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FINAL REST AT THE HILLTOP SANCTUARY:

THE COMMUNITY OF MOUNT GILEAD AME CHURCH

A Thesis Presented

by

MEAGAN M. RATINI

Submitted to the Office of Graduate Studies,
University of Massachusetts Boston,
in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

August 2014

Historical Archaeology Program

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FINAL REST AT THE HILLTOP SANCTUARY:

THE COMMUNITY OF MOUNT GILEAD AME CHURCH

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ABSTRACT

FINAL REST AT THE HILLTOP SANCTUARY:

THE COMMUNITY OF MOUNT GILEAD AME CHURCH

August 2014

Meagan M. Ratini
B.A., Rutgers University
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Directed by Dr. David B. Landon

The Mount Gilead AME (African Methodist Episcopal) Church, perched on a mountain in Buckingham, Pennsylvania, has been a focal point of African American heritage in the area for over a hundred and seventy-five years. Though the second church building, dated to 1852, is still standing with its cemetery beside it, very little about its history has been thoroughly explored. Oral histories link the church with the Underground Railroad, a highly clandestine operation—yet the church itself was built of stone and advertized its location during the height of the movement of self-emancipated people out of the South. While it is said that this rural church community was made up of a hundred families who settled across the hillside, the cemetery itself only has 243 currently marked graves. The antebellum church hosted hundreds of people, black and white, at events held within walking distance of the rumored hideouts of those on the run from slavery. In order to determine the extent of this seemingly paradoxical relationship

between secrecy and prominence, and to achieve a fuller understanding of the community during the 19th century, the church's history is approached from several angles simultaneously. The cemetery itself is identified as a critical location where much can be learned about the composition, achievements, and struggles of the community. Combining archival research (primarily in the US Census, newspapers, and farm account books) with geographic information systems (GIS) and ground-penetrating radar (GPR), a sense of the size, occupations, and personal histories of the community are achieved, yielding a composite view of the general church population and its history between the 1820s and 1900.

ACKNOWLEDGEMENTS

I must first thank John and Mary Reinhardt, who so lovingly care for their "little church on the mountain" and whose passion for its history first inspired this project. They and the rest of the trustees and congregation at Mount Gilead so graciously allowed me to conduct the research on the church grounds and are to be commended for continuing to support the church and for sharing their history with successive generations.

Thank you to the Graduate Student Assembly at UMass Boston and the Fiske Center for their support of this research and also to my chairperson Dave Landon as well as my committee members John Steinberg, Steve Mrozowski, and Rich Veit. Dave and John, in particular, I must thank for their tireless help in forming and informing my research at all phases of this project. This thesis also would not have been possible without those who helped me gather the field data during a last gasp of winter: John Steinberg, John Schoenfelder, and my fellow grad students Allison Conner and Nadia Kline.

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CHAPTER ONE

INTRODUCTION

On a hilltop in central Bucks County, southeastern Pennsylvania, a small church building still stands as a testament to a community of free African Americans who made the area their home in the 19th century. Although the present-day Mount Gilead AME (African Methodist Episcopal) Church dates back to 1852, the community was in existence before that, and when the community began to disperse in the latter part of the 19th century, the site of the church was never wholly forgotten. In recent years, the church has begun holding more frequent services, up to five a year, usually led by ministers who are descendents of Mount Gilead's regular congregants, although there is no formal congregation. It has been receiving the attention of people interested in local and African American history, but some aspects of its history are vague. This history includes many families, the Underground Railroad, and aspects of the physical setting of the church itself. It is a place where people today connect to their past and make certain its stories are told. In light of vandalism that the church experienced through some decades of the 20th century, the story is now one of resurgence and renewed respect for the church and its history.

The tension between the Underground Railroad's secrecy and the highly visible stone church in a well-known location raises questions that beg further investigation. For instance, would this attention place its people at greater risk of being captured and sold

into slavery? Furthermore, if a church's leadership knew that some of its congregation were at risk for something of that nature, why would they open their services to any and all? Not long after the denomination's founding in the early 19th century, AME churches became known for their abolitionist, and even radically resistant, stance to slavery, and they were also places that sought to improve the position of African Americans in other respects through social causes such as education and temperance. Mount Gilead was no exception, however its history is not as readily accessible as those of many other, generally European American, communities and institutions.

In order to research this church community more fully, it was important to first contextualize it physically. The most prominent oral histories situate the community itself on the mountain, but much of that land has since been built up far more than it was one or two hundred years ago. Few older structures survive. Founded as early as 1822, the congregation built their first church building about a decade later. It grew in size and influence by midcentury, but appears to have been in decline by the early decades of the 1900s. Other groups used the church for several decades, but the congregation has only begun to revive in the past fifteen years (see the discussion of the church's history in Chapter 4). The church itself has been identified in local histories as a center of African American life and serves today as a standing reminder of this. One place where members of the historic community still remain, however, is in the church's cemetery. With graves dating to at least 1861, and their memorials including modern granite and marble markers, roughly carved brownstone, and entirely uncarved local quartzite and other natural stones, the cemetery is a singular location where much can be learned about the earlier church community. The stones alone, however, do not convey quite enough

information to do much beyond simple demographic studies—and even then, a number of the stones do not reveal names or years of birth or death. Probing beneath this surface-level information to understand the people buried there requires archival research. At the outset, my research was primarily focused on the church community's antebellum years, when the church was founded and also when it was said to have been involved in the Underground Railroad. The archival record and datable aspects of the cemetery were not particularly informative about this, however, and a fair resolution of the community only begins to occur around 1850. The most clear-cut population estimate of the early church community, dissociated from a particular point in time, comes from an oral history that claims one hundred families once lived across Buckingham Mountain (Reinhardt 2012:1). The surviving markers number only 243, with a number of them postdating the dispersal of the community. This active cemetery has markers of several styles, including fieldstones (generally referred to in this study as natural stone markers), and cut markers made of marble or granite, as well as a few other types of markers. As is expected in an older cemetery, there are likely more graves than are currently marked. However, finding a drastically larger number of graves, particularly in the older areas of the cemetery, could suggest a community as large and secretive as the oral tradition suggests. Studying the people who are known to be buried in the cemetery may also provide more concrete Underground Railroad connections to bolster the oral tradition. To do all this requires not only mapping the surviving grave markers, but conducting a ground-penetrating radar (GPR) survey and analyzing the cemetery and its history via geographic information systems (GIS) and other modes of aggregating the data in a non-spatial format. The

results of these several methods of research are used in concert to arrive at an understanding of the size, reach, and aspirations of the Mount Gilead community.

Chapter Two situates this thesis in the history of enslaved and free African Americans in the border state of Pennsylvania, from the 1780 passage of the Gradual Emancipation Act through the Great Migration. Particular attention is paid to both the Underground Railroad and the role of black churches in community formation. In Chapter Three, the archaeological dimensions of these topics are explored, specifically the archaeological considerations of the Underground Railroad as well as African American communities and cemeteries within the larger context of the African Diaspora. The chapter also includes a brief discussion of the use of ground-penetrating radar (GPR) as it has been used in archaeological studies of cemeteries. Chapter Four narrows the contextual focus to the background history of Mount Gilead AME Church from its founding through to the modern day church community. This detailed history is included because, outside of Reinhardt's (2003; 2012) histories, little has been compiled about this church community to date, and it is necessary to provide context for the rest of the study.

Shifting the focus to this particular thesis's research, Chapter Five delves into the general methodology, outlining the relationship between the spatial and GPR study and the research into the US Census. This chapter contains detailed field and laboratory methods for both the GPR and spatial aspects of the project, although the census research methodology is set aside until Chapter Seven, where it can be more tightly woven into that aspect of the research. Chapter Six discusses the results of GPR and GIS studies, including the methods used to estimate the number of graves found within the cemetery.

Chapter Seven attempts to humanize the data via a detailed reading of the US Census records of those individuals who are recorded in the cemetery.

The final chapter, Chapter Eight, synthesizes the previous chapters and draws on some further historical research to present a humanistic viewpoint on the results of the various lines of evidence introduced throughout the thesis. Mount Gilead AME Church is presented as an institution which provided a stable base for individual members of the congregation to engage in social movements and gatherings which may have proven too risky for individuals to enact alone.

Notes on Terminology

Although anthropologists have long disproven anatomical race, racially-motivated discrimination is a historical and modern reality. While this study is primarily focused on a group of self-identified African Americans who settled in central Bucks County, Pennsylvania, it is important to note that their experience was not monolithic, nor was the terminology used to describe them. There have been various ways of referencing African Americans throughout American history, some commonly accepted for a time before being discarded as no longer reflective of—or even offensive to—the people who they are meant to describe. In the course of this thesis, I use the commonly accepted terms "African American" and "black" interchangeably. Rather than untangling the actual ancestry of the people of Mount Gilead, many of whom appear in various censuses as "mulatto," and thereby potentially legitimizing any racial bias related to relative African or European ancestry, it seems more fitting to use blanket terms that cover the overarching community, and those with which most of the 19th-century congregation

would have identified themselves. When referencing individuals who were enslaved, I favor the term "enslaved persons" rather than "slaves," with the corresponding usage of "self-emancipated persons" rather than "fugitives," in an effort to maintain the autonomy of those individuals. This language of agency occasionally proves more awkward than helpful and can obscure meaning. In such cases, the more commonly used terms such as "slaves" are employed. It is also important to note that the term "self-emancipated person" includes all those who obtained their freedom, regardless of manner (Mack and Blakey 2004). Those individuals who worked within the legal system to buy their own freedom or that of their families are essentially indistinguishable from those who were unable to do so and absconded from slavery. While both groups had extremely similar experiences of slavery and all were in danger of being sent back into slavery through various legally permitted and illicit means, in some cases this is an important distinction to make. This distinction may have, for better or worse, affected the social relations of individual people both within and outside of various African American communities. Where this may matter, I make the terminology more clear. In direct quotations, I preserve the terminology used by the source material, even if those terms are no longer acceptable. This preserves the intellectual and cultural lineage of both scholarship and popular culture in a way that maintains the history and lived experiences of the people involved.

CHAPTER TWO

NORTHERN FREE BLACK COMMUNITIES

2.1 The Establishment and Dissolution of Slavery in Pennsylvania

The institution of slavery set up various racial dynamics in the US long before the country's inception. During the colonial period there were people of African descent who had bought or otherwise obtained their freedom. This free population was dwarfed by the population of those who were still enslaved. Many of these free individuals settled in enclaves, both urban and rural, and within slaveholding states. Pennsylvania was one such state until the years following 1780. Fifty years before the Revolutionary War, Pennsylvania "established a full-fledged black code" that, although not has harsh as those in "most other colonies, formalized a caste system on the basis of skin shade and is most notable for the restrictions it placed on free blacks" (Nash and Soderlund 1991:12). This law did not place restrictions on education or trades for either enslaved or free people, but it created economic disincentives for emancipation and also instated the possibility that a court could re-enslave a free person (Nash and Soderlund 1991:13).

Pennsylvania, often considered to be sitting on the border of the slaveholding South and free North, was the first state to pass an emancipation law in 1780. This law did not free slaves immediately, but required those born after the passage of the act to live in servitude for their first 28 years. Their children would likewise have to remain

enslaved for 28 years. The law did not affect, in any meaningful way, those who were already enslaved. Although the law was created with provisions that allowed for individuals to keep their slaves, many Pennsylvanians emancipated their slaves earlier than required. As Nash and Soderlund (1991:111) aptly point out:

> If the 1780 law was a death sentence for slavery in the state, it was a sentence with a two-generation grace period and one meant both to avoid an abrupt or disruptive end of slavery and to accomplish abolition at little cost to those who claimed ownership over other human beings. Pennsylvania's legislators had found a way to satisfy the ideological objections of those who saw slavery as inconsistent with the principles undergirding the revolutionary struggle while touching nobody's chattel property and depriving them of future human property only on a cost-free basis.

This law also required the registration of all enslaved persons, and the penalty for the slaveholder who did not was the emancipation of his or her slaves (Price 1973:1). Writing in 1901, DuBois (1969:24) claimed that "[t]he act of gradual emancipation did not begin to have full effect until about 1810." When it happened, this decline was sometimes in name only, as "white farmers in the southeastern portion of the state continued into the 1820s to employ black indentured servants" (Harrold 2010:6), though this was not without resistance from African Americans (Harrold 2010:6; Nash and Soderlund 1991:203). It was not until the 1840s that there were no officially enslaved people in Pennsylvania (Harrold 2010:6; Smith 2012:17). Although not without controversy, the law was technically effective—thanks in large part to the activities of the Pennsylvania Abolition Society and various Quaker meetings—and set the stage for other states to follow suit (Nash and Soderlund 1991: 99-136).

Newly emancipated individuals were now in a position in which they had to make a living, but emancipation as well as economic changes mostly involving land prices had widespread ramifications for the labor system in both urban and rural areas. Employers were less inclined to keep permanent help, preferring to hire workers only as needed for various tasks (Nash and Soderlund:167-168, 185, 193). Although the African Americans in Pennsylvania were a smaller percentage of the population than in the South, "many white border northerners regarded free African Americans to be shiftless, lazy, unintelligent, and immoral….[and] not fit to participate in white society" (Harrold 2010:7). Laws were enacted with this conception in mind, intending "to curtail black settlement and limit black citizenship," although there were sympathetic whites who hired African Americans for domestic or farm labor (Harrold 2010:7). Even by 1901, however, "[t]he black man who want[ed] charity and protection in crime [sic] in the Quaker City [could] easily get it. But the black man who want[ed] work [would] have to tramp the pavements many a day" (DuBois 1969:45). It was also far more difficult for those without property to obtain it. Some African Americans in Pennsylvania signed on for terms of indentured servitude that created a class of laborers who "entered under harsh conditions that must have made freedom seem like a mirage" (Nash and Soderlund 1991:168). Quakers and others in Pennsylvania "were more interested in purging the evil of slavery from their midst than in relieving the oppression of black Pennsylvanians" (Nash and Soderlund 1991:137). Despite this labor system, it is estimated that by 1820, about 11% of "black heads of household owned real property," which Nash and Soderlund (1991:172) suggest may have been roughly equivalent to the status of recent immigrants. It is difficult to determine how this had changed over time, since very few

blacks—even landowners and heads of household—appeared on tax records in the late 18th century (Nash and Soderlund 1991:187).

Nash and Soderlund (1991:5) found that Bucks County had 520 enslaved people between the years 1780 to 1782, 261 in 1790 (or 1% of the total population at the time), and only 11 by 1810. These numbers are comparable to other counties surrounding Philadelphia, but were only one-quarter to half as many individuals as were found in the counties bordering the Mason-Dixon Line (Nash and Soderlund 1991:5). Whereas cities held more opportunities for upstart individuals, those in rural areas often could not compete in the local economy and, "to an even greater extent than liberated men and women in Philadelphia, found that freedom came only in stages and opportunity was curtailed" (Nash and Soderlund 1991:182). Nash (1988:78) suggests that while post-Revolutionary whites in Philadelphia may have viewed freedom and slavery as "polar opposites—contradictory and mutually exclusive, ... blacks necessarily understood the terms more subtly, perceiving a continuum where slavery and freedom stood at the terminal points."

The conditions were similar for rural and urban free blacks, a status which had existed since enslavement, when "slaves were sold so frequently and transferred back and forth from city to country [that] it is impossible to separate completely the experience of a rural Pennsylvania slave from that of her or his counterpart in Philadelphia" (Nash and Soderlund 1991:9). This, however, did not prevent a small minority of the free African-American community from obtaining an elite status both materially and socially, particularly in the urban community. Philadelphia, more than other urban areas, was known for this stratification of its African American community. According to Crist et al.

(1997:19), Philadelphia was "a major industrial center that witnessed firsthand the emergence of a unique African-American identity within a society dominated culturally and demographically by Europeans." Having the largest free black community in the country in 1830 (Lapsansky 1997:96), it is, perhaps, no surprise that it was also the most intellectual and vibrant (Lapsansky 1997). The large number of "outstanding black churchmen" in Philadelphia "clearly established Philadelphia as a national trendsetter for black consciousness in antebellum America" (Reed 1994:7). Philadelphia obtained this status in part due to the practice of slaveholders in regions surrounding the city (including other areas of Pennsylvania, the upper Chesapeake region, Delaware, and New Jersey) manumitting their slaves and then selling them as indentured servants into the Philadelphia marketplace. This created a labor force of technically free but realistically bonded workers who would eventually earn their full freedom. This system allowed slaveholders to appear progressive in their attitudes towards emancipation while financially recouping the loss of slave labor. At the same time, they were no longer responsible for laborers once they had passed their physical peak (Smith 2012:14, 24; Nash and Soderlund 1991:4-5, 178, 203).

According to the Pennsylvania Abolition Society Census, by 1838, only nine percent of blacks in the state had been enslaved at some point in their lives. This number may be strikingly small but may also be misleading, since it is impossible to tell what number of those asked in the census may have lied about the circumstances of their birth. Although this survey predated the worst of the legislations against escapees from slavery, there may have still been great fears of being discovered. It is likely no coincidence that half of the individuals surveyed had not been born in Pennsylvania, which also casts

doubt on the survey results, considering the other noted trends in migration. (Crist et al. 1997:35; Hershberg 1997:132, 146-147).[1]

In early 19th-century Philadelphia, "The growth of the immigrant and African-American populations led to competition for the same low-skilled jobs and caused increasing social stratification, as newly created wealth was unevenly distributed between the upper and middle classes and the working classes" (Crist et al. 1997:21). By 1838, these economic pressures, combined with overarching economic depression, had grown to such a state that whites reacted politically and disenfranchised African American voters in Pennsylvania (Crist et al. 1997:21; Rosenberger 1974; Shackel 2010:9). On a less organized scale, violence occurred against the black population (Lapsansky 1997; Smith 1998; Rankin-Hill 1997). Contemporary accounts were sometimes thought to be exaggerated, as there were many with vested interests in presenting the ills of the urban free black communities as evidence that they could not fend for themselves (Crist et al. 1997:46). This is known not only from contemporary accounts but has been found archaeologically in the remains excavated from Philadelphia's First African Baptist Church cemetery, which reveal such injuries as gunshot wounds and skull fractures.[2] Although it is difficult to determine how such injuries happened, those which had healed may have been due to their harsh daily lives as slaves or indentured servants (Crist et al. 1997: 35-36; Rankin-Hill 1997). The study also found a decline in the health of African

[1] For a painstakingly detailed study into the demographics of African Americans in Philadephia during the 19th century, see Hershberg (1997).

[2] This evidence of violence was not found in the original osteological report from the site (Kelley and Angel 1989).

Americans at the same time that their socioeconomic conditions generally deteriorated in the 1830s and 1840s (Crist et al. 1997:44).

Some of the conflict between white and black residents of Philadelphia as well as within the black community itself stemmed from different groups' reactions to economic hardship. "While the white mobs were expressing their frustration at their own social immobility, black people, for their part, were concerned with publicly exhibiting the proof of their progress toward the 'respectable' life. This set of dynamics proved mutually antagonistic" (Lapsansky 1997:115). These two reactions to related pressures increased friction in an already uncomfortable relationship. The feedback loop created between African Americans who would be socially mobile and whites who were becoming increasingly less mobile set the stage for strife. In general, whites acted out against blacks in various ways, ranging from small-scale violence to legal proscriptions and disenfranchisement. Conditions in Philadelphia worsened for free blacks in the decades following the Revolution, as certain sectors of the white population began to feel threatened by the increasing population of African Americans, the fear of black violence as had occurred in the slave rebellions in Haiti and Latin America, and the increasing pressure for jobs. African Americans responded to this through churches, mutual aid societies, and myriad other ways—but often with the explicit goals of being generally well-mannered and of not being ostentatious in behavior or dress. Class issues even within the African American community complicated matters, often dividing Southern-born laborers from middle-class freeborn Northerners (Nash 1988:172-211; 217-223; Hershberg 1997). Not only were class and occupation factors, but so were the various conflicts and negotiations between rural and urban life. Hershberg (1997:147) points out

that neither experience was "monolithic," and this would be particularly true in situations where individuals and families moved from urban to rural areas and vice versa, as opportunities changed. It is also important to note that "black responses [in the first half of the 19th century] were not solely reactions to racism" (Reed 1994:4). Reed (1994:9) provides evidence that, although the fight against "the remnants of slavery in the North and the entire institution of slavery in the South" was critically important, the formation of communities were "the tentative steps toward collective cultural identity."

2.2 Community and the African Methodist Episcopal Church

Where merely living in the same areas presumably provided some measure of support and safety, the true center of black communities was found in religious and secular organizations, particularly in the churches that grew out of and were maintained within African American communities. Churches and various mutual aid societies provided various kinds of support services for the nascent community (Reed 1994; Hershberg 1997; Crist et al. 1997; Lapsansky 1997; Payne 1891). "While often founded partly out of necessity, the end result of racial discrimination and proscription, they quickly became vehicles for the expression of black ideals and beliefs. In essence they were nurturers of a new northern black cultural identity" (Vincent 1999:78). Not only did the churches provide discrete forms of aid, the network this established became the agent of identity formation throughout the communities in which it functioned. So important was church membership that "non-church affiliation, rather than poverty, was the distinguishing characteristic of the most disadvantaged group in the community" (Hershberg 1997:133-134). Churches also provided both formal and informal social

services, and the AME Church especially focused efforts on education, literacy, social and economic security, and the alleviation of societal ills such as drunkenness (Payne 1891; Lapsansky 1997).

One of several predominantly African American 19th-century denominations, the African Methodist Episcopal (AME) Church had its origins in Philadelphia. Racial tensions within the St. George's Methodist Episcopal Church caused a black minister named Richard Allen and fellow African Americans from the church to break away and form their own congregation in 1787. The denomination formalized in 1816, and the church spread rapidly through small communities establishing their own churches with itinerant "circuit" ministers who went among them on set routes, or "circuits" (Wright 1947:11, 355; Payne 1891). Among the Mid-Atlantic states of Pennsylvania, New Jersey, Delaware, and Maryland, the AME church claimed 400 members at the time of its formal establishment in 1816 (Wright 1947:11, 13). As a 1947 church-sponsored AME history describes it, "[t]his African group established a 'society' of their own, in which any person, regardless of his color, could enjoy the worship of God with freedom from restriction or segregation, also so that they could guide their people the better, and aid the less fortunate" (Wright 1947:11). The term "African" was a general term used at the time to denote those of African descent, and although the terminology has since changed, the church has maintained this connection to its history. The church existed primarily in the North until after the Civil War, when its numbers also swelled in the South (Wright 1947:11). The independent AME Church gave African Americans agency within the church, allowed them to have more black ministers, and permitted women to preach (Payne 1891:9; Nash 1988:264).

The early history of the church is vague, likely owing in part to the fact that the 1891 church historian Daniel Payne unfortunately disregarded oral history, "[b]ecause it is contradictory, [and therefore] it is unreliable" (Payne 1891:iv). His adherence to the written word was stricter even than many other historians of his era. This may have been an attempt to legitimize and maintain the respectability of the AME Church, but it was at the unfortunate cost of leaving out the richness of the church's history before the 1850s, very little of which had been recorded in the records Payne was able to find. This could be a holdover from the reticence black denominations initially held toward risky social and political actions such as the Underground Railroad. Individual congregations may have been more forthright. This division, however, increasingly fell away after the passage of the Fugitive Slave Act in 1850 as churches found themselves "becoming increasingly militant opponents of slavery" (LaRoche 2004:73). This extended to outright material support of the Underground Railroad (LaRoche 2004:71-79).

2.3 Tensions and the Underground Railroad

People had been escaping from slavery since its origins in the New World. Although laws prohibiting giving aid to slaves had existed for many years, the Underground Railroad itself did not truly arise until the first decades of the 1800s. As the institution of slavery changed in the colonial period and early 19th century, a series of increasingly far-reaching laws were passed that not only legally prohibited the escape of slaves but also banned providing aid to self-emancipated people. The passage of Pennsylvania's 1780 Act for the Gradual Abolition of Slavery as well as subsequent

emancipatory laws, created what would be, in theory, a safe haven for people among those who were already free. This created more of an incentive to attempt escape.

Dozens of so-called Fugitive Slave laws existed on a national level dating back to 1778, and in 1793 legislation followed suit that permitted recapture and extradition of suspected former slaves to southern states (LaRoche 2004:118; Harrold 2010:63; Siebert 1898:47). These laws created a niche of semi-professional "slave catchers" who would, with varying amounts of violence, abduct African Americans in the North to be brought south and enslaved. Some of these individuals captured had, in fact, escaped from slavery, whereas others had been born free and were completely illegally sold into slavery. "Free blacks were in constant danger of being captured, kidnapped, and sent south"—even the well-known founder of the AME Church was a victim of an attempted kidnapping (LaRoche 2004:74-75, 120; Nash and Soderlund 1991:199). Accounts of both successful and blocked captures were in the public attention throughout the first half of the 19th century, some of the more famous being from southeastern Pennsylvania (Harrold 2010:62, 108; Also see section 4.2 for the story of Benjamin Jones). By the 1840s, blacks made up a significant percentage of the population in Maryland (28% by 1850) and Virginia (37%), and the number of escapees from those and other slave states was increasing (Harrold 2010:6, 139). African Americans made up a far smaller proportion of the population in Pennsylvania in 1850, at only 2.3% (Harrold 2010:6).

The Fugitive Slave Act of 1850 was one of the most severe national acts, suspending due process for those kidnapped. It also criminalized the act of helping escapees on their route north. As LaRoche (2004:122) notes, the existence of such harsh laws only underscores the conception of "slavery and inferiority as unnatural states

requiring constant renegotiation, legislation, and vigilant, violent reinforcement." They also did little to stem the tide of people escaping enslavement. These laws were formally in existence well into the Civil War and were not officially repealed until 1864 (Siebert 1898:288). The threat created by this and other laws riled blacks and whites alike, as the recaptures affected not only those captured, but their families, communities, and employers, as well as local abolitionists and officials. Abolitionists, in particular, spread the word that supporting kidnappers would threaten "white safety and property rights as armed men invaded their homes in search of African Americans"—an event which was described as having happened to a family in Chester County (Harrold 2010:59-62). Smith (2011:4) found a highly complicated and paradoxical set of responses to the fugitive slave issue that are complicated even on the level of the various responses of individual participants.

The Underground Railroad was an informal network of aid that stretched from slave-holding states to the Canadian border. Although the steel-rail-inspired language of the Underground Railroad encourages the depiction of it as a series of direct lines to northern havens, it was never "regularized" (Smith 2012:30). As this was a clandestine web of connections, this informal network, perhaps, is not too surprising. Although some authors (Still 1872; Smedley 1883; Siebert 1898; Blockson 1981; Switala 2001) have attempted to trace the paths through Pennsylvania by which self-emancipated persons sought freedom, many of the trails are no longer known. Unlike states to the north of it, southern Pennsylvania was very secretive about its Underground Railroad activities. "In reality, the fugitive slave issue was more critical, in a practical sense, in southern Pennsylvania than it was farther north. Southerners knew that: *every single fugitive slave*

escaping by land east of the Appalachian Mountains had to pass through Pennsylvania, which is why the state, its laws, and the attitudes of its citizens were so important" (Smith 2012:2; emphasis original).[3] LaRoche (2004:67-70) argues that, although Quaker and other white abolitionists received most of the credit for the Underground Railroad, the first line of aid for runaways was to be found among African Americans. Black church communities were of particular importance in this regard, dividing the network of the Underground Railroad into sectarian lines even moreso than racial. In rural areas especially, Smith (2012:37) implies that this aid went beyond racial ties to the "mutual dependency in rural life [that] created networks of individuals who, if not motivated to help fugitives, at least would not be likely to help a stranger (slave catcher) with apparent ill intent looking for a friend's house."

Black churches were critical to the Underground Railroad movement as a whole, the communities containing them often "sistered [with] abolitionist strongholds" (Leone et al. 2005:579), a fact missed by early Underground Railroad historians such as William Siebert (Leone et al. 2005; LaRoche 2004:67-71, 307-308; Siebert 1898:115; Smedley 1883; Switala 2001; Blockson 1981; Delle 2008). LaRoche (2004) and others found this to be strongly correlated in the Midwest. Barton (2009) found the same pattern in southern New Jersey.[4] Along with family and community oral traditions, Delle (2008:71) identifies AME church congregations as "key loc[i] of social memory of the Underground Railroad." Eastern Pennsylvania developed Underground Railroad routes

[3] This is, perhaps, a slight exaggeration. Generally, all people who escaped slavery east of the Appalachians *by land*, had to travel through Pennsylvania. There are also incidences in which involved sea travel (Siebert 1898).

[4] Barton's research has since been expanded in his doctoral dissertation (Barton 2014a).

early, dating back at least to the first decade of the 19th century. The routes through Bucks County appeared to Siebert (1898) and his contemporaries to be more covert than routes elsewhere in Pennsylvania, although Smedley (1883) does explicitly mention a route through Buckingham (Siebert 1898:120, 122; Smedley 1883:326). It is possible, however, that while they were looking for routes anchored by white Quakers, perhaps the routes they were seeking were instead anchored by African American abolitionists. As Siebert (1898:343) notes: "Very few of the persons that harbored runaways were so indiscreet as to keep a register of their hunted visitors…. Under the circumstances one should handle all numerical generalizations with caution."

In historically Quaker Pennsylvania, Quaker involvement in the Underground Railroad is usually highlighted and held in highest regard (Smedley 1883; Siebert 1898; LaRoche 2004; Delle 2008). Like any group, their responses both as a group and as individuals were varied and often paradoxical, and certainly even all abolitionist Quakers were not necessarily conductors or supporters of the Underground Railroad (Smith 2012:4; Delle 2008:79). LaRoche (2004:254-255) writes that "Quakers have enjoyed an uncritical place in African American history and in the history of the Underground Railroad. Indeed, the sect was at the forefront of the antislavery cause." Their general position was that slavery itself was evil, but outside of emancipation itself, their opinions of African Americans could be somewhat less than flattering. Quakers often maintained a highly "paternalistic attitude" towards African Americans, believing "that much work remained after manumission to prepare blacks for citizenship" (Nash 1988:89). Quakers also remained staunch supporters of African colonization societies and other means to remove free blacks from their midst (LaRoche 2004:255; Smith 2012:14; Harrold 2010).

Because of the oral nature of much of Underground Railroad history, it is somewhat difficult to disentangle the numerous myths from the stories of what actually occurred (Delle 2008:71). These myths, however, do serve to reinforce the essence of the Underground Railroad in "the clandestine nature of the movement, coupled with the omnipresence of slave hunters and slave catchers, requir[ing] the heroic use of secrecy" (Delle 2008:72). The whole story of the Underground Railroad has been used to bolster local heritage and "attempt to heal the wounds of racism and racial divide," since "[t]he cooperation of black and white Quaker and African Methodist Episcopal, rich and poor, can be recalled to unite people in the present as it did in the past" (Delle 2008:86-87).

Although the Underground Railroad included many people united towards a singular cause, their backgrounds sometimes strongly contrasted. LaRoche (2004) provides perspective on white versus black participation in the Underground Railroad. Whereas white participants were sympathetic to the cause, "[m]any black participants in the Underground Railroad knew the hardships of slavery because they were former slaves themselves" (LaRoche 2004:190). As an example of this, William Still, an African American conductor on the Underground Railroad, penned an 1872 collection of anecdotes of people's travels along the Underground Railroad, which had been relayed to or witnessed by him. In his introduction, he stresses that these were not stories told for their entertainment value, but to illustrate the costs of freedom (Still 1872:6).

2.4 Postbellum African American Communities

While the Civil War ended the formal institution at the root of many of the struggles of African Americans in 19th-century America, some changes came far more

slowly. As if indicative of its mercurial opinion of African Americans, Pennsylvania was the first of its neighbors to pass an act for the abolition of slavery, and it was the last to pass an act disenfranchising black voters (Smith 1998:293). Disenfranchised in 1838, in part due to incidents occurring in Bucks County, black men in Pennsylvania were not returned the right to vote until the passage of the Fifteenth Amendment in 1870 (Rosenberger 1974; Smith 1998; Price 1973:183). Likewise the migration of African Americans out of the South did not end with Emancipation. While the South was recovering from the war, the North's industrial centers were well-established and only poised to grow in the late 19th century, fostering the Great Migration of African Americans from the rural South to the industrial North. This caused major changes in the makeup of northern African-American communities and only exacerbated existing class tensions (DuBois 1969:2).

The aims of the leadership of southeastern Pennsylvania's black community were shifting, as well. "Black leaders…adjusted their tactics and goals to the realities of their city [Philadelphia] as it moved into the Civil War era. They gave up physical competition for the city space and retreated to the safety of their own neighborhoods, with its supportive institutions and services…. Most…continued their 'separate churches' and lodges to cultivate and promote leaders and their pursuits of respectability and acceptability" (Lapsansky 1997:116-117). Moreover, by the turn of the 20th century, AME churches were struggling between accepting more congregants and maintaining distance between their established communities and recent migrants from the South (Gregg 1993:65). Changes introduced by the Great Migration, other waves of immigration, and transformations in rural labor were instrumental in the dissolution of

many of the rural African American settlements, a number of which were long gone by the first few decades of the 20th century.

CHAPTER THREE

ARCHAEOLOGICAL BACKGROUND

3.1 The Underground Railroad within African Diaspora Studies

The African Diaspora has been a mainstay of research in historical archaeology for the past several decades. The subject matter of related studies have been changing as the field seeks the best methods and theories to illuminate historical processes, groups of people, and individuals while simultaneously attempting to avoid essentialism and to divest of racist notions and tendencies that have permeated Western culture in various forms (Singleton 1999; Mrozowski, Delle, and Paynter 2000; Mullins 2008; Orser 1998; Shackel 2010). An original focus of African Diaspora archaeology has been on the lives of enslaved people. This has traditionally included investigations associated with plantations, where designated spaces were used primarily by them and are therefore more readily interpreted through a Diasporic lens (Ferguson 1992). In recent years, however, attention has also been paid to places where African Americans were in even more control of their physical surroundings, such as in maroon and other kinds of free communities (Deetz 1996:187-211; Schuyler 1980a; Geismar 1982, 1992; Parrington et al. 1989; Deagan and MacMahon 1995; Crist et al. 1997; LaRoche 2004, 2013; Govenar and Collins 2000; Milne 2002; Barton 2009, 2014a, 2014b; Perry et al. 2009; New Philadelphia Archaeological Project [2010]; Fennell 2010b; Descoteaux 2011; Shackel 2011; Weik 2012). The Underground Railroad has also received some attention, at times

knitted into these other topics. Mullins (2008:111) suggests that part of the allure and the difficulty of such diaspora studies is due to the "especially radical displacement" of African Americans by enslavement as well as its complications which extend "into contemporary social life and dominant scholarly representations." Whereas other "[s]tudies of cultural transformation have long been a staple of archaeological scholarship," African Diaspora studies pose particularly knotty questions and conclusions that do not fit neatly into other models of cultural change (Mullins 2008:111-112).

Some authors have used sites of these various kinds and vintages to attempt to isolate the beliefs and practices that could partially indicate, or even constitute, a racial or ethnic identity. Questions surrounding how to address identity through material culture are fairly common throughout historical archaeology. Although many earlier studies sought out "Africanisms" in African American sites, more recent studies have typically foregone using these things as sole markers of identity. The researchers of the African Burial Ground examined this in detail and argued for the existence of multivalent meanings of artifacts in African American contexts. These meanings would be difficult to determine purely through traditional archaeological research, which often favors common and Eurocentric interpretations of artifacts rather than unique or culturally-situated ones (Perry and Paynter 1999; Perry, Howson, and Bianco 2009). It is also problematic to attribute material traces to ethnic traits rather than to other causes such as poverty (Parrington et al. 1989:112; Orser 1998). Weik (2012) and Mullins (2008) suggest that it is, in fact, the haphazard nature of material culture assemblages in the sites of escapees from slavery that hints at a particular kind of collective diasporic identity.

Particularly due to the changing theoretical nature of African Diaspora studies and the blossoming of the topic which has resulted in an increasing number of research avenues, several authors have attempted to reign in the discussions and provide overviews of the field as it stands (Orser 1998; Mullins 2008; Fennell 2010a; Leone et al. 2005; Weik 2012). African Diaspora archaeology has moved through several nebulously defined phases, including early descriptively-focused research, later vindicationist archaeology that overtly problematizes race relations through archaeology (Mullins 2008), and current community-focused projects. The lines between these categories are rarely firm, and one project can involve aspects of all three. Although these represent several movements within archaeology, they should not be considered to be entirely separate or finished.

Mullins (2008:116) discusses the ways that archaeology has begun to broach complicated and entrenched race relations, both inside and outside of archaeology. He writes that "[p]opular discourses on African America have often reflected simultaneous white fascination with and apprehension of blackness, and it is unreasonable to suggest that historical archaeologists can maneuver around this heritage." This is an especially critical point to consider when examining the ways that archaeological studies of the African Diaspora are designed and conducted, and the ways that the results are disseminated. As part of larger groundswells within archaeology, but due in large part to the African Burial Ground project, the archaeology of African America has been moving towards more engagement with communities and descendents who are being increasingly recognized as stakeholders in the rediscovery and presentation of their history (Blakey 1998; Mack and Blakey 2004; Mullins 2008; Leone et al. 2005; Perry, Howson, and

Bianco 2009). Taking these movements into consideration, it is possible to see in a positive light the complicated nature of scholarly studies of the African Diaspora through archaeology, in that they may be self-reflexive and thorough enough to begin to untangle the nature of diasporan identity. Mullins (2008:117) makes the case that "[d]iasporan archaeology seems well positioned to weave an exceptionally complicated narrative of life along the color line that challenges racialized presumptions and fleshes out the genuine roots of diasporan heritage, even as it examines the complicated transfigurations of that heritage."

One aspect of diasporic history that has drawn some archaeological attention is the Underground Railroad. Although only a relatively small percentage of the enslaved population was able to escape in this way, it is a clear case of agency and resistance to the institution of slavery on the part of African Americans. Furthermore, due to its clandestine nature, comparatively little was written about it as it occurred, creating the potential for archaeology to substantially add to the knowledge base about life on and after the Underground Railroad (LaRoche 2004; Leone et al. 2005; Delle 2008). Delle and colleagues (Delle 2008; Delle and Shellenhamer 2008) have excavated several archaeological sites in order to investigate their possible connections to the Underground Railroad and how the movement is maintained in public memory. Delle (2008:64) writes that "it may be best to consider it [the Underground Railroad] as a manifestation of collective memory preserved in written records, oral histories, and archaeological remains." Historical archaeology is interdisciplinary by nature, but this is particularly true in Underground Railroad studies, where it is more difficult to reduce sites into their component parts such as artifact assemblages, written records, landscapes, or oral history.

These things must be used in concert to achieve an understanding of the movement and the people involved. In fact, LaRoche (2004:130) utilizes this understanding as a basic framework undergirding her Underground Railroad studies. A strong public attraction to the Underground Railroad is related to several themes that pervade the discussion of it, including cooperation across race, class, and religious lines. Delle (2008:86) writes that "the Underground Railroad has been recalled in the attempt to heal the wounds of racism and racial divide…. Social myths of the Underground Railroad are thus part of the process by which members of local communities create a sense of heritage of which they can be proud—whether that sense of heritage is based on accurate information or not." The truth of certain aspects of these accounts can sometimes be verified by archaeology.

To date, however, the Underground Railroad has not been widely or long researched in archaeology. In his 2008 article "A Tale of Two Tunnels," James Delle begins with a common Underground Railroad myth that tunnels were built to move fugitives between safe houses and routes. So powerful is this myth that, although Delle finds no evidence of a tunnel on the Parvin homestead in Berks County,[5] Pennsylvania, local stakeholders and news media report the in-progress work as though the archaeologists had concluded the tunnel's existence and manage to prevent a construction project. Delle and colleagues did, however, find possible material evidence of hidden fugitives in a cold cellar, but it was difficult to say so conclusively (Delle 2008; Delle and Shellenhamer 2008). He contrasts this with excavations at the Thaddeus Stevens and Lydia Hamilton Smith site, the homestead of prominent abolitionists, in Lancaster

[5] Berks County is two counties west of Bucks in southeastern Pennsylvania.

County, south-central Pennsylvania. Excavations at this site revealed a heretofore unknown cistern connected to the basement via a now-sealed tunnel, which appeared to be linked to the Underground Railroad (Delle 2008; Delle and Levine 2004). Delle and Shellenhamer (2008:58) conclude that in terms of archaeological assemblages at Underground Railroad sites, it is primarily the "nondescript and mundane objects" that may have the most to tell. These mundane sites may be contained within individual home sites or larger communities. To date, the most extensive survey of archaeological sites with ties to the Underground Railroad was conduced by LaRoche in her 2004 dissertation "On the Edge of Freedom: Free Black Communities, Archaeology, and the Underground Railroad," which I discuss in more detail in the next section.[6]

3.2 The Archaeology of Communities

For a long time in archaeology, the term "community" was defined more as a specific site than as the more intangible groupings of families and individuals (Yaeger and Canuto 2000:3). The definition of community has been broadening in archaeology since that time, but attempting to study communities is still a relatively new development. Although most of the studies I discuss toe the line between these definitions, since archaeology is still focused on individual sites or groupings thereof, the lessons from attempting to understand community life remain relevant for this study.

Some of the aspects of community studies that directly concern African American history are the interplay among written, oral, and material sources, as well as the

[6] This dissertation has since been published by the University of Illinois Press (LaRoche 2013).

construction of community identity, both from within and without. In a study of poor white communities in Appalachia in which small, physically disconnected settlements were tightly bound by kinship, Horning (2000:255) found that the oral record was usually borne out by the material rather than the archival. The identities of these communities "have at times been imposed from without but incorporated from within, and have alternately been constructed and deconstructed in the past and in the present" (Horning 2000:225). She allows for the mutability and continual construction of identity. An archaeological difficulty of finding these identities in the present, however, is discussed by Fawcett and Lewelling (2000) who studied Native American homesteaders in Utah whose archaeological record has been destroyed and whose written and oral records have been ignored. These authors write "that the differential preservation of the archaeological and historical records not only reflects but also fuels race and class struggles over political and economic power. . . . An integral part of these struggles is the way in which the past is viewed and constructed" (Fawcett and Lewelling 2000:41) The effects of these losses and reconstructions of the past have made the study of predominantly African American communities generally more difficult than their white counterparts, both rural and urban.

In their introduction to an anthology of essays about archaeological community studies, Yaeger and Canuto (2000:7) caution that "although a community is an important focus for interaction, it does not exclude other types of social groupings, and we should not expect the community to represent a person's sole—or even primary—identity." That said, in terms of communities where there is far more evidence of a community's responses than individuals', a generalized community identity is what begins to emerge.

It is critical, however, to remember that they are only generalizations. Yaegar and Canuto (2000:12) recommend taking an even more anthropological approach and "assess[ing a] community's relationship to the material world and archaeological methodology only after defining it as an emergent and socially-constituted institution." The histories of free African American communities are the history of extremely "emergent" communities. Although some were, at least initially, constituted by people who had been free for generations, most were also made up of those who had only recently attained freedom and were among the first who were navigating and guiding what free African America would become.

A number of small predominantly African American towns dating to the first half of the 19th century have been archaeologically investigated, including the Parting Ways site in Massachusetts (Deetz 1996); New Philadelphia, Illinois, (Fennell 2010b; Shackel 2010; New Philadelphia Archaeological Project [2010]); several others throughout Illinois, Indiana, and Ohio (LaRoche 2004); Timbuctoo and Skunk Hollow in New Jersey (Barton 2009; Barton 2014a, 2014b; Geismar 1982); and Appalachian Virginia (Barnes 2011). Urban equivalents have been the African American communities of Five Points in New York City (Milne 2002) and the African Meeting House in Boston (Landon 2007; Descoteaux 2011). If one is to include African American cemeteries alone, the list expands greatly, although two of the most relevant to this thesis were found at the First African Baptist Church in Philadelphia and the African Burial Ground in New York City (Parrington et al. 1989; Perry, Howson, and Bianco 2009). African American cemeteries are addressed in detail in section 3.3.

LaRoche (2004) highlights five rural free African American communities in the

Midwest that were also known to be places that provided aid to those escaping on the Underground Railroad. Most of the settlements she studied rallied around an independent black church, primarily African Methodist Episcopal (AME) churches. These settlements included sites in Illinois (New Philadelphia, Rocky Fork, and Miller Grove), Indiana (Lick Creek), and Ohio (Poke Patch). Looking at a broad scale from landscape to the "quiet persons" of history (LaRoche 2004:24), LaRoche (2004:128-130) identified nine unifying factors generally found among these geographically disparate settlements:

> 1. A free black church, usually AME or Baptist, was the central institution, often doubling as the community school.…[These churches were often found on the edges of the settlements rather than in the center.]
> 2. The rural dispersed settlements were arranged so that families resided on their own individual holdings….
> 3. Strong family connections and intermarriages of families….
> 4. There is generally a community/family cemetery….
> 5. Suspected or confirmed Underground Railroad activities, with routes, safe houses, lookout points, caves, or landscape features thought to have been used by runaways. Legal proceedings, runaway slave notices identifying the area as a site of detention, capture or suspected destination.
> 6. Sites are often in proximity to larger, better known white abolitionist centers[,]…. generally within a two to three mile radius….
> 7. Abundance of natural resources…particularly at cemeteries.
> 8. Inferior land relative to the surroundings….
> 9. Nearby geophysical formations such as caves, sinkholes, lookout points, precipices, caverns, or ravines offered natural shelter and refuge for runaways. Frequently, Underground Railroad sites were near or had access to waterways.

Further research is necessary to determine if this pattern is extant throughout mid-19th-century Northern free black settlements, but it does bear many parallels to what is known about the church community of Mount Gilead, which I cover in the following chapters.

Whereas the urban sites were often relatively well-integrated enclaves in the cities in which they are found, the rural sites are more often settlements totally separate from neighboring white communities. An exception to this is New Philadelphia, which had both black and white families. It helped the free black communities of northern cities that in the early 19th century, there was far more opportunity for advancement, leading to large and prosperous African American populations (Milne 2002:131; Crist et al. 1997; Lapsansky 1997; Reed 1994; Nash and Soderlund 1991; Smith 2012; Hershberg 1997). The Five Points community disintegrated by the middle of the 19th century (Milne 2002:140), whereas Philadelphian free black communities remained strong albeit beleaguered by increasing violence and discrimination as the century progressed (see section 2.1). Rural communities did not fare much better. Fennell (2010b) attributes the eventual demise of New Philadelphia in part to racist policies that caused the railroad to bypass the town. Other communities disappeared for various reasons, often remembered only in community and family oral histories.

3.3 African American Cemeteries

Cemeteries have remained a topic of archaeological interest for much of the field's history. Many historic period cemeteries have been researched, and some have been excavated as part of cultural resource management work, leading to a rich body of written material on cemeteries and memorialization, their spatiality, as well as demographic and pathological information about various populations. LeeDecker (2009:141) claims that "[m]ortuary behavior is currently one of the most important subjects in the field of historical archaeology." The reasons for this interest are relatively

simple to discern, in that grave markers and burial practices give a temporally-defined snapshot of religious, secular, and practical values in a way that few other archaeological remains do. LeeDecker (2009:149), echoing debates of Binford (1971), Saxe (1971), and others, cautions that there are many fallacies inherent in the idea that cemeteries are unadulterated views into the past and that few things, such as aspects of power, ideology, and inequality, are "*directly* expressed in mortuary ritual" (italics original). Cemeteries, therefore, like other sources, can be misleading if one attempts to read them uncritically. Although it is also tempting to view cemeteries as unchanging views on the past, Rainville (2008:2, 20) counters that "subsequent generations modify deathscapes to suit their needs," and this occurs both to the physical landscape and how it is used. McCarthy (2006:176) also cautions against the over-extension of archaeological interpretations of individual graves, writing that, "[i]t is often the case that we only know that the deceased was a member of a particular congregation or community." Compounding this deficiency of information, upon a preliminary observation, very little may set apart a given African American cemetery from its white counterparts—outside of such telltale signs of African American presence as graves by membership in such racially-proscribed groups as US Colored Troops (La Roche 2004:165; Orr 2012; Barton 2014a:27) or, in the case of Mount Gilead, the Negro Leagues. Baugher and Veit (2014:175-176) note that, although earlier African American cemeteries may have been more discreet, "African American burial grounds became much more visible after the Civil War," including more formalized markers, including those commemorating military service. Rainville (2008:20) describes similarities among several African American cemeteries in Amherst County, Virginia, which are not dissimilar from European American cemeteries of the

same period. This is somewhat in contrast to Little's (1989:132) claim, based on research in North Carolina, that "the primary distinction between markers for whites and blacks is that those for whites are bound more tightly by popular aesthetic norms than those for blacks."

Another common difficulty in cemetery studies is that only rarely is the cemetery data itself, such as the data found on the stones, adequately connected to highly accurate spatial data (Liebens 2003). Even cursory research into many historic cemeteries often reveals detailed lists of data disconnected to spatial information or roughly spatial plot plans that contain the bare minimum of information. Even so, many detailed studies have been conducted from one aspect of cemeteries or another. Foster and Eckert (2003) harness the diachronic potential of gravestones and burial records in their study of African American cemeteries in rural Cole County, Illinois. They argue that the quality of burial records or lack thereof may or may not be related to race (Foster and Eckert 2003:470), and that "[c]emetery populations can be considered inchoate samples of still larger deceased populations" (472).

Attention has also been paid to the general changes occurring in mortuary practice in the late 18th and 19th centuries, often "linked to the advent of an industrialized way of life" (Bell 1990:58). At this time, burial grounds became more formal and organized. The rural cemetery movement established landscaped parkland as the ideal for burials, although most actual rural cemeteries remained small and traditional. Likewise, the building of coffins for those in wealthier and also more urban areas became a dedicated trade, rather than one of the many projects of a local carpenter (Bell 1990; Farrell 1980; LeeDecker 2009:143). Bell (1990:69) notes that "[b]ecause grave markers are on display

to a community far longer than coffins, the symbolic representation of differential status is more permanently communicated through grave markers than through extravagant burial containers." In some ways as recognition of this, death became far more sentimentalized and romanticized than previously, which "encourag[ed] prolonged periods of mourning, elaborate funerary practices, and conspicuous memorials to the dead" (LeeDecker 2009:145), in all often called the Beautification of Death movement. Cemeteries in rural areas may have been slower to adopt these things, but they were not immune to the changes.

Many who have researched African American cemeteries have been at least partly concerned about the ways that these cemeteries differ from their white counterparts.[7] These studies are often conducted primarily from grave markers and historical records. Although he found no aboveground decorations of graves, as many have noted in African American cemeteries (Ingersoll 1892; Jordan 1982; Vlach 1990:139-143; Geismar 1992:13; Stuckey 2000; Perry and Woodruff 2009; Baugher and Veit 2014:169-171), Garman (1994) did note drastic racially-based differences in the commemoration and location of graves in an 18th- and 19th-century cemetery in Newport, Rhode Island. The African American grave markers were generally smaller, although they became more homogenous as industrialization took hold, and were sequestered in a separate part of the cemetery (Garman 1994:87-88). Geismar (1992:144) found evolving uses of the same burial ground in Bergen County, New Jersey, wherein the cemetery served as a family

[7] Due to the focus of this thesis on a free African American cemetery, the research discussed will focus more on the cemeteries of free people rather than enslaved, although there is not always a clear distinction between the two groups and some cemeteries buried people who held either status.

cemetery for African Americans (just over three quarters of the burials) and, several decades after its establishment, served as a burial place "akin to a potters field" for European Americans. Partly due to the fact that the cemetery was in use from 1860 onward, Geismar (1992) was able to find and analyze extremely detailed records about the people buried there, including their occupations, causes of death, kin relations in nearby cemeteries, and even coffin prices.[8]

The types of markers found in African American cemeteries vary widely and include locally made and industrial stones (Garman 1994), wooden markers and fieldstones (Jordan 1982; Little 1989; McCarthy 2006; Rainville 2008, 2009; Veit and Nonestied 2008:20-21, 171; Baugher and Veit 2014), and even, starting in the late 19th century, homespun concrete markers (Veit and Nonestied 2008:214). Fieldstones are particularly common in African American cemeteries (Rainville 2009; Baugher and Veit 2014:115, 169). Jordan (1982:43) notes that fieldstones were an "early, traditional Southern grave marker" and describes the reasons these were used and how she suspects they were selected: "Completely unworked and often bearing no inscription, these rude stones offer greater permanence and durability than do wooden markers. Wherever stone outcrops or is available beneath a shallow soil,… fieldstones appear frequently as grave markers. Many were obtained in the process of digging the very graves they commemorate." These fieldstones sometimes had rough memorial carvings, usually consisting only of initials (Jordan 1982:44). Geismar (1992:146) found that even the

[8] Unfortunately, such detailed burial records do not appear to exist for Mount Gilead. Further research would be required to determine if community members used funeral homes whose records may provide such insights.

formal carved stones were occasionally reused for other graves without altering the inscriptions. Most studies of African American markers have paid close attention to iconography and text (Krüger-Kahloula 1989; Little 1989; Garman 1994: Malloy and Malloy 1994; Rotundo 1997; Ashcraft 2004), although there is little of either at Mount Gilead. Very few of the carved stones have more than the name, birth and/or death dates of the deceased, and often a kin reference such as "daughter" or "father."

