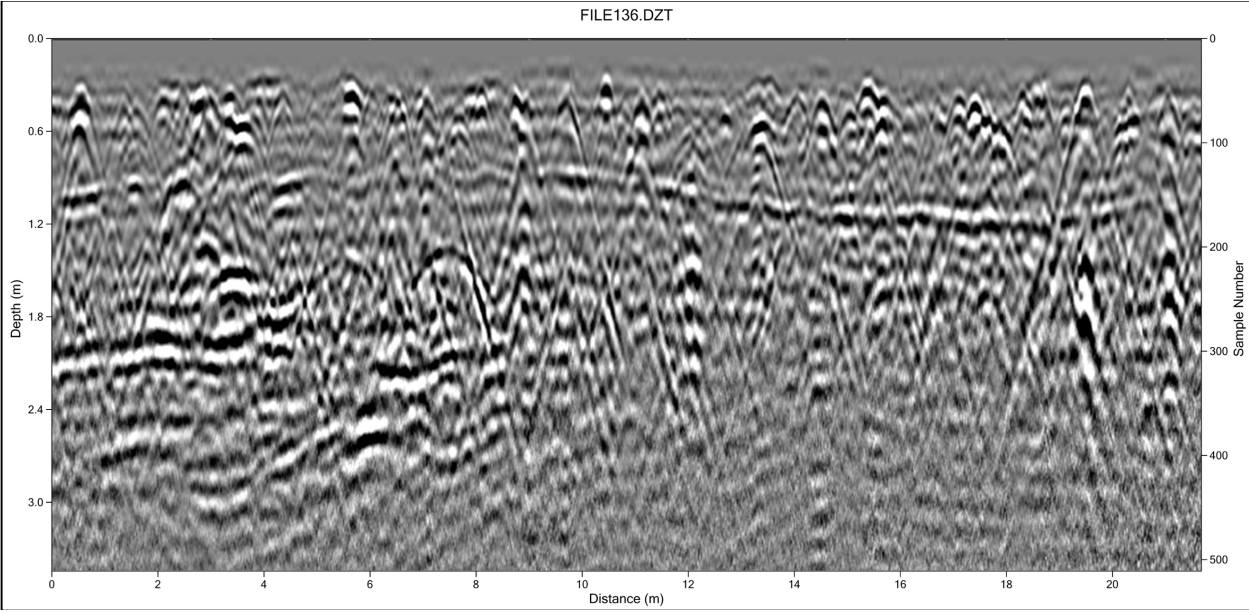
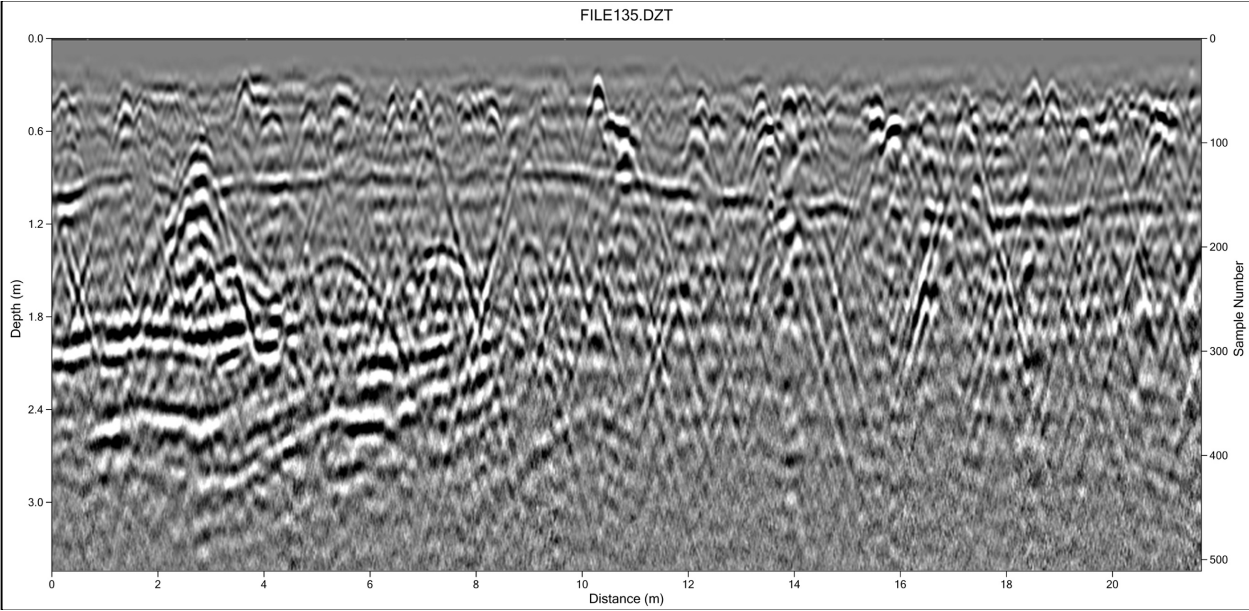