Other kinds of grave decoration, both on the surface of the ground and within the shaft and burial itself, have been noted in African American cemeteries, often with white objects such as shells, dishware, and other everyday items.[9] Many of the artifacts are broken. Some researchers link this back to African traditions, although the true extent of this practice has been masked by later well-intentioned "clean-ups" in many African American cemeteries (Vlach 1990:139-143; Ingersoll 1892; Govenar and Collins 2000:17-23; Perry and Woodruff 2009; Connor 1989:54-55; Nichols 1989:10; Jamieson 1995:50-51; Jordan 1982:21). The exact connections of these practices to African ones have been tentative at best. Unfortunately, there is little historical archaeology being done in Africa. Moreover, there is a division between African studies and African-American studies as well as between those fields and African Diaspora archaeology (Posnansky 1999:34-36; Jamieson 1995). Although it is tempting to connect all African American mortuary practices to African predecessors, both Garman (1994) and Jamieson (1995) urge that such connections be made only in strictly vetted and deeply nuanced manners.

[9] Jeane (1992) notes that the practice of decorating graves with objects such as shells are also common to vernacular frontier cemeteries in the southern highlands. She claims that similar practices between the Euroamerican and African American populations in the south may be convergent and serve different purposes.

Two 18th- and 19th-century African American cemeteries that have been studied in great depth are the First African Baptist Church in Philadelphia and New York City's African Burial Ground. Both were rediscovered during construction projects and were excavated as part of cultural resource management studies. These two cemeteries represent detailed examinations of mortuary practices and socioeconomic conditions of African American populations in cities that had large black populations at that time.

The African Burial Ground in New York City was used as a cemetery between the 1690s and 1790s, and was forgotten at some point until its rediscovery in 1994 (Howson, Bianco and Barto 2009:52; Perry, Howson, and Bianco 2009). Archaeologists found 419 sets of remains representing a wide swath of the (mostly enslaved) African American population of New York City at that point in time (Perry, Howson, and Bianco 2009; Blakey and Rankin-Hill 2009). Separating the graves into groups based on when they were interred, the late group, 1775 to the close of the cemetery, is likely most relevant for this study. They found the graves here were more orderly, in roughly north-south rows, than in the other sections of the cemetery, potentially reflecting many influences including landscape features, professionalization of cemetery management, or other pragmatic reasons (Perry, Howson, and Holl 2009:206). Upon the closing of the African Burial Ground, local black churches, some already extant in the city by 1795, assumed the roles of properly burying the dead (Perry, Howson, and Bianco 2009:373-374; Perry, Howson, and Holl 2009:192). While the African Burial Ground is an important historical site, it was a watershed in public engagement due to the extensive involvement of the descendent community, whose input, needs, and wishes were critical to how the project

proceeded and is commemorated today (Mack and Blakey 2004; Perry, Howson, and Bianco 2009).

Excavated in the 1980s, before the African Burial Ground was unearthed, the First African Baptist Church cemetery in Philadelphia represented approximately 140 burials interred between about 1822 and 1843 in two related cemeteries (Parrington et al. 1989; Rankin-Hill 1997:5). The cemeteries had been closed in 1841 due to overcrowding, visible archaeologically in the way that people were stacked in individual graves. Osteological studies of the remains revealed high infant mortality, nutritional deficits, and evidence of hard labor and violence, although it is impossible to tell which of these effects may have been due to prior enslavement. They also showed a decline in health in the later cemetery as the socioeconomic conditions deteriorated for them in the 1830s and 1840s (Crist et al. 1997:44; Rankin-Hill 1997:44). Writing in 1997, several years after the discovery of the African Burial Ground, Crist and colleagues (1997:45) argued that that bioarchaeological studies of African American cemeteries such as this one have

> led to better documentation of the devitalizing consequences of racism on the demography of its victims. Of equal importance, the analysis of African-American cemeteries illustrates the strength and cohesion of the early African-American community in the antebellum United States and the central role that religious institutions played in the struggle to overcome the barriers and effects of slavery.

3.4 Ground-Penetrating Radar in Cemeteries

Ground-penetrating radar (GPR) is a shallow geophysical method that has been utilized for archaeological research in order to find buried features such as structures,

geological features, middens, and human burials. In order to do so, GPR transmits electromagnetic waves into the ground at a given frequency. These propagate through the soil until they encounter an interface with different electromagnetic properties, such as rock, geological layers, or large or concentrated artifacts, such as in middens. At the interfaces where these materials meet, some of the radar waves are reflected back to the receiving antenna, which produces a visual read-out of the waves that have been reflected back to the unit. The amplitudes of reflections depend heavily on the contrast between one stratum and what is directly above or below it. Areas with little difference in the soil matrix produce very few reflections (Conyers 2004:149). "Localized" areas with high amplitude reflections are referred to as "point source" reflections (Witten 2006:134). Determining whether the signals that have returned to the GPR are caused by human-made or naturally occurring interfaces can sometimes be a difficult task, and is dependent on the local soils as well as what kinds and shapes of features may be buried and at what angle they are buried relative to the GPR antenna's path.

GPR is becoming an increasingly common method in cemetery research as researchers realize its potential as a relatively fast and non-invasive method for determining the locations and sizes of underground features (Dionne et al. 2010:28). This is of particular importance in cemetery research, where a variety of ethical, legal, and practical concerns typically prevent excavation. This does not mean, however, that human burials are perfectly suited to detection by GPR. As Conyers (2013:131) writes,

> the use of GPR for grave detection and mapping is often challenging, as ground conditions can make burials quite variable for a variety of reasons. Graves tend to be small 'targets' for geophysics, and if there has been weathering

> and decomposition of remains and burial goods [including coffins] over time, they can be especially hard to identify.

Doolittle and Bellantoni (2010:942) are even more blunt: "The detection of burials is never guaranteed with GPR." There are several factors that account for this, not least of all the fact that bones and historic coffin materials are, with few exceptions, organic and prone to decay. As they decay, their physical properties begin to resemble the soil in which they are buried, thereby rendering an already somewhat tentative conclusion even more so. In the cemetery of the First African Baptist Church and at the African Burial Ground, the majority of burials were in coffins, with the researchers at the African Burial Ground suggesting that the only coffin-less burials were those of "transients" (Parrington et al. 1989:139-151; Perry, Howson, and Holl 2009:204). The First African Baptist Cemetery also contained some gable-lidded coffins (Parrington et al. 1989:139-151). If these exist at Mount Gilead and are intact, there is a possibility that gabled lids could make those graves more difficult to locate on GPR by scattering the radar waves away from the receiving antenna.

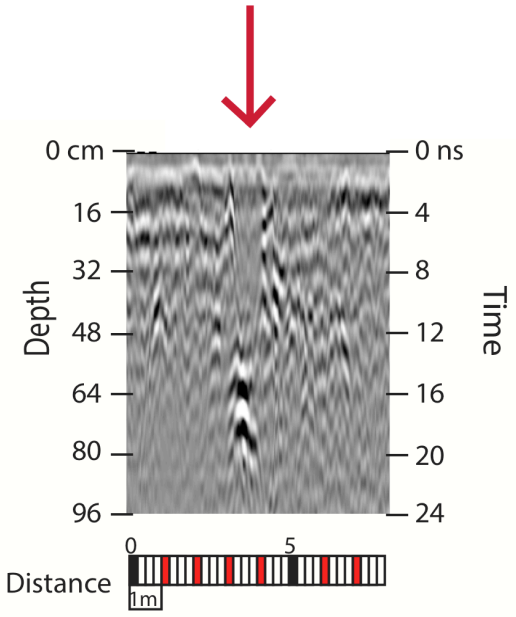
Regardless of these complications, some archaeological studies have had great success in the use of GPR to detect human burials (for example Bevan [1991], King et al. [1993], Damiata et al. [2013], Steinberg et al. [2011], and DeVore [2008]). DeVore (2008) used it to locate the unmarked graves of seventeen fugitive slaves in the North Liberty Cemetery in Iowa. In proper soil and survey conditions, it has even proven possible to detect the bones themselves (Damiata et al. 2013). In general, however, the contrast between human remains, burial containers, and the surrounding soil matrix decreases through time as they decompose and become more like the surrounding soils

(Doolittle and Bellantoni 2010:944-945). In a cemetery in Connecticut, Doolittle and Bellantoni (2010:943) found that "untreated, wooden coffins (pine) decompose fairly rapidly[…] and, because of soil pressures, will collapse within a decade." As Nawrocki (1995:54) notes, even intact coffins themselves can negatively affect preservation, by providing an air-filled environment that encourages various processes of decay, although air spaces themselves can be very visible on GPR results (Bevan 1991; Damiata 2013; Conyers 2013:129-151; Hammon et al. 2000). Nor is it simply the age of the burials that affects how well GPR is able to locate them, as reliable results have been found in both a modern German cemetery and in a Viking age site in Iceland (Fiedler et al. 2009; Damiata et al. 2013). It is important to note that there seem to be few historic period burial studies in which the GPR results were directly tested by excavation (Damiata et al. 2013; King et al. 1993). Given the considerable constraints on burial excavations in the United States, this is unlikely to change very quickly, although some forensic applications have met with success (Fiedler et al. 2009; Doolittle and Bellantoni 2010:948).

The materials and typical features of graves can give indications of their locations more than searching for simple point-source reflections (as discussed in Chapter 5). Grave size and depth, as well as the distinctive stratigraphic disturbances caused by grave digging, are important features to take into consideration when searching for graves. Historic graves can vary widely in depth, and although 6 feet (approximately 2 meters) is the stereotypical depth, that is the depth of the whole shaft and does not include the height of a coffin, making a grave appear shallower on GPR than one might expect. Historic graves can also be as shallow as 2 feet (60cm) (King et al. 1993; Bevan

1991:1310). Metal also yields a distinctive signature on GPR profiles, but in 1993, King and colleagues (1993:6) noted that "coffin nails, handles, or hinges are usually too small to be detected," but "a coffin with a metal frame or lining," could produce a strong reflection. The technology has improved in the past twenty years, however it is still unlikely that such small metal fragments would remain intact enough to appear in the GPR readings. In the 19th century, it became more common to use metal coffins as well as metal coffin adornments such as name plates or glass viewing panes. These would be more likely to appear due to their size and position presumably parallel with the ground surface.

Figure 3.1 – An example of a grave shaft visible on a radargram profile from Mount Gilead. This backhoe-dug shaft is visible on the radargram because of a break in the stratigraphy (indicated here by a red arrow). Strong hyperbolic reflections at the bottom of the shaft indicate a known, recent stacked burial. (The lower coffin likely dates to the 1960s; the upper coffin to 2012.)



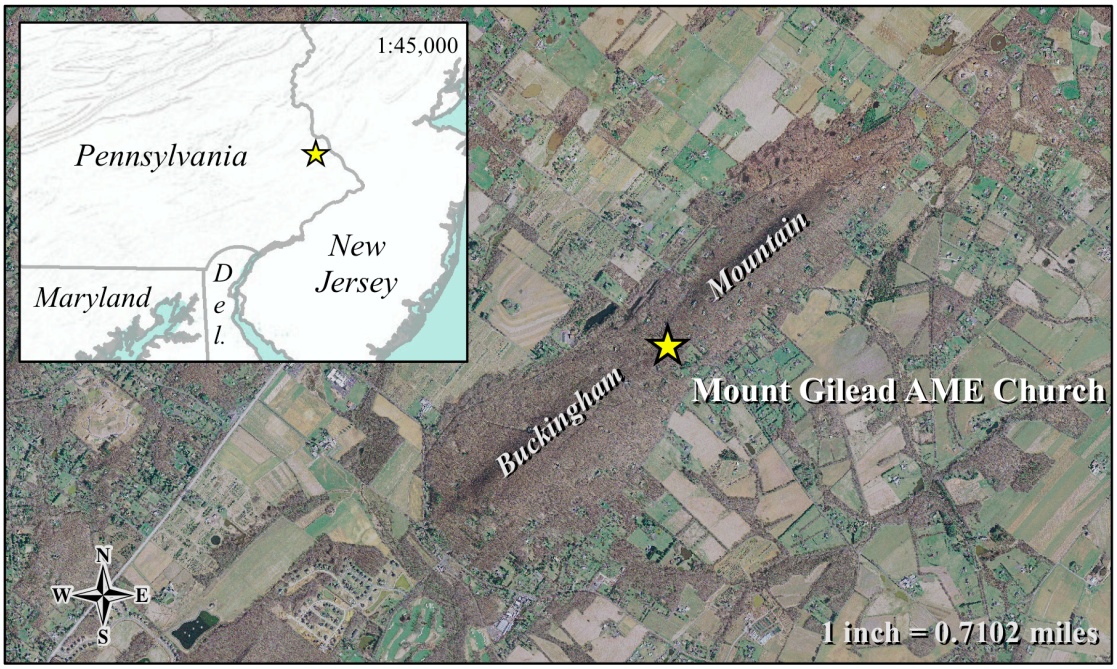
CHAPTER FOUR
THE HISTORY OF MOUNT GILEAD AME CHURCH

4.1 The Geography and Geology of Buckingham Mountain

Mount Gilead AME Church is situated just at the ridgeline of Buckingham Mountain in Buckingham Township, Bucks County, Pennsylvania. Although the mountain itself is only about 200 feet higher than its surroundings, its wooded form is in stark contrast to the surrounding landscape of rolling fields. The mountain itself is said to have served as wood lots for Quaker farmers (McNealey 2001:193). Although Quakers had settled in the area in late 17th century, the last recorded settlement of Lenni Lenape people on Buckingham Mountain was described as leaving the mountain in 1775 (Watson qtd. in Battle 1887:515). Oral traditions are also quick to mention the presence of caves spread out across the mountain as points of refuge for fugitive slaves. The church today is located on the only road that crosses the mountain from north to south, and this road was paved within living memory. Many small villages dotted the countryside surrounding Buckingham Mountain including Aquetong, Holicong, Bycot Station, Glendale and Forest Grove, among others. In recent decades, there has been extensive development of former farmland in the area.

Nowhere on Buckingham Mountain itself is classified by the National Cooperative Soil Survey as "prime farmland." In fact, it is all classified as various soils that are termed "not prime farmland." Virtually all of the soils directly north and south of

Figure 4.1 – Location of Mount Gilead AME Church



the mountain are classified as "prime farmland," with some, particularly south of the mountain, termed "farmland of statewide importance." A few isolated areas away from the mountain itself are also classified as not prime farmland and a few others are indicated as present or former quarries (presumably for limestone). The soil is of a type considered “extremely stony” and is ill-suited for agriculture both for this reason and its steep grade (Natural Resources Conservation Service 2008).

Other researchers have found free African American settlements in marginal landscapes across the north (Geismar 1982; LaRoche 2004). Geismar’s (1982:12, 13) study of the free African American settlement of Skunk Hollow in northern New Jersey describes the land as relatively depleted woodlots, sold to black families as homestead sites. Among the many parallels this site maintains to the Mount Gilead community, including geographic isolation, the documentary record is scarce—even on maps that

should show the community at its peak size and influence. Both Skunk Hollow and Mount Gilead are nicknamed "The Mountain" in various sources (Geismar 1982:12; Payne 1891:33), and this inaccessibility may have served multiple purposes. Rainville (2008:4) suggests the religious symbolism of high places in the case of plantation slave cemeteries, wherein prominent landscape features could reference either Jerusalem ("the holy hill" [Rainville 2008:4 citing the Biblical Book of Daniel 9:16]) or as a general Old Testament trope of hills as places of "sermons and revelations."[10] LaRoche (2004) claims that settlement in locations such as this was often due to inequality. According to her research, African American settlements

> were situated on inferior land because of racial policies that either relegated them to the least desirable spaces, when any space was available, or restricted access to economic resources hampered their ability to purchase quality land. At times, they were late-comers who preferred to settle on inferior land in less hostile regions rather than on quality land in dangerous or hostile areas. (La Roche 2004:129)

4.2 Origins and Chronology of Mount Gilead AME Church

One of the early black historians of the Underground Railroad includes an anecdote by a woman who attended AME services that "held meetings alternately at people's houses" before the construction of their church (Still 1872:573). The early Mount Gilead community could easily have functioned in a similar manner. The first church building is said to have been built in the 1830s, but Daniel and Phillis Yeomans deeded the land for the church in 1843 (Bucks County Office of Recorder of Deeds 1843;

[10] Rainville (2008:5) also suggests the practicality of locating cemeteries above the water table, but that aspect seems somewhat less related when there is an associated church.

Davis 1905: Chapter XVII; Reinhardt 2003; Reinhardt 2012). Daniel later appears in the US Census as a minister (United States Census Bureau 1860; Marshall 1994:54). His father is also said to have been a well-respected minister (Marshall 1994:54). Daniel and Phillis had a reputation of being very generous in providing food and lodging (Marshall 1994:54), and it would seem to follow that he could have held meetings on his property before the erection of the church itself. The earliest reference to Mount Gilead as a congregation appears to be in 1822, when it is referenced simply by location as "Mountain" (Payne 1891:33). Taking into consideration that wherever this mountain church appears in Payne's AME history, it is next to "Newhope" (the town of New Hope or, specifically, Mount Moriah AME Church) suggests that they were geographically close. Within that region of Bucks County, there are few landforms given the title of "mountain."[11] In fact, as late as the publishing of Payne's *History of the African Methodist Episcopal Church* in 1891, Mount Gilead (and many other churches) were being referred to by location rather than formal title (Payne 1891:142). If one assumes that this mountain church is the congregation that eventually became Mount Gilead AME Church—since, as LaRoche (2004:153) also notes, "[a]n active congregation must precede the building of any church"—then the congregation was in existence by at least

[11] A similarly undescriptively named "Valley" church appears in both of these records as well, and could potentially refer to a now-defunct congregation which was in Buckingham Valley, which surrounds the mountain of the same name. This church, however, does not appear as consistently listed as Mountain and New Hope and, although it is part of the Bristol Circuit, is listed in 1824 between Reading and "Westown" (presumably Westtown), which are each roughly fifty miles from Buckingham in different directions. This does not necessarily preclude the possibility that there was a Buckingham Valley church which merged with the mountain church, but there is also no evidence given of that here (Payne 1891:44).

1822 with a membership of fifteen people (Payne 1891:33). In 1824, however, its congregation numbered only 10 (Payne 1891:44). These numbers suggest that it may have been a few families. Congregation estimates are hard to come by after that point, although written histories place the building of the first Mount Gilead AME Church out of logs between 1834 and 1836 (Davis 1905: Chapter XVII; Reinhardt 2003; Reinhardt 2012). In August 1888, the church celebrated the fiftieth anniversary of Mount Gilead (*Doylestown Intelligencer* 1888). It is unclear if this refers simply to the fiftieth anniversary of the formalization of the church community.

The church itself formally gained ownership of the small (11.5 perches, or approximately 291 sq. meters) property in 1843 (Bucks County Office of Recorder of Deeds 1843; Auerbach et al. 2004). This section of property contains the present-day church and a small area around it, although the property has grown substantially since that time through later land transfers. The Church acquired the land for the cemetery in two parcels—one dating to 1860 (which includes the right-of-way from the road to the church itself) and another dating to 1909 (Bucks County Office of Recorder of Deeds 1860, 1909). Late in the 20th century, the church was given another small parcel in order to install a gravel parking lot.

The 1843 deed outlines some of the church's bylaws and was given to three trustees of the church, John Anderson, Thomas York, and Charles Yeomans. Charles, likely Daniel's son, appears in the 1850 US Census as a lime burner and in 1860 as a laborer. In 1871, he or his son butchered several pigs for former Underground Railroad conductor Joseph Fell (Fell 1883; Siebert 1898:341). Thomas York was a laborer in 1850, although he did own real estate worth $500. His place of birth is listed as unknown,

and a newspaper article from 1874 claims that he had escaped from slavery but would never speak of where he had been enslaved (Marshall 1994:54). John Anderson, the only one of those who appear in the 1843 deed who is known to be buried in Mount Gilead's cemetery, worked as a farm laborer in Solebury for most years between 1853 and 1882. He occasionally borrowed money for travel into Philadelphia and several nearby towns that also had AME churches, although the farm account book is mute on the purposes of his travels (Williams 1912).

The timing of Mount Gilead's physical founding was not random, coming in the midst of a "period of heavy migration [of African Americans, both free and enslaved] out of the south" (LaRoche 2004:61). This also coincided with racial strife in Philadelphia's burgeoning and influential black community (see Chapter 2). Even more locally, the 1830s was also the time of the construction of the nearby Delaware Division of the Delaware-Lehigh Canal and also a strong cottage lime-burning industry (Battle 1887:514-539). After almost 20 years in existence, the church was rebuilt of stone in the same location in 1852, albeit slightly larger, and was dedicated November 20, 1853 (Reinhardt 2012:1; *Dolyestown Intelligencer* 1853). At least one beam from the original church is said to still be in use and is visible in the crawlspace of the church. Although historical sources are silent on the reasons behind this reconstruction, one local story suggests that the first building burned down due to a wildfire (Croce, pers. comm. 2012). Newspaper accounts do discuss several large brushfires on Buckingham Mountain in 1900, but this is too late for the burning of the church (*Doylestown Intelligencer [DI]* 1900a; *DI* 1900b; *DI* 1900c). Like many other 19th-century builders, the congregation likely would have realized the importance of "fire-proofing" the structure by using stone

rather than wood in its construction. This reconstruction could have also been for permanence and it may have reflected an expansion of the community.

Scattered references to Mount Gilead appear in newspapers throughout the 19th century. References to "camp meetings" and "bush meetings" as well as "Harvest Homes" appear in the newspapers in the 1850s and 1860s.[12] According to the newspaper, the church generally invited all interested parties, black and white. These events appear to have been fundraisers for the community, such as one in 1851 that was intended to help fund the rebuilding of the church (*Doylestown Intelligencer [DI]* 1851; *DI* 1857; *DI* 1858b; *DI* 1861; *DI* 1865a; *DI* 1865b; *DI* 1867). In 1863, one was held in the JK Trego's woods on Buckingham Mountain (*Doylestown Intelligencer* 1863). The Trego family was recorded by Siebert (1898:431) as Underground Railroad conductors.

Aside from providing security and solace to those already living in freedom, rural communities such as that of Mount Gilead were built into the network of the Underground Railroad. "Land ownership provided the ability to offer sanctuary for runaways" (LaRoche 2004:113). Between the private land deeded to Mount Gilead from one of its own to the other local property owned or rented by African Americans, there would have been ample opportunity for members of the congregation to aid those who were escaping enslavement. The rugged landscape of Buckingham Mountain, replete with caves and rocky outcroppings, would also have been ideal for the concealment of those on the run from kidnappers, and indeed this is the story passed on today. Although

[12] LaRoche (2004:152-153) identifies camp meetings on the frontier as "group gatherings . . . where people traveling from great distances congregated for several days in a given area and listened to an itinerant minister or preacher."

no specific stories have entered the historic record with regards to this practice at Mount Gilead, two thoroughly recorded incidents emphasize both the isolation of the mountain and the presence of those who had escaped slavery. In an 1858 account, which was sensationalized in local and international papers, a man was discovered (by several black men traversing the mountainside) to have lived in isolation in a cave formation called Wolf Rocks not far from Mount Gilead. Dubbed "The Hermit of Wolf Rocks," he had been apparently scorned by a lover and hid within sight of his own farmstead for decades (Paxon 1909). Although this could easily be dismissed as local lore, at the very least it conveys the relative isolation and aura of mystery surrounding Buckingham Mountain just before the Civil War. This also falls within the timeframe of many of Mount Gilead's large public events on the mountain.

The other, slightly less sensationalized and far more dire story has to do with the figure of Benjamin "Big Ben" Jones. Jones, known for his massive stature, was assaulted and kidnapped by his former master and bounty hunters while chopping wood in Solebury in 1844. He fought back, injuring and killing some of his attackers, but he himself was also gravely wounded. They overpowered him and took him back to a slave prison in Maryland, where beneficent Quaker abolitionists from Bucks County paid for his freedom. Jones's injuries prevented him from working and several decades after this dramatic incident, he died a resident of the Bucks County Almshouse in Doylestown (Harrold 2010:62-63; Blockson 1981:35-36; Davis 1905:Chap. XVII). Although some believe that he is buried in Mount Gilead's cemetery, there is no clear evidence of this

(Blockson 1975:13; Reinhardt 2012:3; Yerkes 1909:507).[13] It would be difficult to believe, however, that Jones would have had no contact with members of the church, particularly at the large gatherings that the church sponsored. Jones's somewhat bleak story serves to illustrate not only the presence of self-emancipated persons in the vicinity of Buckingham, but also the extreme dangers that the antebellum community there faced, as well as this community's complicated relationship with the white Quaker majority.

The Mount Gilead community as a whole was not immune to periodic outbreaks of violence. An original tenet of the AME Church was that these churches created a place where "any person, regardless of his color, could enjoy the worship of God with freedom from restriction or segregation, also so that they could guide their people the better, and aid the less fortunate" (Wright 1947:11), but this openness unfortunately may have also brought danger. A large number of whites were present at the Mount Gilead camp meeting that happened in August 1854. According to a newspaper account, "[f]our or five fights took place: some between whites and blacks, and one between a couple of whites" (*Doylestown Intelligencer* 1854). The article goes on to plead pacifism:

> The colored people assemble peaceably to worship, in their own way, at a place far out of the reach of any whites who do not purposely go among them. They extend no invitation to any but of their own color. They desire quiet and peace. The law says they shall be protected. And any interference with them is an outrage entirely unjustifiable, and worthy of severe punishment. (*Doylestown Intelligencer* 1854)

[13] Blockson (1975:13) also claims that Jones was the first minister of Mount Gilead, however the fact that he does not appear in any deed for the church suggests that this was not the case. It is possible that he may have preached there, but there is likewise no evidence for or tradition of this.

Although the newspaper article is somewhat mute as to whether the violence was racially motivated, it does mention a similar disturbance happening at a German camp meeting not long before that.

On the less public side of the church, there was a close-knit community that was the fabric of the congregation. LaRoche (2004:97) found this as consistent among rural black church communities, writing that there were "close relationships among community members, many of who owned land and adopted one another's children; widows married widowers; intergenerational households guaranteed care for aging family members, and church members buried their own on land owned by the church. Community members were executors and handled probate proceedings." Relationships such as these are visible even in the census records for those interred at Mount Gilead, which reveal multi-generational households, the adoption or caretaking of kin and/or the children of community members, and (rare but present) landownership, as evidenced by several of those mentioned in the first deed.[14] There is a mention in 1842 of a Mount Gilead-based temperance society (Payne 1891:142), although it is unknown how long-lived that organization was. Mount Gilead also held a Sunday school (*Doylestown Intelligencer* 1858a).

It is difficult to say when the community began to disperse from Mount Gilead, although it was apparent by the early decades of the 20th century. In her analysis of a similar free African American settlement at Rocky Fork, Illinois, LaRoche (2004:174) found that that community shrank from around one hundred individuals from twenty-five

[14] See Chapter 7 for detailed analysis of the US Census from 1830-1900. Although these specific qualitative aspects were not tracked, demographic information is discussed.

families to "only 7 remaining families in an area that was once supported by several hundred African American residents." Although population estimates for the Mount Gilead community at its height are difficult to assess, the oral tradition places one hundred families spread across the hillside (Reinhardt 2012:1). Even if there were more modest numbers more aligned with those at Rocky Fork, this settlement was not an insignificant portion of the local rural population.

By the early 20th century, the church community had already been disintegrating, likely as the community of farming families and laborers moved on to find work in larger towns and cities. Unlike its neighboring Mount Moriah AME Church, which was in ruins by the 1950s, Mount Gilead was able to remain standing despite the changes in its community. At least one other church community and other community organizations (such as scouting groups) used the church between the 1930s and the middle of the 20th century. From about the 1930s through 1955, "a white revivalist congregation known as [the] 'Wolf Rockers'" (after the Wolf Rocks formation) held services at the church (Auerbach et al. 2004; Reinhardt 2003:3; Reinhardt 2012:3). Community members recall that the church as well as ancillary structures built by the Wolf Rockers were used by local Boy Scouts for camping trips and Sunday services.

4.3 The Modern Church Community

The church as it currently stands is a small building, built into the hillside with a half-sized basement that opens out to the ground level. Approaching the church, the front door is more-or-less level with the ground, although the ground drops off precipitously

behind, creating a basement room with side access. A three-seat privy stands nearby, although there are discussions about turning it into modern facilities.

LaRoche (2004:21) notes that "[i]n many instances, similar settlements have faded from memory leaving only cemeteries to mark their former existence." So far, this has not been the case with Mount Gilead, even as it has with its sister church Mount Moriah. This is due in no small part to the people who still tend to the needs of the church building and grounds. Some of the congregation of Mount Gilead today resembles its founding membership, however it has also begun to attract people who lack religious affiliation with the AME Church but attend services and care for the church as a matter of personal and local heritage. A number of African American families who trace their history to Mount Gilead and some who have ancestors buried in the cemetery now attend other local churches, such as Second Baptist Church in nearby Doylestown and Macedonia Baptist Church in Newtown. William and Mildred Hopkins, the immediate predecessors to the current leadership, attended Forest Grove Presbyterian Church—although even a casual glance at the number of Hopkins markers in the cemetery suggests the depth of their roots at Mount Gilead. White families who have lived on the mountain for several generations also have strong ties to the church, attending services and burying family members in the cemetery. Others attend the services out of interest in the church's history or local African American history, in general. This side of history is often fairly invisible in an area that most often touts its Quaker colonial and Revolutionary-era history for recognition and tourism. Mount Gilead's church services, which typically happen five times a year, can attract upwards of one hundred people, and regularly occur

on the major Christian holidays of Christmas Eve and Easter as well as a Memorial Day service, another service in the early summer, and a "Giving Thanks" service in the fall.

The church recently received the attention of Bucks County Community College's historic preservation program, and the program completed Historic American Building Survey (HABS) drawings of the building in 2004 (Auerbach et al. 2004). The church also maintains its cemetery, which has been in use since at least 1861. A spate of vandalism the church and cemetery experienced in the late 20th century seems to have abated, likely due to a number of factors, including vigilant neighbors and increased police surveillance of the area. These developments have resulted in increasing awareness of the history of Mount Gilead and African American history in the area, more generally.

Figure 4.2 – Mount Gilead AME Church in April 2012, with shutters closed. The chain-link cemetery fence is visible in the far left.

CHAPTER FIVE
METHODOLOGY

5.1 General Methodology for Mount Gilead Study

No one source can yield enough information to reconstruct the life, experience, or conceptions of a community (LaRoche 2004:130); therefore, an interdisciplinary approach is necessary when approaching the community of Mount Gilead AME Church. Mount Gilead is situated on a hilltop, secluded from the farms in the valley surrounding it and with several specific local stories that portray its location of Buckingham Mountain as secluded and secretive (see section 4.2). Although the 1830s through the 1850s were a particularly dangerous and difficult time to be of African descent in Pennsylvania (or in the country as a whole), there were also movements afoot within the black community to increase the social standing of African Americans through education and other social improvements, typically supported by churches and mutual aid societies (see Chapter 2). This interplay between secrecy and social improvement is worthy of a closer look at Mount Gilead and it is the relationship between these two seemingly incongruous elements that is central to this thesis. I have chosen to focus on the cemetery in particular, because it is a discrete location where the people of the church created meaning and also where there is much information about individual members of the congregation. I have elected to use a ground-penetrating radar (GPR) study of the cemetery, in concert with geographic information systems (GIS) and historical research, in order to determine how

the community navigated a very public persona while supporting illicit Underground Railroad activities. The general presumption is that the well-dated graves would help date unmarked one by their proximity, which would thereby pinpoint the length of time the cemetery was in use, as well as when it may have become more acceptable to use more permanent and personalized markers for the deceased.

The cemetery itself was mapped using a total station and the information recorded from the stones was entered into ArcGIS to be stored with the spatial information from those stones. These data were compared with the results of a GPR survey to determine whether there are more graves that are currently unmarked. A large number of unrecorded graves found via GPR could point towards a more secretive settlement, particularly if those graves were clustered in an older area of the cemetery. It may also suggest a time when more ephemeral markers, such as wooden ones, were more prevalent. These two possibilities are not mutually exclusive. Finding a larger number of older graves could also suggest both when this cemetery began to be used—for example, if it predated the 1860 land transfer—and how large the antebellum community was in actuality. Since GPR cannot generally be used to date features, the above-ground cemetery data was critical for this and also for checking the accuracy of the GPR against known graves. Having this test is especially important when a cemetery, already a difficult type of site to accurately read on GPR, was established in very stony ground, as Mount Gilead's was. Finding fewer graves than stones may suggest burials which have been exhumed or moved—or may suggest the limitations of GPR at this site. (All marked graves and those unmarked graves found in the archival record appear in Appendices C and D.)

To broaden the research and better conceptualize this community, the history of the church itself must be considered, as well. Since little has been previously written on the history of Mount Gilead and its congregation, and since much of the church's records have been lost, archival sources provide a point of entry into the history of the church, although references to the church are scattered and lack much depth of information. Local archives have some relevant information, including copies of a plot plan of the cemetery that entered the collection in 1977 and an undated textual inventory of stones, ca. 1980s (Spruance Library 1977; Spruance Library [1980s]). Neither one includes all the graves found in the cemetery, even those graves that predate 1977. The origins of the plot plan itself are somewhat in question, although the present church leadership has a 1985 blueline plot plan that includes these same graves plus some later additions. This is presumed to be the replacement for the older plot plan. Where birth or death dates were missing from the grave markers, or where names were unclear, the 1977 inventory was used to fill in the missing information in ArcGIS, although where this data constitutes more than simply dates of birth or death, it is clearly noted. Likewise, if the written and carved dates conflict, primacy was given to the data from the stones. The data for graves that appeared only in the documentary record were entered into an Excel spreadsheet to be used in a similar manner. The plot plan was not detailed enough to clearly indicate where most of the graves were located, and so the additions could not reliably be entered into the GIS software. A few were, however, set up in approximate locations to aid in the testing of the GPR. Despite the fact that the cemetery had a spate of vandalism in the late 20th century, many, if not all, of the graves with headstones are presumed to still be in the

same locations. The ca. 1980s list of graves makes mention of several wooden grave markers, none of which were found during the survey (Spruance Library [1980s]).

Most of the potentially rich oral history of Mount Gilead was unfortunately outside the scope of this project. To conduct a proper oral history project would have required the primary focus of this thesis. For the five annual services, descendents of the church community come from nearby towns. Some still retain the surnames of ancestors buried at Mount Gilead and are very proud of their history there. Neighbors, as well as those simply interested in the historical or religious aspects of the church, also attend services. A few have lived on or very close by Buckingham Mountain since childhood, and have first- or second-hand knowledge of the 20th-century uses of Mount Gilead and the surrounding area, along with some older oral traditions.

In order to help bridge this acknowledged gap, I conducted further archival research to see if more primary sources exist that include Mount Gilead or its people. The greatest breadth of research was conducted in the US Census up to and including the year 1900. The specific methodology for this research appears in Chapter Seven. This archival research, in concert with the cemetery research, GPR, and GIS, is intended to help humanize the data and bring the people of Mount Gilead back to the fore. It is, after all, their actions that created and sustained the church community there, and their lives that shaped it and its influence. Whether they sought Mount Gilead as a physical or psychological refuge from a harsh world, as a proclamation of their self-worth, or as some combination thereof, knowing these individuals' backgrounds should provide some insight.

5.2 Ground-Penetrating Radar (GPR) and Spatial Methodology

Field Methods: GPR

In March 2013, a five person team traveled to Buckingham, Pennsylvania, to survey the cemetery at Mount Gilead AME Church. Over the course of three days, we laid out a grid over the area and conducted a GPR survey over an approximately 50 by 30 meter area—as much of the cemetery ground as could be surveyed. This grid was established using Zone 18N of the Universal Transverse Mercator (UTM) coordinate system, and then four fixed points were established using a Trimble GeoXH GPS with a zephyr antenna. At each of the fixed points, over 300 readings were taken and averaged. These three points were then resectioned with a TopCon GPT-9005A Auto Tracking Pulse Total Station. This area was chosen so as to include all obvious and potential grave markers within the church graveyard. Our initial grid was expanded into the woods at the southern end of the cemetery after corner posts were discovered at the southwest and southeast corners of the cemetery (see Appendix J). With the permission of the church leadership, we cleared brush and discovered 10 additional potential grave markers made of field stone. It seems apparent that the woods have been gradually encroaching on the cemetery from the south, as those who may have tended these graves moved on. A fill pile from digging graves also obscures the southwest corner of cemetery.

It is generally accepted that the best direction to conduct a GPR survey in a cemetery is to run transects perpendicularly to the orientation of the graves themselves (Dionne et al. 2010:57; Hammon et al. 2000; Pomfret 2006; Doolittle and Bellantoni 2010). In the vast majority of American cemeteries, markers are oriented in an east-west direction; at Mount Gilead, however, the markers are oriented in a more north-south

direction. Other local AME churches are oriented in various directions. The stones at Mount Gilead, however, are not perfectly aligned to any cardinal directions. This necessitated working "off-grid," with transects running from the northwest to the southeast. Throughout this text, I strive to speak in terms of these directions, although it is sometimes simpler to refer to the church as grid north, considering very little of the cemetery could be considered to be in a given cardinal direction. Measuring tapes were laid out to measure the beginnings of each line and were spaced 25 cm apart, as is typically "recommended when performing surveys of cemeteries containing unmarked graves" (Dionne et al. 2010:20). Alternating red and yellow flags were used to mark each meter, with white, blue, and orange flags to mark the intermediate 25cm points. The lines could not be made equal lengths because of landscaping features on the eastern side of the cemetery including trees, rocks, dense groundcover, and a section of chain-link fence. On the southwestern corner, a fill pile prevented surveying of that area. Meter flags and interim flags that could not be placed in the proper locations were shot into the transit. (See Figure B.7 in Appendix B for all transects and flags.) Other flags were later measured into ArcGIS in the lab. Some transects were discontinuous due to obstructions such as grave markers and these were recorded via the total station. The GPR survey itself was conducted using Malå X_3M antenna with a frequency of 500MHz. All transects were walked from the northwest in a southeasterly direction.

Field Methods: Mapping Grave Markers

Grave markers were recorded by taking points on the northeast and northwest corners of each grave stone. Due to time constraints in the field, some fieldstone markers

and several grave stones (G_189, G_190, G_191, and G_193) only had one point shot in. The grave stones that were not completely shot in by total station were later measured by hand and drawn into ArcGIS. Graves were numbered sequentially based on a rough inventory map created in August 2012. This numbering system was continued with new additions and also with graves that were found only in the documentary record. Some stones included on the inventory were known to have been damaged and removed from their original locations and therefore were not mapped via total station or included in the map.[15]

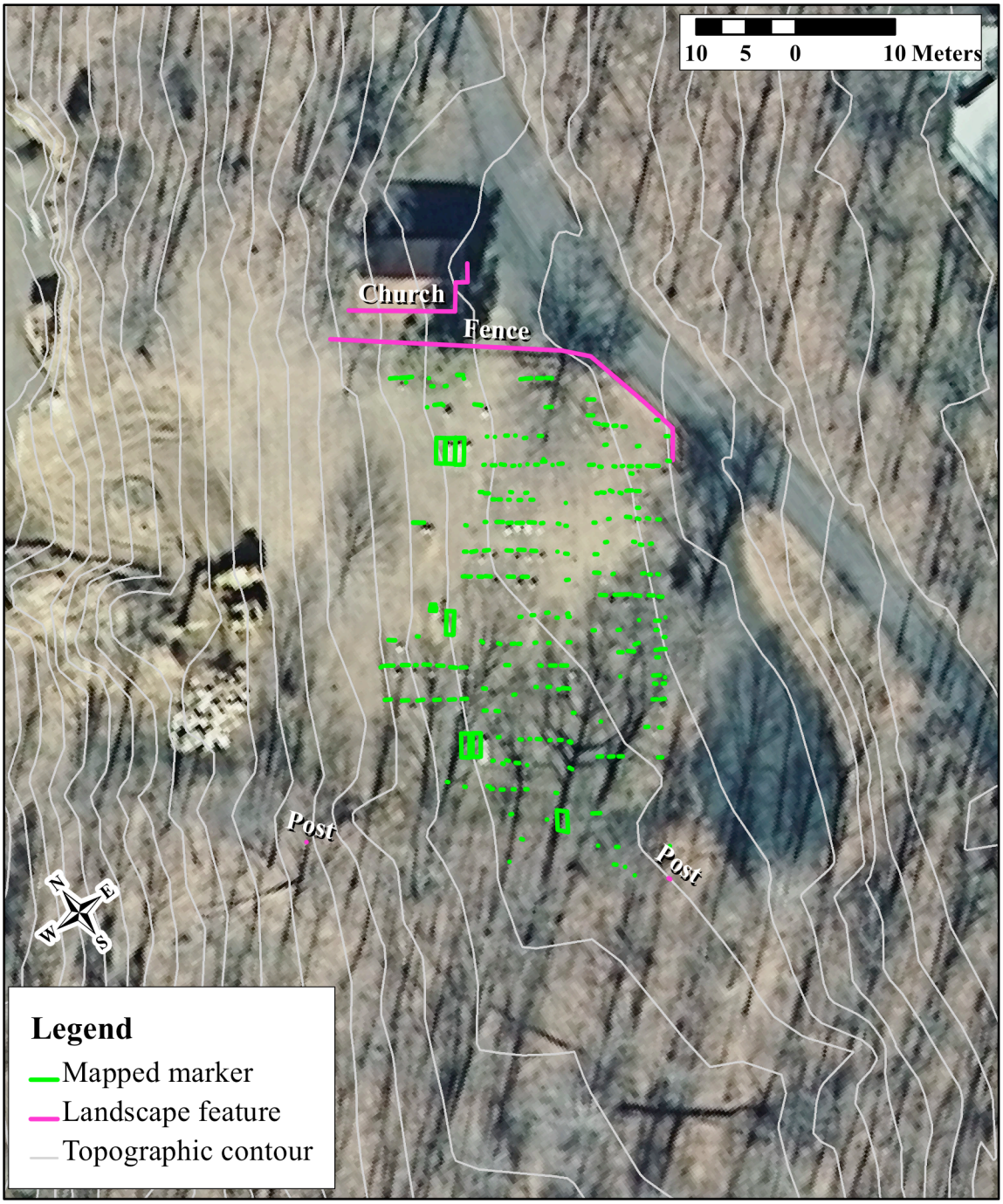
Upon analyzing the data, it was discovered that one critical landscape feature had not been mapped in the field. The southwest post was later manually measured with tapes drawn to five known points that were then used to triangulate the post's location in ArcGIS.

GPR Processing

Before any dedicated analysis can be attempted, the data produced in the field first must be processed. The wheel on the GPR unit recorded the lengths of each transect, but due to the vagaries of the ground surface, these lengths must be corrected for the measured lengths of the transects as they were completed in the field. Using FileMaker

[15] An example of this is the stone of George A. Johns (G_019) which is currently leaning against a tree and does not represent the location of its associated grave. A neighbor discovered the stone across the road from the church after an incident of vandalism and respectfully placed it by the tree (Wendig, pers. comm. March 2013). Its original location remains unknown. The other stone marker which was not mapped was that of Louisa Robinson (G_052), whose stone lies at a broken base with the stone of Camelia Mitchell (G_053). The 1977 inventory suggests that Mitchell's is the correct stone for this location.

Figure 5.1 – Orthophoto of Mount Gilead and neighboring properties with mapped markers and landscape features, overlaid with topographic contours.



Pro 11 and GPR-Slice v7.0, the transects were connected to the transit-mapped and interpolated points. This allowed for the radargrams to be adjusted for the real lengths at which they were recording, providing more spatial control over the data.

Since radar waves weaken exponentially as they propagate deeper into the ground (Witten 2006:133), a method called "range-gaining" was applied to the data in order to strengthen the deeper signals and make it possible to accurately analyze profiles. Range-gaining also helps in determining the real depths of the radargrams. The exact velocity of the radar waves through the ground was determined and calculated by GPR-Slice to be 0.08m/ns. The exact method involved a software tool by which the point-source hyperbolas were visibly located and "fit" to a known hyperbola. In order to calculate the velocity, these fitted hyperbolas were adjusted in concert with the time (in nanoseconds) that it took to send and receive the radar waves (Conyers 2004:150). The dielectric permittivity (represented by the constant K) was estimated to be 14.06. The time window, or how long it took the radar waves to be sent and received by the antennae, was 37.74ns (effective time window: 34.57ns).

Using GPR-Slice, the radargrams were then artificially "sliced" into horizontal layers that simulate excavation by arbitrary levels and show the amplitudes of various reflectors at each "level." These depths are determined by splitting the time window of the transmission and return of the signal into equal nanosecond segments. In this case, I used windows of 2.3ns, with 10% overlap, so as to make relatively flat anomalies (such as coffin lids) more visible. GPR-Slice interpolates the space in between the transects by searching a certain distance (in this case, 0.3m) around each transect and stitching the

data together. Although this may sound as though it is introducing guesswork, radar waves leave the antennae as cones and spread the same distance in all directions (Conyers 2004:62), meaning that the 2D radargram profiles are not as narrow of a view as they may appear to be. The radargrams were sliced in 8-9cm intervals for a total of 20 slices. (See Appendix H for all slices.) A slightly over-simplified archaeological analogue of the relationship between radargrams and time slices is that the radargrams are profile images whereas the time slices are plan images. Figures 5.2 and 5.3 show at least five graves marked by field stones presumed to date to between 1914 and 1963, along with one cement slab, on both the time slice of this area of the cemetery (5.2) and one accompanying radargram profile (5.3).

Identifying, Ranking, and Mapping Graves on GPR Radargram Profiles

The slice images were imported into ArcGIS, where they were combed for anomalies that ran perpendicularly to the grave stones. These anomalies were recorded in a separate shapefile. When not all marked graves were found on the time slices, it was determined that it would be better to inspect each radargram profile in turn, regardless of the relationship to the stones. This relationship would be reintroduced later. Conyers (2013:150) also suggests that the presence of higher amplitude reflections from such things as recent graves and, in this case, stones, could mask "subtle, older graves." If this occurs, he recommends "manual interpretation of individual profiles" (Conyers 2013:150). Using Adobe Illustrator CS6 as a means of visually inspecting multiple radargrams at once, all profiles were imported with location and depth information from GPR-Slice. Transects that were discontinuous were concatenated so as to simulate full

Figure 5.2 - Time slice at 56-66cmbs, with transects and markers noted

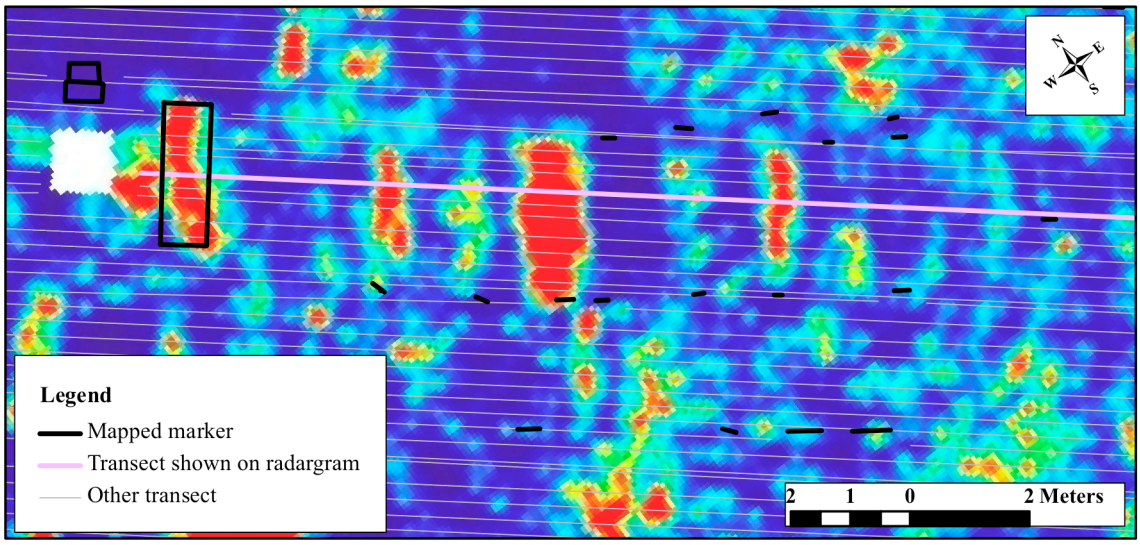
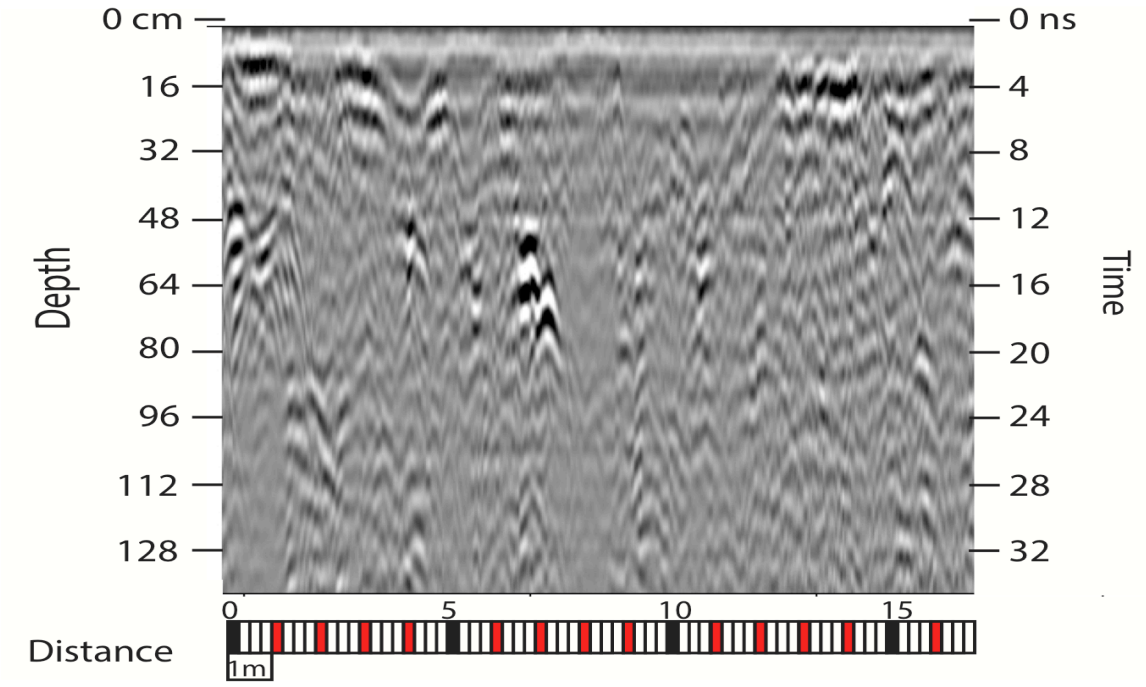


Figure 5.3 – Radargram profile noted in Figure 5.1 with full depth shown.



transects and aid in interpretation. The x-coordinates included from GPR-Slice were instrumental in correctly aligning these segments of transects. The actual lengths of each profile in meters were placed onto each individual radargram, as well, to be used to accurately map the anomalies.

Going through each individual radargram, I identified anomalies that are consistent with those for graves. First going through each profile, I inspected them for "classic" point-source hyperbolas, planar reflections, and other areas of high amplitude reflections that might suggest graves (Bevan 1991; Conyers 2013:129-155). The basic measurements are essentially based on the size of an adult human, likely in a coffin. In order to be worthy of mapping, anomalies had to be at least 50cm wide, but no more than approximately 1 meter wide. According to the measurements used by Hammon et al. (2010), a body without a coffin would be narrower than 50cm, making these graves very difficult to see in this study. However, if the grave shafts were intact, that may allow for spotting such graves (Bevan 1991:1310). These anomalies were tracked across multiple profiles from north to south, and any anomaly that appeared to be more than 2 meters long would be split, where appropriate, or disregarded as another kind of feature (for example, a tree root). I also looked for signs of metal, which can be identified in a radargram as a repeating series of waves that obscure other features (Conyers 2004:79). On time slices, metal appears as a persistent, strong, and sometimes very small reflector. Etiher of these two signatures might suggest coffin hardware, metal coffin linings, metal coffins, or various kinds of name plates or decorative features on the coffins themselves (King et al. 1993; Bell 1990). Determining metal reflections proved somewhat difficult at this site, however, because the high number of rocks in the soil created many small, hard

point source reflections that somewhat resembled small pieces of metal. While looking for both these signatures, I also indicated the locations of such geological features as apparent rocky interfaces and possible grave shafts and soil slumps, as would be caused by a collapsed coffin (Bevan 1991; Conyers 2013:139). In profiles where it was particularly visible, presumably due to its high level of compaction, I also indicated the location of the present-day path through the cemetery. These four types of features—potential graves, metal, geological features, and the walking path—were all circled and color-coded. Potential graves were blue, metal was red, geological features (natural or human-made) were yellow, and the path was green.

The next step in identifying graves was to determine whether these anomalies were visible through multiple radargram profiles. Grave-like anomalies that carried through more than one profile were numbered sequentially and ranked both by a letter grade and by the number of profiles they are visible on. (A 0.5 was used if the anomaly is not visible on one profile but continues on to at least one more, but this option was rarely necessary.) Ranking is commonly used in GPR surveys searching for unexploded ordnance (Hall et al. 2006), and Steinberg, Damiata, and colleagues have adapted this approach in unmarked graves in known cemeteries (Steinberg et al. 2011; Steinberg et al. 2012). The ranking system formalized and adapted for this project is detailed in Table 5.1 and provides a more readily-accessible way to rank relative confidence that a given set of anomalies is a grave. The anomalies were also connected by lines in Adobe Illustrator in order to facilitate ranking and mapping. Metal, geological features, and the pathway were marked but not tracked through multiple profiles in this manner.

Table 5.1 – Ranking System for Anomalies found on Radargram Profiles

Ranking	Appears on 2 transects	Appears on 3 or more transects	Additional qualifications (appearing on at least 1 profile)
A	X	X	Grave shaft AND metal
B	X	X	Grave shaft, metal, or appears on 5 or more transects (Note: May appear on 5 or more transects and also contain either metal or a grave shaft)
C	X	X	
D	X		Grave shaft OR metal
E	X		

In tracking the anomalies through multiple profiles, certain specific criteria were followed in order to eliminate highly unlikely anomalies. Anomalies within the top 0-25cm were generally disregarded as both being too shallow to have any highly likely graves and also as potentially being within the near-field zone of the GPR antenna (Conyers 2004:76). It is also possible for buried grave markers or other hard reflectors to still be contained within this level of soil. Since the tops of coffins are typically what reflect radar waves, these are often between 1.2 and 1.5m deep, and potentially far shallower (Bevan 1991; King et al. 1993; Conyers 2013:132). Anomalies that appeared through multiple profiles but on at least one of those profiles appeared to pass through a geological feature were likewise discarded. Geological features at this site do not seem to appear uniformly throughout all profiles where they should hypothetically be visible.

The radar profiles represent transects that were taken more-or-less parallel to the rows of grave stones and in the direction that is presumed to be perpendicular to the graves themselves. If the graves are placed in the presumed orientation, then they should

not be moving laterally through the profile. (For example, since the markers are oriented roughly south to north, one would not expect to see graves oriented east to west.) Graves were assumed to only move laterally up to 1 meter in either direction from one profile to the next, although most do not "move" anywhere near this amount. If there was a possibility that an anomaly could appear in the same lateral location or in a slightly shifted position on a profile, the choice was biased towards the anomaly that appeared in the closest location on the X axis.

The depth of an individual grave was assumed to be relatively the same on each profile on which it appeared. Shifting of up to 10-20 cm shallower or deeper was generally tolerated, so long as there was some overlap between the measurements. The underlying assumptions here are that coffins may not have been laid in perfectly level grave shafts or that coffin collapses or human remains (for example, the chest versus the legs) could appear at varying depths in a radargram even if they were buried in perfectly level graves.[16] Weak reflections were considered as much as the stronger reflections, although there is a possibility that they are simply "out of plane" reflections, representing something that a pass on another transect would pick up more strongly (Conyers 2013:137). These could not readily be eliminated, however, due to the weak appearance of some graves overall in GPR results.

[16] None of the cemetery excavation reports, articles, and books I consulted for this project discussed the relative levelness of grave shaft floors. That information may be contained in the field notes for those excavations, but does not seem critical to the interpretation of this site. Considering how stony the soil at Mount Gilead is, it would not be surprising if the gravediggers were unable or unwilling to properly level the bottoms of grave shafts.

Once the graves were identified on and tracked through individual radargram profiles in Adobe Illustrator, I entered them into a database in FileMaker that calculated their exact locations. Each anomaly found on two or more transects was included, along with data about how many transects the anomaly crossed, the rough average depth of the anomaly across the transects (not calculated exactly), and whether any metal or a grave shaft was visible on at least one profile. The exact location of a given anomaly was obtained by entering the "starting" transect number as well as the distance along the transect at which the anomaly appeared. The start and end points were obtained by utilizing a formula that treated this distance as a hypotenuse and calculated X and Y coordinates from it (see Appendix G).

Once all 625 anomalies[17] were entered into FileMaker, these start and end points were imported into ArcGIS as the beginning and end points of line segments, thereby mapping the center line segments of all potential graves across their whole visibility on GPR.

Identifying Graves on GPR Time Slices

Some of the benefits of utilizing horizontal time slices is that they allow for a far more intuitive visual inspection of a survey area and that they do not require as much

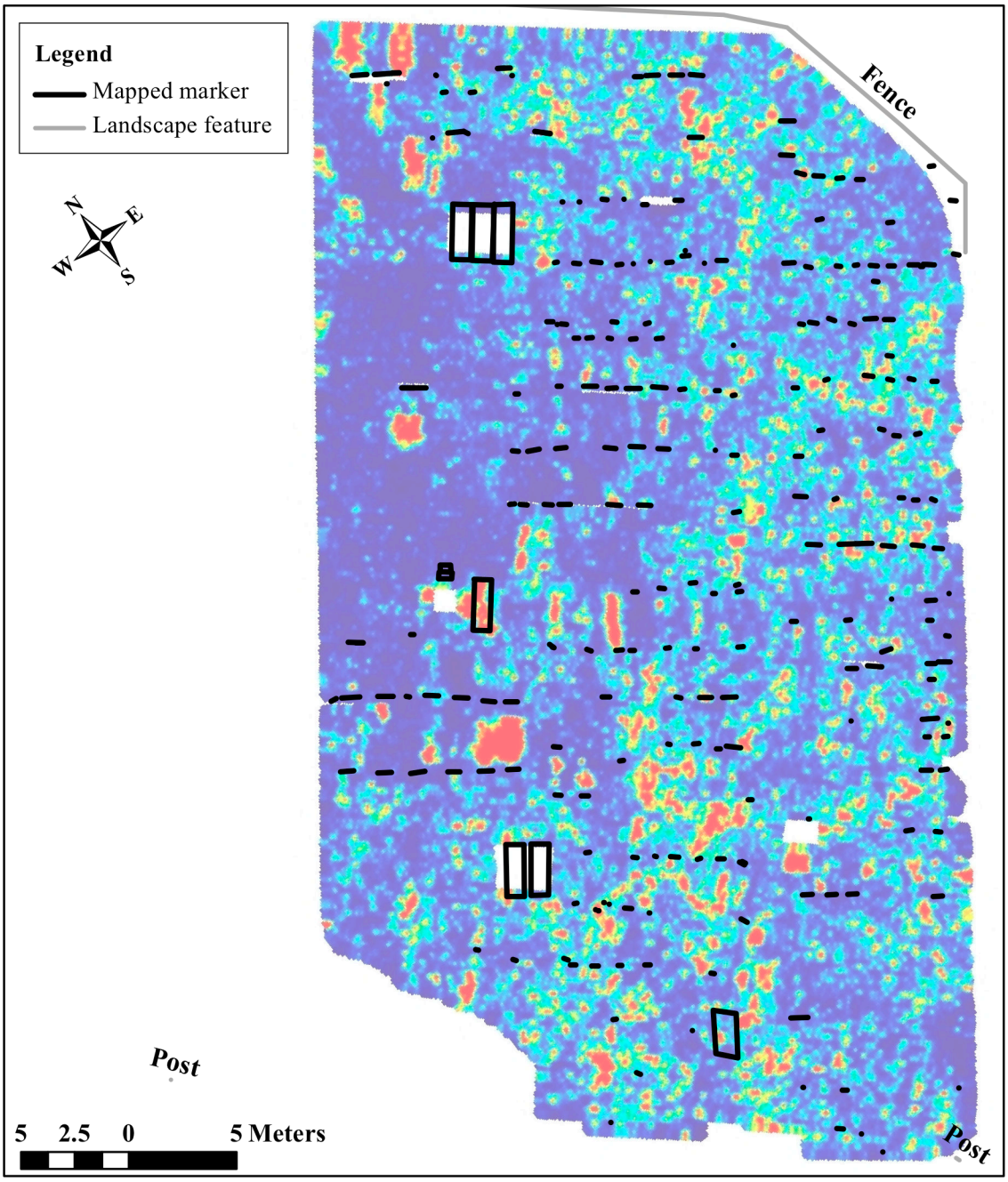
[17] You may note that the anomaly numbers extend into the 730s. After careful consideration, many anomalies were eliminated as potential graves. The anomalies most commonly eliminated were those appearing across 2 transects with an E rating which appeared to move too drastically North to South or East to West from one transect to another. A number of the anomalies, when mapped, no longer fit the criteria for lateral movement. There is also a discrepancy in some of the counts, since one of the E-ranked anomalies was not properly entered into the formula and therefore was not mapped.

interpretive knowledge of GPR or radar, in general. Features that may be subtle on the radargrams can become much more apparent when aggregated with their immediate neighbors. Although this aggregation of data can sometimes create false positives,[18] many graves become visible in this method that may be more difficult to discern in radargrams. For example, a thin, compacted surface, such as the bottom of a grave shaft, may become more visible on a time slice than on the individual radargrams.

The majority of the graves found on the time slices were identified by manually inspecting each slice in each area of the cemetery. Line segments were manually drawn over the center of the anomalies and metadata were recorded, such as at which depths each anomaly was visible. These results were later compared to the mapped grave markers as well as to the anomalies found on the individual radar profiles. Associations were made in attribute fields between separate anomalies found via radargram profiles and time slices. This was done in the attributes of both GIS layers and can serve as a simple proxy for determining a rough count of individual graves found. For both the anomalies found on slice as well as those from the radargrams, these were then connected (again via attributes fields) to grave markers found within the cemetery. To make this task manageable, these were prioritized by age of marker, when known, as well as strength of anomaly (here, ranked by its appearance on both methods of inspecting the GPR results).

[18] An example of this was the handful of incidents in which there appeared to be linear anomalies running parallel with our transects. When isolated and viewed on the radargrams themselves, it became apparent that these were actually artifacts of the slicing process. Nearby anomalies perpendicular to the survey transects had become combined.

Figure 5.4 – Time slice at 50-58cmbs with mapped markers. Red indicates the strongest reflectors of radar waves. Not all graves are visible at this depth. See Appendices H and I.



GIS Laboratory Methods

Data recorded in the field related to landscape features, GPS points, and cemetery features such as grave markers, were imported and included with other maps such as orthophotos and soil surveys. Due to time constraints in the field, most markers were recorded as sets of individual points rather than polylines. Polylines were later snapped to these points in order to make the data more intelligble. The grave numbers, determined by an earlier field inventory I had conducted the previous summer, as well as associated information from the gravestones themselves, including the names, vital statistics, and genders of the deceased (based on given names alone), were included as attribute fields in order to see if there were more subtle patterns to the burials.

Where extra information was available from the 1977 inventory that information was also included, although where it disagreed with the stones themselves, the stones were considered to be more authoritative (Spruance Library 1977). In the case of stones that lacked clear information about the burials, whether originally or due to later damage, data from the 1977 inventory was included. The field "Possible_Name" is a clear indicator of whether this has happened with a given stone, although the vital statistics and other data are included in the same fields throughout the data for ease of mapping and conducting minor statistical analyses. A separate shapefile was created to track those graves found on the 1977 plot plan whose locations were unknown, but were able to be approximated. Approximate locations for these graves are mapped as asterisks (see Figure B.3 in Appendix B), and they include the same kinds of demographic information as the graves that have more certain locations. Although the data from these graves has been included in the statistics where noted, as a general rule the GPR results were not

correlated to these potential grave locations. Of the 267 mapped stones, 243 are presumed to be grave markers. Relevant information about marker style (for example, whether it is natural stone) was included in the GIS. Roughly half (51.03%) of all markers are uncut fieldstones (noted as “natural stone”). Appendix B contains several maps (primarily Figure B.5) which address the various types of stones (see also Table A.2 in Appendix A).

GPR data, analyzed and mapped via these two methods, radargram profiles and time slices, as well as all associated spatial and historical information, form the major body of data for this analysis. This data is used in concert with, but generally distinct from the archival record.

CHAPTER SIX

MAPPING AND GPR RESULTS AND ANALYSIS

Although it is possible to see the results of the mapping and GPR research as little more than direct recordings of what is above- and underground in the cemetery, the data compiled are more nuanced and have greater interpretive potential than that. The spatial data of grave stones and their associated demographic data, for example, can provide insight into the use of the cemetery by the community, such as when they began or stopped using it, or whether specific areas were designated for specific groups (children, for example). If there were clear growth patterns to the cemetery, this information could likewise be used to determine if areas of the cemetery contain older, unmarked graves. At a very basic level, understanding how many graves the cemetery contains gives a rough idea of the size of the community over time—although not necessarily a population estimate. It can, however, help see how this cemetery resembled its urban counterparts such as the First African Baptist Church.

To obtain a count of the graves in the cemetery, I have consulted GPR results, archival information, and field-recorded data from the grave markers themselves. Although using extremely scientific methods to record subsurface changes across the cemetery, the interpretation of GPR does have some subjective elements. Due to this and other vague or illegible information from the documents and stones, the best estimate of

graves in the cemetery must be included as a range. The following sections will outline the spatial analysis of the grave markers and graves, as well as outline the process by which I have determined a maximum and minimum number of graves.

6.1 Establishing a Total Count

Above-ground and Archival Observations

Very few patterns could be discerned from the grave markers as they stand, but even so, this provides information on the community's usage of the cemetery grounds. Unlike some burial grounds, where the dated stones clearly show how the cemeteries were started and grew, the earliest graves at Mount Gilead are somewhat spread across the cemetery (see Figure B.4, Appendix B). There is higher concentration of 19th-century graves in the northeast and southeast areas of the cemetery, tapering into the most recent graves on the northwestern side of the cemetery. This suggests that the length of the cemetery roughly north to south was being used before the full width of the present-day property, roughly east to west. This is unexpected, considering that the church building and original cemetery parcel would have formed a rough "L" shape, with the church itself forming the shorter portion. Likewise, no pattern was determined for the presence of fieldstone markers (see Figure B.5, Appendix B).

The northwest reaches of the cemetery contain proportionally more 20th century—and particularly late 20th century—graves than other areas in the cemetery. This is likely due to geological reasons. According to those who have dug graves at Mount Gilead, there is rocky shelf or bedrock that underlies the cemetery and is most shallow on the northwest side (Reinhardt pers. comm. 2013). What may be an edge of this surface is

visible in the GPR, starting at about 100cmbs (see Appendix I, Figure I.2). This could have been prohibitive or at least highly discouraging to 19th-century grave diggers, although far less so to a late 20th-century backhoe. The GPR results, archival record, and standing stones all seem to indicate far fewer and more modern graves in this part of the cemetery. Considering also that the ground surface slopes more precipitously in this area, it seems highly unlikely that there are undiscovered 19th-century graves in this area.

The caveat, of course, is that there are 59 burials found only in archival sources whose exact locations remain elusive. Some of these graves may be found in the northwestern areas of the cemetery, although at least two (Ella Hopkins [G_265] and Samuel Hopkins [G_335]) have been found on the GPR in the exact location the ca. 1977 plot plan suggests. This may be indicative of vandalism, decay of wooden markers, or the vagaries of record keeping.[19] Likewise, some graves found in the cemetery in 2013 do not appear in historic documents. In all, at least 16 graves that presumably existed here prior to 1977 do not appear in the archival record. A basic assumption of this project is that the date of death on a given stone roughly reflects when that grave was added to the cemetery. Since there do not appear to have been many 20th-century replacements of older markers (with machine cut granite, for example), this seems a reasonable conclusion. Given the church's decline around the turn of the 20th century, it seems more

[19] The unmarked graves more readily found on GPR may be due to the disappearance of headstones in acts of vandalism. In recent years, several stones have been stolen, then later found and replaced in the cemetery. One, the headstone for George A. Johns (G_019), remains leaning against a large tree. My research has not revealed his original grave site, in part since it does not appear in any of the archival sources. The stone for A. Jackson Quocko (G_003) was also recently discovered in a trash heap in Middletown and was reset in the cemetery in 2013.

likely that there have been oversights in record-keeping rather than that there have been 16 reinterments in this cemetery. When the 59 unmarked but archivally-recorded burials are combined with the 240 to 243 probable marked graves[20] mapped in the cemetery, this yields records or above-ground evidence for at least 302 individual burials.

GPR: Determining Relative Confidence in Anomalies

In order to arrive at a full estimate of the number of graves, however, we must also include the results of the ground-penetrating radar survey. Since I identified graves on the GPR output using two separate methods, consulting the individual radargrams and also the aggregated time slices, it requires some calculation to obtain a reasonable overall count. Since the radargram results are ranked by several criteria (see Tables 5.1 and 6.1), it is possible to efficiently determine how many are likely to be graves. Out of the 625 anomalies found on the radargrams, almost half (47.84%) ranked as an E, the lowest ranking on the scale. 2.4% (or 15 anomalies) ranked at the highest end of the scale (an A). See Table 6.1 for complete results by letter ranking. The results from the time slices were not ranked for strength, due to the relative lack of data provided by the slices themselves and the greater possibility for graves and other anomalies to be elided using this method, thus appearing either weaker or stronger than they might otherwise appear on individual radargram profiles. The only factor that can be readily ranked from the time slices is the number of transects that a given anomaly crosses. I did not use this as a basis

[20] The variation in this count is due to three markers being made from clusters of smaller stones. It is unclear if these represent one grave or multiple interments.

for comparison between the two methods since it appears that some time slice anomalies encompassed multiple radargram anomalies.

Table 6.1 – Radargram Results by Ranking of Anomaly

		Number of transects crossed (Updated to reflect findings)	**Other criteria**	**Total anomalies found**	**Percentage of total anomalies found**
Anomaly ranking	**A**	2* to 11	Displays metal and shaft	15	2.40%
	B	5 to 11; or 3 or more and either metal or shaft	May display metal or shaft	92	14.72%
	C	3 to 5**	None	188	30.01%
	D	2	Displays metal or shaft	31	4.96%
	E	2	None	299	47.84%
Grant total of anomalies found:				625	100%

* Anomaly 668 is a child burial, confirmed by the dates on the associated grave marker, and is only found on two transects. All others are on 3 or more transects.
** Anomaly 476 was later found to skip one transect, making it cross five transects (normally grounds for a B ranking). The ranking was not updated to reflect this change, because no other mapped anomalies skip transects.

One of the benefits of comparing the radargram and slice anomalies is that some anomalies found by both methods can be matched by their proximity and direction. Matching these strengthens confidence in identifying them as graves and allows the unique anomalies found by each method to become apparent. Combining these matched anomalies with the strongest ones from either method provides a fuller picture of the cemetery. It also allowed some of the weaker radargram anomalies to be linked with each

other through comparison with the anomalies found on the slices. Of the 625 anomalies found on the radargrams, 187 were found to be associated with grave-like anomalies found on the time slices. Another 86 were potentially associated but less confidently, for a total of 273 (43.68% of the total radargram anomalies). On the other hand, of the 413 anomalies found on the time slices, 153 could be definitively associated with anomalies found on the radargram profiles. Another 71 could be potentially associated. Combined, 224 (54.28%) of anomalies found on the time slices were definitively or potentially linked to radargram results. The reason for the discrepancy in the total numbers found between the slice and radargram anomalies is that some anomalies found on the radargrams were associated with each other through comparison with their time slices. For example, two lower-ranked anomalies were sometimes found to be different parts of one stronger slice anomaly. These may have not been detected on the radargrams due to obstructions of the GPR readings or to the relative visibility of different portions of skeletal or coffin remains on GPR. Radargram results that were determined to probably be related to each other were not remapped as single anomalies, thereby retaining the integrity of the original reading of the radargrams.

GPR: Determining Maximum and Minimum Estimates of Total Burials

To determine the full range of possible graves found in the cemetery, a maximum count must first be obtained. From the GPR alone, this yields 1039 potential graves, although the number shrinks to 765 unique anomalies. This number was calculated by adding the total graves linked by time slice and radargram results (224, drawn from the more comprehensive time slice count) to the anomalies unique to each method (189 on

the slices and 352 on the radargrams). Seven hundred and sixty-five could be considered a maximum, though unlikely, number of possible graves found in the cemetery. The following calculations are estimates and as will become apparent, have some flaws for that reason.

Simply eliminating the 198 unique but low-ranked, "E"-rated radargram anomalies (presumably the least likely to be graves of adults) cuts the number to a still slightly improbable 567 graves. While this lowers the number, it also ignores those low-ranked anomalies which were linked to graves found on the time slices. This also effectively eliminates the possibility of seeing the graves of small children that might be crossed by only two transects—but they are rarely intact enough to be visible at all, even in excavations (McKillop 1995). Since one of the criteria, metal, was sometimes more difficult to determine, eliminating the D-ranked graves that had only metal to differentiate them from an E, lowers the total by 15 to 552. Beyond that, it is difficult to narrow by ranking without arbitrarily culling the results.

At this point, it seems more prudent to find a minimum number of graves, rather than continually paring down the other results. This helps determine a reasonable range of the number of graves found, rather than arbitrarily deciding on a concrete number. A bare minimum of graves found via GPR would be the 153 graves conclusively found on both the slice and radargram profiles.[21] This number added to the 38 anomalies found only on the radargrams and ranked as an A or B yields 191 probable graves. Adding in

[21] Here I am again utilizing the total from the anomalies identified via the time slices, since the number takes into account instances where multiple radargram anomalies were linked to single slice anomalies.

the 99 anomalies that were ranked as C and were unique to the radargrams brings the total up to 290 graves. This number, while lower than the number of recorded graves, seems a far more reasonable estimate of graves found via geophysics, especially since it differs from the known number of graves by only 16 to 19. In addition, at least one of the 20th-century graves is known to be a cremation burial (Florence Wendig, G_099; Wendig pers. comm.) and was not found to appear on the GPR results—probably at least in part because of the requirement in this study that a grave must appear on two consecutive transects to be mapped. Likewise, at least four grave markers (cement slabs) were outside the study area.[22] Therefore, the actual number of graves found by GPR likely lies between 294 and 553.

Combining the GPR Results with Other Evidence

In order to rectify the number of graves found via GPR with those found in the field and in the archival record, the results from each category must be combined into a single count that avoids duplicating data. Unless noted, all following discussions of grave markers found in the field assume a maximum number of 243 individual graves, as represented by the current cemetery. Only 231 were able to be compared with GPR data, when four clustered markers and eight markers outside the study area were subtracted. An additional 59 graves were found only in the archival record—these were not compared to the GPR.

[22] An additional four stones were likewise outside the study area but were not as clearly identifiable as grave markers. They have not been included in this count.

Of these 231 marked graves, 177 (76.62%) of the known graves were found as anomalies on the radargram profiles or the time slices, with 53 of those (or 22.94% of markers) found via both methods. Fifty-four (23.38%) were not found on either method. This calls into question raw GPR-based counts in this study. Considering a decade-by-decade analysis of which graves appear in the GPR survey, four (13.13%) of the 30 graves dated 1960-2013 did not appear in the GPR, although they are presumably the best preserved. Likewise, other time periods show similar results. Eight (18.6%) of the graves dated between 1900 and 1959 were not found via either method of reading the GPR results. Five (15.15%) of known graves dated 1860-1899 do not appear on the GPR. Fully 27.01% (37 out of 137) undated stones, some of which may not actually be grave markers, were not found on the time slices or radargrams. (For a breakdown of GPR appearance by decade, see Table A.1 in Appendix A.) In addition, completely unmarked graves in this cemetery may be too far degraded to detect in such a rocky soil (Dionne et al. 2010:27; Bevan 1991; King 1993). It is also possible that they do appear in the GPR results but did not fit the set criteria and therefore were not mapped. It appears that, regardless of the cause, there is an approximately 15-20% rate of error in the GPR results at the Mount Gilead cemetery. Taking this into account and increasing the 294 minimum likely GPR results by 20% yields a total of 353 possible graves on GPR alone.[23] Added to the 113 graves unique to the archival (59) and field (54) records as well as those eliminated from comparison with the GPR (12), this provides a conservative upper limit

[23] The actual result is 352.8 but it is poor form to use fractions when referring to people. Also, it is a somewhat fitting coincidence that 20% of 294 equals 58.8—or almost exactly the number of graves found only in the archival record. This fact is not addressed in the count.

of 478 graves in the cemetery. Although this still presumes that the most likely graves found on GPR are also the ones that have been linked to grave markers, this count is meant to be a guide rather than a way to enumerate exact graves within the cemetery. It seems realistic to assume that the true number of graves at Mount Gilead lies somewhere between 299 (the minimum number of field [240] and archivally-recorded [59] graves) and 478 individuals.

Table 6.2 – Summary of the Final Count of Presumed Graves at Mount Gilead

	Minimum	**Maximum**
GPR (Combined anomalies from radargrams and time slices):	249	553
Field and archivally recorded grave markers:	299	302
Adjusted total:	**299**	**478**

6.2 Beyond the Count: Memorialization and Naming the Graves

Shifting our attention away from raw numbers, it is important to consider the physical makeup of the cemetery and also to establish who is buried there. Although more detailed analyses based on information from the US Census appears in Chapter Seven, some information inherent to the grave markers themselves aids in an understanding of the use of the community's use of their cemetery.

The cemetery at Mount Gilead AME Church contains several different kinds of grave markers, including the typical 19th- and 20th-century-style formally carved marble and granite, cement slabs (ranging from the 1980s to the present), and natural stone markers. The ca. 1980s inventory also lists a few illegible wooden markers that were not

found during the survey (Spruance Library [1980s]). At least eight of the carved headstones have surviving footstones. Some presumable footstones, based on their size and form, no longer have matching headstones and were counted as the main stone for the purposes of this study. There are likely more footstones present than this count suggests. The natural stone markers are primarily of local rocks from the mountain, although two are of a stone more akin to brownstone and are informally carved with a minimum of information—simply a "J" in one case and an "1861" in another, which may also have another line of illegible text. This stone is very similar to that used in the nearby and now-defunct Mount Moriah AME Church cemetery in New Hope, Pennsylvania, but no sourcing study was conducted. Of the maximum of 243 markers at Mount Gilead, 111 (45.67%) are formally carved and 124 (51.03%) are uncarved natural stones. Another six are cement or concrete slabs, sometimes with headstones. Although only 14 of the uncarved natural stones have been linked, via the archival record, to specific dates, they range from the 1860s to the 1960s. Another two are used as temporary markers for recent graves in the past 10 years. Table A.2 (in Appendix A) gives a breakdown of all graves by marker type.

Figure 6.1 – Two informal grave markers. Left: Carved brownstone grave (G_022), "1861," likely Ann Hartless (1785-1861). Right: Natural fieldstone marker, G_020, likely Margaret Hartless (1856-1869)

Sixteen stones mark the corners of various areas of the cemetery, forming at least three probable family plots (see Figure B.6). Three mark the corners of George Jeffries's (G_015) grave. Two are aligned but do not appear to have an associated plot. Near the center of the cemetery, a family plot marked with "H" on the granite corner posts indicates a family plot for the Hartless and/or Hopkins families. A line of Hopkins graves appears on the northerly side, whereas a line of Hartless graves appears on the southerly side, although according to the GPR results, the marked plot does not contain both families' lines of graves. Another "H"-marked family plot is several rows closer to the church, although the named graves nearby this grouping do not seem to carry surnames that begin with the letter H. Graves found within other marked areas are not obviously related, or the areas themselves are difficult to determine due to presumably missing corner posts. It is also probable, given LaRoche's (2004:97) note about interconnected families in such communities, that these individuals would be found to be related through a more detailed genealogical analysis.

Without more thorough genealogical research, surnames bear the strongest evidence of familial relations. (There are obvious flaws with this method—not least of all due to the custom of women changing their surnames upon marriage. But one can also presume that if a family is large enough and has enough males who stay in the area, this effect may be somewhat mitigated.) Figure B.1 (Appendix B) shows a color-coded map of the surnames of those born in the 19th century and their appearances in the cemetery. Only those names that appear two or more times are highlighted individually. More often than not, families appear to have been buried together. More family connections may be determined through further genealogical and oral history research, but that was outside

the scope of this project. Fully 16 of the surviving grave markers of those born in the 19th century bear the last name of Hopkins. These are the ancestors and relatives of William Hopkins, who along with his wife Mildred served as the prior leadership of the church, and also others among the present-day congregation. This particular couple are buried at Forest Grove Presbyterian Church, although the grave marker of one of William Hopkins's relatives at Mount Gilead is shown below.

Figure 6.2 – Marble marker (G_005a, b) of William H. Hopkins (1860-1932) and Margaret D. Hopkins (1863-1936)

Figure B.2 (Appendix B) shows the graves of individuals born 1899 and earlier, broken down by century of death. Although they appear scattered across the map, it is also important to take into consideration that 136 (55.56%) of the surviving 243 grave markers have not been even tentatively dated. The exact property lines could not be determined and most of the older graves appear in the part of the graveyard property that was formally acquired in 1860. This could be due to the less stony soil on the southeasterly side of the cemetery, but there may also be other factors at work. Until the

parking lot was graded in the 1990s, a small hill may have helped conceal the cemetery from the road. The road level in the 19th century is unknown, as the road appears to have been cut in to the hill at some point. If the road were higher, it may not have masked the cemetery at all—although any additional tree cover may have done so. The rockier portion of the cemetery, ironically the portion that stretches from directly southeast of the church, was not formally acquired until 1909, and it appears that this portion of the cemetery was mostly used in the 20th century. Again, the difficulty of precisely placing the property boundary onto the map in ArcGIS prevents a finer-grained analysis. There is a possibility that the earliest graves here have been unmarked for so long and have such poor preservation that they are entirely invisible via these methods, but the ca. 1977 plot plan also depicts graves tapering off in this area.

For those graves where the information is available, given names were used to determine the gender of the deceased. The cemetery has slightly more males than females (95 to 78). This difference nearly disappears when one considers only the graves that date from 1899 and earlier, when 58 males to 56 females were buried there. For obvious reasons, these numbers do not take into account the 130 graves with unknown genders (including one whose first name is indeterminate). For those who were alive in the 19th century, the birthdates range from the 1780s through to the 1890s, and 47 of these individuals were born before 1860.

In all, these statistics paint a portrait of a community that was expanding throughout the 19th century. It is impossible to tell from birth and death dates alone at what point in their lives these individuals became involved with Mount Gilead, or even when they moved into the immediate area. Their burial at the cemetery does suggest a

certain strong connection with the church that no other house of worship ever obscured or took the place of. At least 90 graves date between 1900 and 1999 (or 61.47% of the total burials for whom a death date is known), suggesting deep ties to Mount Gilead that continued into the 20th century, even as the church community itself appears in decline. By the 1970s, use of the cemetery appears to have tapered off, although in the past thirteen years, there has been approximately one burial per year, possibly indicative of the resurgence of interest in the church.

Figure 6.3 – Other selected grave markers. Clockwise from top: Clustered fieldstones with an associated GPR anomaly (G_115a and G_115b); Marble marker (G_040) of "H. H. R.," likely Harry A. [sic] Robinson (1867-1921); Granite marker (G_068) of Lewis Hartless (1825-1911)

CHAPTER SEVEN

CENSUS RESEARCH

7.1 Understanding the Community via the US Census

While the gravestones themselves can yield information about the age and gender of the deceased, as well as hint at familial relations or class, there is much about the people of Mount Gilead that the stones alone cannot provide. The demographic information found inscribed on the stones, as well as in the ca. 1977 plot plan (Spruance Library 1977), provides enough information to take further steps towards understanding who these individuals were during their lives. Since 1790, the federal government has conducted a survey of all residents of the country. Early federal censuses were somewhat vague, including the name of the municipality, the name of each head-of-household as well as a count of how many individuals were in each household, broken down by race (simply "white" or "colored"), as well as by free or enslaved. More detail was added with each successive census, although this sometimes complicates comparisons between one decade and another.

By the middle of the 19th century, the US Census was recording such information as the names, occupations, and birthplaces of all members of a household. Genealogical tools such as Ancestry.Com Library Edition allow researchers to search for individuals by name, rather than by combing each locality's full records. This allows for decade-by-

decade snapshots of the lives of community members. The census itself does not indicate whether individuals were church members at the time the census was conducted, but even if they were not particpants, their personal histories doubtless affected their experiences of Mount Gilead. One exception to this general lack of visible connection is the record of Daniel Yeomans, who at age 83 in 1860 was listed as a "Methodist Minist[er]." In attempting to limit the research to known burials in the cemetery, his census appearances are not documented with the statistics later in the chapter, but he is discussed in some detail in section 4.2.

Because of Philadelphia's large African American community and due to the relative frequency of many of the surnames at Mount Gilead in the wider population, I limited my searches to Bucks County, Pennsylvania. Nash (1988:83-86) provides a long discussion about surnames that were adopted by or passed down in African American families in the mid- to late-19th century. Another reason for limiting the search to Bucks County is that the farther someone is from the county (and by extension, from the church), the less likely it is that the person is attending Mount Gilead AME Church. Due to the vagaries of Ancestry.Com's algorithms, some records outside of Bucks County appeared in the search results. In a few cases, this makes sense, as Lambertville, New Jersey, was an important nearby locality connected by ferry, and later bridge, to Pennsylvania at New Hope. These records are included where they appear to be the right individuals, but no concerted effort was made to look outside of Bucks County.

All individuals whose full names appeared either inscribed on grave markers or in the 1977 plot plan were included. In order to focus on the origins and growth of Mount Gilead during the 19th century, only censuses between 1830 and 1900 were included. The

1890 census does not appear because virtually all of its records were destroyed in a fire. This twenty year gap in the census is unfortunate, but the inclusion of the 1900 census can hopefully round out the survey. For obvious reasons, individuals born 1901 or later were not included. Likewise, those who died in childhood between census years were also not included. Where only the surname or initials survive to mark a burial, this was too little information to make positive connections to census records.[24] Later censuses were not included since they may reflect the effects of the Great Migration rather than the 19th-century African American population of Buckingham and surrounding areas.

After locating records that relate to the names (and preferably birthdates, where known) of individuals connected to Mount Gilead, I isolated data about place of residence, occupation, and place of birth, including other pertinent information (such as age, race, and other demographic information) by decade and gender in order to discern general patterns about the community. A more thorough study of the census is outside the scope of this project, but the general trends should provide entry points for understanding the day-to-day lives of the congregation.

7.2 Results and Analysis of Census Research

A total of 137 relevant census records were found, representing 72 individuals born in the year 1900 and earlier. Individuals without recorded dates of birth or death

[24] Since I divided the results into male and female, Leslie Hartless was also not included due to the fact that it was impossible to determine gender from this individual's given name. This likely will not affect the results too drastically, as there were no census records found for this person.

were also included in the search.[25] 31 females (46% of all possible females) and 41 males (58%) appear. The discrepancy between males and females may simply be due to the custom of not including women's maiden names on either their gravestones or in the census. This is particularly visible in the 1870 and 1880 censuses, in which eight male and no female children appear. Some women may appear earlier under maiden names or with previous marriages, but this is impossible to determine from the census alone.[26] This severely limits the tracking of women who eventually marry, considering that it is typically their married surnames that appear on their grave stones and in official records.

The majority of the 128 records found, 43 (or 33.59%), are from the 1900 census, closely followed by the 1880 census (at 35 or 27.34%). The 1830 and 1840 censuses had the least representation at 0.78% (1 record) and 1.56% (2), respectively. The 1830 census returned only 1 record, while the 1840 returned 2. "There is also reason to suspect…that most of Pennsylvania censuses undercounted the African American population. African Americans were often mobile or lived in marginal areas where census takers might be less diligent" (Smith 2012:18). This may also be partially due to the fact that until 1850, the US Census only recorded the name of the head of household. All other members of the household—including family members, tenants, paid servants, and enslaved workers—are represented as counts separated by age, gender, and race, with some associated demographic information.

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[25] Bucks County only has death certificates from 1893 and later.

[26] Tolitha Peaker and Drucilla Alston are likely candidates for women who appear under multiple surnames, since they have less common first names which do appear in different censuses under other names.

In an attempt to count individuals only once in the statistics, I also isolated the last census in which each individual appeared, up to and including the 1900 census. This is an assumption that the most recent census is more likely to represent when that individual was most entrenched at Mount Gilead. Unless noted, most of the results are discussed in terms of these "final" census results. Outside of the census from 1900, the chosen cut-off date, it may be possible to presume that the most recent census an individual appears in is relatively close to the date of their death. This was slightly disproven, however, when the last censuses were compared to known dates of death. For census records before 1900, the actual average number of years before death was 18.54 years for men and 16.78 years for women. Children also accounted for 23.61% of the final records (or 17 individuals). Although this may appear to imply a relatively high child mortality, 70.59% (12) of these records appeared in 1900, which is the last year consulted. Children who appeared in the 1900 census lived, on average, another 33.92 years.[27] The number was slightly higher for males than females, but the averages are misleading, as these children lived either another 1 to 14 years or 50 to 60, with none dying in between those age ranges. Unless otherwise stated, the data that follows is drawn from the most recent census on which each individual appears.

Race as recorded in the US Census for the years 1830-1900 could appear in a number of formats, typically setting up a dichotomy between "white" and "colored" or "black" individuals. Some years also included a category for "mulatto." In the daily lives of 19th-century African Americans, their exact lineage was less important than their

[27] Two out of the 10 children had unknown dates of death and so could not be calculated.

African heritage. For this reason, and also due to the fact that one individual could be listed as all three of the non-white designations in various censuses, it seemed more critical for this study to only note whether there were any people who were white. If the individuals are identified correctly, one woman (Ruth A. Lewis, G_221) and one man (Samuel Jamison, G_311) were white. Together they represent a miniscule 2.78% of the sample. Samuel Jamison was a blacksmith in Buckingham and may have died relatively young, maybe some time in his 30s or 40s, considering that he appears in every census from age 6 to 25 and then does not appear in the next census. Ruth A. Lewis was a domestic servant in Hilltown Township, which is approximately 15 miles away from Mount Gilead. (For comparison, most of the other individuals lived within an 8-10 mile radius of Mount Gilead, if not significantly closer.) If this is the correct Ruth Lewis, her connection to Mount Gilead is more difficult to discern.

Results and Analysis: Place of Residence

It is perhaps unsurprising that in their last census appearance, most men and women are found to be living in Buckingham and Solebury, the two municipalities closest to Mount Gilead AME Church (see Figures 7.1 and 7.2). Whereas the church itself is located in Buckingham, the border with Solebury runs just to the west end of Buckingham Mountain. Most of the other places listed except those labeled in Figure 7.2 as "Other (Far South)" are within 5-10 miles of the church. Unfortunately, the earlier censuses do not include detailed information about locations. Assumptions as to neighborly relations can be made, but the census contains no indication as to the density of the residences.

Figure 7.1 – Place of residence in Pennsylvania, as reported in final censuses up to 1900.

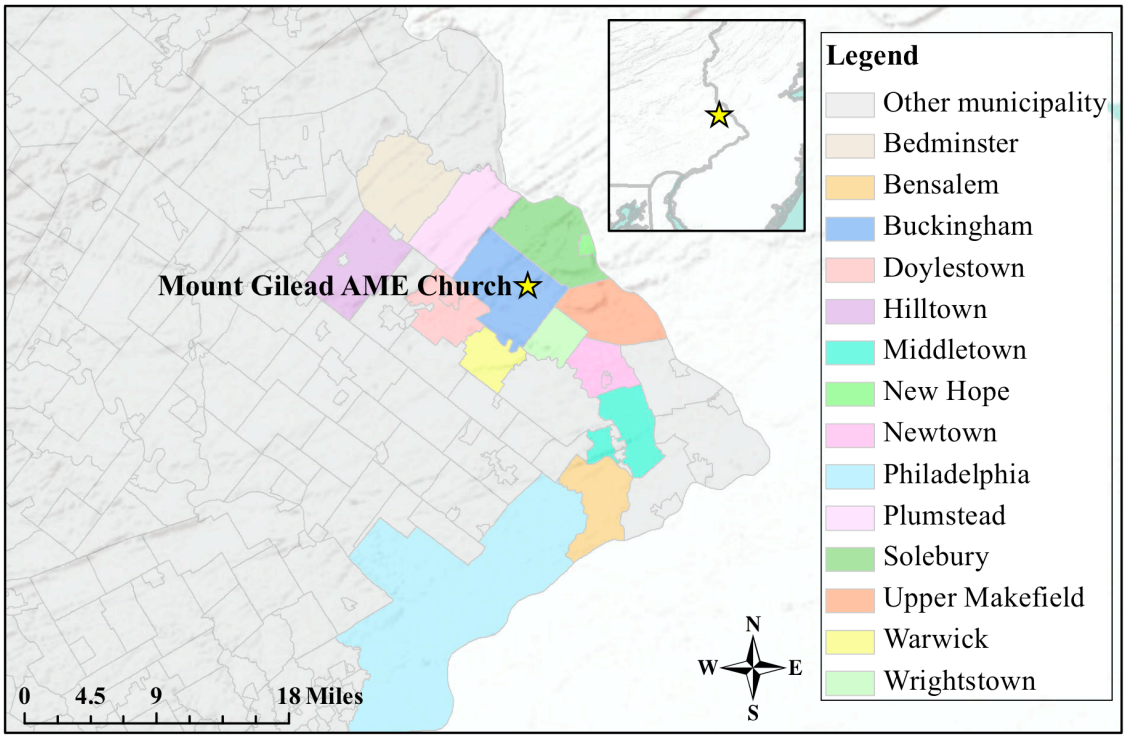
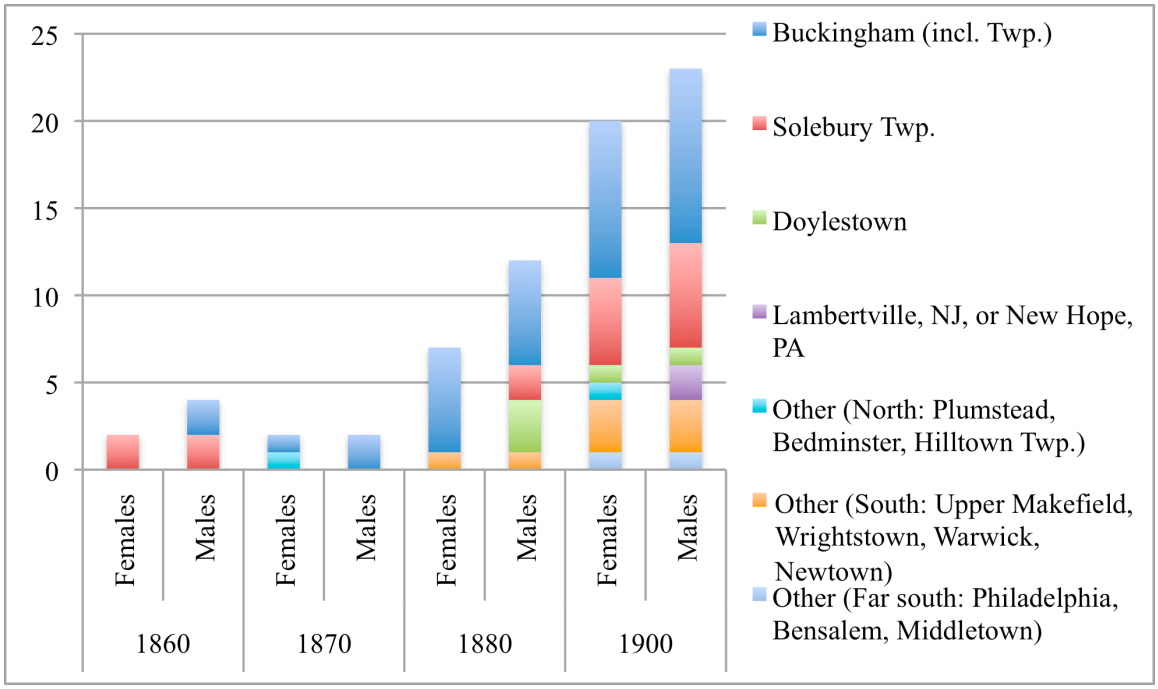


Figure 7.2 – Place of residence, as reported in final censuses up to 1900.



Results and Analysis: Birthplace

In order to gain a full perspective on the makeup of the population over time, each census was consulted for the place of birth of the individuals listed, which created a total of 127 records. Birthplace of individuals is a category that may deserve some scrutiny. Hershberg (1997) casts doubt on the validity of information in the 1838 Pennsylvania Abolition Society survey of free African Americans in Philadelphia. He claims that there is the distinct possibility that formerly enslaved individuals, particularly those from the Upper South, would have much incentive to mislead census takers about the conditions of their birth (Hershberg 1997:146-147). Hershberg does not seem to similarly doubt their honesty about their place of birth, although if individuals were attempting to conceal their history, one might assume that either information could be suspect.

Regardless, this information was included on the census and is fairly consistent for most individuals throughout the censuses in which they appear. An exception is John H. Anderson who in the 1860 census is listed as having been born in Delaware, whereas in the 1870 census is listed as having been born in Maryland. This may reflect anxieties on Anderson's part as to whether reporting he had been born in Maryland (whether as free or enslaved), might invite the undue attention of bounty hunters. Considering that both Maryland and Delaware were slaveholding states well into the Civil War, this may be less likely. However, the infamous case of the capture and re-enslavement in Maryland of Benjamin Jones only about three miles from Mount Gilead certainly could have made Maryland loom as a larger threat. Another exception is Louisa Piatt, who in 1880 appears as having been born in Virginia and in 1900 as having been born in

Pennsylvania. This case is just as likely to be due to an error on the part of the census taker as any other reason, and casts doubt onto whether John Anderson's answers are intentionally misreported.

According to what was recorded, two-thirds (66.67%) of individuals were born in Pennsylvania, followed by Maryland (12.5%) and New Jersey (9.72%). Virginia (8.33%) and South Carolina (2.78%) were also represented. Of the six men who appear in the 1850 census, the first to record place of birth, four were born in Pennsylvania, and two were born in New Jersey. The 1860 census is the first time any Southern-born individual is reported. In this census, men outnumber women 10 to 6, but 12 individuals (75%) were still born in Pennsylvania, 3 (18.75%) in New Jersey, and 1 (6.25%) was born in Delaware. The Delaware-born individual was John H. Anderson, which does beg the question of whether all the others are correctly accounted for. The results, however, do appear similar to what Schuyler (1980:52) found in his research into the late 19th-century community of Sandy Ground, New York.

In 1870, about five years past the end of the Civil War, 23 individuals appear (8 women and 15 men), of these, 11 (47.83%) were born in Pennsylvania with 3 (13.04%) each from New Jersey, Maryland, and Virginia and 1 (4.35%) each from South Carolina and Missouri. This is most likely related to northern migration of African Americans at this time, but could also indicate a lowering of self-protective barricades, as anxieties about slave catchers subsided. By 1880, the percentages of individuals from each of these states is very similar, with 48.57% (17 out of 35 people) having been born in Pennsylvania, 14.29% (5 people) from New Jersey, and 2.86% (1 person) each from Delaware and South Carolina. A slight jump is seen in people who were born in

Maryland, rising to 20% (7 of 35 people). This change is small enough that it could be the arrival of one family.

By 1900, this northward immigration seems to have slowed, with the majority (29 people or 67.44%) of the listed 43 individuals having been born in Pennsylvania. The 1900 census asks for the place of birth of parents, and even a cursory look through these fields gives the impression that we are now looking at many people who are second- or third-generation Pennsylvanians.[28] That said, other states are still represented, with Maryland claimed as a birthplace by five people (or 11.63%), Virginia by four (9.3%), New Jersey by two (4.65%), and South Carolina, Missouri, and Massachusetts each represented by 1 individual or (2.33% each).

Results and Analysis: Occupations

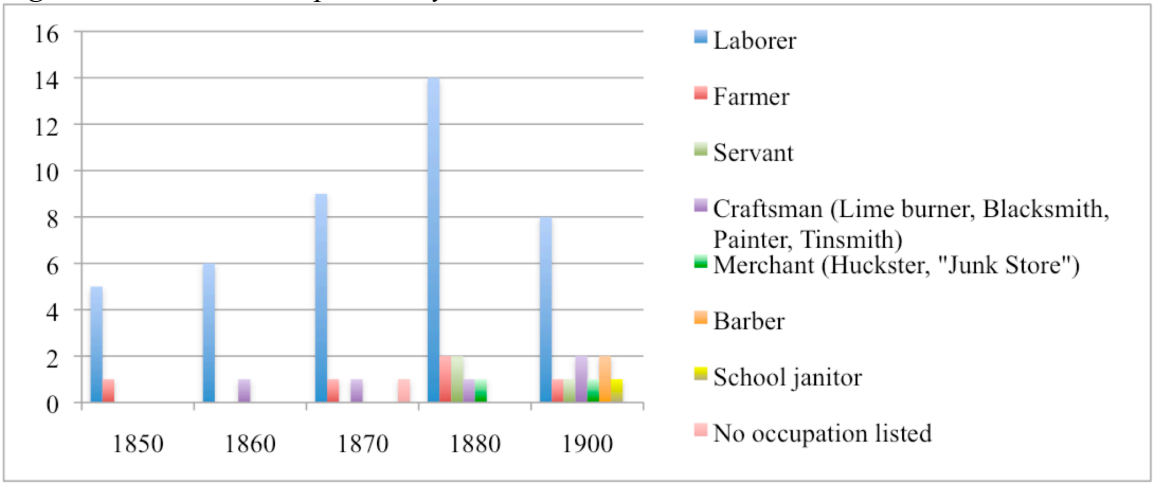
Throughout the census, there is remarkable consistency in the occupations held by individuals. Very few express upward mobility as would be seen moving from being listed as a farm laborer to being listed as a farmer, or in moving from "day laborer" to other positions. William Toller (G_118) is even listed as continuing to work as a day laborer at age 80 in 1900. Several others were laborers into their 60s. While there was some diversification of occupations by 1880 and 1900, the majority of men and women held jobs common to their gender.

When looking at all the census records, there was a strict gender divide in terms of what positions individuals held. Depending on the census, most women fell into the

[28] 13 out of 43 people (30.23%) in the 1900 census were younger than 18 years of age.

categories of either “keeping house” or having no occupation listed. It can be safely assumed that since no unmarried women held these occupations, all of the women with these designations were housewives, whose daily tasks and business would not have been of interest to census takers. These two professions alone make up 86.67% to 100% of adult women’s occupations between 1850 and 1880. One woman appears in each of the 1870, 1880, and 1900 censuses as a servant (whether for an individual household or an inn), and one woman in 1900 is listed as a washerwoman.

Figure 7.3 – Men’s occupations by decade



The adult men compose the larger share of the individuals who appear in the census overall and also show a greater diversity of occupations, although most men are still employed as laborers throughout the period 1850 and 1900. Figure 7.3 shows the raw numbers of men in each profession broken down by census, and for the purposes of this study, those listed as “farm laborers,” “day laborers,” and “laborers” were combined. 1850 was the first census to record information about occupations, and although a similar

number of men worked as laborers in 1850 as in 1900 (5 versus 8), the distribution of laborers among working adult males fell from 83.33% (5 out of 6 total) of adult males in 1850 to 50% of adult males (8 out of 16) by 1900. The real estate of those were listed as farmers was valued lower than that of their neighbors, although there is no indication if this suggests differences in arability, acreage, or some combination of the two.

Results and Analysis: Literacy

From 1860, the US Census began tracking literacy with a simple "yes" or "no" answer. By 1870, census takers were splitting literacy into whether people could read or write. A perhaps surprising outcome of this research is finding that, with rare exceptions, all adults found in the census were literate. In the final count, only two women and four men were completely illiterate, with another one woman and two men able to read but not write. This means that, over time, 89.09% of the entire adult population was fully or partially literate. Individual stories also appear over the course of census data, including Charles Piatt (G_114) who appears illiterate in the 1880 census and literate in 1900, implying that he gained some education between his 20s and middle age. All children of school age are also listed as being in school. According to Hershberg (1997:135-136), education was a key value among free and formerly enslaved African-Americans in Philadelphia in the second quarter of the 19th century, so it seems only fitting that there would be high literacy rates among this community in the generations that followed. It was a particularly high priority among AME congregations, who placed a high priority on educational institutions within the context of church communities (Payne 1891:98). Since

this community was still part of the larger world, it may also be related to changes in Pennsylvania school laws in the mid-19th century.

Results and Analysis: The Underground Railroad

Being a federal enumeration of population, the US Census did not explicitly record illicit and semi-legal activities such as the Underground Railroad, making any discussion of its appearance fairly tentative. Fortunately, at least one of Mount Gilead's conductors is known by name, because he received a passing mention in an 1870s newspaper blurb (Marshall 1994:53). Andrew Hartless (G_333), who was recorded on the 1977 plot plan of the cemetery, was not included in Siebert's (1898:431) list of Bucks County conductors. He appears in Buckingham as early as the 1830 census, when he was head of a household of nine free African Americans. The spread of their ages suggests extended family or unrelated individuals living under one roof. It is possible that this listing is representative of a household of self-emancipated persons who had escaped—or were even still technically escaping—along the Underground Railroad. By the 1840 census, this household was much shrunk, suggesting that the other individuals there had moved on. Aside from this and his 1860 occupation as a lime burner, Andew Hartless's census information does not make him particularly stand out from his congregation—indicating just how difficult it is to isolate those who were actively involved in the Underground Railroad from anyone else. The threats posed to them were very real, and some of this concealment was likely intentional. It is also important to note here, that although conductors and supporters may have engaged in extreme acts of courage, their daily lives were probably very similar to anyone else in their community.