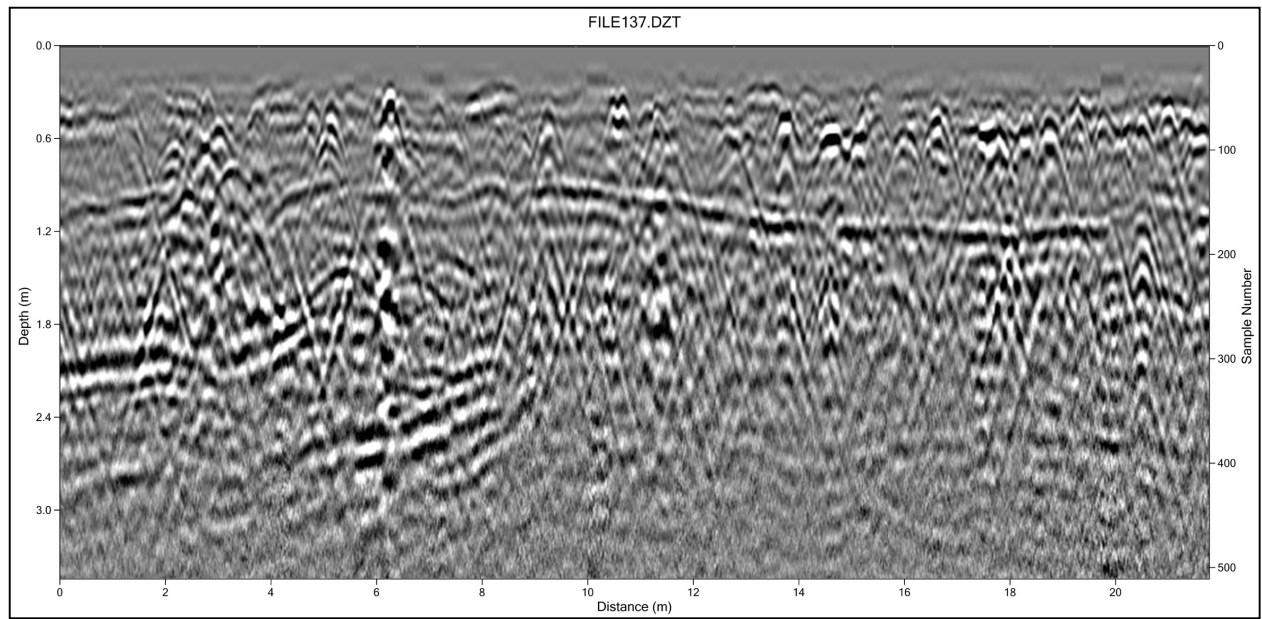




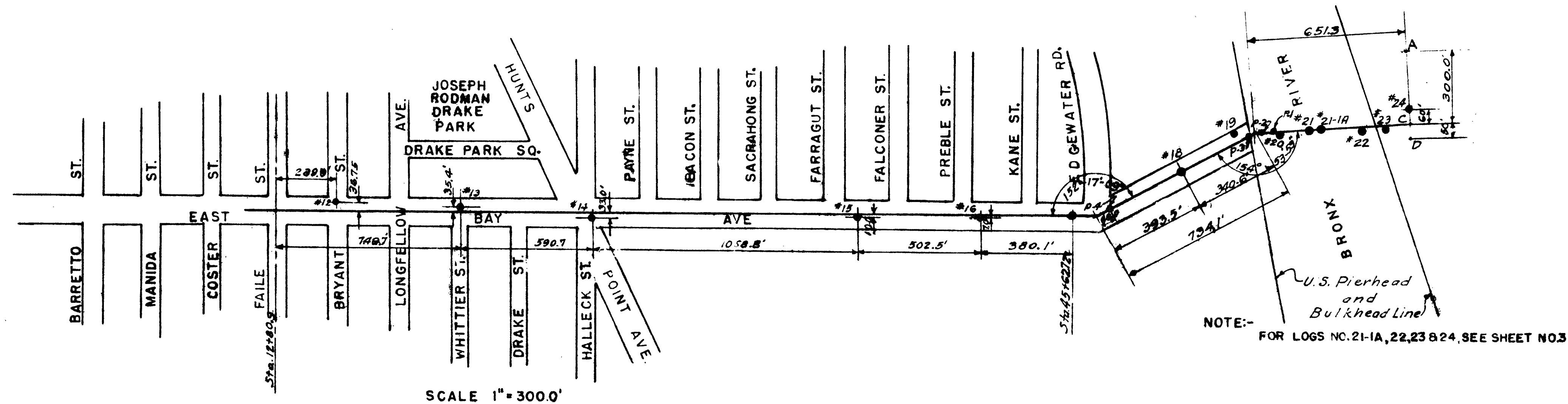
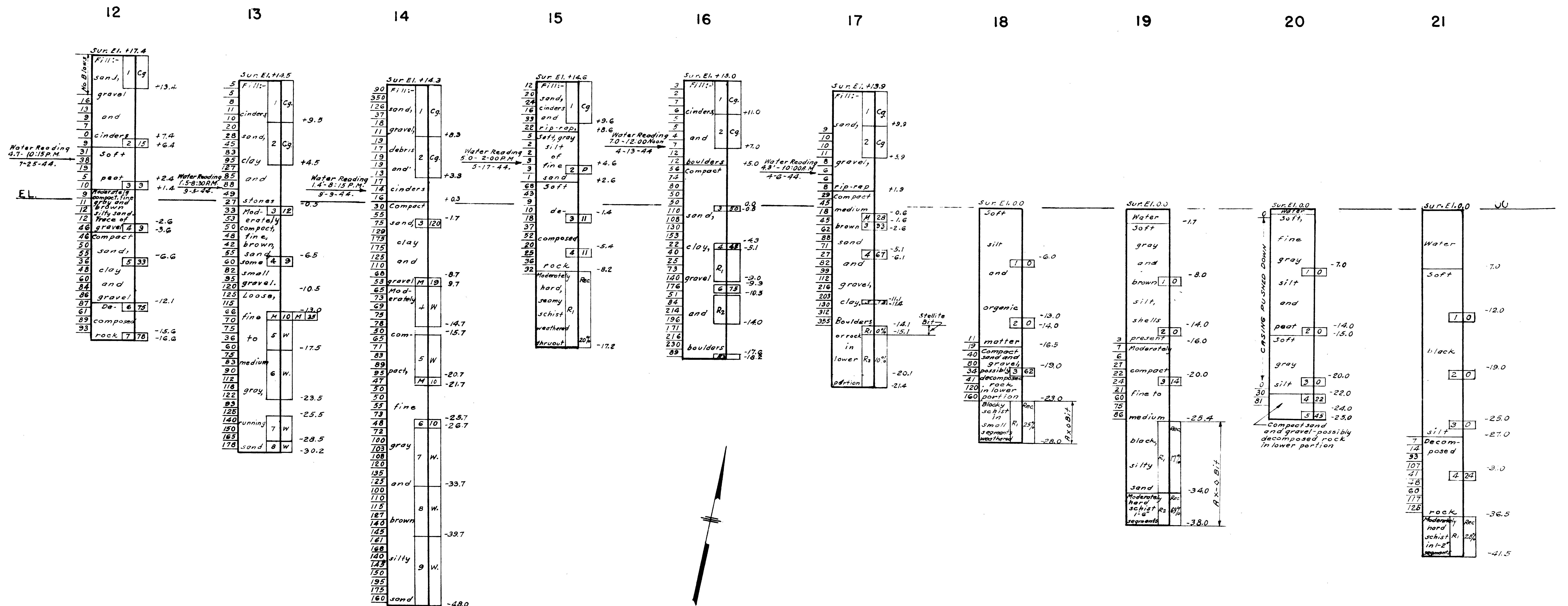








Appendix F: 1947 Hunts Point Sediment Bore Logs



PROBINGS

Probing No.	Surface Elevation +0.6	Point of Resistance El.-204
2	+1.0	-18.6
3	+0.7	-20.0
4	+3.1	-4.6

CITY OF NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING AND ARCHITECTURE
SUBSURFACE EXPLORATION SECTION

RECORD OF BORINGS
MADE AT THE SITE OF
HUNTS POINT SEWAGE TREATMENT WORKS
BRONX RIVER SIPHON
8
HUNTS POINT INTERCEPTOR

SHEET 2 OF 4

0079