7.3 Census: Overall analysis

Although the results represent only a fraction of the named individuals from the cemetery, and only roughly half of those who should have appeared in the 19th-century censuses, they do paint a picture of the lives of individuals who worshipped at Mount Gilead. For the most part, males who were old enough went to work as laborers, often on farms. The vast majority of the women appear to have stayed home to tend the household. Considering that most of the people are listed as members of large families, sometimes including grandparents, grandchildren, or possibly other relatives, there was likely much to be done around the house. Through surnames alone, there are definite kin ties across the community. Individuals who show up associated with one household are found, through age and marriage, with other households with their own ties to the church community. Without more detailed genealogical research, however, these ties can be difficult to discern. What is apparent, however, is that unless only certain people from families were attending Mount Gilead, there are many more people who theoretically should be buried in the cemetery. This strongly suggests that there were other places that this community felt were proper resting places for their deceased. It is also interesting to note how many (56.63%) individuals do not appear in the census, even after the Civil War. It is impossible to tell from this data whether this is because they lived elsewhere, if they were living in areas away from the census takers' routes, or if there were racially biased practices among census takers which involved not recording black households.

CHAPTER EIGHT

CONCLUSIONS

The history of Mount Gilead AME Church is complex, requiring a series of methodological approaches to attain an adequate perspective on the community over the course of the 19th century. While its history likely stretches back at least to the 1820s, the community seems to have followed the trajectory of many other free black communities—particularly rural ones—that formed in an unstable social environment and provided a strong support system for people who were attempting to find their place in American society, but that eventually dissolved as the people at the heart of them moved on. This raises the question of whether Mount Gilead's community intended it to be a permanent settlement or merely a temporary place that they could regroup. The stone church, land ownership by Daniel and Phillis Yeomans, and decades-long tenure of some individuals living in the area suggest that this was not viewed as collection of transients, but as a mutually beneficial organization of people attempting to create a place for themselves in a changing environment. Some people involved with the church, especially in the latter half of the 1800s, may have never directly experienced slavery. Others, in particular those who were born in southern states and those who—like Thomas York—refused to say, lived under its burden for some portion of their lives.

A telling aspect of the cemetery at Mount Gilead is that this hardship is not what is commemorated by the stones. When they have more than simple names and dates carved onto them, the stones most frequently show kinship—mother, father, daughter, son. A few others, generally more recent, speak of accomplishments, such as William Teat (G_122) who played baseball for the Negro Leagues in the 20th century. If not for their connection to a historically African American church, there would be little indication that the graves contained in this cemetery are those of a particular racial or ethnic background. Common to African American cemeteries, the unmarked fieldstones may suggest a cultural practice, poverty, a community close-knit enough to remember who was buried beneath each stone, or some other cultural meaning that may no longer be accessible. The GPR results, however, do confirm that most are grave markers. It is impossible to say whether all members of the church were buried here, but archival sources such as Quaker farm account books and US Census records suggest the community was geographically spread out and may have been using other cemeteries, such as the Solebury Friends Meeting (Crooks 2012) or other burial grounds.

Although there are scattered reports of racially-motivated violence against people associated with Mount Gilead, ranging from incidents at Harvest Home ceremonies to Benjamin "Big Ben" Jones's kidnapping, little direct evidence remains of the hardships that this community faced. Oral tradition ties Mount Gilead very strongly to the Underground Railroad. At least once in the 1860s, they held an outdoor event on the property of a known Underground Railroad conductor family. Andrew Hartless (G_333), who is discussed in some detail in the Underground Railroad portion of the census research (section 7.2), is the only member of the congregation who has been found to be

named specifically as a conductor on the Underground Railroad, although it is doubtful that he was the only one.

Even outside the workings of the Underground Railroad, life was not easy for most of the congregation. At least half of the men in the congregation worked as laborers. The farm account books that specifically mention the labors of John H. Anderson (G_208), Moses Hopkins (G_143) and his son Moses C. Hopkins (G_063), and Charles Yeomans, as well as the rental payments to the farmers for housing, reveal the grit required to make a living (Fell 1883; Williams 1912). The fact that William Toller (G_118) was working as a laborer into his 80s, according to the US Census, suggests how very long one might be required to do so, if he remained able-bodied. When the alternative may have been to enter the almshouse, as Benjamin Jones ultimately did, it is perhaps unsurprising to find some people working so hard so late in life. Although we do not know much about the majority of people interred at Mount Gilead, the high number of laborers and housewives suggests a hardworking and family-oriented congregation. The care taken in laying out the graves of loved ones in more-or-less orderly rows oriented towards the church could be interpreted in several ways, but fits very well within the larger ethos of the AME Church and southeastern African American culture, more generally. The emphases given to education, social improvement, and simply creating a space where African Americans could thrive outside of some of the strictures of white society, are all visible here. The location of the church on top of Buckingham Mountain is likewise probably due to a confluence of factors. Without further research, and even then, it is impossible to know if Daniel and Phillis Yeomans owned their property before the mountain may have been used for the Underground Railroad, or if they acquired it

intentionally in this specific location for that reason. It is one of the highest points on the mountain that is still relatively accessible, which fits well with Rainville's (2008:4) suggestion of the Christian significance of high places. At the same time, the mountain's reputation for secrecy and the location of illicit activities stretches back centuries.

Although GPR in cemeteries is most often used to find and enumerate graves, the technology has more utility than simply that, and can provide spatial interpretations similar to those achieved through excavation. It is useful for assessing how intact a cemetery is—particularly one that has seen the sort of vandalism experienced by Mount Gilead. It can also be used for telling how the cemetery's usage has changed over time and whether the layout has been altered significantly, as well as to help validate or correct the above-ground interpretations. In the case of Mount Gilead, the GPR reveals that, despite repeated acts of vandalism, the graves are located very close to where they are marked, and appear to be generally oriented with their feet toward the church.

The archival research and GPR results both suggest the existence of more graves than are known—and the names of over one hundred people remain a mystery. Most cemeteries contain more graves than there appear to be on the surface, and Mount Gilead is no exception. Through natural processes, vandalism, well-intentioned cemetery improvements, archival lapses, and other means, the locations of graves can become lost over time. The note that there were once at least some wooden markers (Spruance Library [1980s]) also suggests a cemetery whose visual appearance may once have been quite different—possibly even with wooden markers outnumbering other styles. Although 243 graves are currently marked, there may be upwards of 478 people buried in

the cemetery.[29] The very environment that made this available to the free community living here—particularly its extremely rocky soil—was feared that it could prevent the use of ground-penetrating radar here. This was not the case, however, as is evidenced by the GPR results.

The number of burials found do not suggest a massive community that lived and died on the mountain itself, but they do suggest an evolving community that, especially at and just after its peak, found solace in the physical location of the church and cemetery. If the church founders, aside from John Anderson, are buried in the cemetery, their graves are currently anonymous. It is also possible that they are buried in smaller family cemeteries or in Quaker burial grounds elsewhere. The places of residence of the people of Mount Gilead implies a geographically dispersed community, at least by the latter half of the 19th century. While this does not disprove the oral tradition of escaped slaves hiding among the crags of Buckingham Mountain—especially when those stories are taken into consideration with existing archival connections to conductors, it does suggest that even Mount Gilead's Underground Railroad history may not be as straightforward as it at first seems. Like the rest of the network, here it was likely a less-than-formal web of connections across the mountain and its surrounding countryside. After all, people traveling through the area would have eventually had to leave the mountain to continue to safer havens. It is apparent, however, that at least some found the Buckingham area sufficient and settled there.

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[29] Conyers (2013:197) discusses the invisibility of some kinds of graves on GPR—especially those who were buried without caskets—and the consequences of assuming that GPR can always identify which areas of a given cemetery are entirely devoid of graves.

As with many such people who, due to intrinsic or imposed reasons, left little in the way of written records, many questions still surround the history of this community. The most pressing of which is, if the earliest grave in the cemetery really *is* from 1861, where was this community burying their dead before that point? The church had been in existence for thirty or forty years by then, and it seems unreasonable that they would not have had need of a cemetery. Being a rural area, families may have buried their own in a designated place on their property. Lacking that, some nearby Quaker meetings allowed the burial of African Americans (Crooks 2012). There is also a possibility that areas closer to the church were used for burials before the cemetery land was purchased, however there is currently no above-ground evidence of this and it would require further testing. The exact factors that may have caused this community to begin burying their dead in the cemetery here are likely as complex as the rest of the history of the church. As Foster and Eckert (2003:472) claim, Mount Gilead's cemetery itself may indeed serve as an "inchoate sampl[e] of [a] still larger deceased population[n]." However, combining what has survived on the stones themselves with relevant archival and geophysical information begins to give form to the community. With only a few burials occurring each year, it may have not seemed necessary to have a dedicated churchyard. Perhaps the land was not available to them for some reason, considering it was bought so many years after the plot for the church itself. It is important to note, however, that the church itself was built before the formal acquisition of that property, which suggests that property ownership may have been a somewhat more fluid concept on Buckingham Mountain than we might assume based on documentary evidence. Graves may have been marked by fieldstones or wooden crosses, or perhaps nothing but grave decorations. They may have

been intentionally designed to keep a low profile and prevent vandalism—or they may have been merely what the mourners could afford or what they felt was appropriate. The intentions of people in the past are tempting but extremely difficult to speculate upon, especially in situations such as this, where the narratives are unified by very little besides common experience.

LaRoche (2004:91) explores the susceptibility of geographically dispersed free African American settlements to the process of forgetting. She writes that "[t]hese long forgotten, loosely defined sites, occasionally mentioned in passing in historical literature, are poorly preserved and rarely extant in the landscape. Cemeteries are often the sole markers of a once thriving community" (LaRoche 2004:91). The existence of the Mount Gilead AME Church, its cemetery, and the several regular services it holds each year are critical to combating this process of forgetting. It is likewise essential to recognize just how rare the continued existence of a community such as this is. Although its demographics have likely changed over the past century, some descendents of the 19th-century African American community are still active in the church. Research into the church's history and the dissemination of the findings help to reinforce the historical narrative here and draw more positive attention toward a place that is struggling to this day. If nothing else, recording the church and its cemetery as they currently exist is a form of preservation in itself and is worthy of the effort expended. Likewise, oral histories should be recorded before more are lost. As Baugher and Veit (2014:24) note, "the burial grounds of the poor, marginalized, and minority groups are particularly at risk [of disturbance or destruction by development], as they may lack formal markers and clear titles."

The continued life of this church depends on sustained attention and support from those invested in its history, present, and future so that it does not become one of the many defunct historic black communities, like its sister AME church community of Mount Moriah whose physical presence has been reduced to a small cemetery in a private backyard. Mount Gilead and places like it are the remnants of a much larger and dispersed movement which supported nascent African American communities and helped them navigate a tenuous existence in the shadow of slavery. To lose more of their physical presence on the landscape would contribute to the process of forgetting this seminal episode in American history, and to lose it without recording what still exists would be a disgrace.

Many scholars address the vital importance of such churches and other small institutions to the security and evolving culture of 19th-century African American communities, urban and rural. Vincent (1999:78) writes:

> For northern blacks, the creation of autonomous churches, schools, and other community groups represented one of the few bright spots in an otherwise difficult and troublesome experience. . . . While often founded partly out of necessity, the end result of racial discrimination and proscription, they quickly became vehicles for the expression of black ideals and beliefs. In essence they were nurturers of a new northern black cultural identity. . . . Both AME and Wesleyan congregations . . . openly confronted discrimination facing northern blacks and stood firmly in the forefront of efforts to end slavery and champion racial justice.

Without question, the social impact on African American culture of communities such as Mount Gilead was immense. The fact that descendents of this community, a hundred years or more since the church held regular services, still regard this as a sacred space and one where they can connect with their history only cements its importance to the

modern-day region. The exact numbers of people who passed through Buckingham on the Underground Railroad will likely never be known. Even the numbers of those who settled there and lived out their lives physically or emotionally close to Mount Gilead AME Church are difficult to ascertain. It is clear, however, that the roughly 300-500 people who are buried there had some kind of connection to this physical location, whether by they themselves or through their families or adopted communities. Where there is no evidence of a centralized settlement, this church clearly served a similar community function, providing a physical location upon which a community of free African Americans, regardless of how they attained that status, were able to build something of their own. The institution of the church itself may have provided a protective space for its congregants to engage in the dangerous prospect of supporting the Underground Railroad. Through the church's prominence and efforts at legitimizing its own position through worship meetings and physical presence, it may have provided to those who worshipped under its roof an additional measure of freedom to act in ways which went beyond surviving to attempting to effect social change.

APPENDIX A:
ASSOCIATED TABLES

Table A.1 GPR Appearance by Decade

	On Slices AND Radargrams	On Slices OR Radargrams	May be on Slices and/or Radargrams	Not on Slices or Radargrams	Outside of Study Area	Totals:
1860-1869	1	1	0	2	0	**4**
1870-1879	4	1	1	0	0	**6**
1880-1889	2	1	6	2	0	**11**
1890-1899	3	6	2	1	0	**12**
1900-1909	3	4	7	1	0	**15**
1910-1919	1	4	1	2	0	**8**
1920-1929	2	0	3	0	0	**6**
1930-1939	2	1	2	2	0	**7**
1940-1949	2	1	0	2	0	**5**
1950-1959	1	0	0	1	0	**2**
1960-1969	4	2	0	0	0	**6**
1970-1979	3	0	0	0	0	**3**
1980-1989	1	0	0	0	2	**3**
1990-1999	3	1	0	1	1	**6**
2000-2013	8	0	0	3	1	**12**
Unknown date	12	23	57	37	8	**137**
Totals	**53**	**45**	**79**	**54**	**12**	**243**

Table A.2 - All Known Graves by Marker Type

	Carved Stones	Concrete Slabs	Natural Stone	Unmarked Graves (as of 2013)	Total for each decade
1860-1869	2	0	2	0	**4**
1870-1879	6	0	0	5	**11**
1880-1889	11	0	0	2	**13**
1890-1899	12	0	0	4	**16**
1900-1909	15	0	0	5	**20**
1910-1919	6	0	2	1	**9**
1920-1929	6	0	0	5	**11**
1930-1939	6	0	1	9	**16**
1940-1949	1	0	4	3	**8**
1950-1959	2	0	0	2	**4**
1960-1969	3	0	3	4	**10**
1970-1979	3	0	0	0	**3**
1980-1989	1	2	0	0	**3**
1990-1999	3	3	0	0	**6**
2000-2013	10	1	2	0	**13**
Unknown Date	26	0	110	19	**155**
Total for each marker type	**113**	**6**	**124**	**59**	**302**

APPENDIX B:
GRAVE MARKER MAPS WITH ATTRIBUTE DATA

Figure B.1 – Grave markers of individuals born 1899 and earlier, by surname

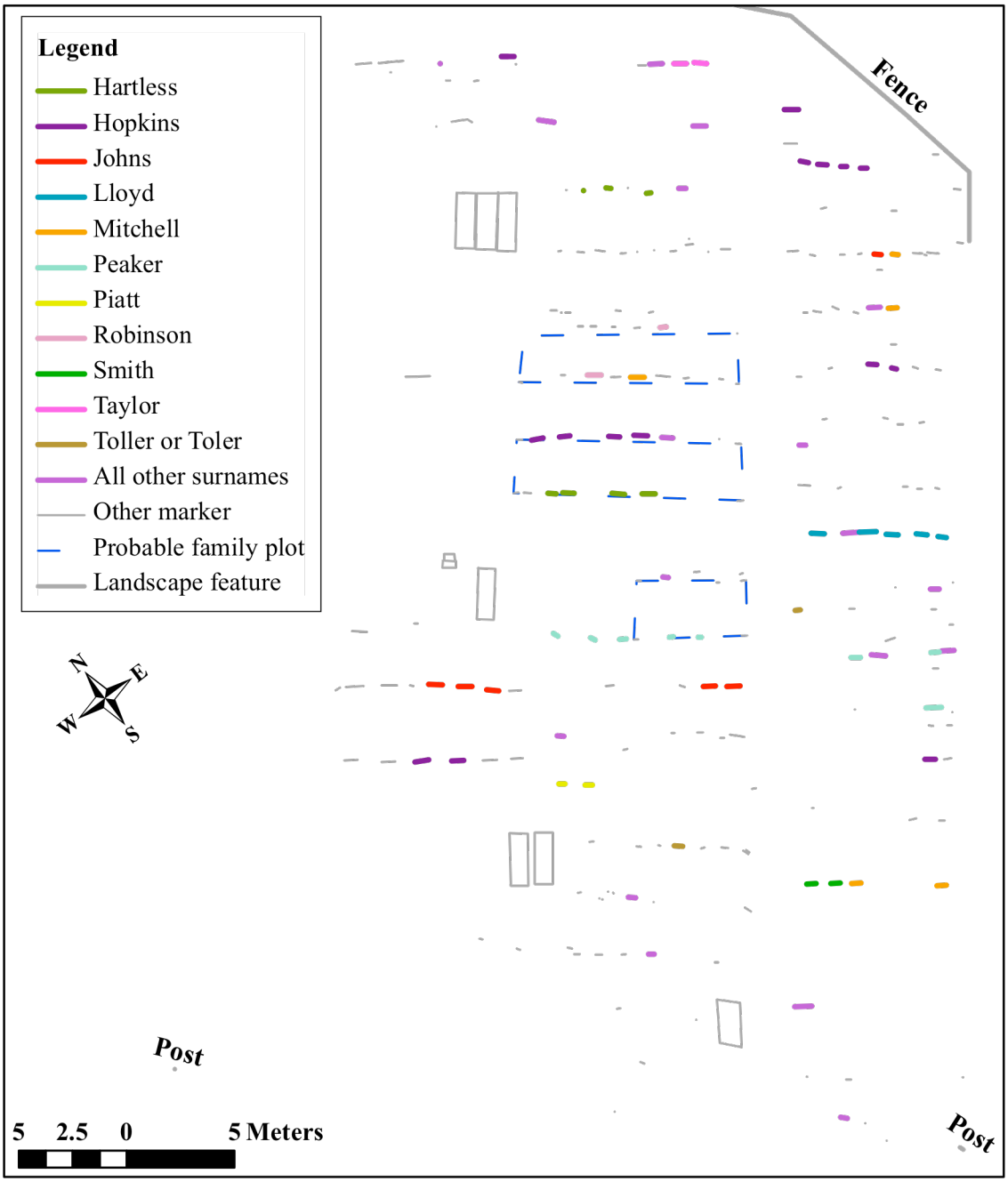


Figure B.2 - Grave markers of individuals born 1899 and earlier, by century of death

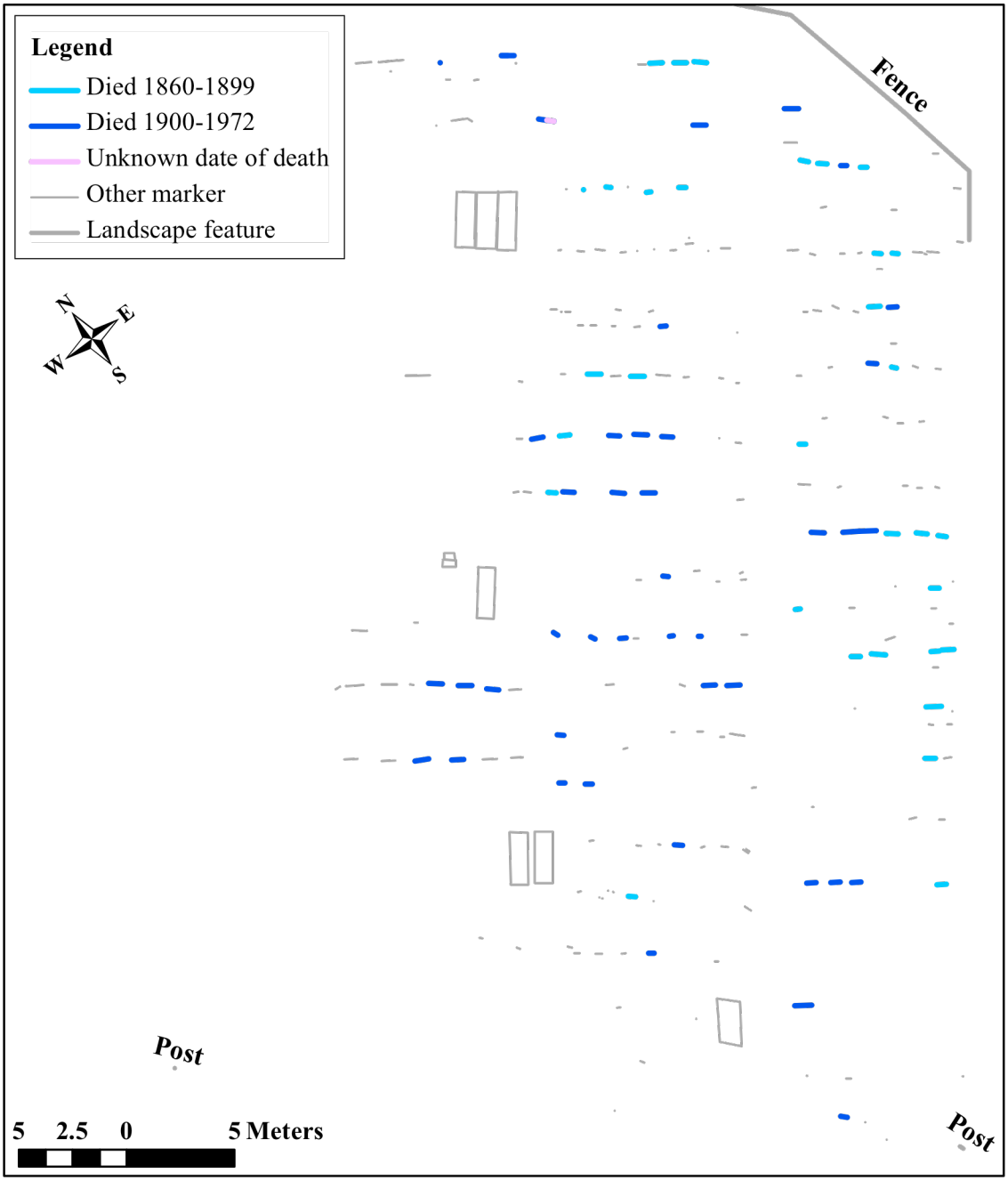
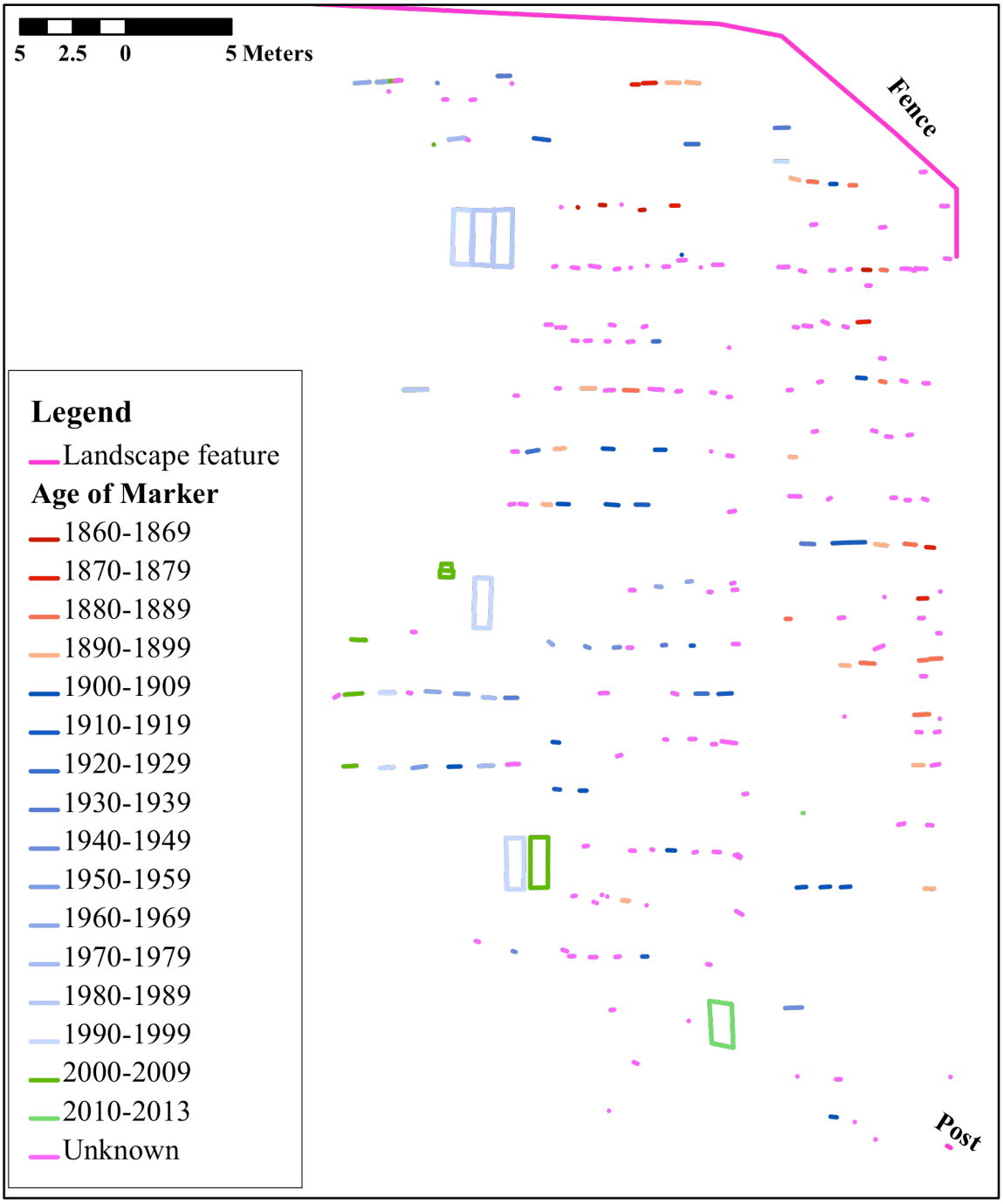


Figure B.3 – All mapped markers and presumed locations of unmapped graves (placed from Spruance Library [1977] alone)

*Figure B.4 – All mapped markers by decade of death**



* Joint stones appear by earliest death on stone.

Figure B.5 – All mapped markers by type and date

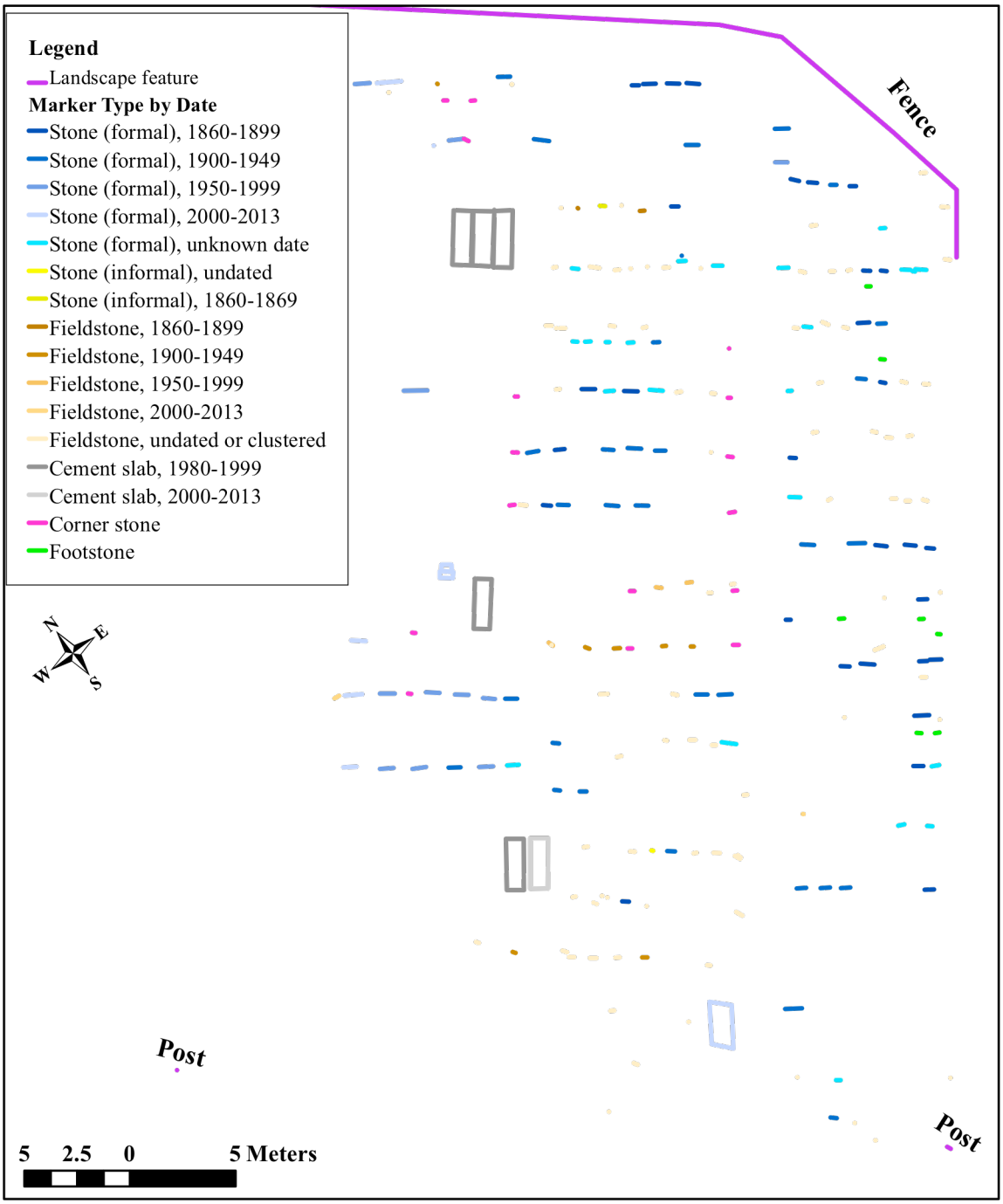


Figure B.6 – Corner Markers in Mount Gilead cemetery

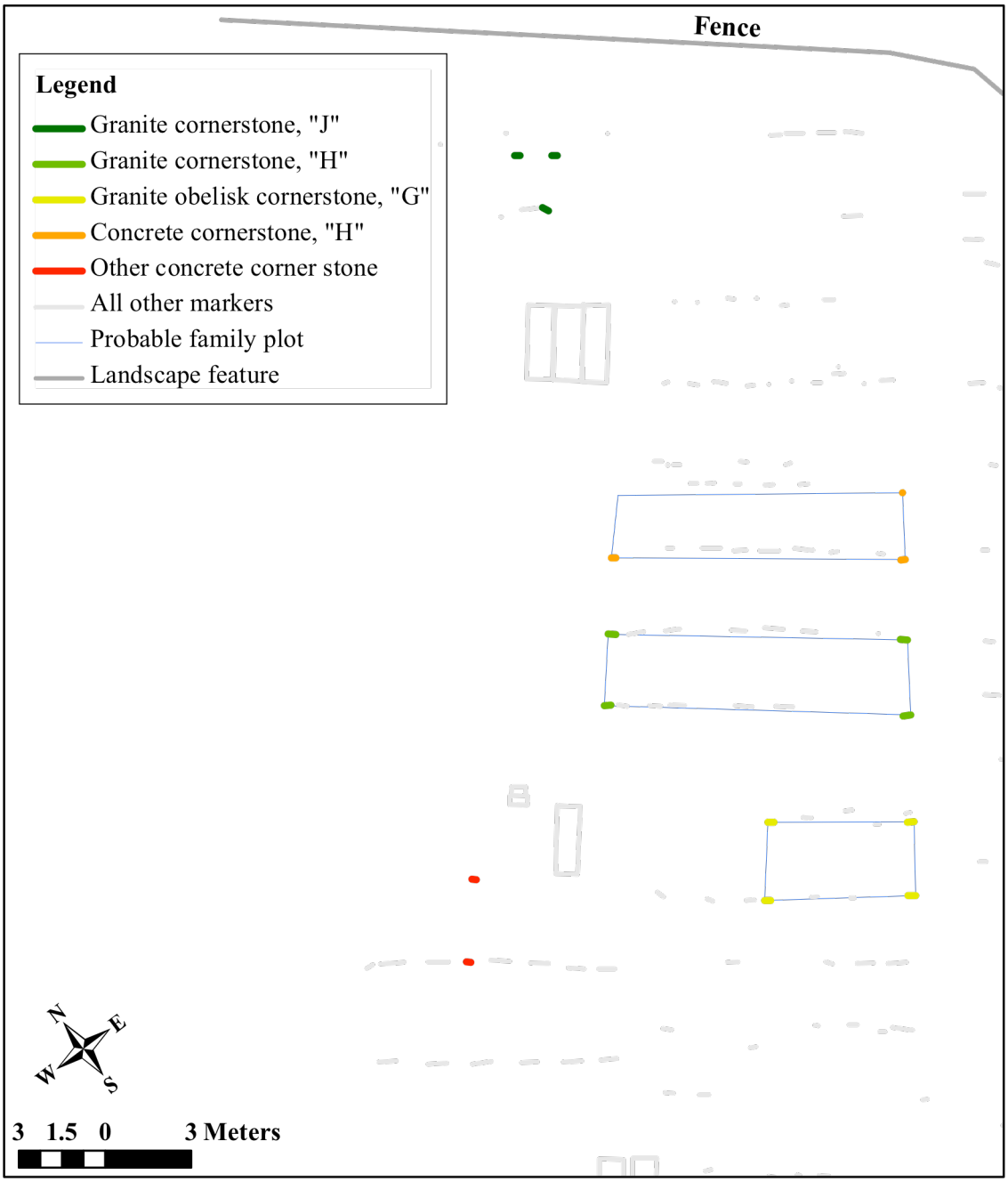


Figure B.7 – Transects and flags for GPR survey

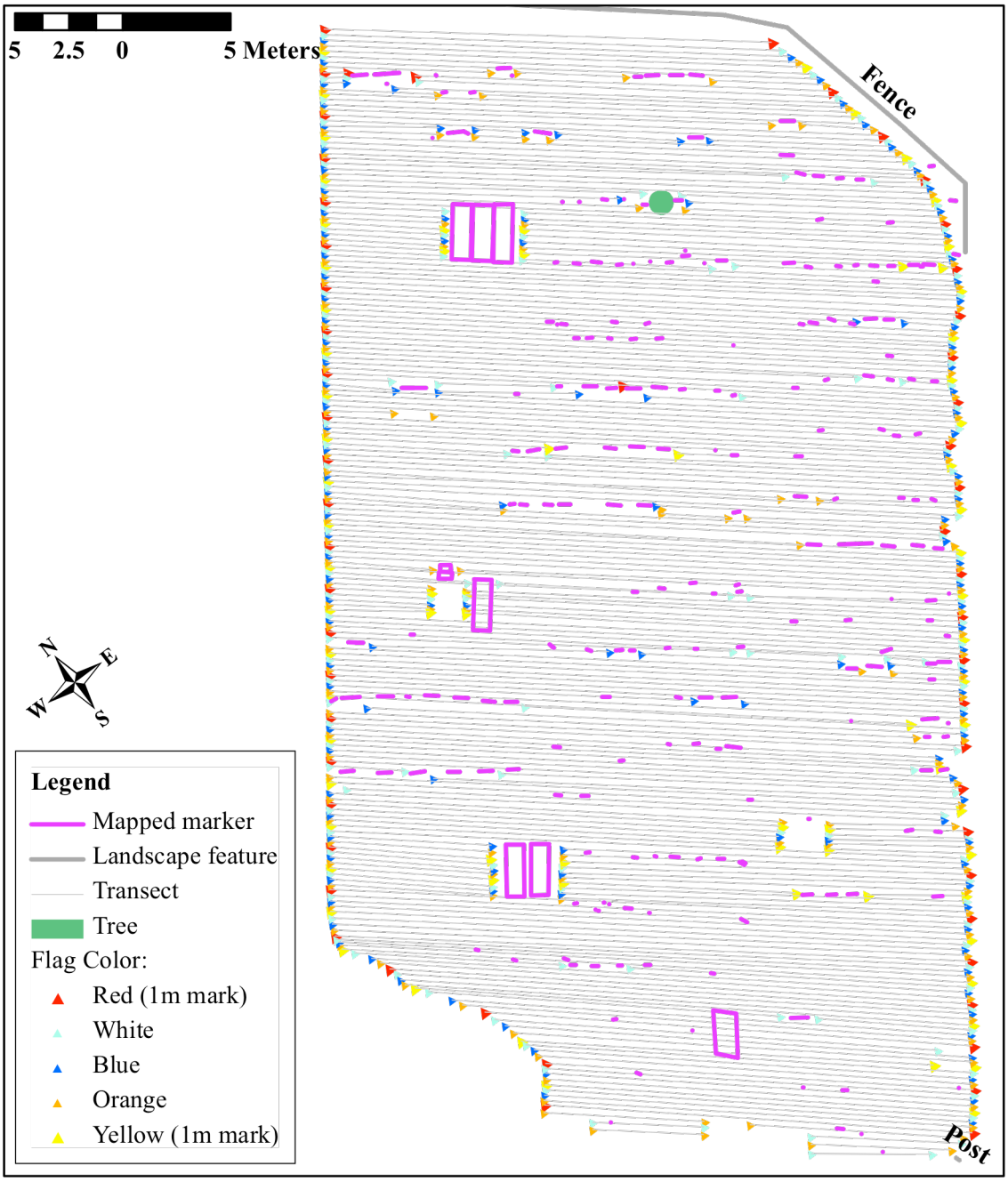
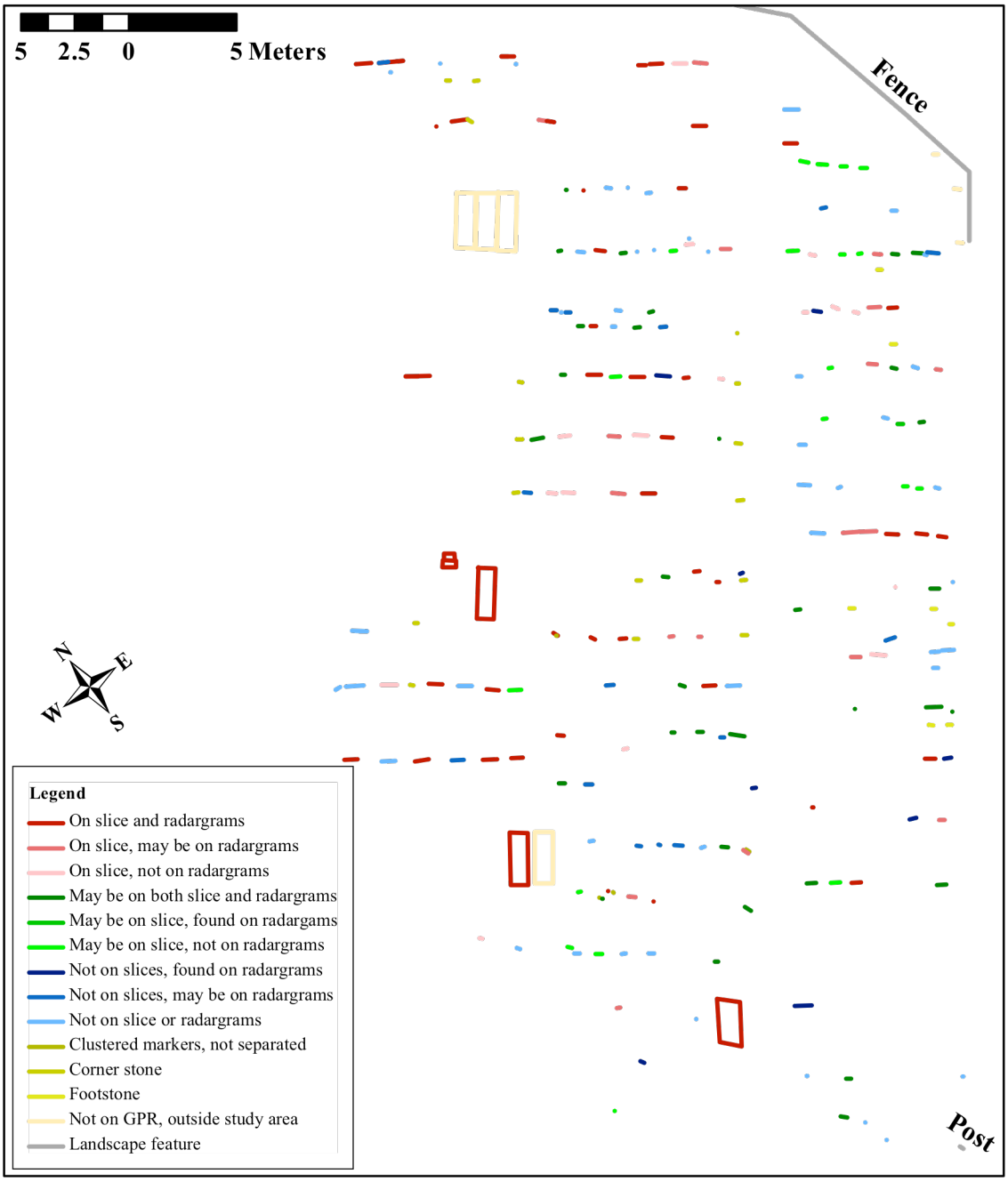


Figure B.8 – Grave markers linked with anomalies found on radargram profiles and time slices



APPENDIX C:
ALL MARKER LOCATIONS BY NUMBER

Figure C.1 – Map of sections of cemetery

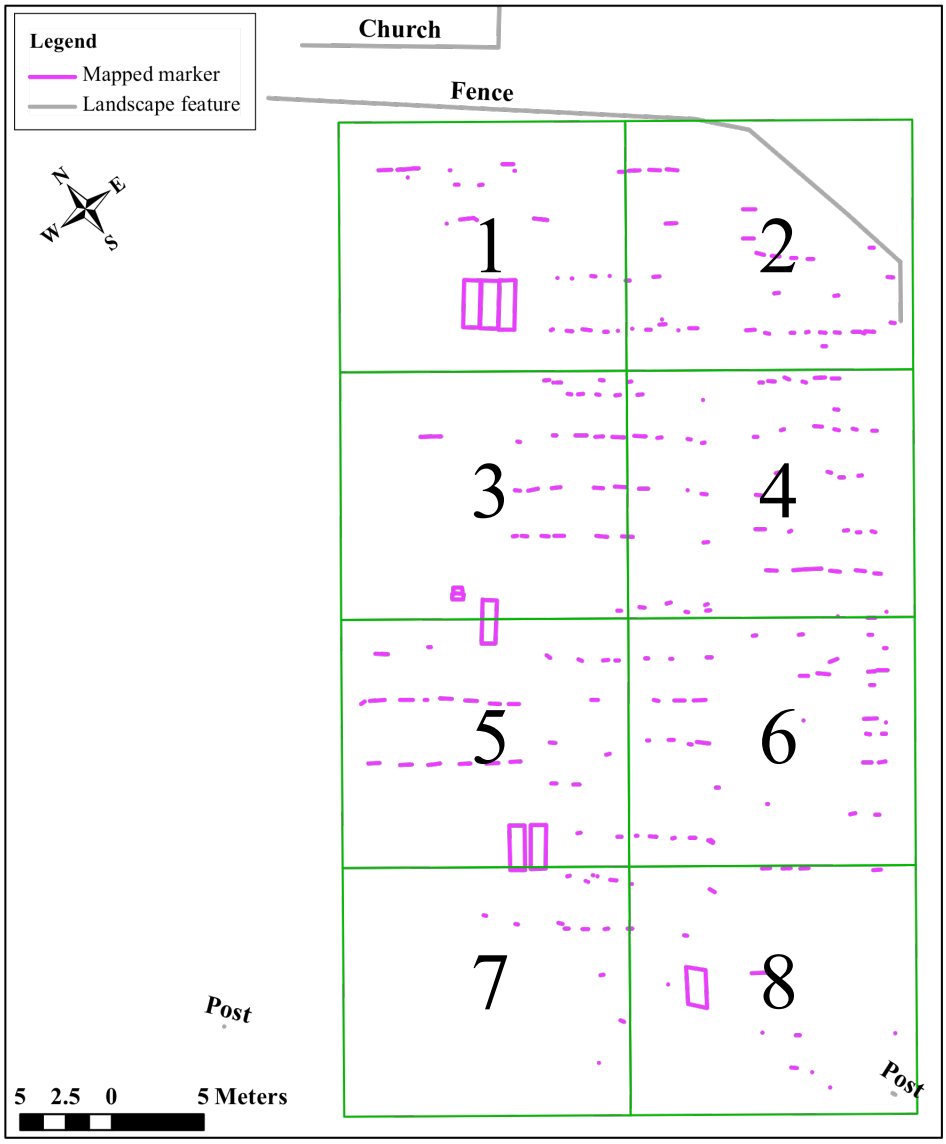


Figure C.2 – Cemetery section 1

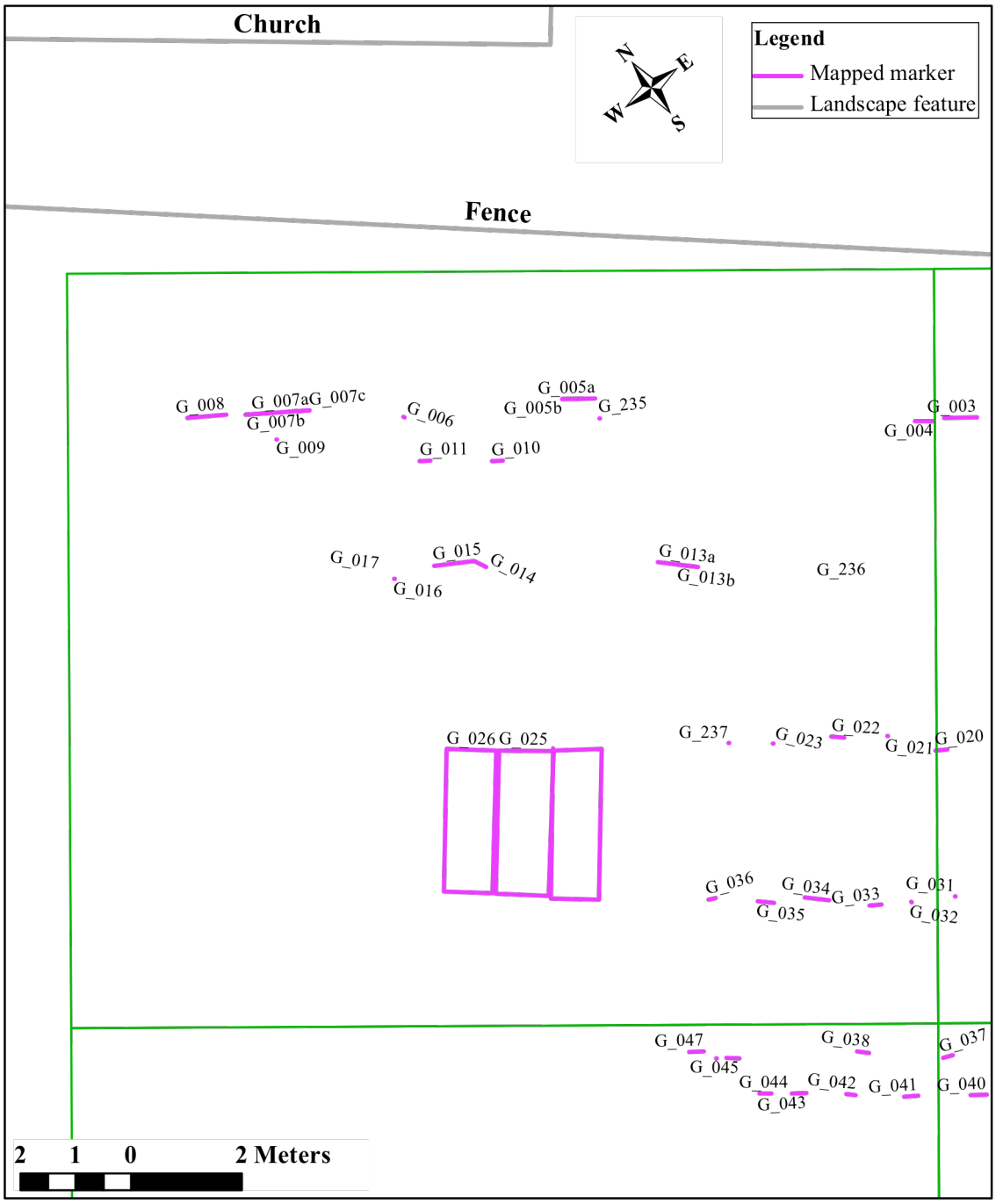


Figure C.3 – Cemetery section 2

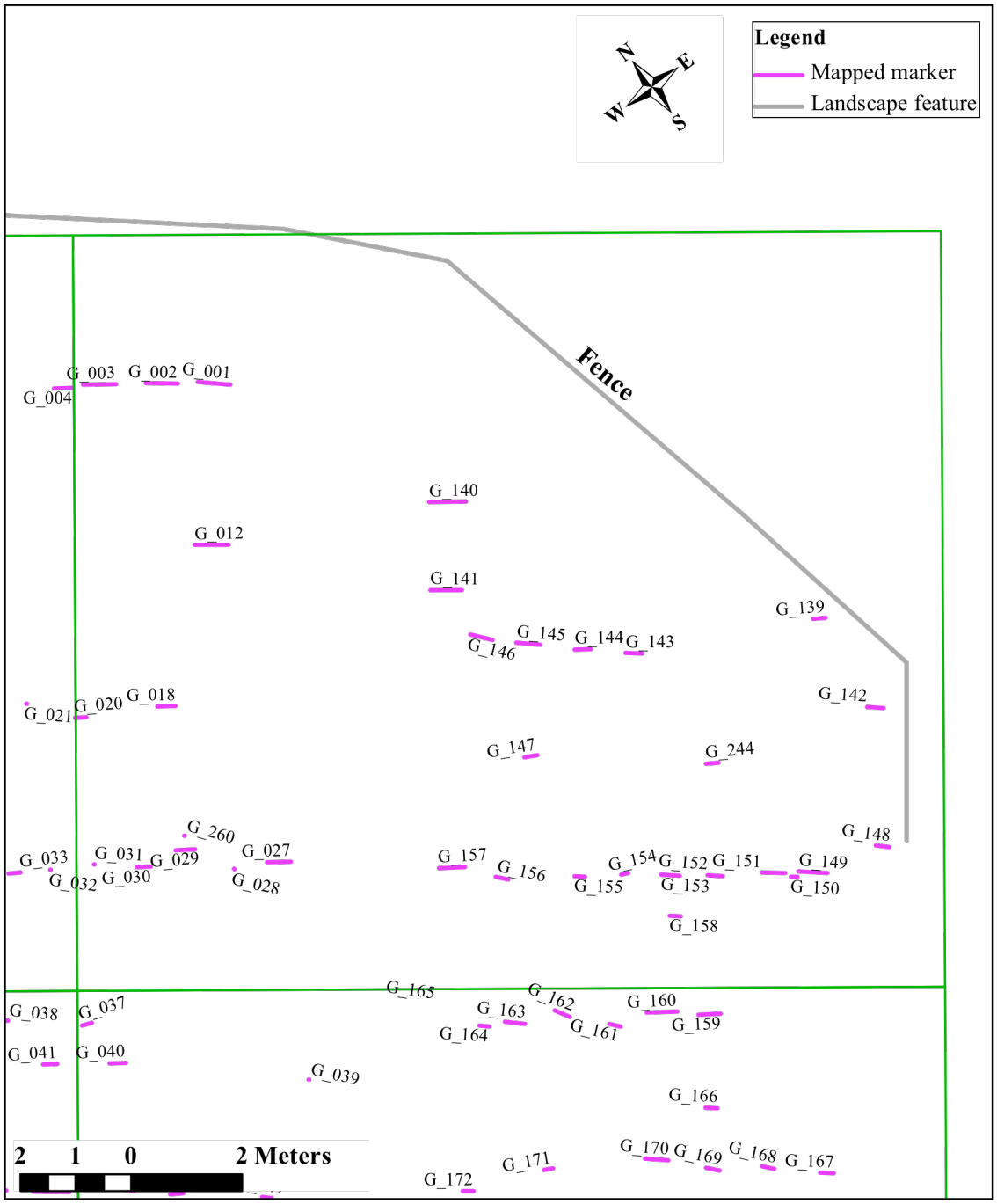


Figure C.4 – Cemetery section 3

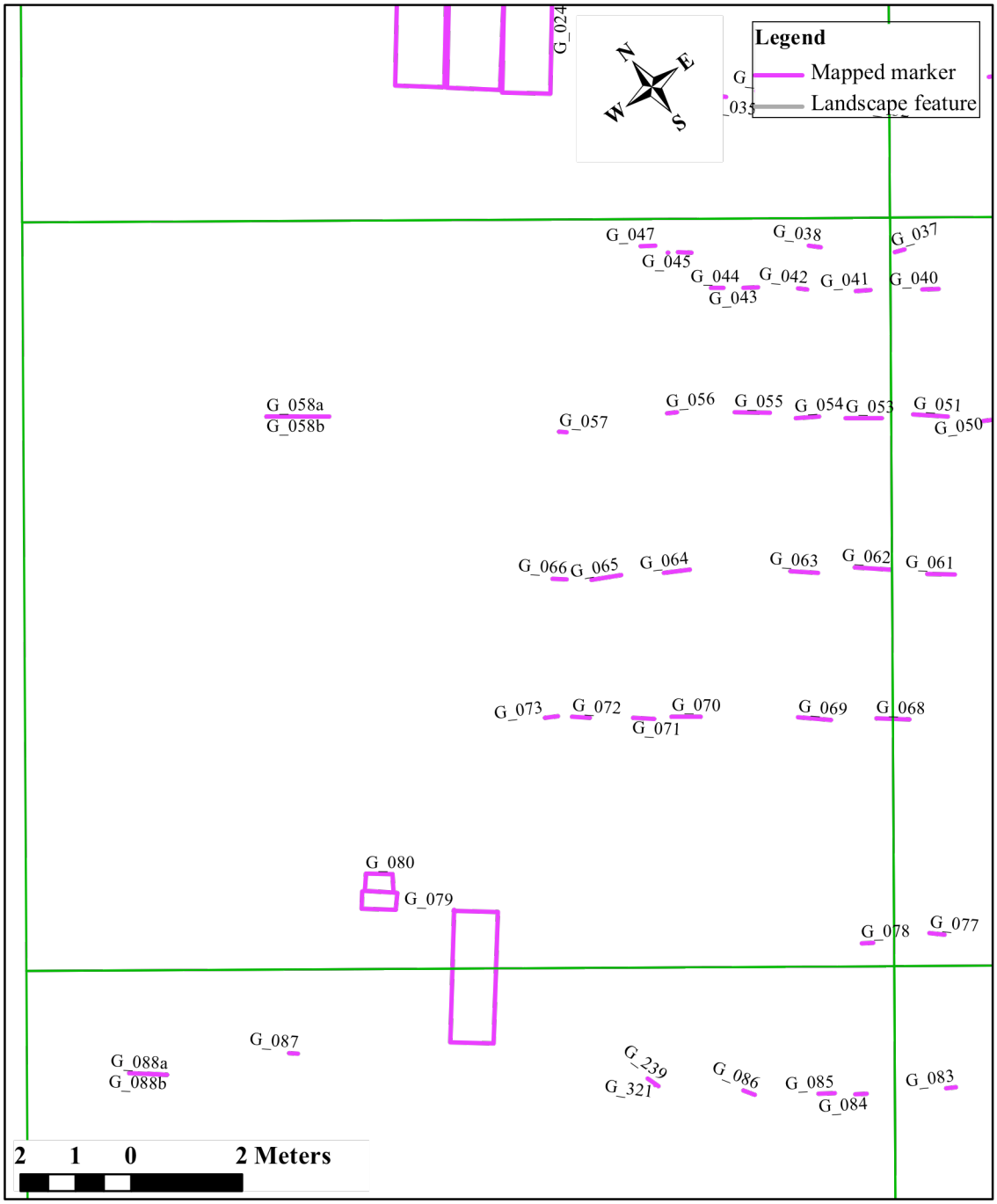


Figure C.5 – Cemetery section 4

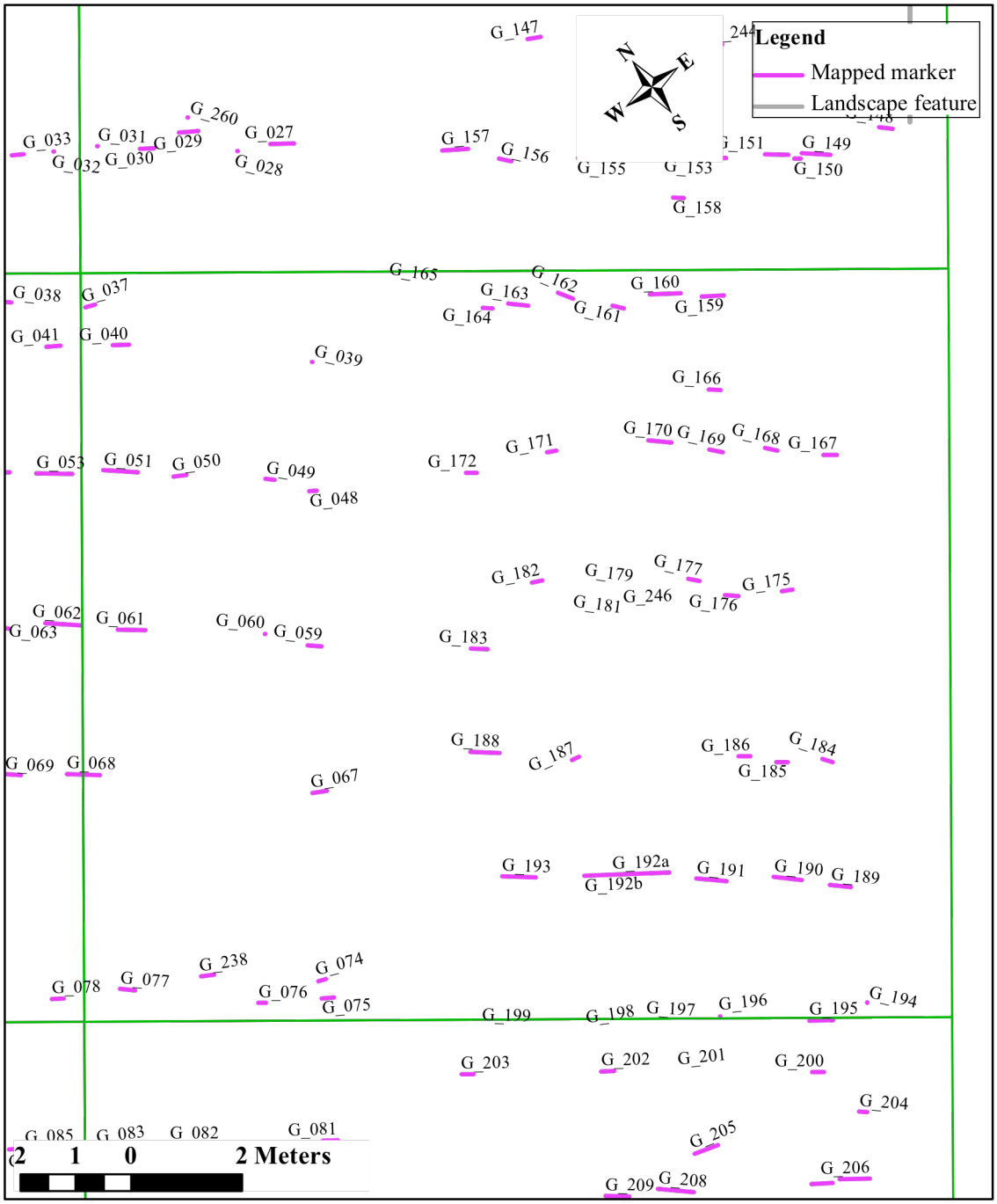


Figure C.6 – Cemetery section 5

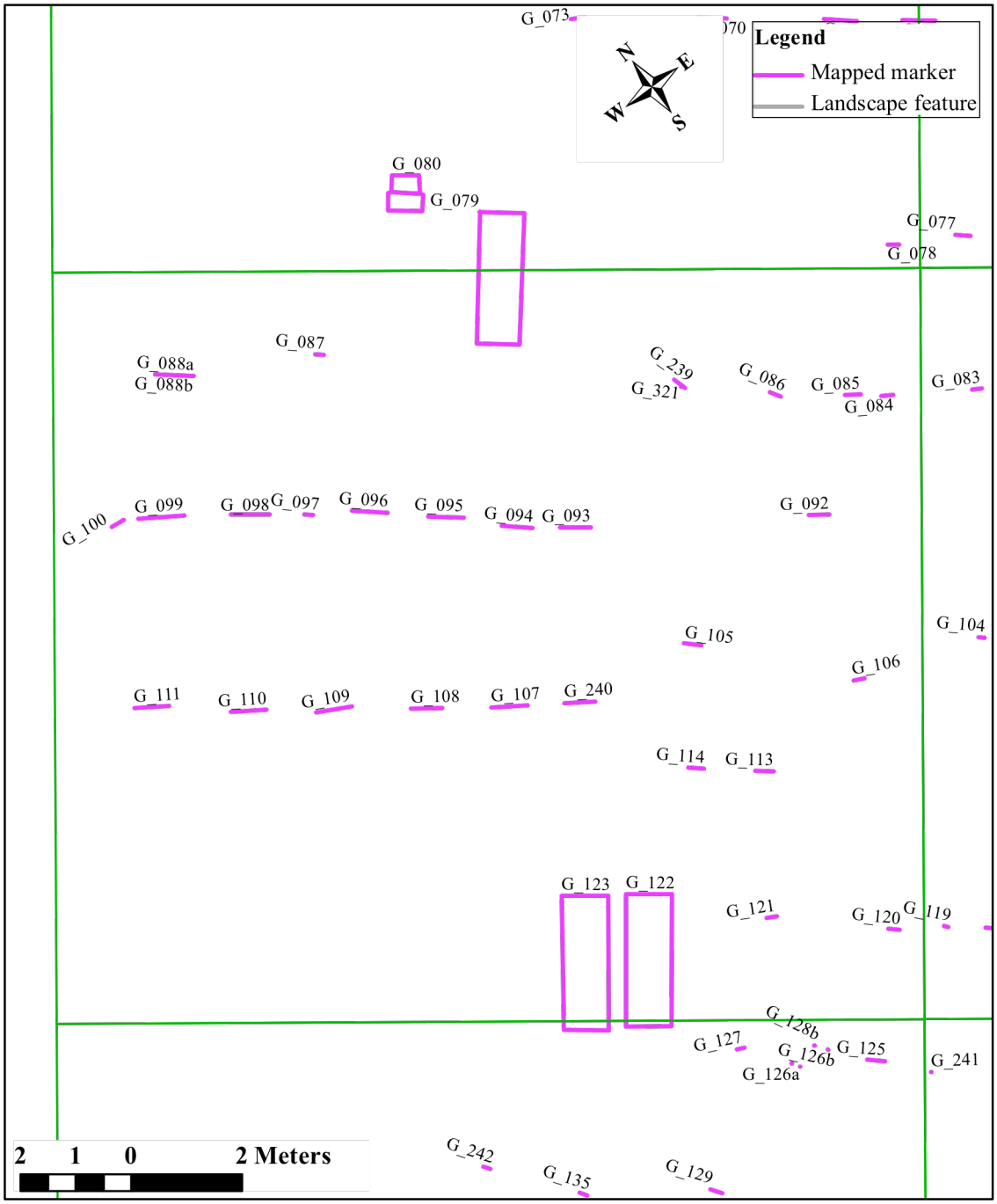


Figure C.7 – Cemetery section 6

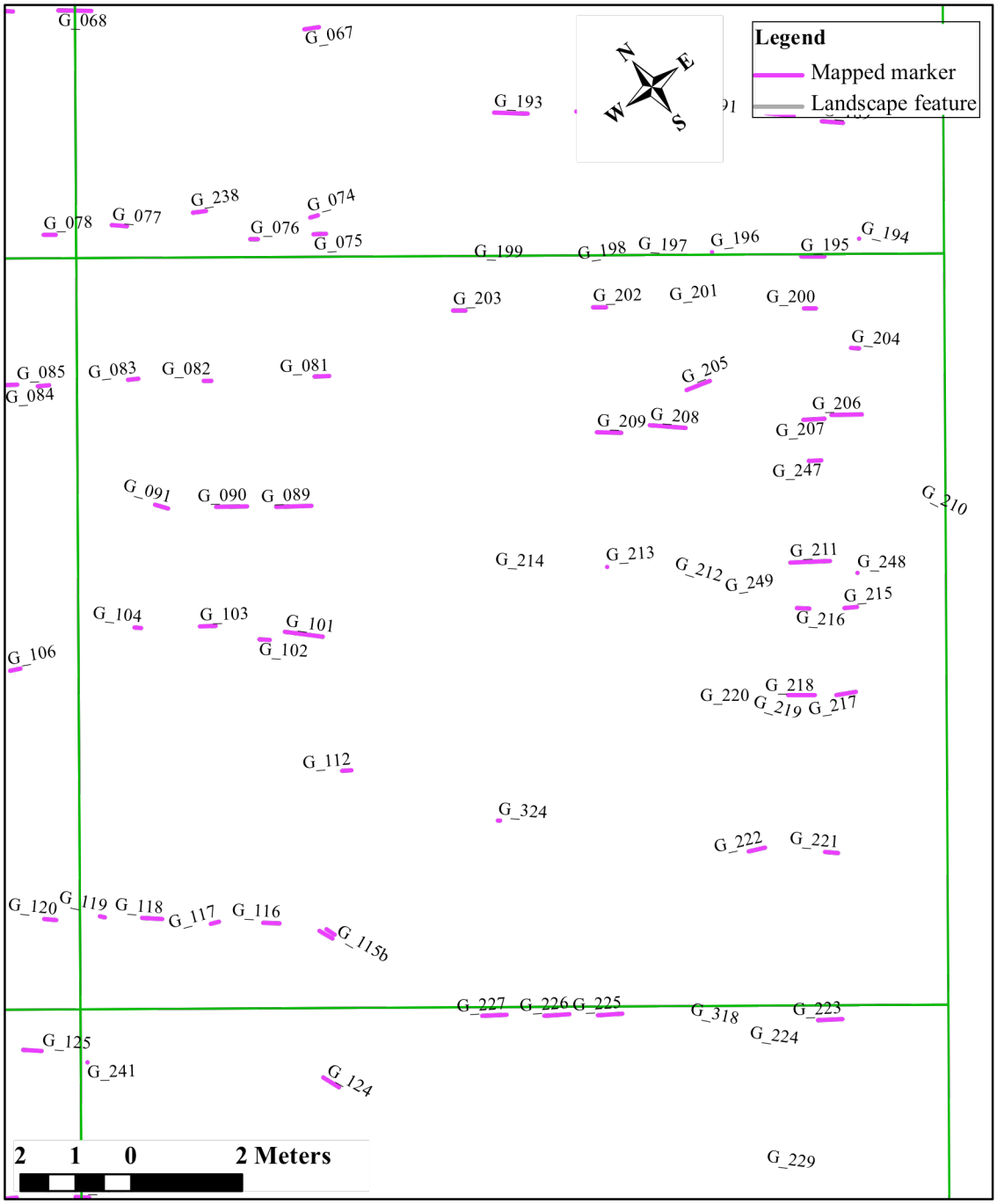


Figure C.8 – Cemetery section 7

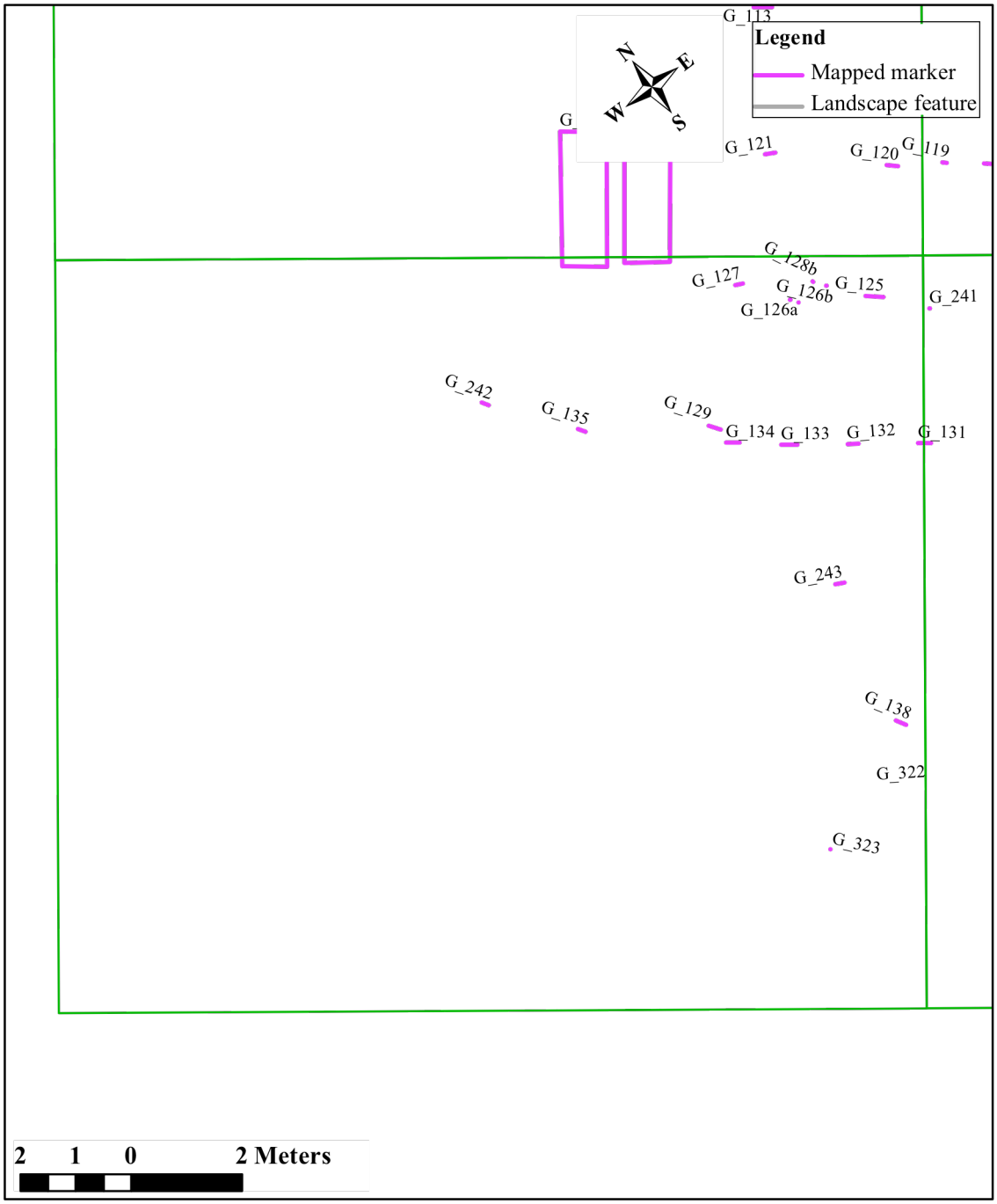
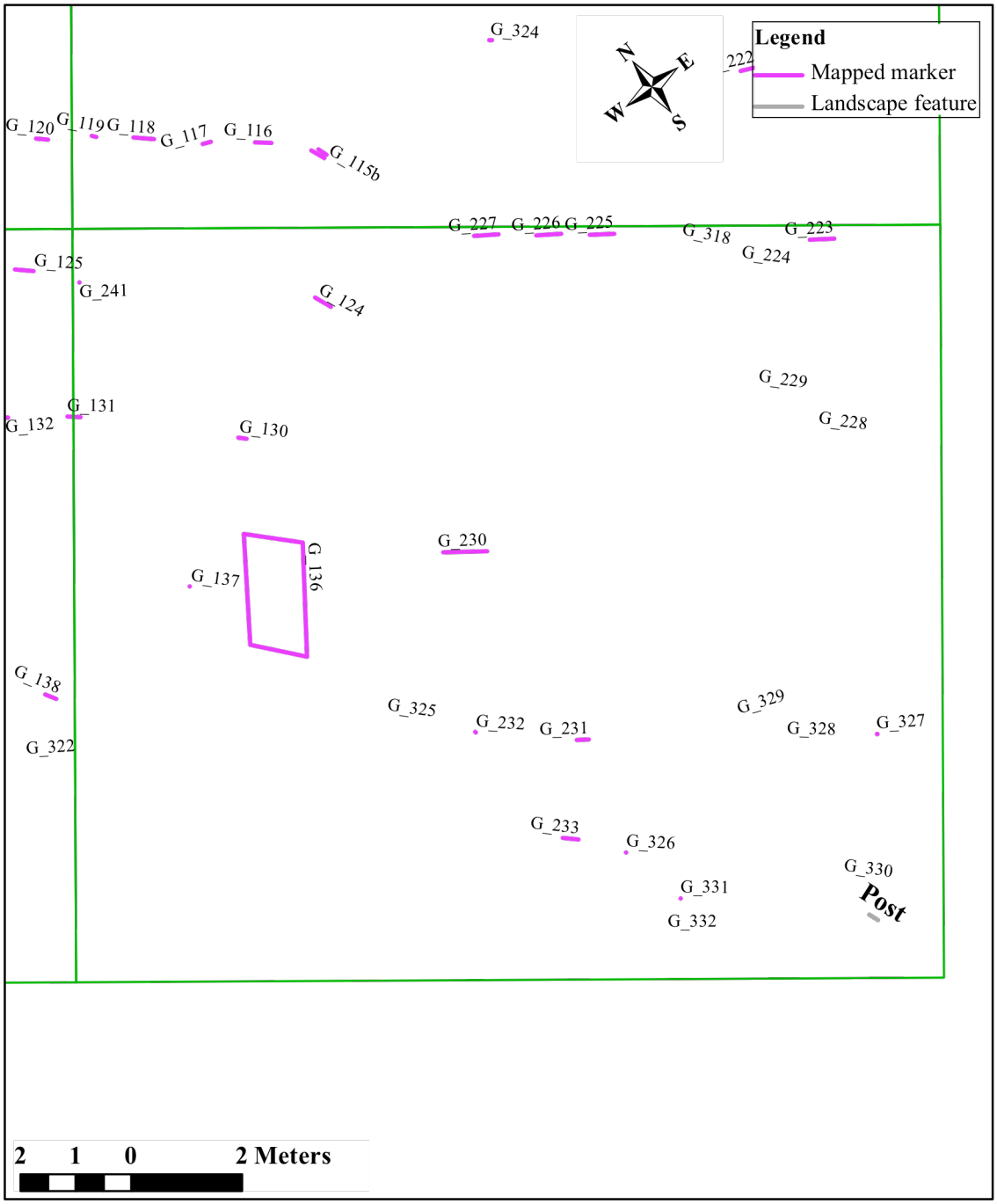


Figure C.9 – Cemetery section 8



APPENDIX D:
TABLE OF ALL KNOWN MARKERS AND UNMARKED GRAVES

Marker ID – Arbitrary number; some are missing due to being combined with other records during analysis of Spruance Library (1977) plot plan

Name on Marker – Names which appear on extant markers

Type of Marker

Blank – carved marker, including marble, granite and other stones

Brownstone – roughly cut sandstone marker, with vernacular carving

Corner – corner stone, plus stone type or shape of marker

Damaged or Base only – carved marker that has been damaged

Footstone – definite footstone

Joint-# – carved marker for multiple graves

Natural – uncut local stone marker (fieldstone)

Natural-cluster – cluster of uncut local stones in one area

Natural-modern – uncut local stone marker, 21st century placement

None extant – grave has been determined from Spruance Library (1977)

Slab – cement or concrete slab grave marker

Unknown location – grave marker is dissociated from grave

Last Name – Definite or probable last name associated with Marker ID

Birthdate and **Deathdate** – Determined from marker or Spruance Library (1977)

Age at Death – Calculated from known birth and death dates

Posssible Name – Determined from Spruance Library (1977) plot plan

Gender – Determined from given names

Linked Slice Anomaly – Anomaly found on time slices which has been connected to this marker by location

S### – Anomaly number from time slice analysis

N/A – None found; where not applicable, reasons are noted

See notes – See "Possible Slice Anomalies and Other Notes" field

Linked Radargram Anomaly – Anomaly or anomalies found on radargrams which has/have been connected to this marker by location

– Anomaly number from radargram analysis

N/A – None found; where not applicable, reasons are noted

Total Station Points Mapped – How many points were taken on this marker by total station and included in map

Total Station Point Locations – Where points were taken on this marker by total station

Census Appearances – How many US Census records were found for this individual from 1830-1900

Inscription and Selected Notes on Condition – Transcribed inscription from marker itself; condition notes about marker where relevant

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 001	Taylor, Mary Jane		Taylor	1830	1898	68		F	S143	see notes
G 002	Taylor, Philip		Taylor	1827	1899	72		M	S056	N/A
G 003	Quocko, A. Jackson		Quocko	1830	1874	44		M	S142	017
G 004	Scott, Rev. Otho		Scott	1807	1872	65		M	S010	028
G 005a	Hopkins, William H.	joint-1	Hopkins	1860	1932	72		M	S243	006
G 005b	Hopkins, Margaret D.	joint-2	Hopkins	1863	1936	73		F	S243	012
G 006	n/a	natural	Geary	1869	1941	72	Geary, Walter V.	M	N/A	N/A
G 007a	Nelson, Ethel C.	joint-1	Nelson	1908	2002	94		F	S001	003
G 007b	Nelson, Joseph S.	joint-2	Nelson	1909	1961	52		M	N/A	see notes
G 007c	Nelson, Jefferson	joint-3	Nelson	unknown	unknown	unknown		M	S055	030 and 050
G 008	Nelson, Joseph R.		Nelson	1929	1966	37		M	S002	001
G 009	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 010	J	corner-granite		n/a	n/a	n/a			N/A-cornerstone	N/A-cornerstone
G 011	J	corner-granite		n/a	n/a	n/a			N/A-cornerstone	N/A-cornerstone
G 012	Henderson, Howard S.		Henderson	1859	1923	64		M	S057	027
G 013a	Davis, Marcellus	joint-1	Davis	1839	1911	72		M	S090	see notes
G 013b	Davis, Addie	joint-2	Davis	1841	unknown	unknown		F	S091	048
G 014	J	corner-granite		n/a	n/a	n/a			N/A-cornerstone	N/A-cornerstone
G 015	Jeffries, Gregory A.		Jeffries	1952	1970	18		M	S107	034
G 016	Jeffries, Joyce M.		Jeffries	1930	2006	76		F	S109	058
G 017	Jeffries, Kenneth		Jeffries	1931	2001	70		M	S087	057
G 018	Eamons, Julia Ann		Eamons	1795	1879	84		F	S092	054
G 019	Johns, George A.		Johns	unknown	unknown	unknown		M	N/A-not mapped	N/A-not mapped
G 020	n/a	natural	Hartless	1856	1869	13	Hartless, Margaret	F	N/A	N/A

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G_001		008 and 011?	2	NE and NW corners	3	"MOTHER / MARY JANE TAYLOR / 1830-1898."
G_002			2	NE and NW corners	4	"FATHER / PHILIP TAYLOR 1827-18[99]"
G_003			2	NE and NW corners	1	"FATHER / A. JACKSON QUOCKO / 1830-1874"
G_004			2	NE and NW corners	0	"REV. OTHO SCOTT / Died Aug. 21, 1872 / Aged [65] years."
G_005a			2	NE and NW corners	2	"1860 WILLIAM H. 1932 / HOPKINS / 1863 MARGARET D. 1936"
G_005b			0		1	"1860 WILLIAM H. 1932 / HOPKINS / 1863 MARGARET D. 1936"
G_006			1	center	0	n/a
G_007a			2	corners	0	"NELSON / OUR FATHER WHO ART / IN
G_007b		002?	0		0	HEAVEN HALLOWED BE THY NAME / ETHEL
G_007c			0		0	C. / 1908-2002 / JOSEPH S. / 1909-1961"
G_008			2	NE and NW corners	0	"SON / JOSEPH R. NELSON / 1929-1966"
G_009			1	center	0	n/a
G_010			2	NE and NW corners	0	"J"
G_011			2	NE and NW corners	0	"J"
G_012			2	NE and NW corners	3	"HOWARD S. HENDERSON / JUNE 24, 1859 / FEB. 19, 1923"
G_013a		041?	2	corners	2	26, 1911 / His Wife / ADDIE DAVIS / Aug. 11,
G_013b			0		2	
G_014			2	NE and NW corners	0	"J"
G_015			2	NE and NW corners	0	"GREGORY A. JEFFRIES / 1952-1970 / REST IN PEACE" -- lying down, face up
G_016			1	center	0	"JOYCE M. JEFFRIES / 1930-2006
G_017			1	center	0	"KENNETH JEFFRIES / 1931-2010"
G_018			2	NE and NW corners	0	Top: "JULIA ANN EAMONS" Front: "Died June 20, 1879/ Aged 84 years." -- tree growing into it
G_019	Unknown grave location			not mapped	0	"GEORGE A. JOHNS / Born Oct […] [1839] / Died […] 30 18[74]" -- leaning against tree
G_020	this row appears moved south by over a meter		2	NE and NW corners	1	n/a

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 021	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 022	[T...]	brownstone	Hartless	1785	1861	76	Hartless, Ann	F	N/A	N/A
G 023	n/a	natural	Hartless	1819	1860	41	Hartless, William	M	S015	090
G 024	Chavous, Estelle T.	slab	Chavous	1912	1985	73		F	N/A-outside area	N/A-outside area
G 025	Chavous, James O.	slab	Chavous	1910	1987	77		M	N/A-outside area	N/A-outside area
G 026	White, Ramona E,	slab	White	1938	1998	60		F	N/A-outside area	N/A-outside area
G 027	illegible			unknown	unknown	unknown			S188	see notes
G 028	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 029	illegible			unknown	unknown	unknown			S183	N/A
G 030	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 031	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 032	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 033	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 034	n/a	natural		unknown	unknown	unknown			S323	106
G 035	Hartless, William		Hartless	unknown	unknown	unknown		M	N/A	N/A
G 036	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 037	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 038	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 039	H	corner-concrete		n/a	n/a	n/a			N/A-corner	N/A-corner
G 040	R., H. H.		Robinson	1867	1921	54	Robinson, Harry A.	M	N/A	see notes
G 041	H., L.			unknown	unknown	unknown			see notes	see notes

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 021			1	center	0	"1861 / T […]"
G 022			2	NE and NW corners	1	n/a
G 023			1	center	1	n/a
G 024	cement slab		4	all corners	0	"WIFE / ESTELLE T. CHAVOUS / NEE LUKER / JUNE 21, 1912 / NOV. 28, 1985 // MOTHER"
G 025	cement slab		4	all corners	0	"HUSBAND / JAMES O. CHAVOUS SR / OCT. 13, 1910 / JUNE 26, 1997 // FATHER"
G 026	cement slab		4	all corners	0	"RAMONA E. WHITE / NEE CHAVOUS / OCT. 9, 1938 / JULY 31, 1998 / LOVING MOTHER & GRANDMOTHER"
G 027		097	2	NE and NW corners	0	illegible -- too weathered; stone loose, leaning against base
G 028	not in situ		1	center	0	n/a
G 029			2	NE and NW corners	0	illegible -- vandalized, face up, too weathered
G 030	S164 - next to stone		2	NE and NW corners	0	n/a
G 031			1	center	0	n/a
G 032			1	center	0	n/a
G 033	S322? - far	103?	2	NE and NW corners	0	n/a
G 034			2	NE and NW corners	0	n/a
G 035			2	NE and NW corners	1	n/a -- smashed--in multiple pieces, had been repaired at least once before
G 036	S110?	107 and 094?	2	NE and NW corners	0	n/a
G 037	S184?	147?	2	NE and NW corners	0	n/a
G 038			2	NE and NW corners	0	n/a
G 039			1	center	0	"H" -- lying down
G 040		170?	2	NE and NW corners	1	"H. [H.] R."
G 041	S186?	161 and 137?	2	NE and NW corners	0	"L. H."

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 042	H., [?] L.			unknown	unknown	unknown			N/A	N/A
G 043	n/a	damaged		unknown	unknown	unknown			S411	151
G 044	M., [G.], H.			unknown	unknown	unknown			see notes	see notes
G 045	n/a	natural		unknown	unknown	unknown			N/A	see notes
G 046	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 047	n/a	natural		unknown	unknown	unknown			N/A	see notes
G 048	H	corner-concrete		n/a	n/a	n/a			N/A-corner	N/A-corner
G 049	n/a	natural		unknown	unknown	unknown			S271	N/A
G 050	n/a	natural		unknown	unknown	unknown			S275	206 and 193
G 051	n/a	damaged		unknown	unknown	unknown			N/A	185
G 052	Louisa Robinson	unknown location	Robinson	1832	1897	unknown			N/A	N/A
G 053	Mitchell, Camelia		Mitchell	unknown	1885	unknown		F	S022	191
G 054	vandalized	base only		unknown	unknown	unknown			see notes	N/A
G 055	Robinson, Henry		Robinson	1840	1895	55		M	S021	211
G 056	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 057	H	corner-concrete		n/a	n/a	n/a			N/A-corner	N/A-corner
G 058a	Croce, Joyce	joint-1	Croce	1931	1989	58		F	S003	224
G 058b	Croce, William	joint-2	Croce	1911	2007	96		M	S042	223
G 059	H	corner-granite		n/a	n/a	n/a			N/A-corner	N/A-corner

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G_042			2	NE and NW corners	0	"[…]. L. H."
G_043			2	NE and NW corners	0	n/a -- broken, had been fixed before
G_044	S189?	177?	2	NE and NW corners	0	"[G]. H. M."
G_045		160?	2	NE and NW corners	0	n/a
G_046			1	center	0	n/a
G_047		132? - far	2	NE and NW corners	0	n/a
G_048			2	NE and NW corners	0	H
G_049	goes to south		2	NE and NW corners	0	n/a
G_050			2	NE and NW corners	0	n/a
G_051			2	NE and NW corners	0	vandalized -- missing top text portion
G_052	Unknown grave location			not mapped	2	"LOUISA ROBINSON / Died Feb. 15, 1897 / Aged 65 years"
G_053			2	NE and NW corners	1	"CAMELIA MITCHELL / [Born April …. 18...] / [Died … 188...]"
G_054	S024?		2	NE and NW corners	0	n/a -- base only
G_055		Also 205?	2	NE and NW corners	2	"HENRY ROBINSON / [Died Jan. 9, 1895] / [?]"--previously mended
G_056	S189? -- far	203?	2	NE and NW corners	0	n/a
G_057			2	NE and NW corners	0	"H"
G_058a			2	NE and NW corners	0	"CROCE / SISKUYA CANNA SNA / CANTEMAWASTE YELO / WHENEVER I REMEMBER YOU / MY HEART IS HAPPY / JOYCE T. / May 6, 1931 - April 3, 1989 / WILLIAM E. JR. / JULY 11, 1922-MARCH 27, 2007"
G_058b			0		0	
G_059			2	NE and NW corners	0	"H"

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 060	n/a	natural	Hopkins	unknown	unknown	unknown	Hopkins, Isaiah	M	see notes	see notes
G 061	Garrison, Bertha		Garrison	1879	1905	26		F	S139	240 and 255
G 062	Hopkins, William C.		Hopkins	1886	1935	unknown		M	S140	N/A
G 063	Hopkins, Moses C.		Hopkins	1878	1900	22		M	S141	see notes
G 064	Hopkins, Anna		Hopkins	1858	1897	39		F	S175	N/A
G 065	Hopkins, George S.		Hopkins	1852	1926	74		M	see notes	see notes
G 066	H	corner-granite		n/a	n/a	n/a			N/A-corner	N/A-corner
G 067	H	corner-granite		n/a	n/a	n/a			N/A-corner	N/A-corner
G 068	Hartless, Lewis		Hartless	1825	1911	86		M	S137	269
G 069	Hartless, Sarah Ann		Hartless	1824	1909	85		F	S279	see notes
G 070	Hartless, Marrietta		Hartless	1862	1905	43		F	S179	N/A
G 071	n/a	base only	Hartless	1869	1899	3	Hartless, Howard	M	S178	N/A
G 072	n/a	natural	Hartless	unknown	unknown	unknown	Hartless, David	M	N/A	see notes
G 073	H	corner-granite		n/a	n/a	n/a			N/A-corner	N/A-corner
G 074	n/a	natural		unknown	unknown	unknown			N/A	322
G 075	G	corner-obelisk		n/a	n/a	n/a			N/A-corner	N/A-corner
G 076	n/a	natural	Hartless	unknown	unknown	unknown	Hartless, Lucy	F	S128	314
G 077	n/a	natural	Biddle	1884	1965	81	Biddle, James	M	see notes	see notes

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G_060	S079?	256?	1	center	1	n/a
G_061			2	NE and NW corners	1	Top: "BERTHA GARRISON" Front: "Daughter of GEO. S. & ANNA / HOPKINS / 1879-1905 / [Call our back the / dear departed / anchored in the / where ….]"
G_062			2	NE and NW corners	1	"WILLIAM C. HOPKINS / JULY 9, 1886 / FEB. 22, 1935 / CO. 14, DEPT. 153, BRIGADE"
G_063		252?	2	NE and NW corners	1	Top: "MOSES C. HOPKINS" Front: "Son of GEO. S. & ANNA / HOPKINS / On the border / land we left him, / soon to meet/ and part no more"
G_064			2	NE and NW corners	1	"ANNA HOPKINS / Died / Dec. 14, 1897 / Aged 39 years / Gone away / forever"
G_065	S180? -- either slice OR radargram	254?	2	NE and NW corners	2	"GEORGE S. HOPKINS / BORN APR. 1, 1852 / DIED DEC. 14, 1926"
G_066			2	NE and NW corners	0	"H"
G_067			2	NE and NW corners	0	"H"
G_068		Also 120 and 119?	2	NE and NW corners	3	"FATHER / LEWIS HARTLESS / 1825-1911"
G_069		293?	2	NE and NW corners	2	"MOTHER / SARAH ANN / WIFE OF / LEWIS HARTLESS / 1824-1909"
G_070			2	NE and NW corners	1	Top: "MARRIETTA HARTLESS" Front: "BORN / Feb. 3, 1862., / DIED / Oct. 30, 1862"
G_071			2	NE and NW corners	0	n/a -- base only
G_072		271 and 291?	2	NE and NW corners	0	n/a
G_073			2	NE and NW corners	0	"H"
G_074			2	NE and NW corners	0	n/a
G_075			2	NE and NW corners	0	"G"
G_076			2	NE and NW corners	0	n/a
G_077	S127 or S131?	335 or 299?	2	NE and NW corners	0	n/a

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 078	n/a	corner-obelisk		n/a	n/a	n/a			N/A-corner	N/A-corner
G 079	Luker, Egbert	slab	Luker	1918	1993	75		M	S147	368
G 080	Mills, Dr. William L.		Mills	1917	2007	90		M	S059	355
G 081	n/a	corner-obelisk		n/a	n/a	n/a			N/A-corner	N/A-corner
G 082	n/a	natural	Peaker	1894	1914	20	Peaker, Elsie	F	S117	see notes
G 083	n/a	natural	Peaker	1857	1934	77	Peaker, Thomas	M	S156?	356?
G 084	n/a	corner-obelisk		n/a	n/a	n/a			N/A-corner	N/A-corner
G 085	n/a	natural	Peaker	1867	1949	82	Peaker, Tolitha [A]	F	S112	173
G 086	n/a	natural	Peaker	1836	1949	113	Peaker, David L.	M	S155	371
G 087	n/a	corner-concrete		n/a	n/a	n/a			N/A-corner	N/A-corner
G 088a	Morgan, Ruth	joint-1	Morgan	1922	2000	78		F	N/A	N/A
G 088b	Morgan, John H.	joint-2	Morgan	1924	2001	77		M	N/A	N/A
G 089	Johns, Alice H.		Johns	1852	1915	63		F	N/A	N/A
G 090	Johns, Alonzo F.		Johns	1867	1925	58		M	S285	401
G 091	n/a	natural	Crawley	unknown	unknown	unknown	Crawley, Josephine	F	see notes	see notes
G 092	n/a	natural	Jackson	unknown	unknown	unknown	Jackson, Abraham	M	N/A	see notes
G 093	Johns, Leola		Johns	1900	1934	34		F	see notes	N/A
G 094	Johns, J. Ernest		Johns	1899	1972	73		M	S116	389
G 095	Johns, Andrew A.		Johns	1891	1954	63		M	N/A	N/A

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G_078			2	NE and NW corners	0	n/a
G_079			4	all corners	0	On granite headstone: "EGBERT LUKER / UNCLE EDDIE / OCT. 13, 1918 / SEPT. 24, 1993 / PFC US ARMY WW II" On cement, hand etched: "OCT 13, 1918 / SEPT 24, 1993"
G_080			8	all corners of marker	0	"DR WILLIAM L MILLS MD / US ARMY / WORLD WAR II / 1917 2007"
G_081			2	NE and NW corners	0	n/a
G_082		363?	2	NE and NW corners	0	n/a
G_083			2	NE and NW corners	0	n/a
G_084			2	NE and NW corners	0	n/a
G_085			2	NE and NW corners	0	n/a
G_086			2	NE and NW corners	0	n/a
G_087			2	NE and NW corners	0	n/a
G_088a			2	corners	0	MARCH 30, 2000 / JOSEPH HARVEY MORGAN
G_088b			0		0	
G_089			2	NE and NW corners	1	"MOTHER / ALICE H. JOHNS / 1852 - 1915"
G_090			2	NE and NW corners	2	"ALONZO F. JOHNS / 1867-1925"
G_091	S086? -- far (0.5m)	398?	2	NE and NW corners	0	n/a
G_092		395?	2	NE and NW corners	1	n/a
G_093	S226? - far		2	NE and NW corners	0	"LEOLA JOHNS / 1900-1934"
G_094			2	NE and NW corners	0	"J. ERNEST JOHNS / 1899-1972
G_095			2	NE and NW corners	0	"ANDREW A JOHNS / PENNSYLVANIA / PVT CO D 813 PIONEER INF / WORLD WAR I / OCT 4 1891 FEB 13 1954"

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 096	Johns, Margaret H.		Johns	1889	1968	79		F	S115	390
G 097	n/a	corner-concrete		n/a	n/a	n/a			N/A-corner	N/A-corner
G 098	Brame, Lilly M.		Brame	1913	1998	85		F	S405	N/A
G 099	Wendig, Florence M.		Wendig	1908	2001	93		F	N/A	N/A
G 100	n/a	natural-modern		unknown	unknown	unknown			N/A	N/A
G 101	n/a	base only	Piatt	unknown	unknown	unknown	Piatt, Charles	M	see notes	see notes
G 102	n/a	natural	Piatt	unknown	unknown	unknown	Piatt, Louise	F	N/A	see notes
G 103	n/a	natural	Crawley	unknown	unknown	unknown	Crawley, Julius	M	see notes	see notes
G 104	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 105	Thomas, Martha		Thomas	1854	1902	48		F	S084	430
G 106	n/a	natural		unknown	unknown	unknown			S041	N/A
G 107	Hopkins, Walter A.		Hopkins	1926	1977	51		M	S111	443 and 429
G 108	Hopkins, Eva J.		Hopkins	1897	1905	8		F	N/A	see notes
G 109	Hopkins, Charles A.		Hopkins	1888	1956	68		M	S114	442
G 110	Brame, James D.		Brame	1901	1998	97		M	N/A	N/A
G 111	Wendig, Charles P.		Wendig	1943	2007	64		M	S039	434
G 112	n/a	natural		unknown	unknown	unknown			N/A	486
G 113	Piatt, Jennie		Piatt	1872	1902	30		F	N/A	see notes
G 114	Piatt, Charles		Piatt	1851	1910	59		M	see notes	see notes

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G_096			2	NE and NW corners	1	"MARGARET H. JOHNS / 1889-1968"
G_097			2	NE and NW corners	0	n/a
G_098			2	NE and NW corners	0	"OUR BELOVED MOTHER / LILLY M. BRAME / DEC. 6, 1913 / MAR. 13, 1995"
G_099			2	NE and NW corners	0	"FLORENCE M. WENDIG / MAY 14, 1908 / MARCH 30, 2001 / ASLEEP IN JESUS"
G_100	likely not a gravestone		2	NE and NW corners	0	n/a
G_101	S064?	439?	2	NE and NW corners	0	n/a -- base only
G_102		457? - far	2	NE and NW corners	2	n/a
G_103	S284?	448?	2	NE and NW corners	0	n/a
G_104	S228?	456?	2	NE and NW corners	0	n/a
G_105			2	NE and NW corners	2	"MARTHA THOMAS / 1854 - 1902"
G_106			2	NE and NW corners	0	n/a
G_107			2	NE and NW corners	0	"WALTER A. HOPKINS / 1926-1977 / PFC. 1330 AAFBU / U.S. ARMY W W II"
G_108		481? -- south of stone	2	NE and NW corners	0	"EVA J. HOPKINS / 1897-1952"
G_109			2	NE and NW corners	1	"CHARLES A. HOPKINS / 1888-1956"
G_110			2	NE and NW corners	0	"JAMES D. BRAME / JUNE 10, 1901 - DEC. 30, 1998 / IN LOVING MEMORY OF OUR BELOVED FATHER"
G_111			2	NE and NW corners	0	"FRIEND AND FATHER / CHARLES R. WENDIG / 1943-2007"
G_112			2	NE and NW corners	0	n/a
G_113		462?	2	NE and NW corners	0	Top: "JENNIE PIATT" Front: "1872-1902"
G_114	S228?	456?	2	NE and NW corners	2	"CHARLES PIATT / Born 1851. / Died May 17, 1910"

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 115a	n/a	natural-cluster		unknown	unknown	unknown			N/A-cluster	N/A-cluster
G 115b	n/a	natural-cluster		unknown	unknown	unknown			S381	see notes
G 116	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 117	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 118	Toller, William		Toller	1815	1902	87		M	N/A	see notes
G 119	J	brownstone		unknown	unknown	unknown			N/A	see notes
G 120	n/a	natural		unknown	unknown	unknown			N/A	see notes
G 121	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 122	Teat, William	slab	Teat	1914	2001	87		M	N/A-outside area	N/A-outside area
G 123	Teat, Eunice A.	slab	Teat	1909	1991	82		F	S061	571
G 124	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 125	Morris, James K.		Morris	1832	1899	67		M	S044	see notes
G 126a	n/a	natural-cluster		unknown	unknown	unknown			see notes	see notes
G 126b	n/a	natural-cluster		unknown	unknown	unknown			N/A-cluster	N/A-cluster
G 127	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 128a	n/a	natural-cluster		unknown	unknown	unknown			N/A-cluster	N/A-cluster
G 128b	n/a	natural-cluster		unknown	unknown	unknown			S045	554 and 547
G 129	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 130	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 131	n/a	natural	Martin	1890	1911	21	Martin, James A.	M	N/A	N/A

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 115a		511?	2	NE and NW corners	0	n/a
G 115b			2	NE and NW corners	0	n/a
G 116	S373? S119? - may be overlapping graves?	550 and 535?	2	NE and NW corners	0	n/a
G 117			2	NE and NW corners	0	n/a
G 118		531? -- under stone	2	NE and NW corners	2	"WILLIAM TOLLER / Born Oct. 1815 / Died Jan. 1902"
G 119		530 or 510?	2	NE and NW corners	0	"J"
G 120		520? -- next to stone	2	NE and NW corners	0	n/a
G 121			2	NE and NW corners	0	n/a
G 122			4	all corners	0	"WILLIAM E. / TEAT / 1914-2001 / HUSBAND / PLAYED BASEBALL IN / THE NEGRO LEAGUES"
G 123			4	all corners	0	"EUNICE A. / TEAT / 1909-1991 / WIFE"
G 124	S062, S063 or S407 -- all equidistant	See anomalies associated with each	2	NE and NW corners	0	n/a
G 125		548?	2	NE and NW corners	3	"JAMES K. MORRIS /[… 1899]"
G 126a	S172?	574?	1	center point	0	n/a
G 126b			1	center point	0	n/a
G 127	S247?		2	NE and NW corners	0	n/a
G 128a			1	eastern corner	0	n/a
G 128b			1	western corner	0	n/a
G 129	S245? - far		2	NE and NW corners	0	n/a
G 130	S259?	639	2	NE and NW corners	0	n/a
G 131			2	NE and NW corners	0	n/a

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 132	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 133	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 134	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 135	n/a	natural	Williams	unknown	1947	unknown	Williams, James Howard	M	N/A	N/A
G 136	n/a (recent grave)			unknown	2012	unknown		F	S120	657, 667 and 668
G 137	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 138	n/a	natural		unknown	unknown	unknown			N/A	689
G 139	n/a	natural		unknown	unknown	unknown			N/A-outside area	N/A-outside area
G 140	Hopkins, Perry E.		Hopkins	1856	1930	74		M	N/A	N/A
G 141	Hopkins, John R.		Hopkins	1953	1990	37		M	S339	046 and 051
G 142	n/a	natural		unknown	unknown	unknown			N/A-outside area	N/A-outside area
G 143	n/a	base only	Hopkins	unknown	1886	unknown	Hopkins, Moses	M	see notes	N/A
G 144	Hopkins, Margaret		Hopkins	unknown	1904	unknown		F	see notes	N/A
G 145	n/a	base only	Hopkins	1883	1885	unknown	Hopkins, Lillie	F	see notes	N/A
G 146	Hopkins, Lenard		Hopkins	1893	1896	3			see notes	N/A
G 147	n/a	natural		unknown	unknown	unknown			N/A	see notes
G 148	n/a	natural		unknown	unknown	unknown			N/A-outside area	N/A-outside area
G 149	n/a	damaged		unknown	unknown	unknown			N/A	see notes
G 150	H., C. F.			unknown	unknown	unknown			N/A	N/A
G 151	illegible			unknown	unknown	unknown			see notes	see notes

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 132			2	NE and NW corners	0	n/a
G 133	S170? - far		2	NE and NW corners	0	n/a
G 134			2	NE and NW corners	0	n/a
G 135			2	NE and NW corners	0	n/a
G 136			4	all corners	0	n/a
G 137			1	center	0	n/a
G 138			2	NE and NW corners	0	n/a
G 139			2	NE and NW corners	0	n/a -- not in ground
G 140			2	NE and NW corners	2	"PERRY E. HOPKINS / 1856-1930"
G 141			2	NE and NW corners	0	"IN MEMORY OF / JOHN R. HOPKINS JR / FEB 5 1953 NOV 2 1990 / LIFE IS TOO SHORT"
G 142			2	NE and NW corners	0	n/a
G 143	S013?		2	NE and NW corners	1	n/a -- too damaged
G 144	S378?		2	NE and NW corners	2	"MARGARET / HOPKINS / Died Apr. 8, 1904"
G 145	S274?		2	NE and NW corners	0	n/a -- too damaged
G 146	S011? - Only if a 3 year old has a 6ft coffin		2	NE and NW corners	0	"LENARD HOPKINS / OCT. [1], 1893 / JAN. 13, 1896"
G 147		088? - next to stone	2	NE and NW corners	0	n/a
G 148			2	NE and NW corners	0	n/a
G 149		111?	2	NE and NW corners	0	n/a -- too damaged, mended at least once before
G 150			2	NE and NW corners	0	"C F H"
G 151	S014?	093?	2	NE and NW corners	0	n/a -- mended at least once before

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 152	M., C.		Mitchell	1848	1880	32	Mitchell, Cornelia	F	see notes	see notes
G 153	Johns, Joseph		Johns	1813	1868	55		M	S313	see notes
G 154	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 155	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 156	n/a	natural	Anthony	unknown	unknown	unknown	Anthony, Andrew	M	S410	N/A
G 157	vandalized/illegible		Anthony	unknown	unknown	unknown	Anthony, Elizabeth	F	see notes	N/A
G 158	S., J.	footstone		n/a	n/a	n/a			N/A-footstone	N/A-footstone
G 159	Mitchell, John S. [or D.]		Mitchell	1848	1920	19		M	S191	124
G 160	n/a	base only	Skank	1833	1878	45	Skank, James	M	S192	see notes
G 161	n/a	natural		unknown	unknown	unknown			S166	N/A
G 162	n/a	natural		unknown	unknown	unknown			S395	N/A
G 163	illegible (marble post)			unknown	unknown	unknown			N/A	138
G 164	n/a	natural		unknown	unknown	unknown			S340	N/A
G 165	n/a	natural		unknown	unknown	unknown			N/A	see notes
G 166	H., E. G.	footstone		n/a	n/a	n/a			N/A-footstone	N/A-footstone
G 167	n/a	natural		unknown	unknown	unknown			S096	see notes
G 168	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 169	Hopkins, Edith G.		Hopkins	1888	1888	0		F	see notes	see notes
G 170	Hopkins, Willie E.		Hopkins	1889	1901	12		M	S126	see notes
G 171	n/a	natural		unknown	unknown	unknown			see notes	N/A

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 152	S014?	093?	2	NE and NW corners	1	n/a -- too damaged
G 153		102?	2	NE and NW corners	0	"JOSEPH JOHNS. / Born J[un]. 3, 1813 / Died Nov. 28, 1868"
G 154	S304?		2	NE and NW corners	0	n/a
G 155	S306?		2	NE and NW corners	0	n/a
G 156			2	NE and NW corners	0	n/a
G 157	S397? S167?		2	NE and NW corners	0	illegible -- too damaged and weathered; previously mended at least once before
G 158	See G 160 - James Skank		2	NE and NW corners	0	"J. S."
G 159			2	NE and NW corners	2	"JOHN D. MITCHELL / 1848-1920"
G 160		134? - diff. depths	2	NE and NW corners	3	n/a -- base only, previously mended
G 161			2	NE and NW corners	0	n/a
G 162			2	NE and NW corners	0	n/a
G 163			2	NE and NW corners	0	n/a -- post with tab, lying down
G 164			2	NE and NW corners	0	n/a
G 165		148?	1	center	0	n/a
G 166	See G 169 - Edith G. Hopkins		2	NE and NW corners	0	"E. G. H."
G 167		181?	2	NE and NW corners	0	n/a
G 168			2	NE and NW corners	0	n/a
G 169	S301? directly under footstone	180?	2	NE and NW corners	0	"EDITH G. / Daughter of Edward & Mallie / Hopkins. / Sep. 28, 1888. / Aged 7, [sic] Mo."
G 170		196? - far	2	NE and NW corners	1	"WILLIE E. / Son of Edward & Mallie / Hopkins. / Mar. 28, 1889 / June 6, 1901"
G 171	S078?		2	NE and NW corners	0	n/a

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 172	T., W.			unknown	unknown	unknown			N/A	N/A
G 175	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 176	n/a	natural		unknown	unknown	unknown			see notes	209
G 177	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 178	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 179	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 180	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 181	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 182	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 183	W., R. M.		Wells	1848	1895	47	Wells, Richard M.	M	N/A	N/A
G 184	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 185	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 186	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 187	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 188	Mill..., Richard			unknown	unknown	unknown			N/A	N/A
G 189	[Lloyd], Frankie		Lloyd	1872	1872	0		M	S189	302 and 309
G 190	Lloyd, Lawrence		Lloyd	1877	1888	11		M	S135	301
G 191	Lloyd, Jennie		Lloyd	1870	1891	21		F	S134	298
G 192a	Lloyd, Lucy	joint-1	Lloyd	1850	1915	65		F	S251	see notes
G 192b	Barnes, Jane	joint-2	Barnes	1826	1916	90		F	S023	see notes
G 193	Lloyd, Charles		Lloyd	1848	1930	82		M	N/A	N/A
G 194	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 195	Pollard, George W.		Pollard	1859	1877	18		M	see notes	see notes

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G_172			2	NE and NW corners	0	"W. T." -- lying down
G_175	S076?	222?	2	NE and NW corners	0	n/a
G_176	S337? -- far		2	NE and NW corners	0	n/a
G_177			2	NE and NW corners	0	n/a
G_178			1	center	0	n/a
G_179	S203?	243?	1	center	0	n/a
G_180			1	center	0	n/a
G_181	S077?	217?	1	center	0	n/a
G_182	S266?		2	NE and NW corners	0	n/a
G_183			2	NE and NW corners	2	"R. M. W."
G_184			2	NE and NW corners	0	n/a
G_185	S025		2	NE and NW corners	0	n/a
G_186	S273		2	NE and NW corners	0	n/a
G_187			2	NE and NW corners	0	n/a
G_188			2	NE and NW corners	0	"RICHARD MIL…" -- in 6+ pieces, mostly face down
G_189			1	NW corner	0	"FRANKIE / [Son of C. & L. Lloyd] / Born [? 1872] / Died [? 1872]"
G_190			1	NW corner	1	"LAWRENCE / Son of [Charles &] / Lucy Lloyd / 1877-[1888]
G_191			1	NW corner	0	"JENNIE / Daughter of Charles / & Lucy Lloyd / 1870-1891"
G_192a		297?	1	NE corner	2	Top: "MOTHER" Front: "LUCY LLOYD / 1850-1915"
G_192b		306?	1	NW corner	0	Top: "GRANDMOTHER" Front: "JANE BARNES / 1826-1916"
G_193			1	NW corner	2	"CHARLES LLOYD / 1848 - 1920"
G_194			1	center	0	n/a
G_195	S295?	359?	2	NE and NW corners	1	"GEORGE W. POLLARD / Born Dec. 25, 1859 / Died Aug. 22, 1877."

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 196	n/a	natural		unknown	unknown	unknown			S073	N/A
G 197	n/a	natural		unknown	unknown	unknown			S399	343
G 198	n/a	natural		unknown	unknown	unknown			S413	332
G 199	n/a	natural		unknown	unknown	unknown			S197	see notes
G 200	P., R.	footstone		n/a	n/a	n/a			N/A-footstone	N/A-footstone
G 201	A., J. H.	footstone		n/a	n/a	n/a			N/A-footstone	N/A-footstone
G 202	P., E. W.	footstone-probable		n/a	n/a	n/a			N/A-footstone	N/A-footstone
G 203	T., M.A.		Toler	unknown	1889	unknown	Toler, Mary A.	F	see notes	see notes
G 204	H., M.E.	footstone		n/a	n/a	n/a			N/A-footstone	N/A-footstone
G 205	n/a	natural		unknown	unknown	unknown			N/A	see notes
G 206	Hinson, Mary E.		Hinson	1884	1886	2		F	N/A	N/A
G 207	Peaker, Ray		Peaker	1861	1882	21		M	N/A	N/A
G 208	Anderson, [John] H.		Anderson	1801	1885	84		M	S053	N/A
G 209	Peaker, Edward M.		Peaker	1881	1896	15		M	S072	see notes
G 210	n/a	natural		unknown	unknown	unknown			N/A-outside area	N/A-outside area
G 211	Peaker, Rebecca		Peaker	1854	1882	28		F	see notes	see notes
G 212	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 213	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 214	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 215	H., H.	footstone		unknown	unknown	unknown			N/A-footstone	N/A-footstone

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 196			1	center	0	n/a
G 197			1	center	0	n/a
G 198			1	center	0	n/a
G 199		330?	1	center	0	n/a
G 200	See G 207 - Ray Peaker		2	NE and NW corners	0	"R. P."
G 201	See G 208 - John H. Anderson		1	center	0	Top: "J H A" -- lying face down
G 202	See G_209 - Edward M. Peaker (probable)		2	NE and NW corners	0	"E. W. P."
G 203	S075? - under stone and south	369?	2	NE and NW corners	1	"M. A. T."
G 204	See G 206 - Mary E. Hinson		2	NE and NW corners	0	"M. E. H."
G 205		379? -- under stone	2	NE and NW corners	0	n/a
G 206			2	NE and NW corners	0	"MARY E. / DAUGHTER OF / CHARLES & MAGGIE / HINSON. / DIED MAY 4, 1886. / AGED 1 YEAR. 11 MO. 12 DAYS. / [GIVE] LITTLE CHILDREN [TO THE] LORD / […] AND [FORGED] THEM TO […] / […]H OF THE KINGDOM […] HEAVEN."
G 207			2	NE and NW corners	0	"RAY PEAKER / Died July 20, 1882 / Aged 21 years."
G 208			2	NE and NW corners	4	"….H ANDERSON / …N 23, 1885 / AGED 84 YEARS, […] / AND 25 DAYS." -- in multiple pieces
G 209		382?	2	NE and NW corners	0	Top: "EDWARD W." Front: "Son of / Emma & Rachel / PEAKER. / Born April 18, 1881 / Died July 14, 1896"
G 210			1	center	0	n/a
G 211	S052? -- far	415?	2	NE and NW corners	1	"In [loving memory …] / […] / REBECCA / Daughter of [J… & Annie] / PEAKER. / Born June 13, 1854 / Died Nov […] / [… 2 or 3 lines too damaged] / […] / [… only … that] / [the angels in the land of Heaven]" -- in two pieces, face up
G 212	S054?	414?	1	center	0	n/a -- three pieces
G 213	S071? or S070?	413?	1	center	0	n/a
G 214	S318? - under stone		1	center	0	n/a
G 215	See G 217 - Hammett Hapkins		2	NE and NW corners	0	"H. H."

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 216	H., R. P.	footstone		unknown	unknown	unknown			N/A-footstone	N/A-footstone
G 217	Hapkins, [sic] Hammett		Hopkins	unknown	unknown	unknown		M	N/A	460
G 218	Hopkins, Rachel Parry		Hopkins	1857	1895	38		F	S145	438
G 219	Hopkins, Chester T.		Hopkins	1901	1923	22		M	see notes	see notes
G 220	n/a	natural		unknown	unknown	unknown			S282	459
G 221	illegibile		Lewis	unknown	unknown	unknown	Lewis, Ruth A.	F	S106	see notes
G 222	Payne, Henrietta		Payne	unknown	unknown	unknown		F	N/A	489
G 223	Mitchell, Pirmelia		Mitchell	1847	1893	46		F	see notes	see notes
G 224	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 225	Mitchell, Mary E.		Mitchell	1867	1900	33		F	S384	536
G 226	Smith, Elsie V.		Smith	1891	1901	10		F	see notes	N/A
G 227	Smith, Flora M.		Smith	1892	1907	15		F	see notes	see notes
G 228	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 229	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 230	Weatherby, Daniel		Weatherby	1891	1948	57		M	N/A	622
G 231	J., G. A.			unknown	unknown	unknown			see notes	see notes
G 232	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 233	Furman, Eva		Furman	1891	1904	13		F	see notes	see notes
G 235	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 236	n/a	natural	Henderson	unknown	unknown	unknown	Henderson, Elizabeth	F	see notes	see notes
G 237	n/a	natural		unknown	unknown	unknown			see notes	see notes

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 216	See G 218 - Rachel Parry Hopkins		2	NE and NW corners	0	"R. P. H."
G 217		south of stone	2	NE and NW corners	0	"OUR FIRST IN HEAVEN / HAMMETT / Son of William & Rachel / HAPKINS. / Aged 1 year & 1 month."
G 218			2	NE and NW corners	0	BELOVED WIFE / RACHEL PARRY HOPKINS. / Born July 14, 1857. / Died July 29, 1895. / Aged 38 years. Gone but not forgotten."
G 219	S149? - south	465?	1	center	0	"CHESTER T. / Son of / PERRY & ELIZABETH / HOPKINS / May 29, 190[4] / July 22, 1923" -- in two pieces
G 220			1	center	0	n/a
G 221		501?	2	NE and NW corners	2	n/a -- too weathered
G 222			2	NE and NW corners	0	"HENRIETTA / Daughter of / Charles & Carrie / PAYNE. / Aged 13 months"
G 223	S207? - far	529?	2	NE and NW corners	0	"PIRMELIA MITCHELL / Born Dec. 22, 1847 / Died April 2, 1893"
G 224	S236? - far		1	center	0	n/a
G 225			2	NE and NW corners	1	"MARY E. MITCHELL / Born Aug. 15, 1867 / Died Dec. 18, 1900."
G 226	S383? - south		2	NE and NW corners	0	"ELSIE V. SMITH / Aug. 9, 1891 / Dec. 25, 1901"
G 227	S103? - far		2	NE and NW corners	0	"FLORA M. SMITH / June 22, 1892 / July 17, 1907"
G 228	S102? - next to stone	602?	1	center	0	n/a
G 229			1	center	0	n/a
G 230			2	NE and NW corners	1	"DANIEL B. WEATHERBY / OKLAHOMA / CPL 153 DEPOT BRIG / WORLD WAR I / JUNE 29, 1891 NOV. 29, 1948"
G 231	S208? - far	678 and 696?	2	NE and NW corners	0	"G. A. J."
G 232			1	center	0	n/a
G 233	S360? - next to headstone, may be tree root	723?	2	NE and NW corners	1	Top: "EVA" Front: "FURMAN / OCT. 1, 1891 / JAN 20, 1904"
G 235			1	center	0	n/a
G 236	S270? - far	036 and 037?	1	center	4	n/a
G 237	S222?	067 and/or 077?	1	center	0	n/a

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 238	n/a	natural	Hartless	unknown	1962	unknown	Hartless, Fred G.	M	S129	313
G 239	n/a	natural	Peaker	1889	1963	74	Peaker, Herman	M	S113	362 and 339
G 240	n/a	base only		unknown	unknown	unknown			S050	424
G 241	n/a	natural		unknown	unknown	unknown			S163	549 and 534
G 242	n/a	natural		unknown	unknown	unknown			S168	N/A
G 243	n/a	natural		unknown	unknown	unknown			S243	see notes
G 244	H., W. E.			unknown	unknown	unknown			N/A	N/A
G 246	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 247	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 248	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 249	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 250	Falden, H.H.	none extant	Falden	1903	1904	1		M	N/A -- location not definite	
G 251	Falden, Alexander	none extant	Falden	1904	1905	1		M	N/A -- location not definite	
G 252	Falden, Mary A.	none extant	Falden	unknown	1906	unknown		F	N/A -- location not definite	
G 253	Hopkins, Maggie	none extant	Hopkins	1863	1933	70		F	N/A -- location not definite	
G 254	Collins, Emma	none extant	Collins	1859	1933	74		F	N/A -- location not definite	
G 256	Anderson, Mary A.	none extant	Anderson	1865	1886	21		M	N/A -- location not definite	
G 257	Henderson, Charles	none extant	Henderson	unknown	unknown	unknown		M	N/A -- location not definite	
G 260	[?], Margaret			unknown	1909	unknown		F	N/A	N/A
G 261	Warren, Ella	none extant	Warren	unknown	unknown	unknown		F	N/A -- location not definite	

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 238			2	NE and NW corners	0	n/a
G 239			2	NE and NW corners	0	n/a
G 240			2	NE and NW corners	0	n/a
G 241			2	NE and NW corners	0	n/a
G 242			2	NE and NW corners	0	n/a
G 243		644 and 627?	2	NE and NW corners	0	n/a
G 244			2	NE and NW corners	0	"W.E.H."
G 246			1	center	0	n/a
G 247			2	NE and NW corners	0	n/a
G 248	S298?	404	1	center	0	n/a
G 249	S387? - angle		1	center	0	n/a
G 250			0 - unk. location; roughly mapped		0	n/a
G 251			0 - unk. location; roughly mapped		0	n/a
G 252			0 - unk. location; roughly mapped		0	n/a
G 253			0 - unk. location; roughly mapped		0	n/a
G 254			0 - unk. location; roughly mapped		1	n/a
G 256			0 - unk. location; roughly mapped		0	n/a
G 257			0 - unk. location; roughly mapped		5	n/a
G 260			1	center	0	"MARGARET / Daughter of / [Wm & M… …]/ Died Sept 16, 1909 / Aged 1[3] years" -- stone in two pieces, bottom is lying face down, top is lying face up; had been glued once
G 261			0 - unk. location; roughly mapped		0	n/a

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 262	Vandevier	none extant	Vandevier	unknown	unknown	unknown			N/A -- location not definite	
G 264	H., A.	none extant	H.	unknown	unknown	unknown			N/A -- location not definite	
G 265	Hopkins, Ella G.	none extant	Hopkins	unknown	unknown	unknown		F	N/A -- location not definite	
G 266	Hartless, Leslie	none extant	Hartless	1857	1921	64			N/A -- location not definite	
G 268	Hartless, Leda	none extant	Hartless	1878	1944	66		F	N/A -- location not definite	
G 269	Hartless, David	none extant	Hartless	unknown	unknown	unknown		M	N/A -- unknown location	
G 270	Peaker, Harriette A.	none extant	Peaker	1858	1959	101		F	N/A -- location not definite	
G 271	Peaker, Joseph	none extant	Peaker	1844	1937	93		M	N/A -- location not definite	
G 273	Hartless, Fred G.	none extant	Hartless	unknown	1962	unknown		M	N/A -- unknown location	
G 275	Hartless twins	none extant	Hartless	unknown	unknown	unknown			N/A -- location not definite	
G 276	Hartless twins	none extant	Hartless	unknown	unknown	unknown			N/A -- location not definite	
G 277	Hartless baby	none extant	Hartless	unknown	unknown	unknown			N/A -- location not definite	
G 278	Biddle, Audrey	none extant	Biddle	unknown	unknown	unknown		F	N/A -- location not definite	
G 279	Hartless, Edith	none extant	Hartless	1889	1957	68		F	N/A -- location not definite	
G 284	Peaker, Herman [P.]	none extant	Peaker	1889	1963	74		M	N/A -- unknown location	
G 285	[Silison,] Clarence	none extant	Silison	unknown	unknown	unknown		M	N/A -- location not definite	
G 288	Lewis, L.	none extant	Lewis	1843	1928	85		M	N/A -- location not definite	
G 289	Williams, Cora	none extant	Williams	1887	1938	51		F	N/A -- location not definite	
G 290	Smith, "Baby Boy"	none extant	Smith	unknown	unknown	unknown		M	N/A -- location not definite	
G 291	Gilliam, Esther L.	none extant	Gilliam	1912	1942	30		F	N/A -- location not definite	

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 262			0 - unk. location; roughly mapped		0	n/a
G 264			0 - unk. location; roughly mapped		0	n/a
G 265			0 - unk. location; roughly mapped		1	n/a
G 266			0 - unk. location; roughly mapped		0	n/a
G 268			0 - unk. location; roughly mapped		0	n/a
G 269			0 - unknown location		3	n/a
G 270			0 - unk. location; roughly mapped		0	n/a
G 271			0 - unk. location; roughly mapped		2	n/a
G 273			0 - unknown location		0	n/a
G 275			0 - unk. location; roughly mapped		0	n/a
G 276			0 - unk. location; roughly mapped		0	n/a
G 277			0 - unk. location; roughly mapped		0	n/a
G 278			0 - unk. location; roughly mapped		0	n/a
G 279			0 - unk. location; roughly mapped		1	n/a
G 284			0 - unknown location		1	n/a
G 285			0 - unk. location; roughly mapped		1	n/a
G 288			0 - unk. location; roughly mapped		0	n/a
G 289			0 - unk. location; roughly mapped		0	n/a
G 290			0 - unk. location; roughly mapped		0	n/a
G 291			0 - unk. location; roughly mapped		0	n/a

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 292	Shellington, Fred	none extant	Shellington	1900	1921	21		M	N/A -- location not definite	
G 293	Johnson, Alma S.	none extant	Johnson	1896	1928	32		F	N/A -- location not definite	
G 294	Shellington, Henry Sr.	none extant	Shellington	1866	1933	67		M	N/A -- location not definite	
G 295	Shellington, Henry Jr.	none extant	Shellington	1904	1932	28		M	N/A -- location not definite	
G 296	Newman	none extant	Newman	unknown	unknown	unknown			N/A -- location not definite	
G 297	Harris, Fenton	none extant	Harris	1855	1933	78		M	N/A -- location not definite	
G 298	Peaker girl	none extant	Peaker	unknown	unknown	unknown		F	N/A -- location not definite	
G 299	Shellington, Susie	none extant	Shellington	1874	1946	72		F	N/A -- location not definite	
G 300	Gilliam, Theresa Lee Carol	none extant	Gilliam	unknown	1962	unknown		F	N/A -- location not definite	
G 301	Hopkins, Elizabeth	none extant	Hopkins	1864	1919	55		F	N/A -- location not definite	
G 302	Hopkins, Kate	none extant	Hopkins	unknown	1886	unknown		F	N/A -- location not definite	
G 303	Hopkins, Florance	none extant	Hopkins	1896	1903	7		F	N/A -- location not definite	
G 304	Johns, Georga A.	none extant	Johns	1859	1872	13		F	N/A -- location not definite	
G 305	Anthony, Andrew	none extant	Anthony	unknown	unknown	unknown		M	N/A -- unknown location	
G 306	Anthony, Elizabeth	none extant	Anthony	1825	1895	70		F	N/A -- unknown location	
G 307	Mitchell, Cobra	none extant	Mitchell	1872	1874	2		F	N/A -- location not definite	
G 308	Mitchell, David	none extant	Mitchell	1872	1873	1		M	N/A -- location not definite	
G 310	Harris, Margaret	none extant	Harris	unknown	1908	unknown		F	N/A -- location not definite	
G 311	[Jamison], Samuel	none extant	Jamison	unknown	unknown	unknown		M	N/A -- location not definite	
G 312	Wells, Susan	none extant	Wells	unknown	1922	unknown		F	N/A -- location not definite	

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G_292			0 - unk. location; roughly mapped		0	n/a
G_293			0 - unk. location; roughly mapped		0	n/a
G_294			0 - unk. location; roughly mapped		0	n/a - other notes on 1977 inventory, illegible
G_295			0 - unk. location; roughly mapped		0	n/a
G_296			0 - unk. location; roughly mapped		0	n/a
G_297			0 - unk. location; roughly mapped		0	n/a
G_298			0 - unk. location; roughly mapped		0	n/a
G_299			0 - unk. location; roughly mapped		0	n/a
G_300			0 - unk. location; roughly mapped		0	n/a
G_301			0 - unk. location; roughly mapped		0	n/a
G_302			0 - unk. location; roughly mapped		0	n/a
G_303			0 - unk. location; roughly mapped		1	n/a
G_304			0 - unk. location; roughly mapped		0	Likely G_019 (leaning against tree)
G_305			0 - unknown location		3	n/a
G_306			0 - unknown location		1	n/a
G_307			0 - unk. location; roughly mapped		0	n/a
G_308			0 - unk. location; roughly mapped		0	n/a
G_310			0 - unk. location; roughly mapped		3	n/a
G_311			0 - unk. location; roughly mapped		3	n/a
G_312			0 - unk. location; roughly mapped		0	n/a

Marker ID	Name on Marker	Type of Marker	Last Name	Birth-date	Death Date	Age at Death	Poss. Name (from Spruance Library [1977])	Gender	Linked Slice Anomaly	Linked Radargram Anomaly
G 313	Peaker, Wesley E.	none extant	Peaker	1899	1899	0		F	N/A -- location not definite	
G 314	Peaker, Stanford L.	none extant	Peaker	1892	1897	5		M	N/A -- location not definite	
G 315	Peaker, Joseph	none extant	Peaker	1840	1937	97		M	N/A -- location not definite	
G 317	Pitt, Walter	none extant	Pitt	unknown	unknown	unknown		M	N/A -- location not definite	
G 318	n/a (stone-shaped depression)	natural		unknown	unknown	unknown			see notes	see notes
G 319	Furman, Rufus E.	none extant	Furman	unknown	unknown	unknown		M	N/A -- location not definite	
G 320	Alston, Drucilla D.	none extant	Alston	unknown	unknown	unknown		F	N/A -- location not definite	
G 320	Smith, Edward	none extant	Smith	unknown	1966	unknown		M	N/A -- unknown location	
G 321	n/a	natural		unknown	unknown	unknown			N/A-cluster	N/A-cluster
G 322	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 323	n/a	natural		unknown	unknown	unknown			see notes	N/A
G 324	Bound, Patrick S.	natural		unknown	2012	unknown		M	S150	521
G 325	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 326	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 327	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 328	n/a	natural		unknown	unknown	unknown			see notes	see notes
G 329	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 330	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 331	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 332	n/a	natural		unknown	unknown	unknown			N/A	N/A
G 333	Hartless, Andrew	none extant	Hartless	unknown	1872	unknown		M	N/A -- location not definite	
G 335	Hartless, Samuel	none extant	Hartless	1855	1937	82		M	N/A -- location not definite	
G 336	Hartless, Ann Francis	none extant	Hartless	1804	1879	75		F	N/A -- location not definite	
G 337	Mitchell, John S.	none extant	Mitchell	1875	1898	23		M	N/A -- unknown location	

Marker ID (continued)	Possible Slice Anomalies and Other Notes	Possible Radargram Anomalies and Other Notes	Total Station Points Mapped	Total Station Point Locations	Census Appearances	Inscription and Selected Notes on Condition
G 313			0 - unk. location; roughly mapped		0	n/a
G 314			0 - unk. location; roughly mapped		0	n/a
G 315			0 - unk. location; roughly mapped		1	n/a
G 317			0 - unk. location; roughly mapped		0	n/a
G 318	S237? - far	538?	1	center	0	n/a
G 319			0 - unk. location; roughly mapped		1	n/a
G 320			0 - unk. location; roughly mapped		0	n/a
G 320			0 - unknown location		0	n/a
G 321			1	center	0	n/a
G 322	S165?		1	center	0	n/a
G 323	S253?		1	center	0	n/a
G 324			1	center	0	n/a
G 325	S232? - far	692?	1	center	0	n/a
G 326			1	center	0	n/a
G 327			1	center	0	n/a
G 328	S234? - may be assoc. with G 329	695, 713, and 687?	1	center	0	n/a
G 329			1	center	0	n/a
G 330			1	center	0	n/a
G 331			1	center	0	n/a
G 332			1	center	0	n/a
G 333			0 - unk. location; roughly mapped		4	n/a
G 335			0 - unk. location; roughly mapped		0	n/a
G 336			0 - unk. location; roughly mapped		0	n/a
G 337			0 - unknown location		0	n/a

APPENDIX E:
ANNOTATED RADARGRAMS

The radargrams are included from the northern end of the cemetery to the southern end, beginning with transect 3905. Transects which are discontinuous due to obstructions in the survey have been reassembled. The transect numbers are discontinuous at several points due to battery changes.

Legend for radargrams.

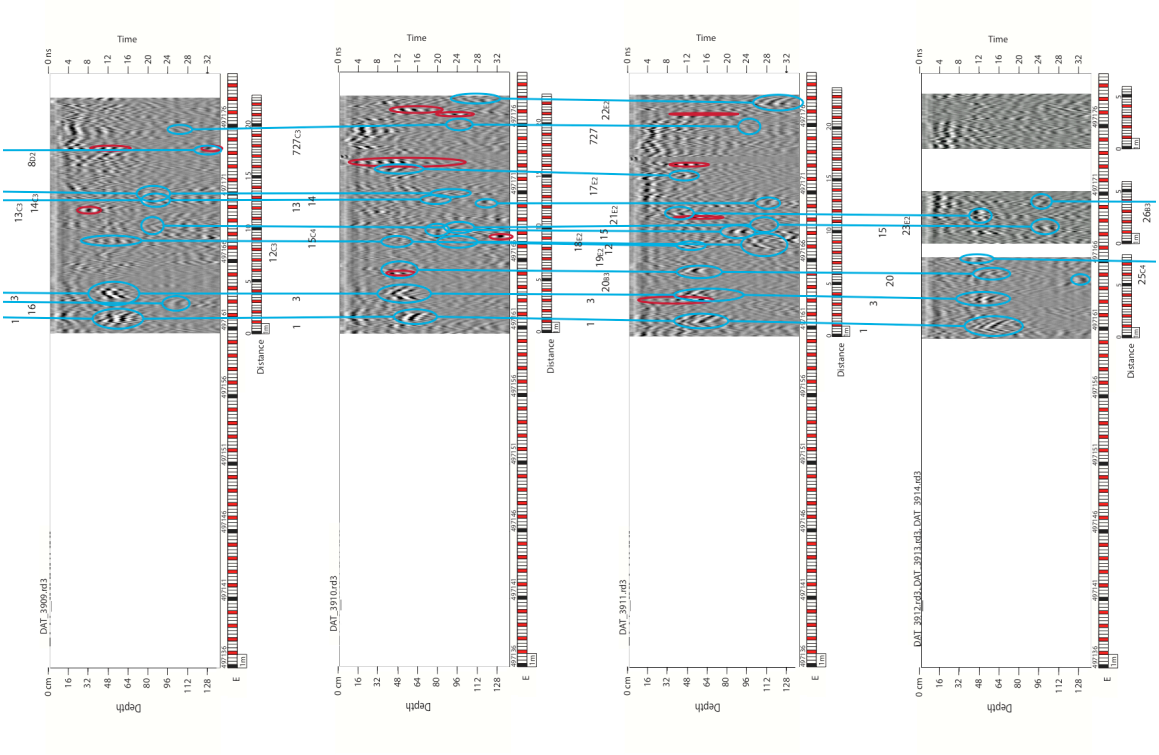
100C4
Anomaly number followed by letter ranking and number of transects crossed. (After first appearance, only anomaly number appears.)

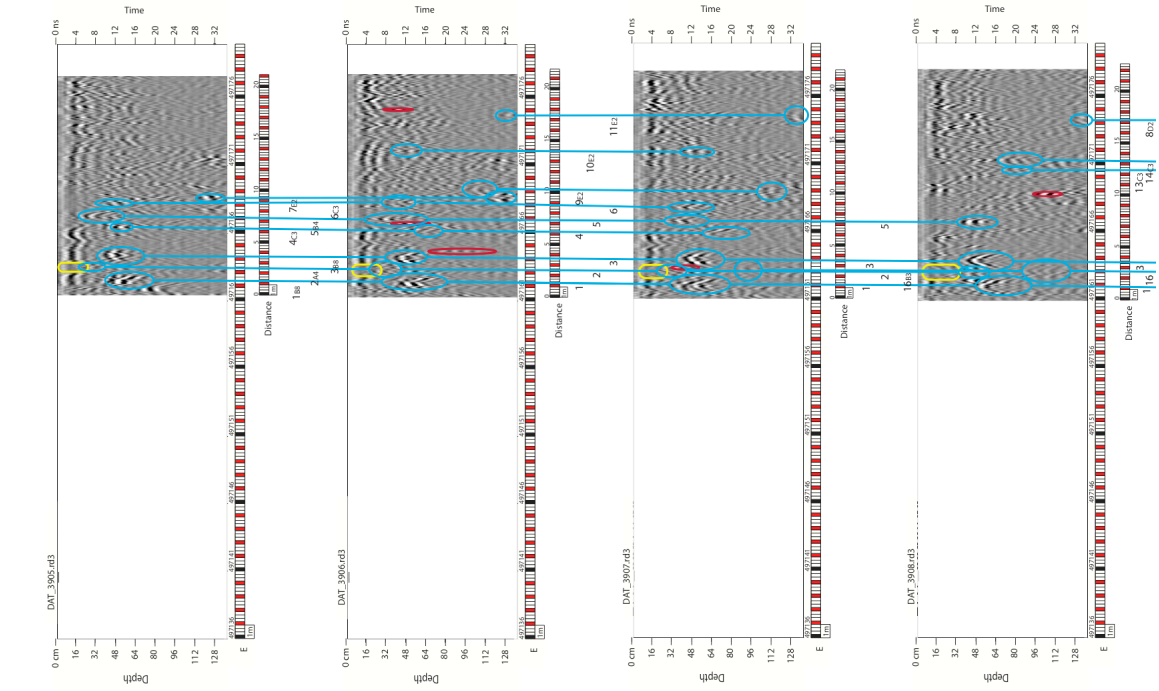
Blue oval with lines
Anomaly which has been linked across more than one radargram. (Anomalies which appear on only one radargram are not identified here.)

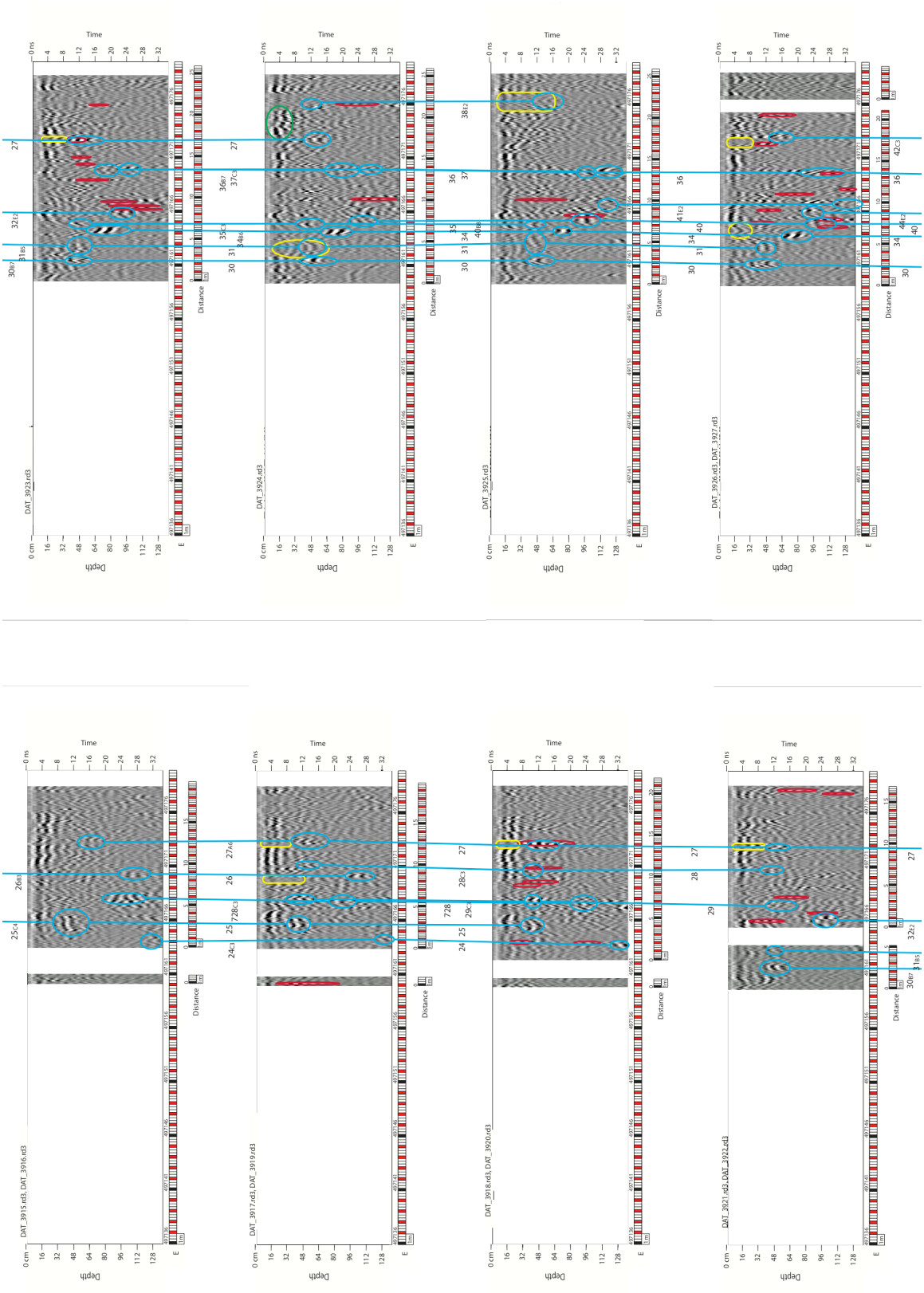
Red oval
Possible signature of metal

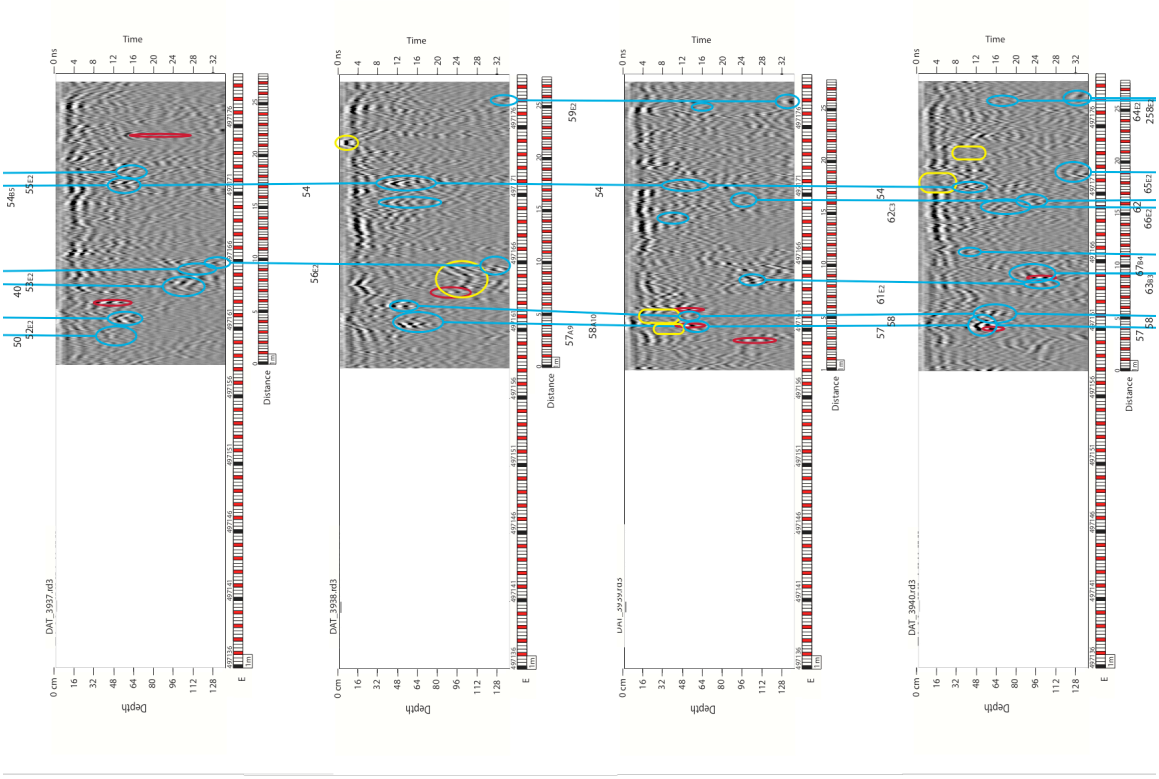
Yellow oval
Geological or human-made stratigraphic feature, including possible grave shafts

Green oval
Particularly discrete signature of present-day path through cemetery


Time
Depth
Distance
DAT_3909.rd3
DAT_3910.rd3
DAT_3911.rd3
DAT_3912.rd3,DAT_3913.rd3,DAT_3914.rd3


Time
Depth
Distance
DAT_3905.rd3
DAT_3906.rd3
DAT_3907.rd3
DAT_3908.rd3


Time
Depth
Distance
DAT_3923.rd3
DAT_3924.rd3
DAT_3925.rd3
DAT_3926.rd3; DAT_3927.rd3
DAT_3915.rd3; DAT_3916.rd3
DAT_3917.rd3; DAT_3919.rd3
DAT_3918.rd3; DAT_3920.rd3
DAT_3921.rd3; DAT_3922.rd3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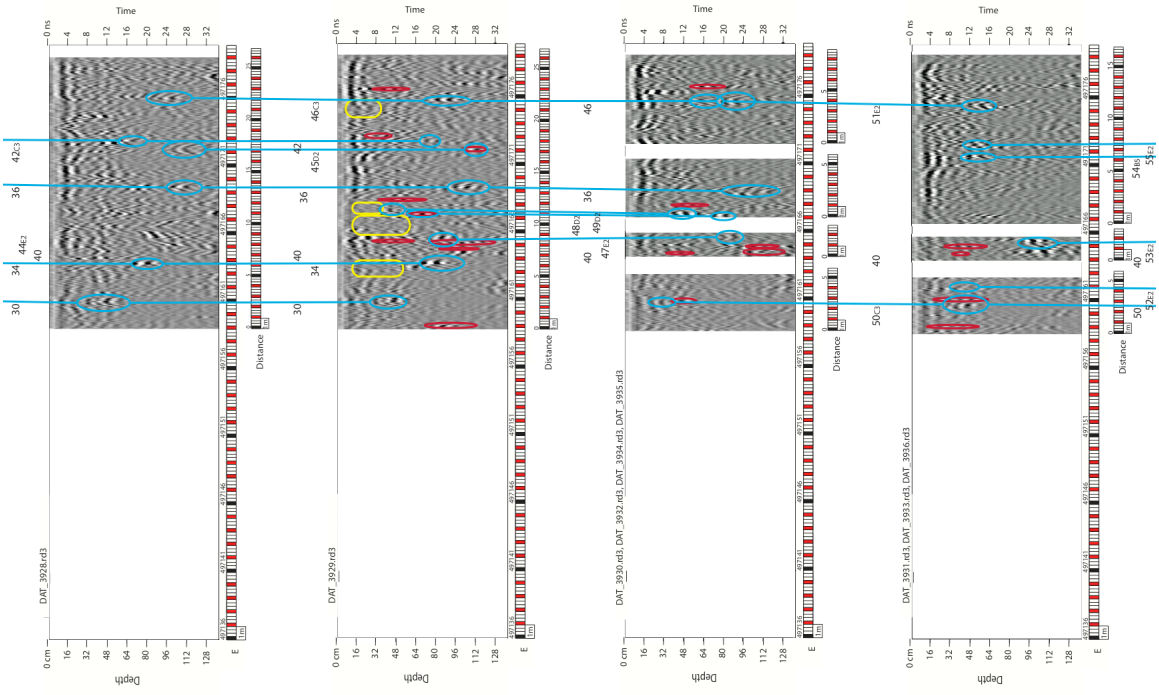
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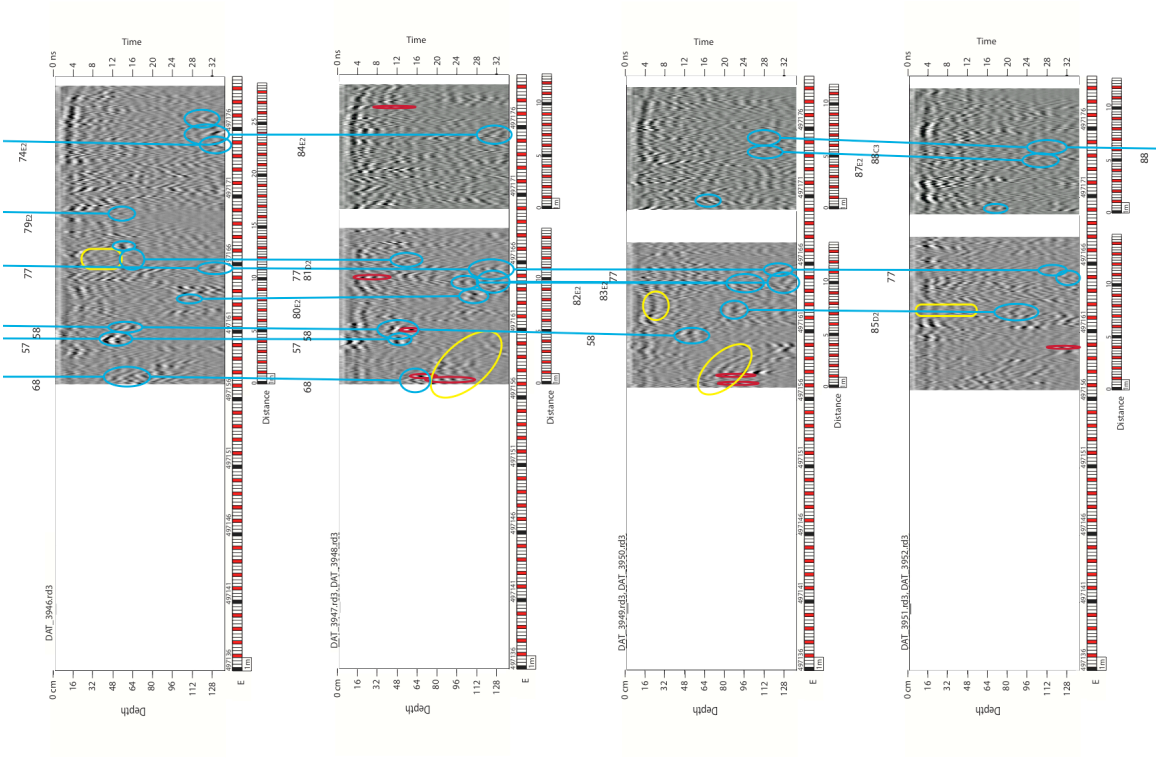
DAT_3931.rd3; DAT_3933.rd3; DAT_3936.rd3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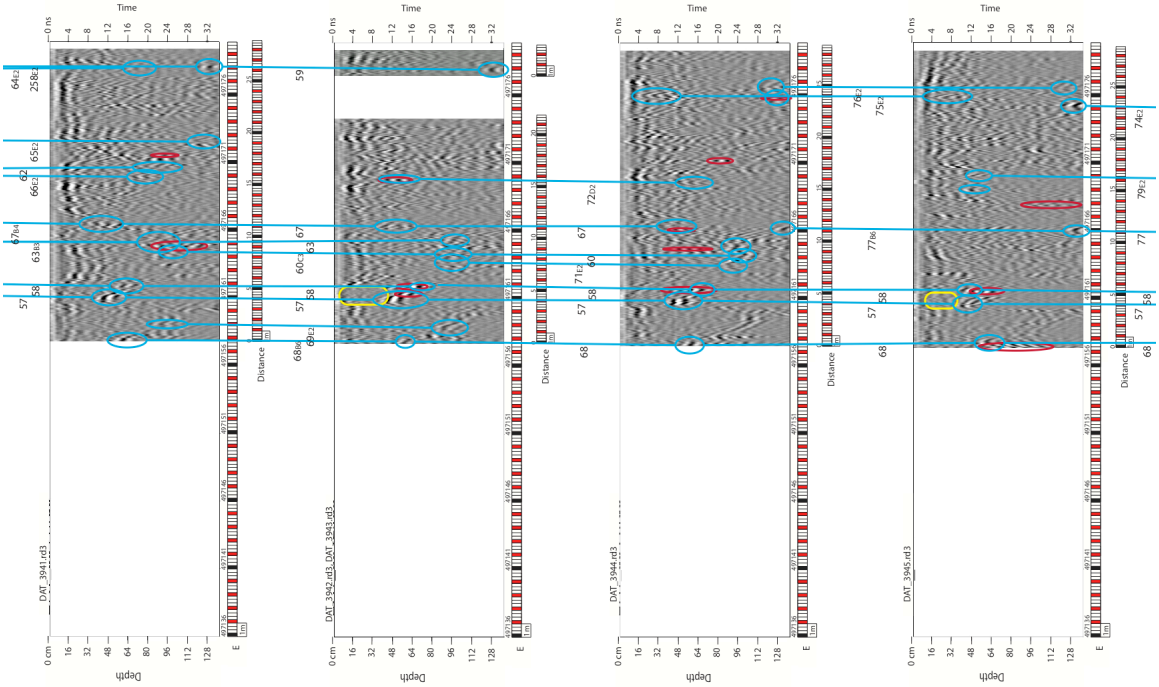
DAT_3951.rd3, DAT_3952.rd3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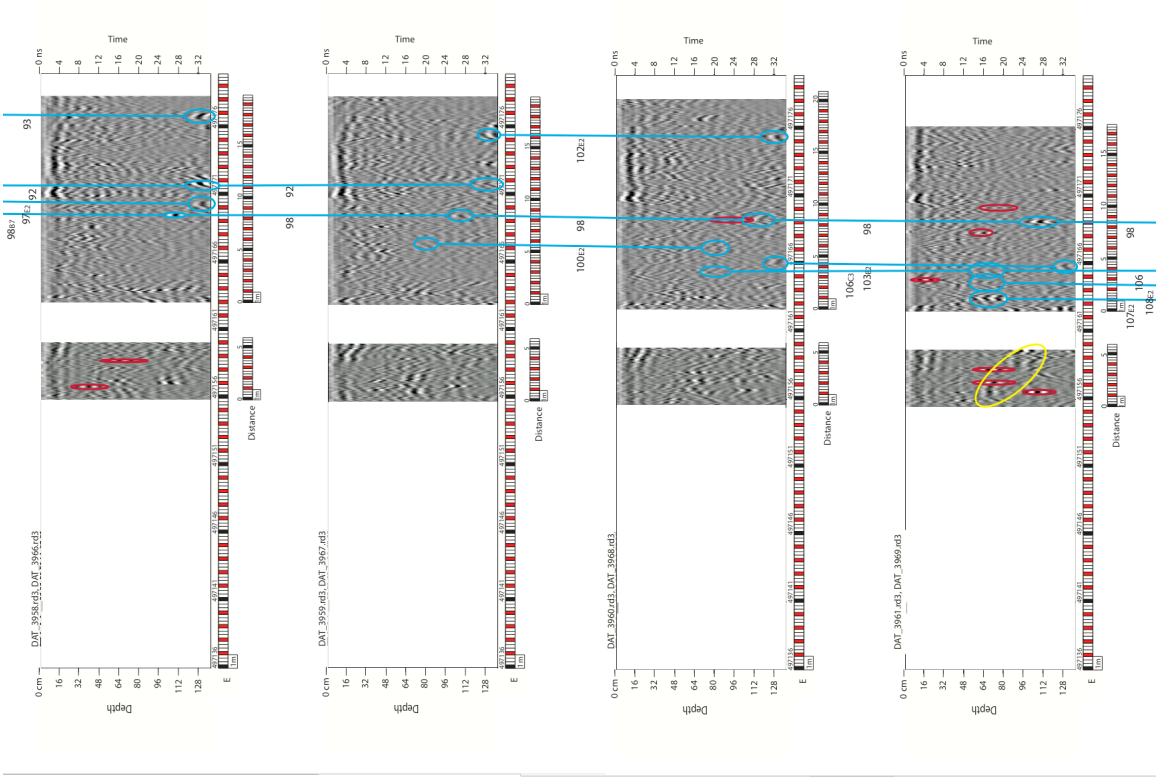
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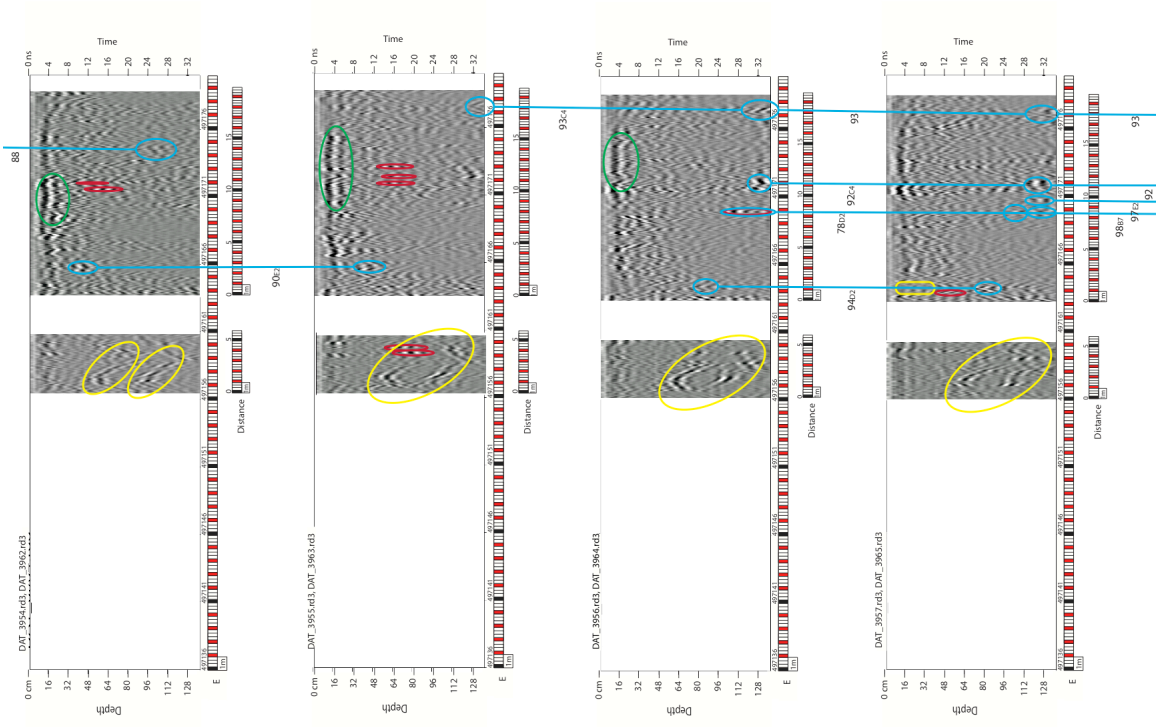
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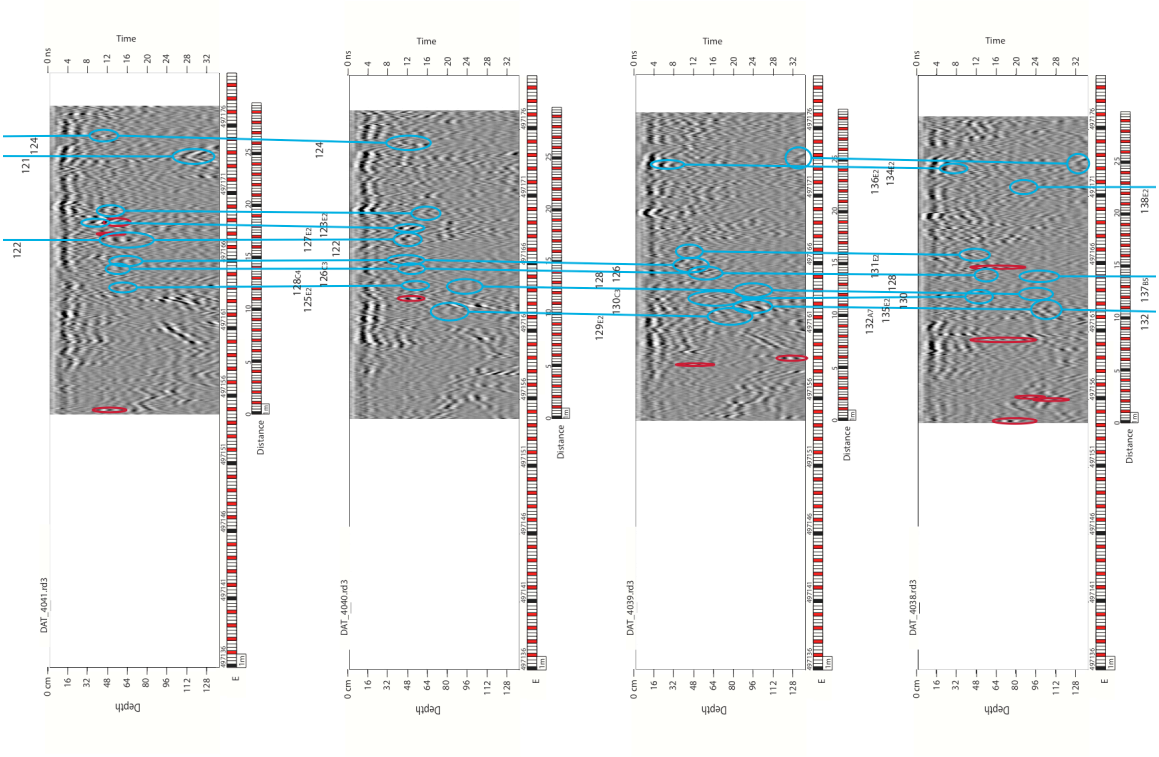
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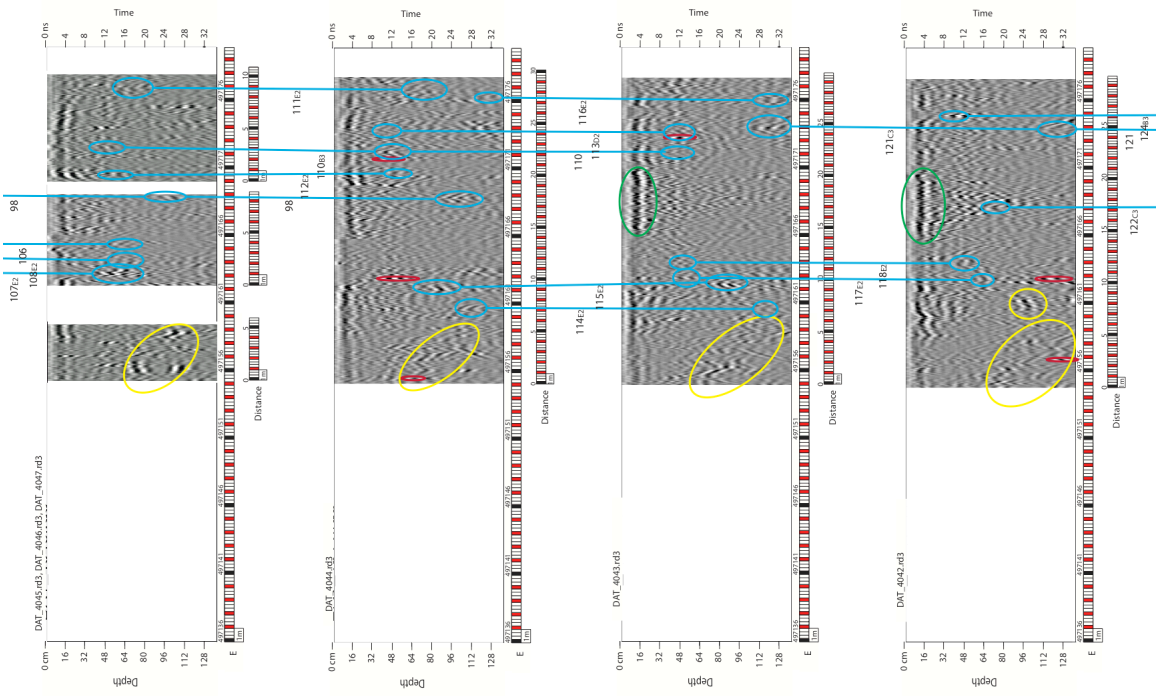
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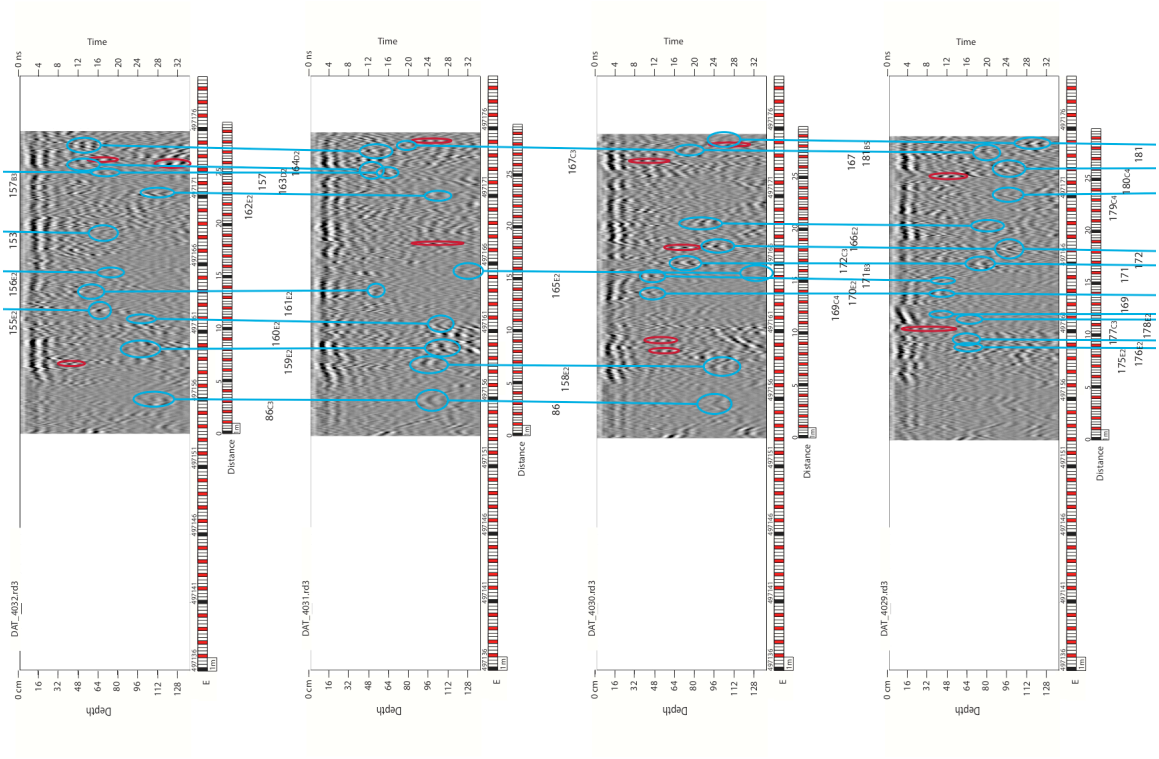
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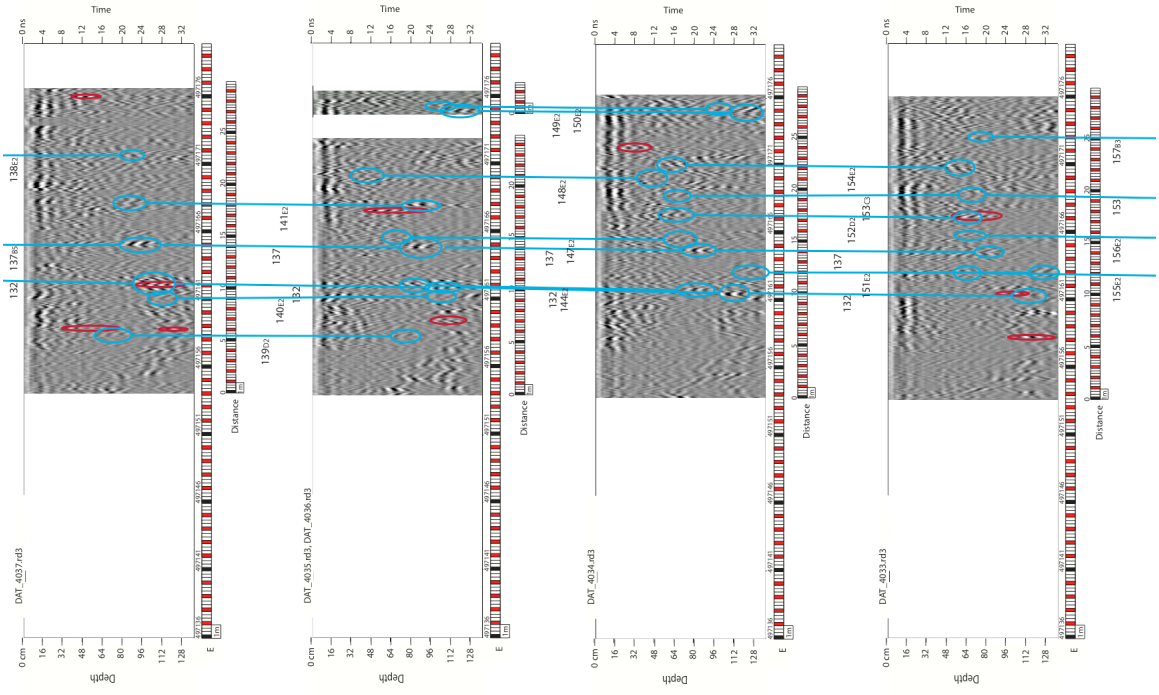
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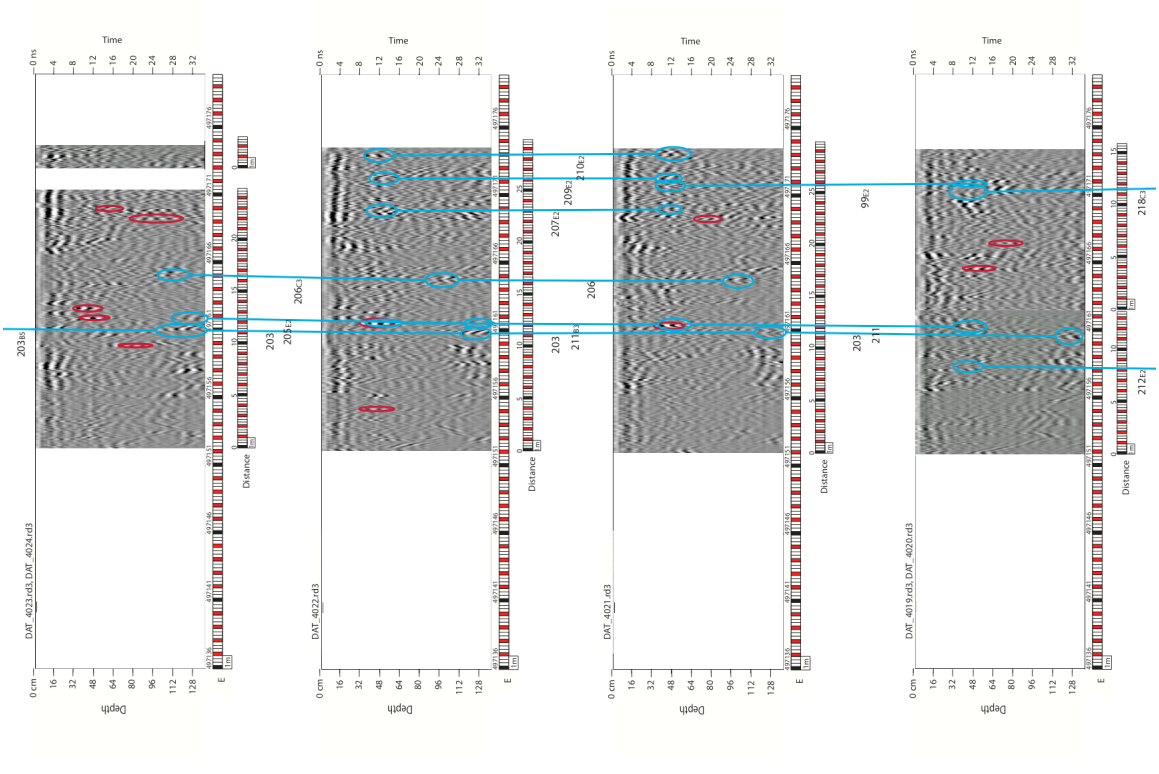
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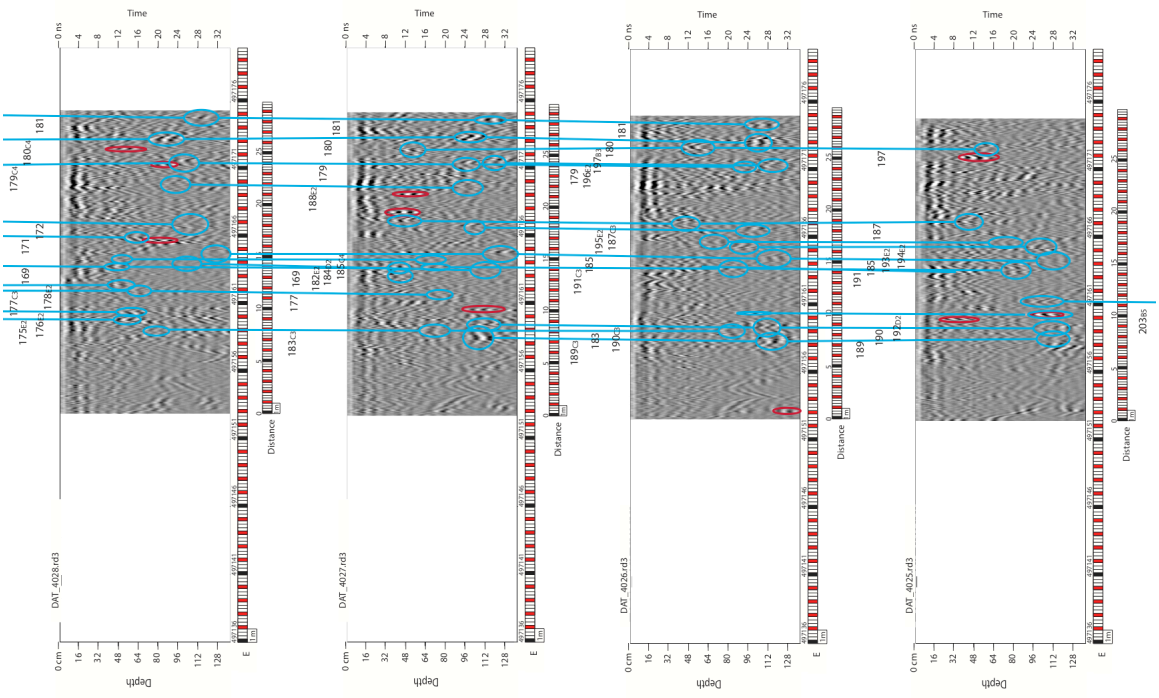
DAT_4019.rd3, DAT_4020.rd3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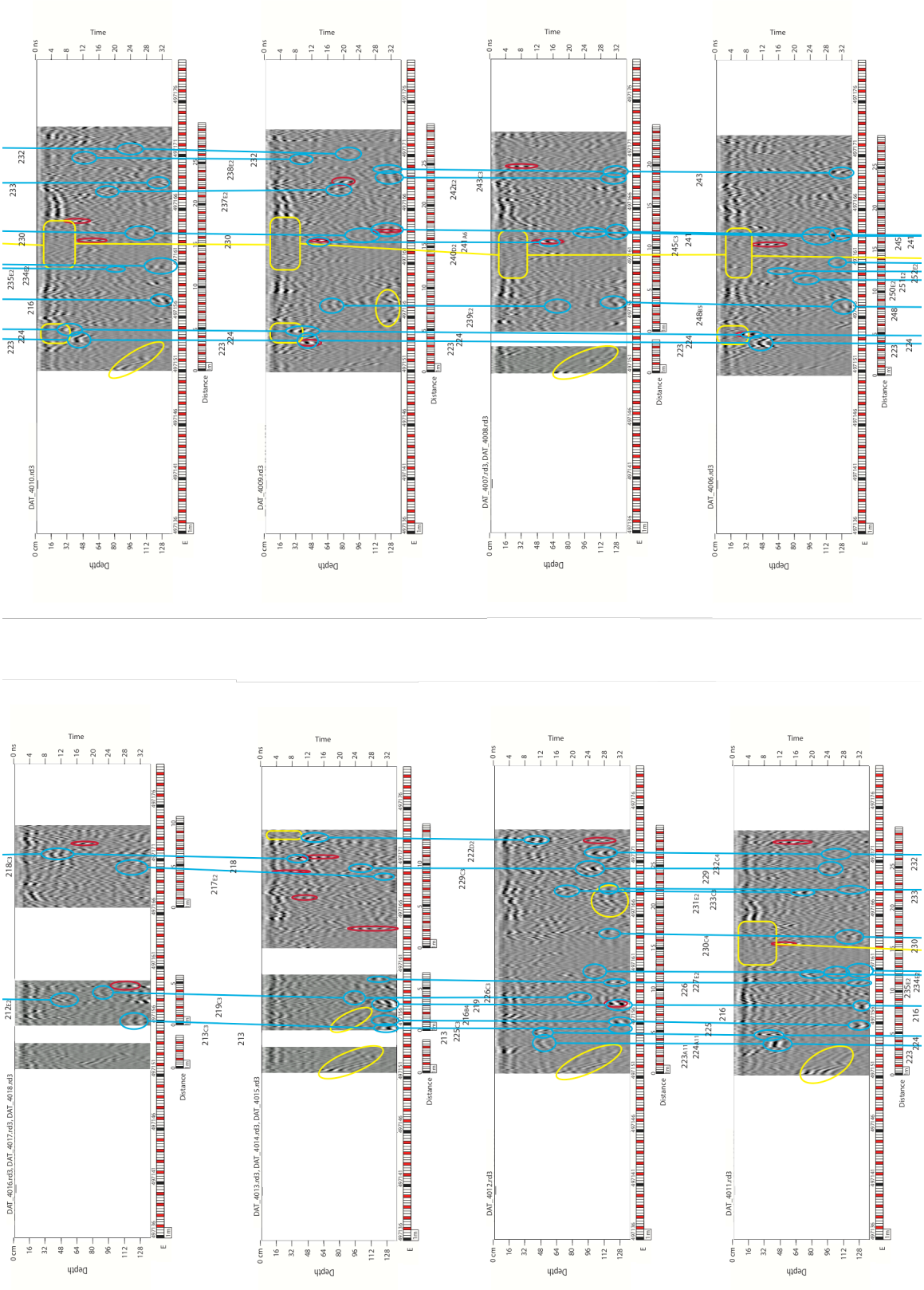
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DAT_4006.rd3
DAT_4016.rd3, DAT_4017.rd3, DAT_4018.rd3
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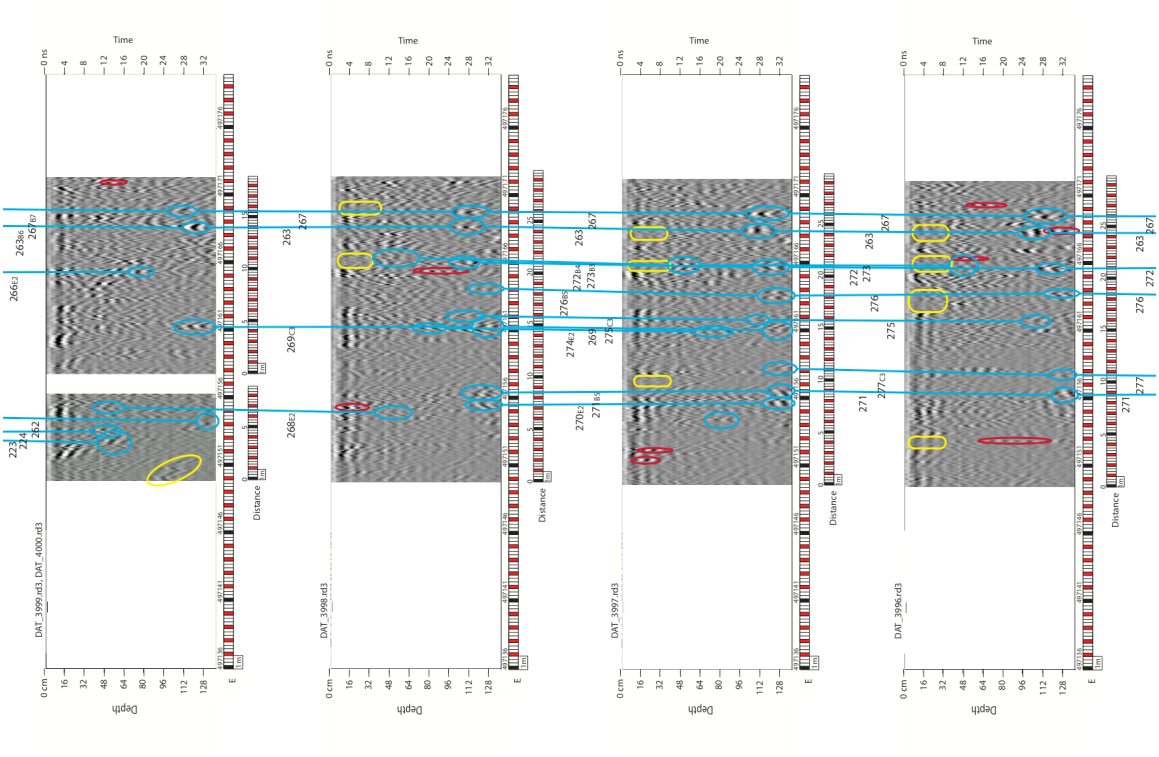
DAT_4011.rd3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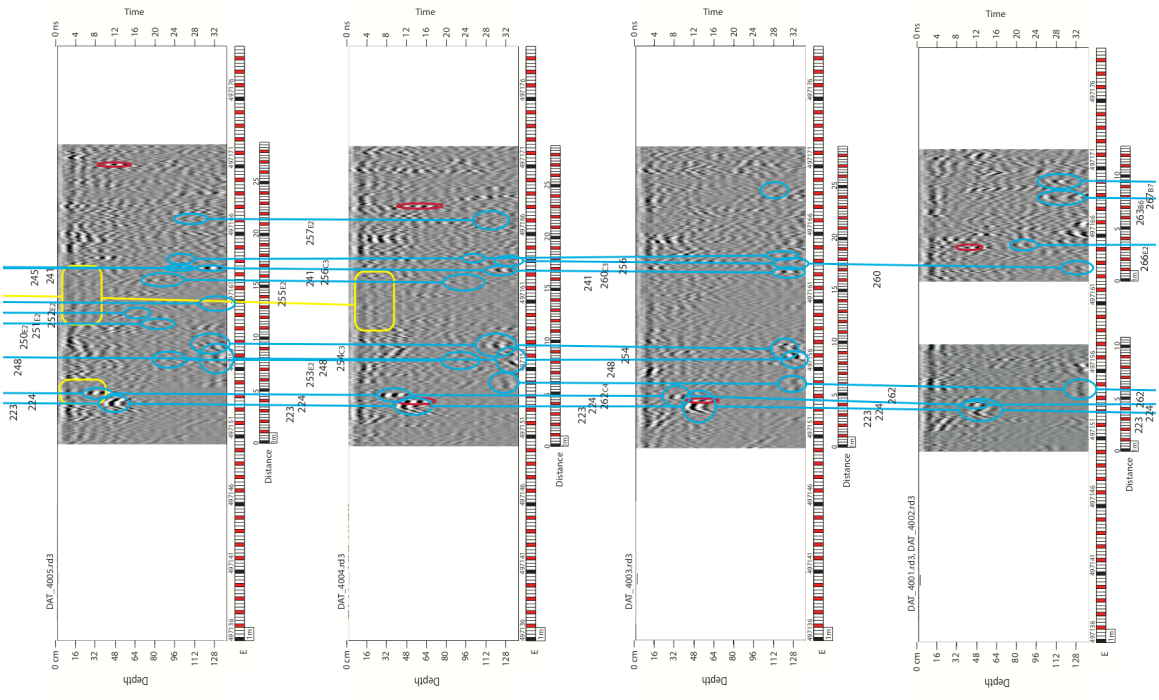
DAT_3997.rd3
DAT_3996.rd3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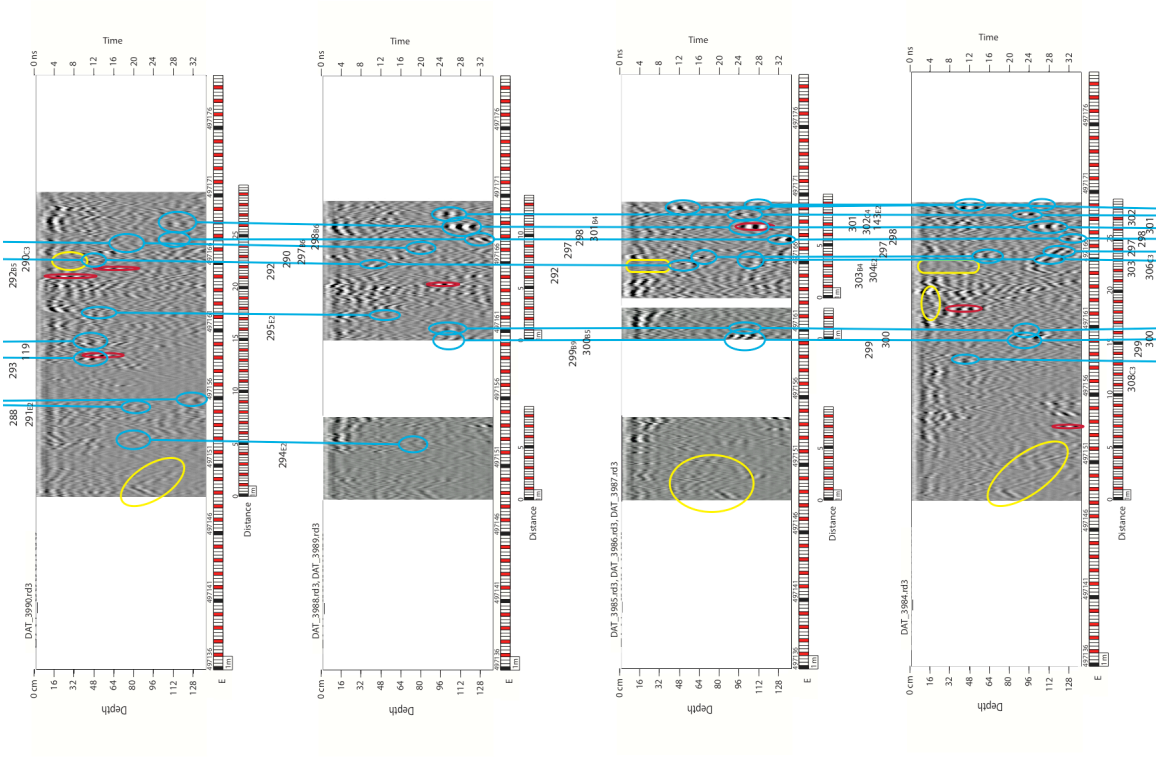
DAT_4001.rd3, DAT_4002.rd3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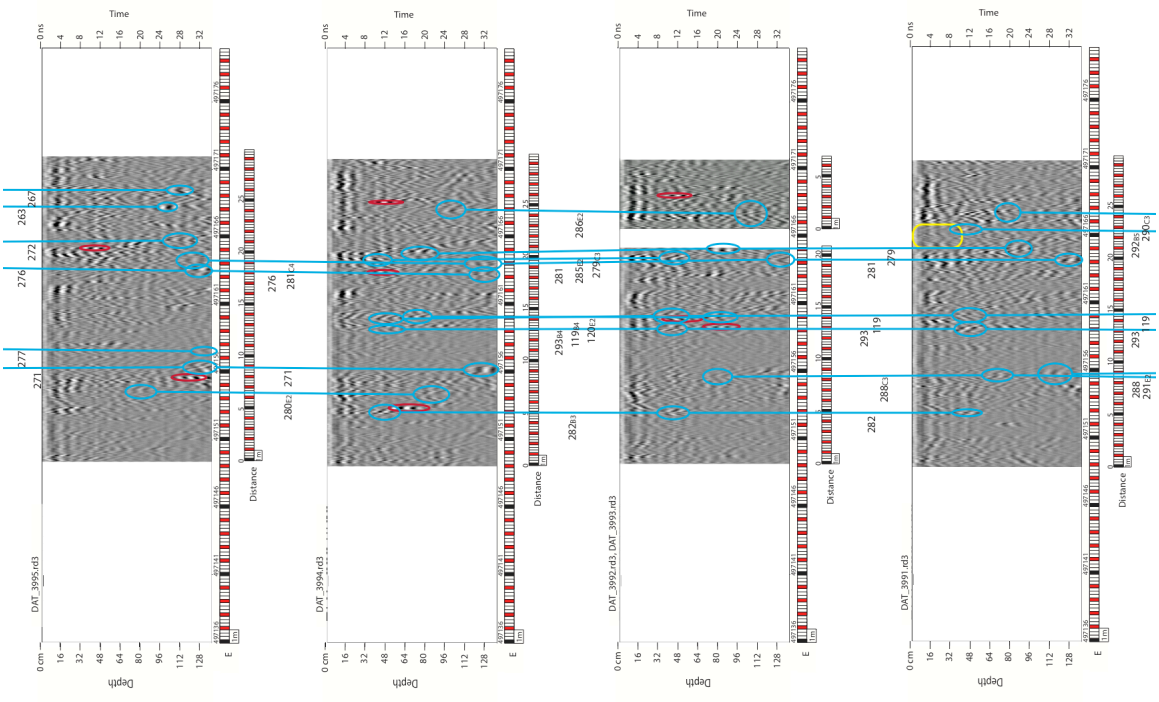
DAT_3984.rd3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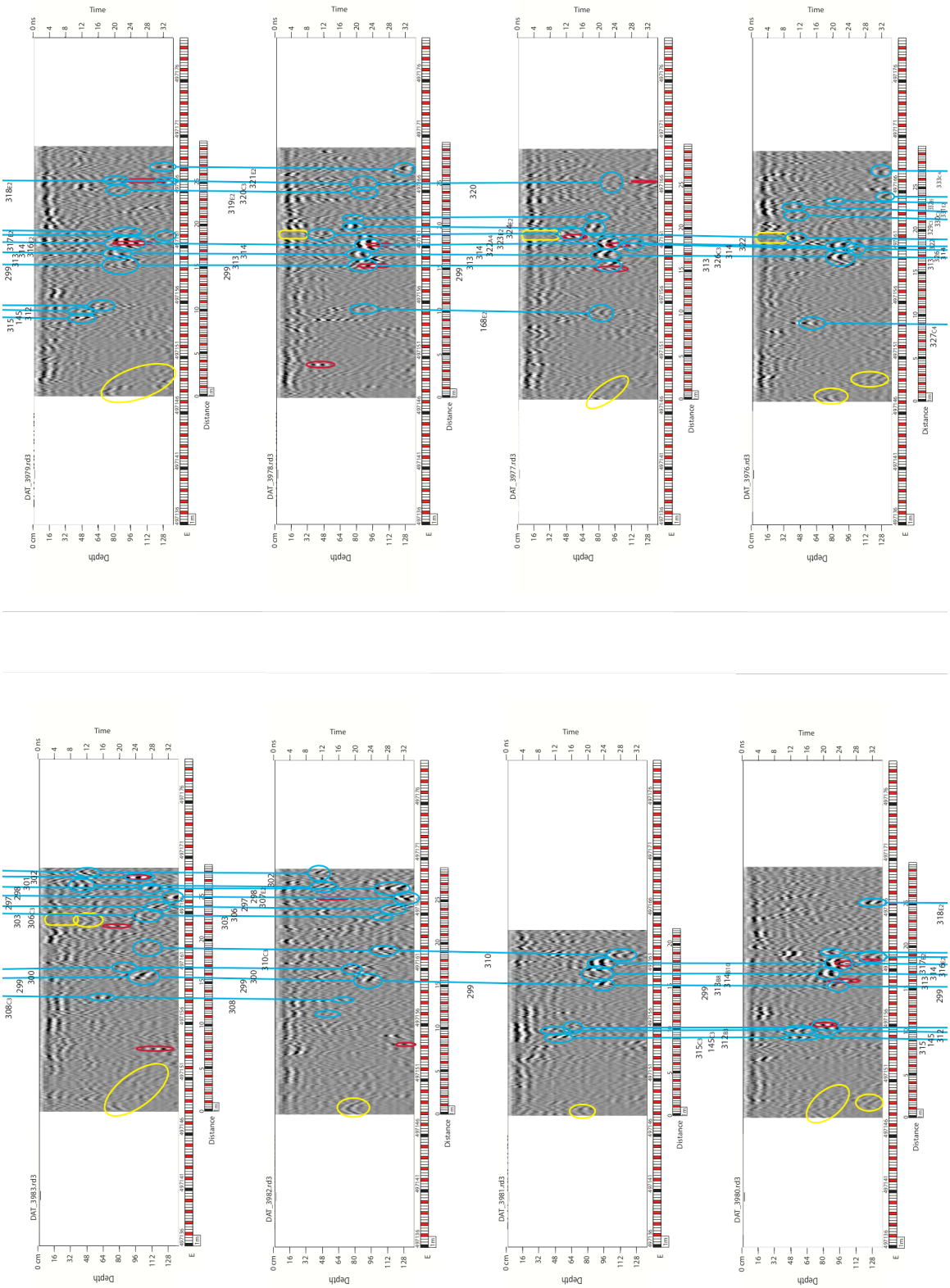
DAT_3991.rd3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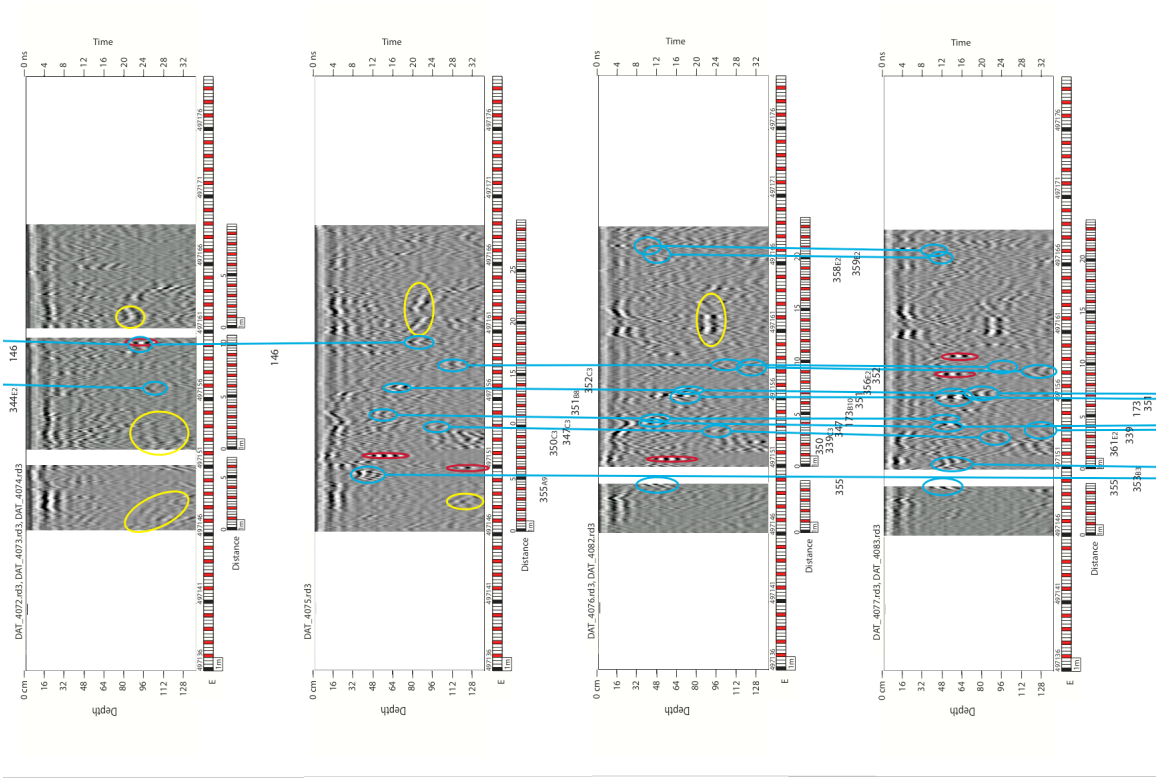
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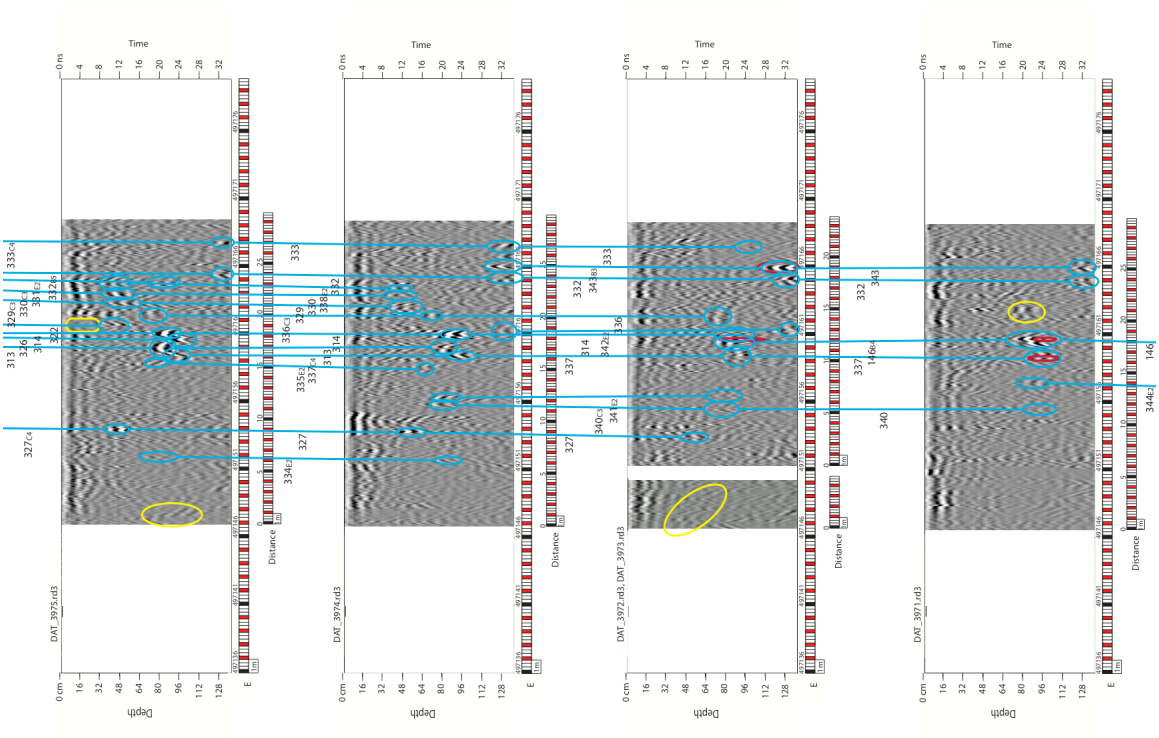
DAT_4077.rd3, DAT_4083.rd3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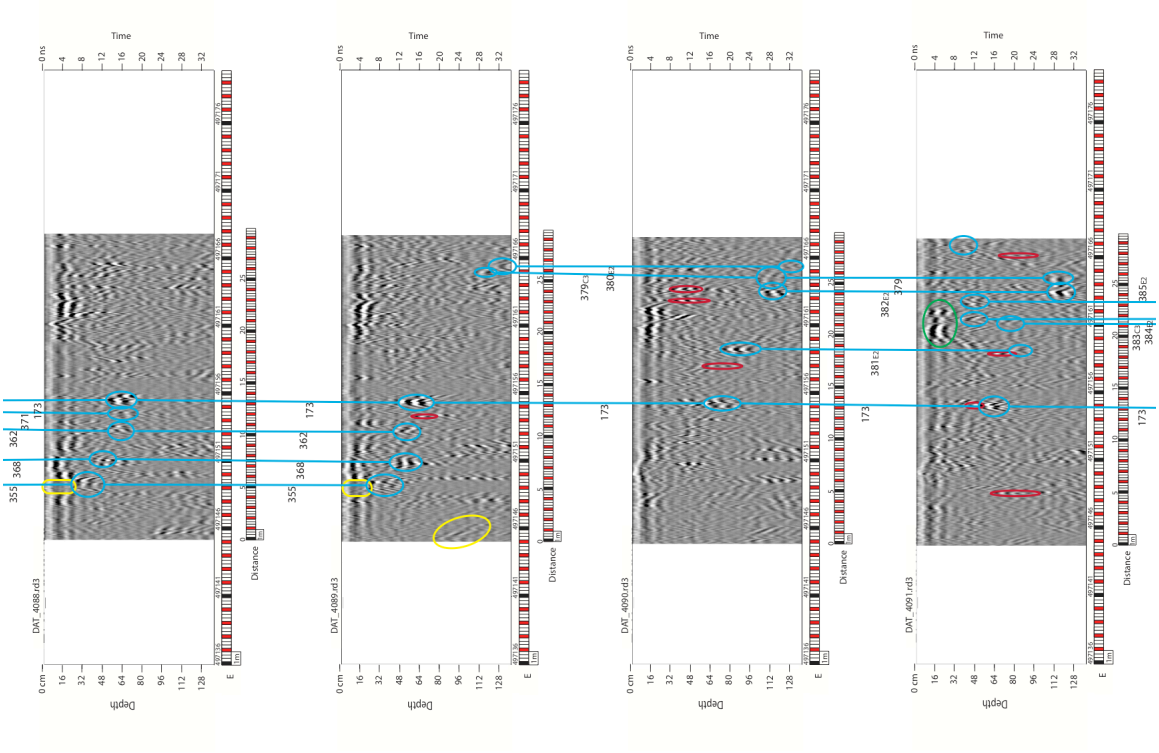
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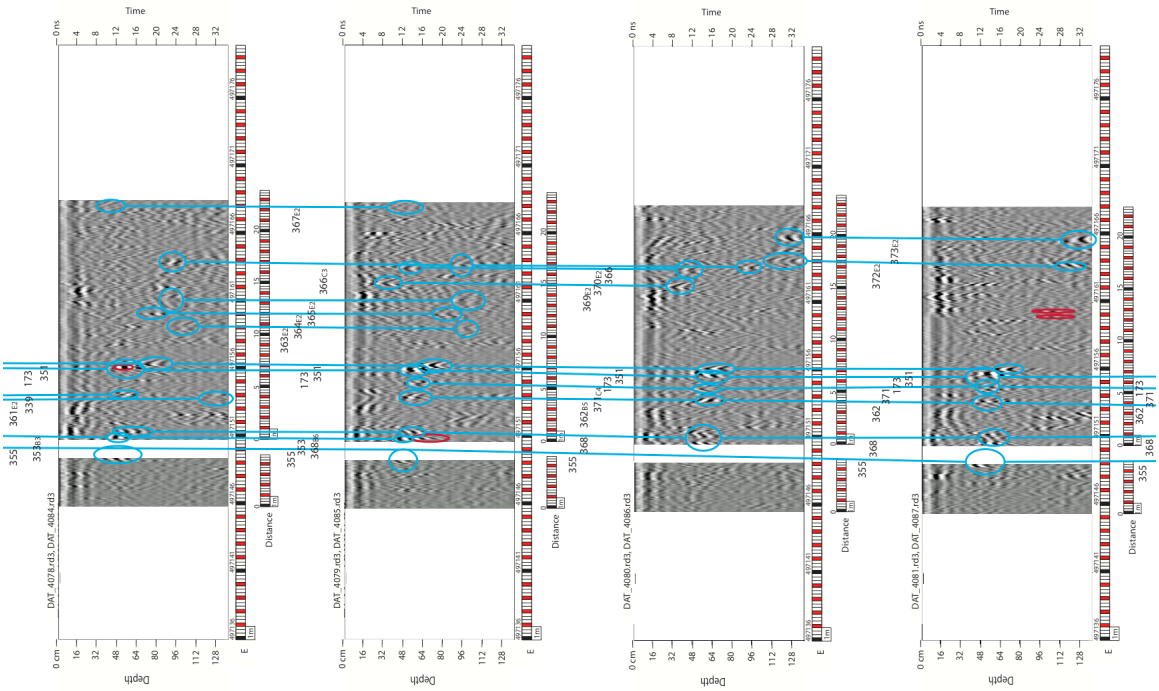
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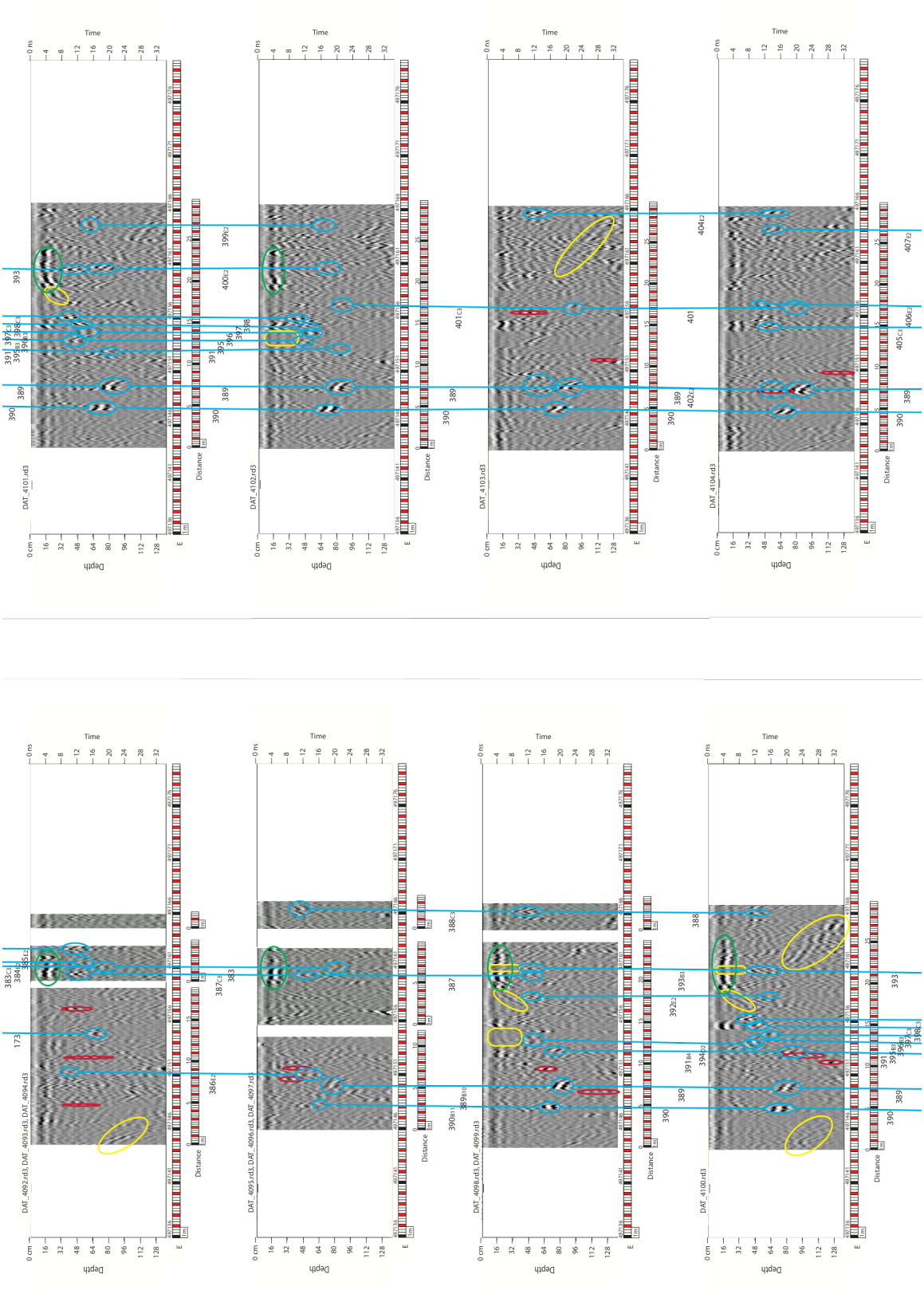
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DAT_4104.rd3
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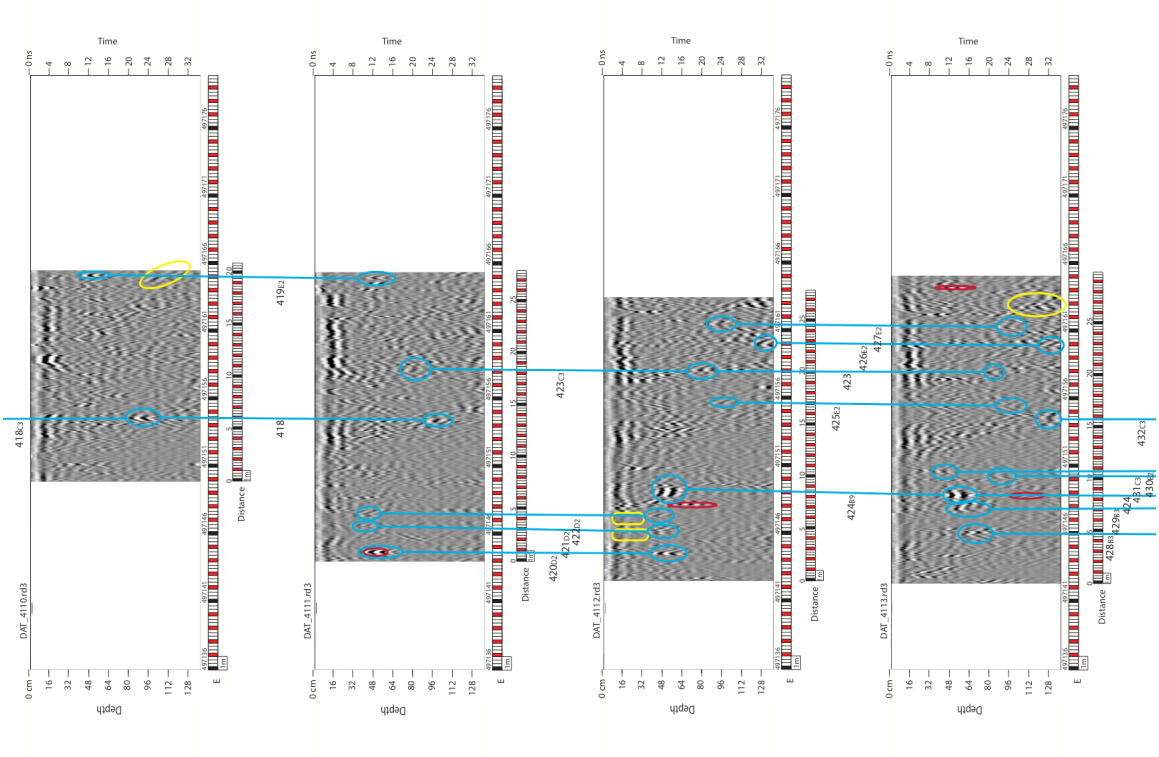
DAT_4098.rd3, DAT_4099.rd3
DAT_4100.rd3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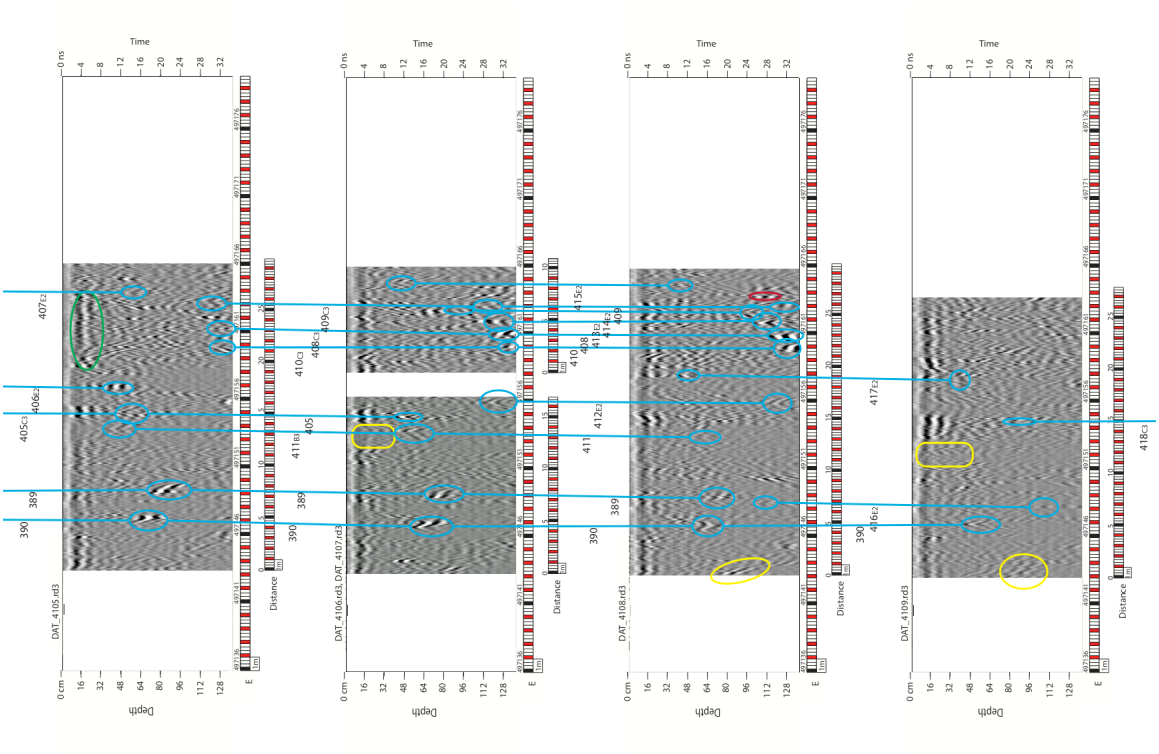
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DAT_4109.rd3
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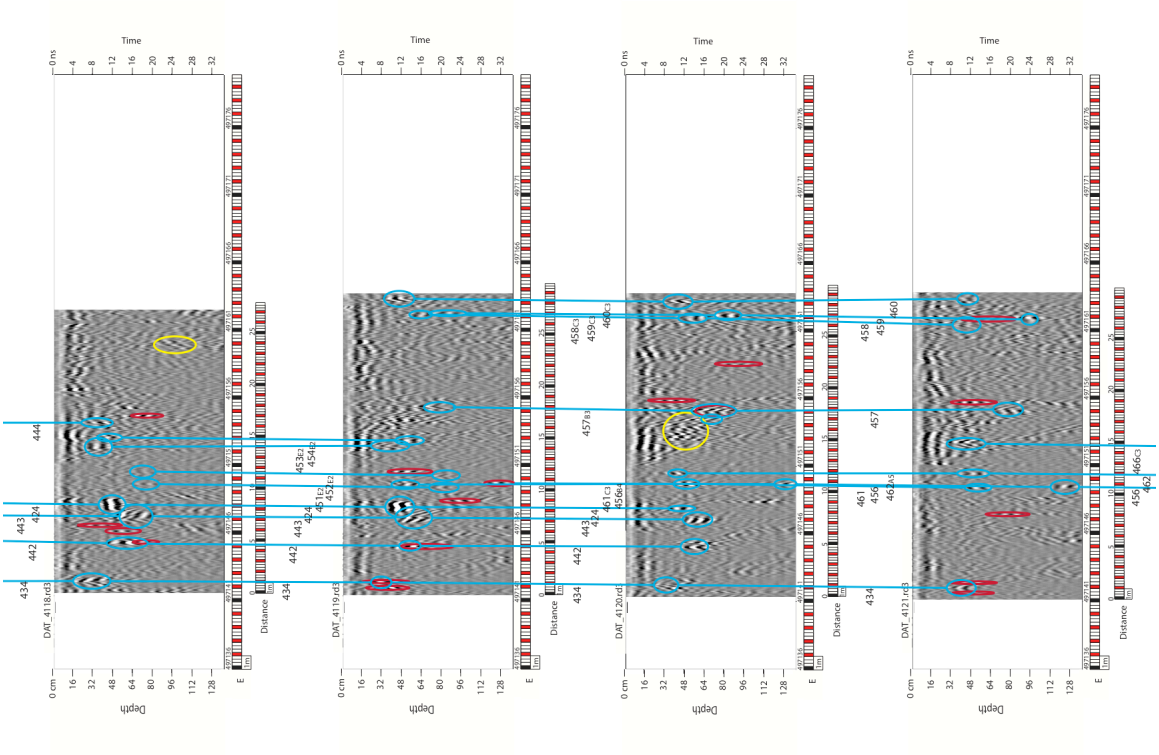
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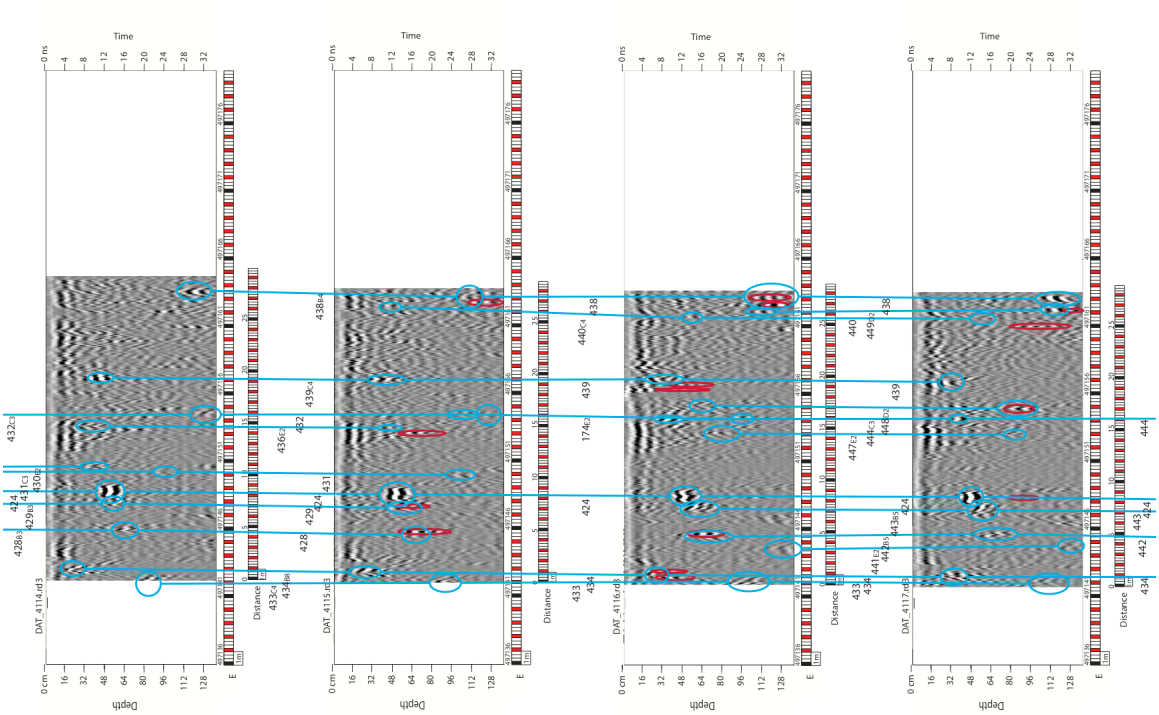
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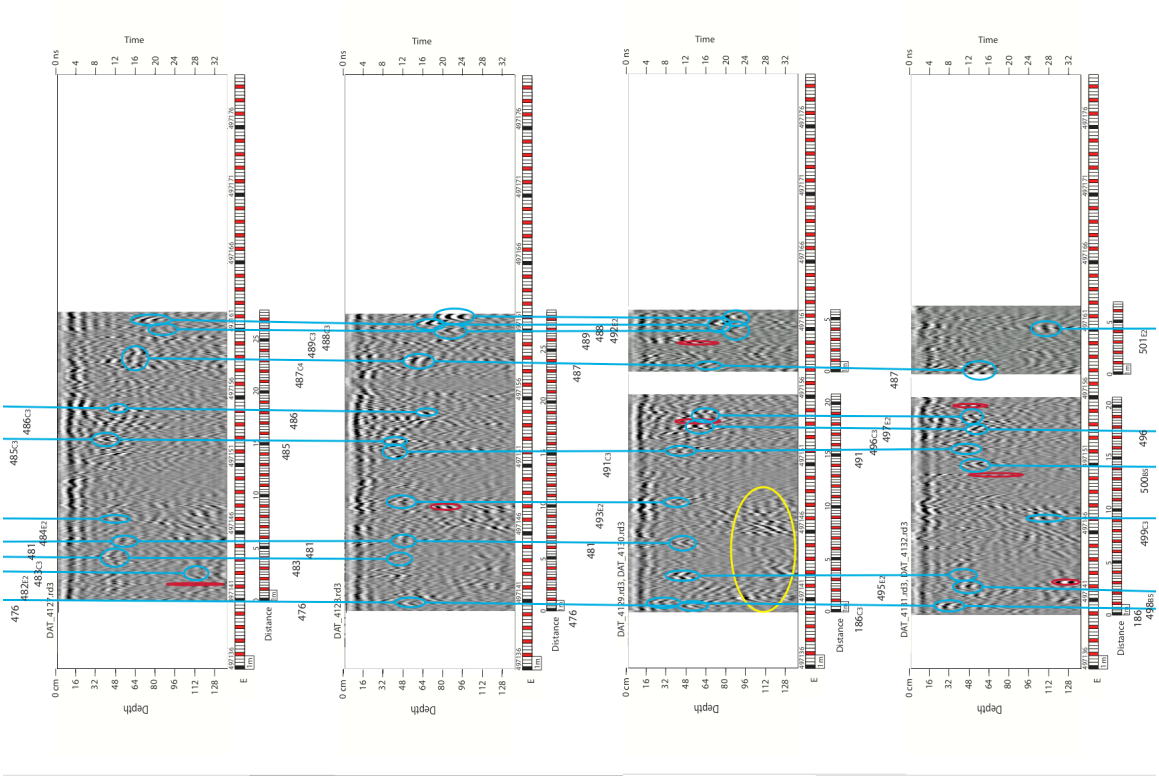
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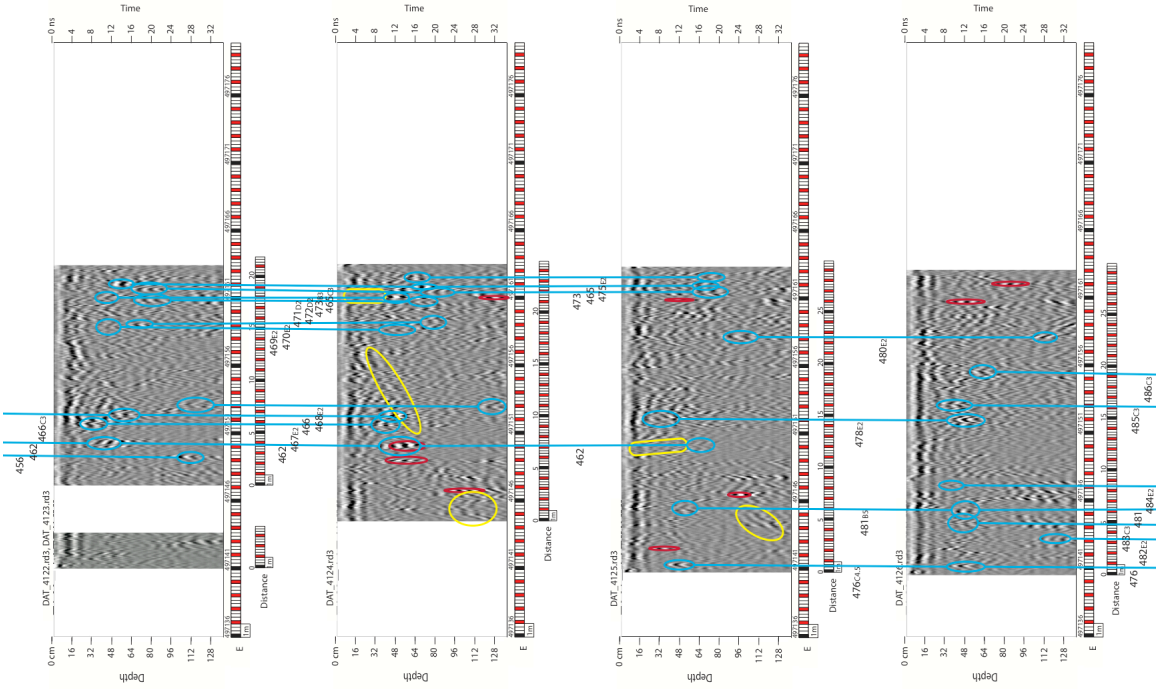
DAT_4131.rd3, DAT_4132.rd3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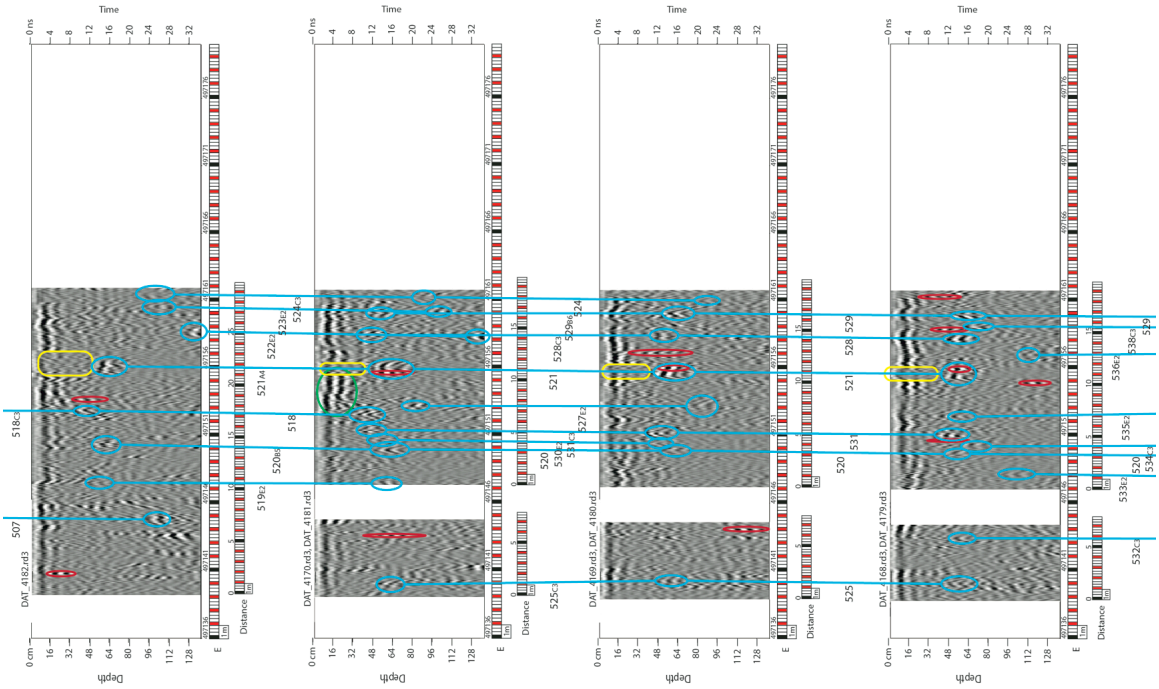
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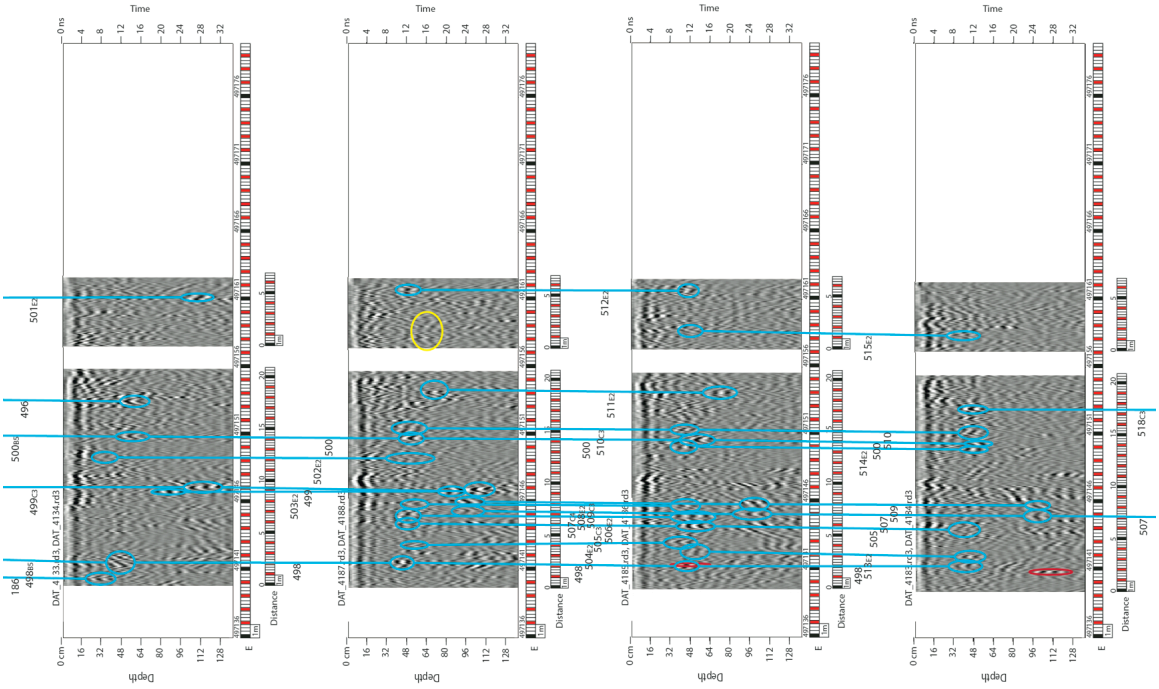
DAT_4168.rd3, DAT_4179.rd3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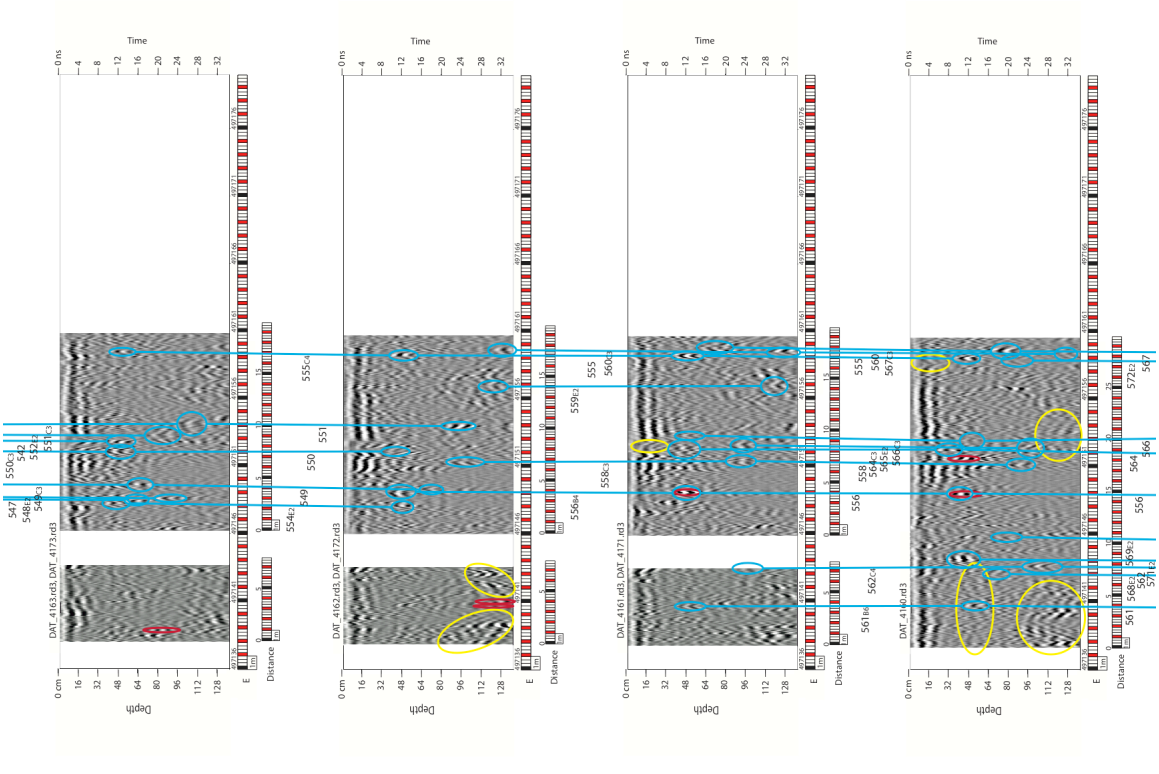
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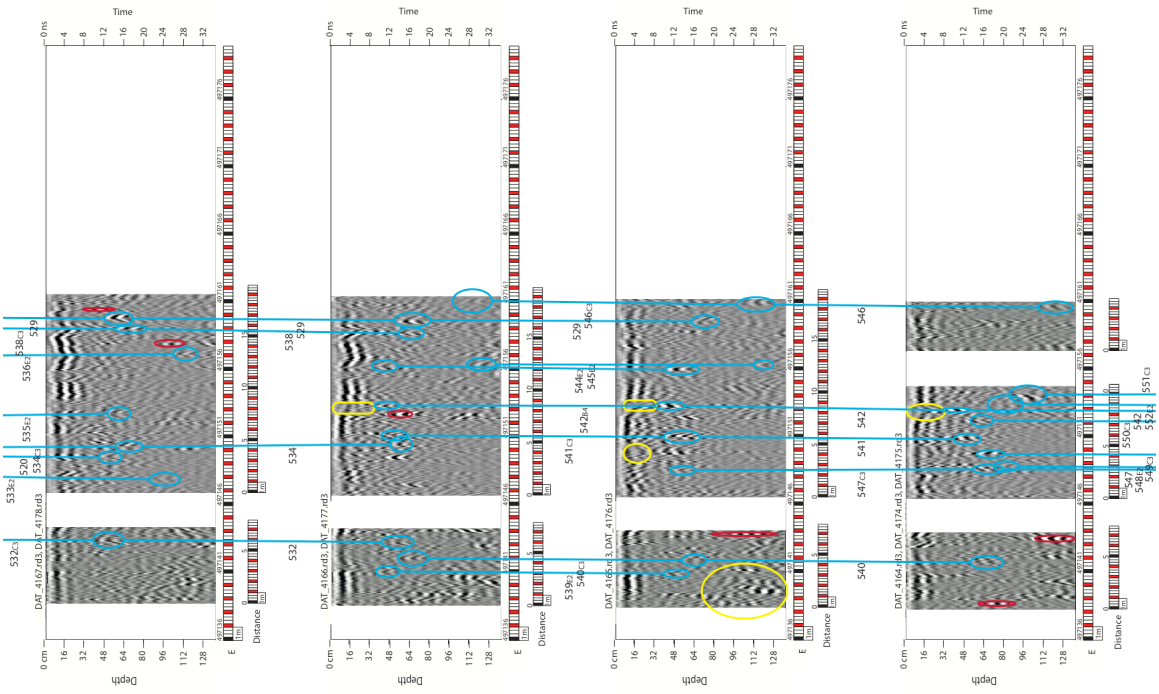
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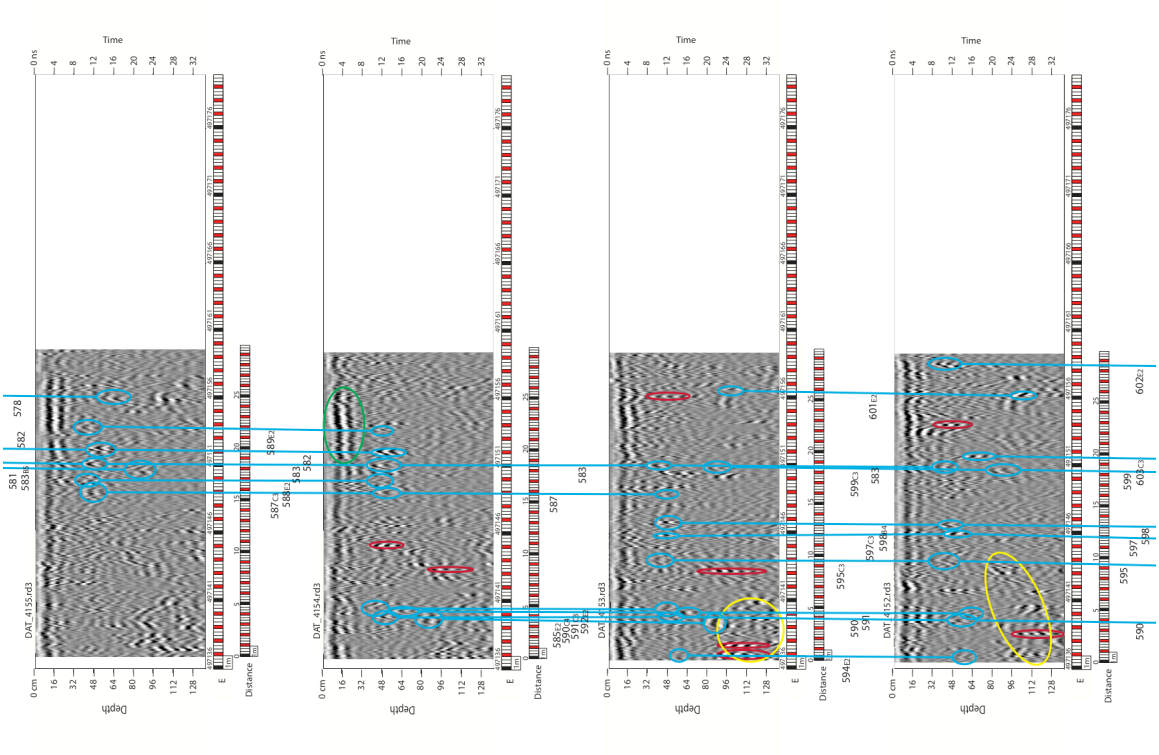
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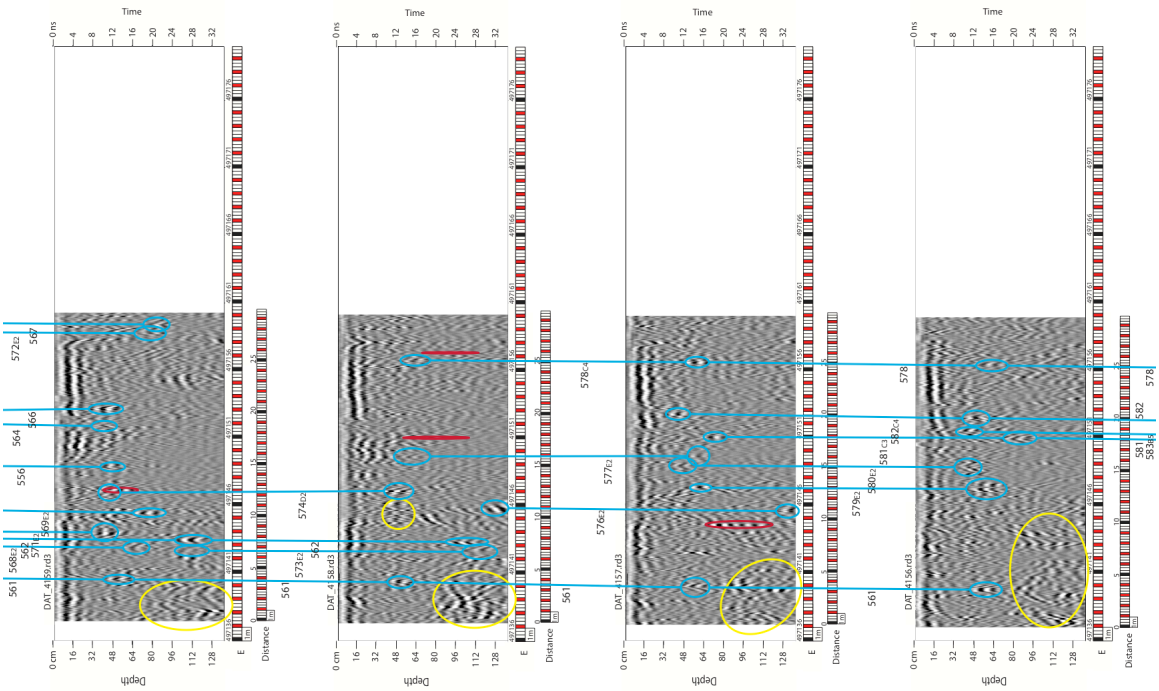
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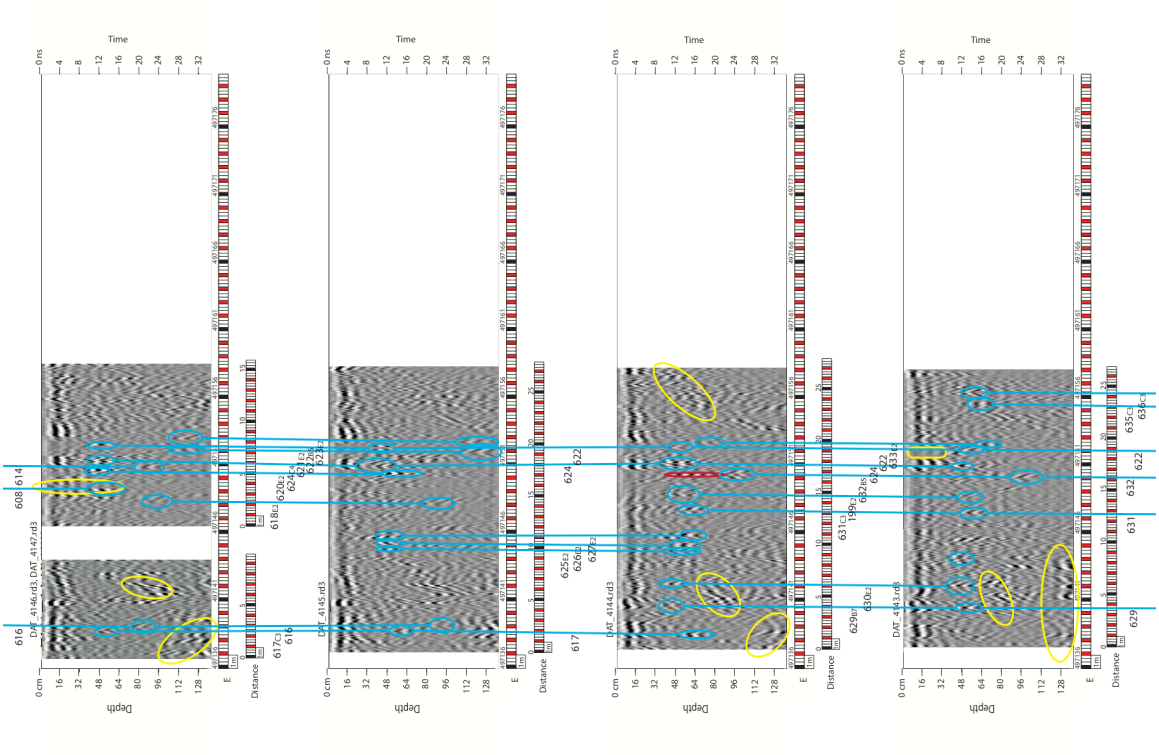
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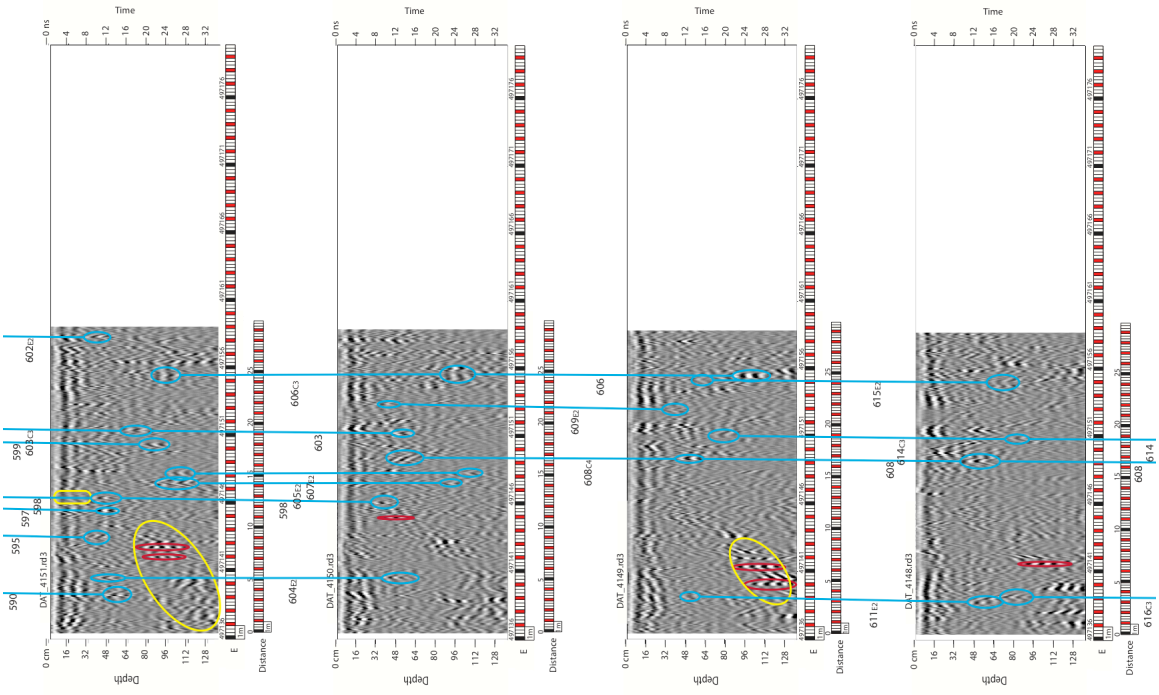
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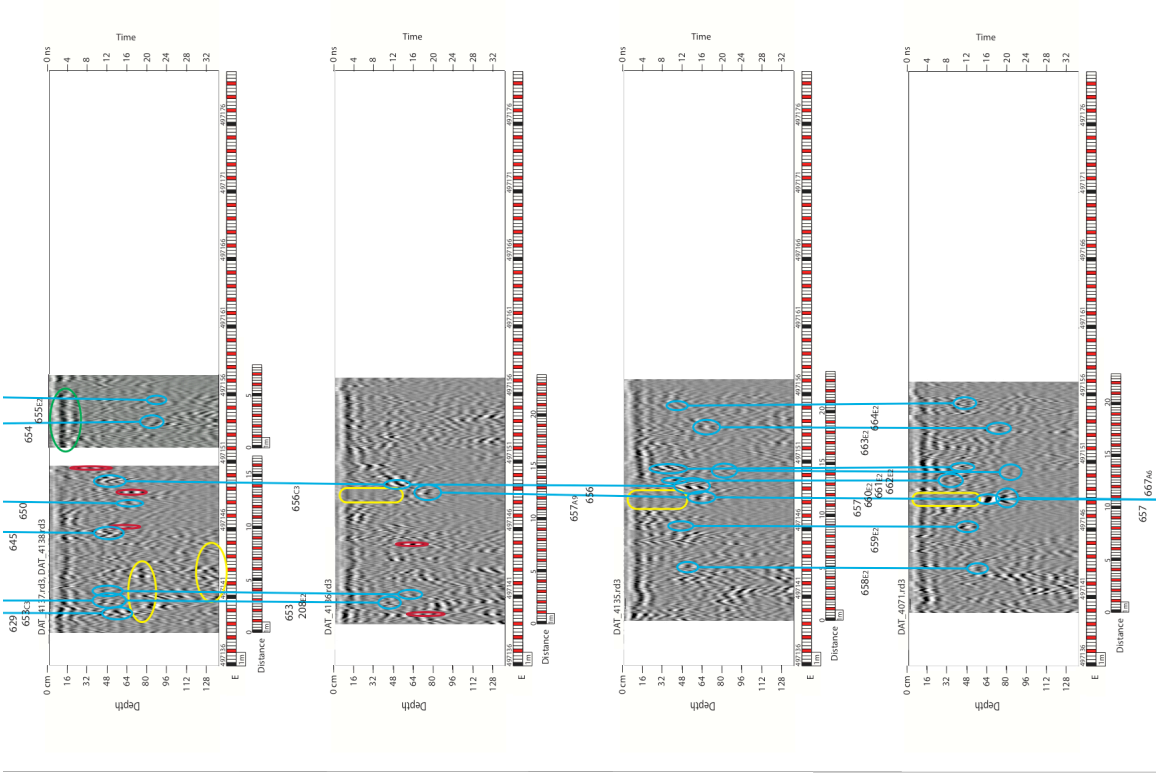

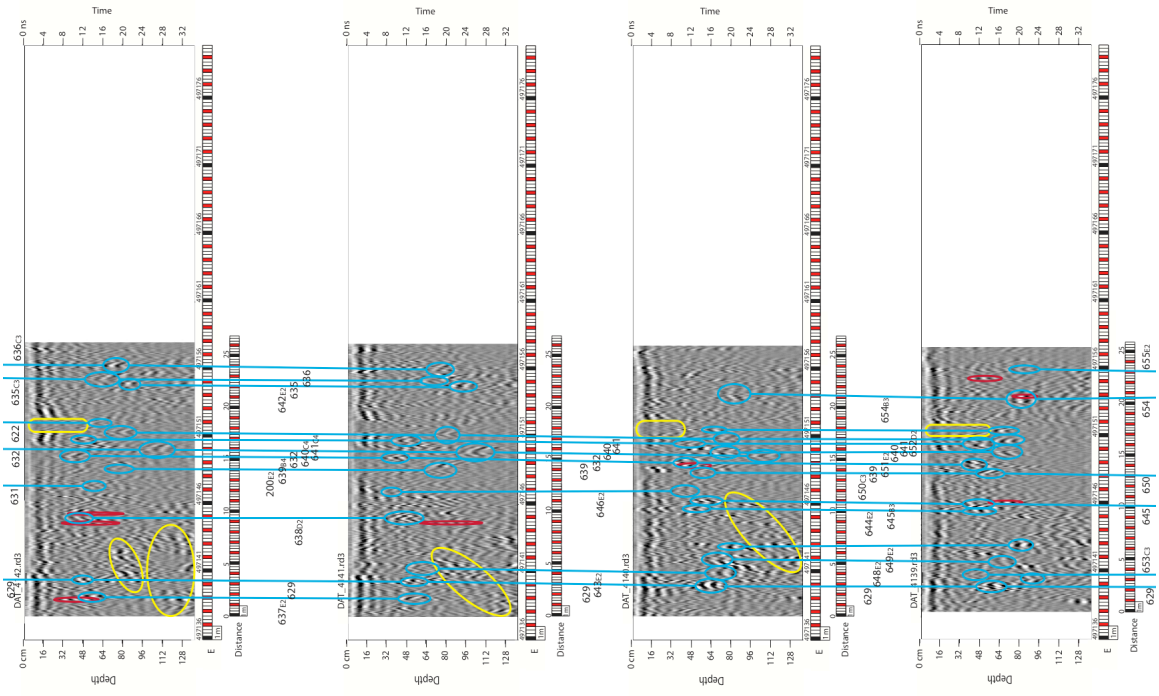

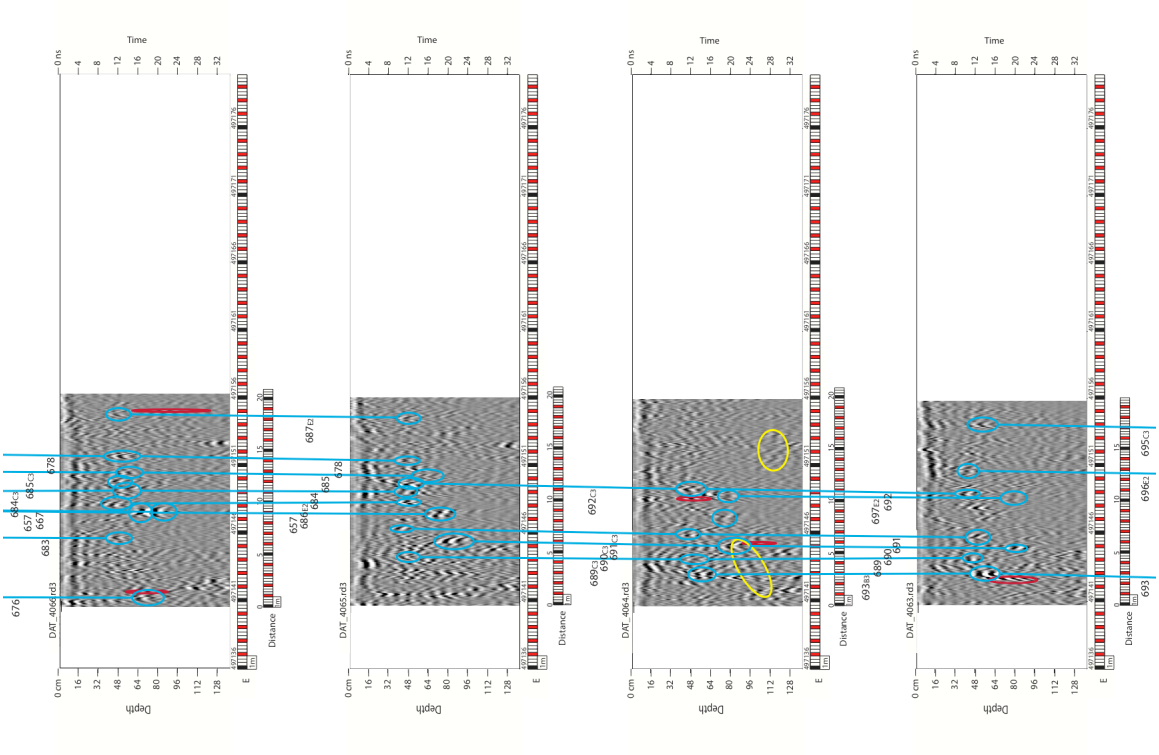
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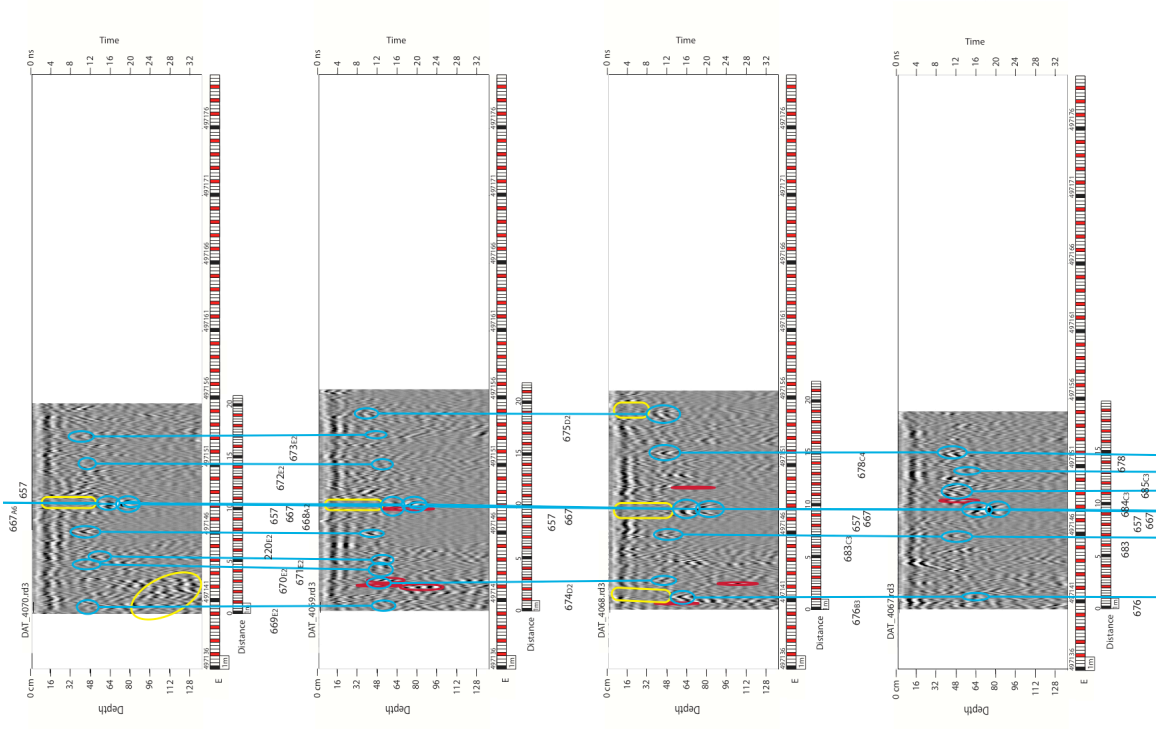
DAT_4063.rd3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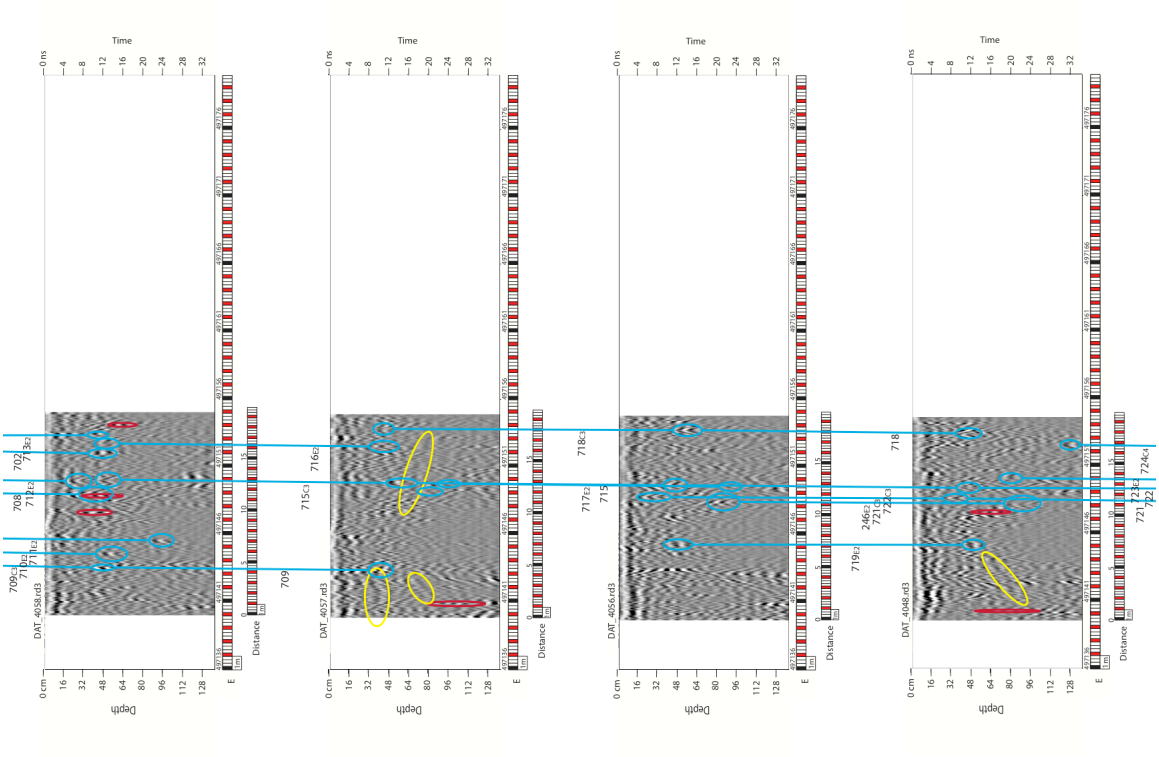
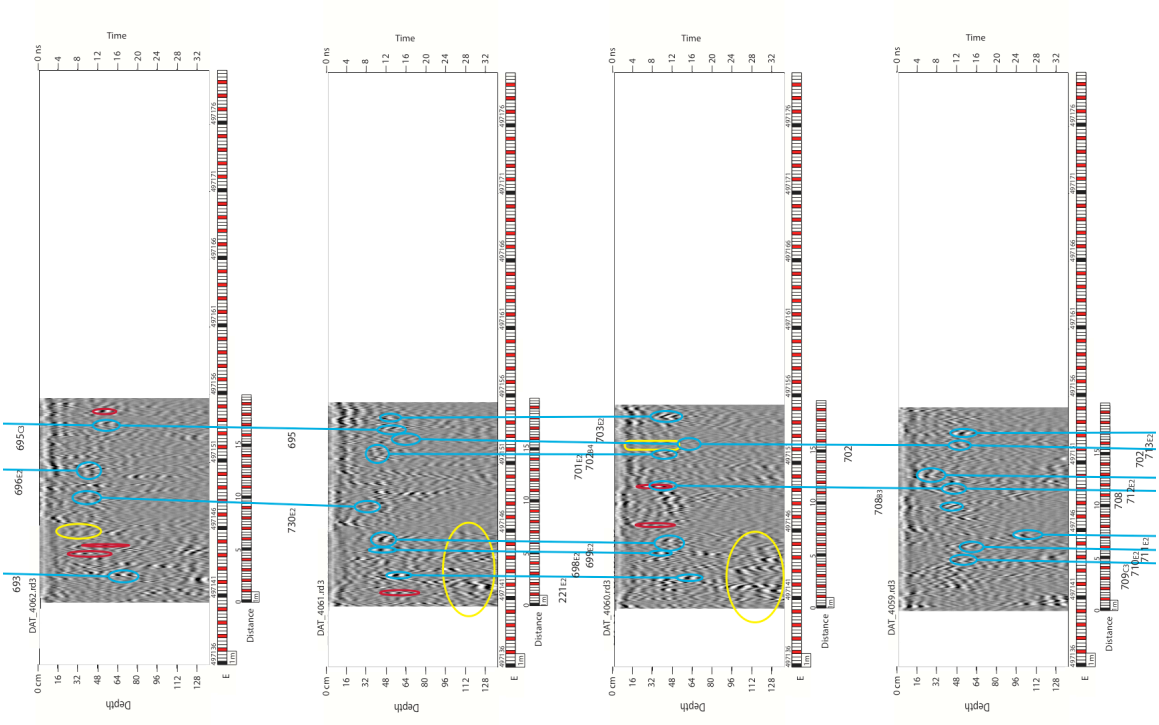
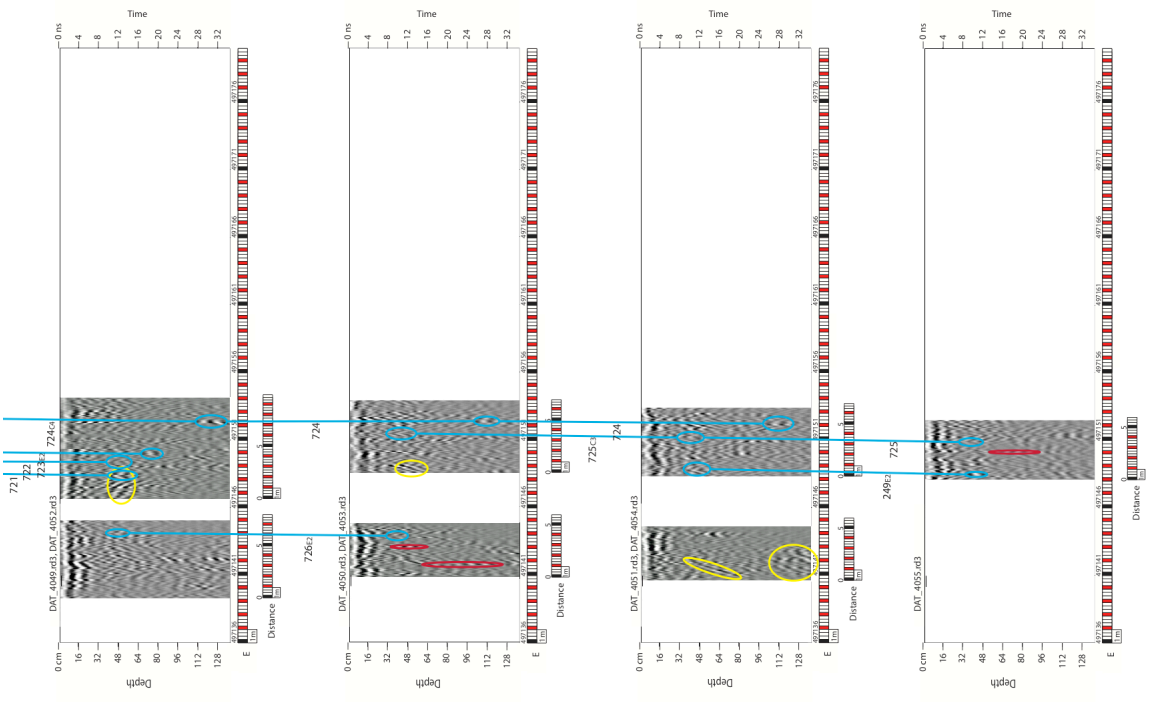
DAT_4067.rd3


Time
Depth
Distance
DAT_4058.rd3
DAT_4057.rd3
DAT_4056.rd3
DAT_4048.rd3


Time
Depth
Distance
DAT_4062.rd3
DAT_4061.rd3
DAT_4060.rd3
DAT_4059.rd3

-----End of transects.-----



APPENDIX F:
ANOMALIES FOUND ON RADARGRAMS

Table F.1 – Anomalies found on radargram profiles

Anomaly Number – Arbitrary ID number of anomalies found on radargrams

Ranking – See Table 5.1 for criteria for these rankings

Transects Crossed – How many transects this anomaly was found on

Metal – Whether or not metal was found in anomaly on any radargram

Shaft – Whether or not a shaft feature was found in anomaly on any radagram

Approx. Average Depth – Rough measurement of middle point of depth of anomaly across all radargrams where found

Radargram Notes – Any relevant notes about anomaly

Start:Easting, Start:Northing, End:Easting, End:Northing – UTM coordinates for end points of each anomaly, see Appendix G for formula which calculated each point

Linked Marker – Marker ID of a grave marker which may be associated with this anomaly

Linked Slice Anomaly – ID of each anomaly found on time slices which is definitely (S###), may be (?), or is not (--) associated with this radargram anomaly

Slice Anomaly Notes – Relevant notes and possible time slice anomalies

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
001	B	8	N	N	56		497162.3871	4463590.632	497161.0964	4463589.417	G_008	S002	
002	A	4	Y	Y	32	Shaft visible on all profiles	497163.3632	4463589.851	497162.8777	4463589.263	G_007b	--	
003	B	8	N	N	48		497164.3392	4463589.07	497163.2373	4463587.691	G_007a	S001	
004	C	3	N	N	64		497166.4866	4463587.352	497165.7559	4463587.25	G_007c	--	
005	B	4	Y	N	40		497167.2675	4463586.728	497166.7642	4463586.118		--	
006	C	3	N	N	48		497168.2436	4463585.947	497167.8923	4463585.518		S243	
007	E	2	N	N	120		497168.634	4463585.635	497168.6402	4463585.243		--	
008	D	2	Y	N	128		497174.343	4463579.984	497174.3974	4463579.661	G_001	?	S143
009	E	2	N	N	104		497169.4175	4463584.614	497169.0577	4463584.574		--	
010	E	2	N	N	48		497172.138	4463582.412	497171.971	4463582.213		S148	
011	E	2	N	N	128		497174.8585	4463580.21	497174.6902	4463580.009		?	S143
012	C	3	N	N	48	Skips one transect (3910)	497167.7813	4463584.998	497167.282	4463584.735	G_005a	S243	
013	C	3	N	N	80		497170.6508	4463582.972	497170.538	4463582.392	G_251	--	
014	C	3	N	N	80		497171.2338	4463582.5	497171.1203	4463581.92	G_250	--	
015	C	4	N	N	96	Deepens from north to south	497168.9488	4463584.056	497168.516	4463583.47	G_252	?	S007
016	B	3	N	Y	96	Shaft on 2 profiles	497163.2309	4463589.296	497163.1111	4463588.765		--	
017	E	2	N	N	40		497172.8671	4463580.501	497172.5308	4463580.491		S142	
018	E	2	N	N	80		497168.403	4463584.126	497168.254	4463583.949		?	S007
019	E	2	N	N	104		497167.3921	4463585.312	497167.2385	4463585.071	G_005b	--	
020	B	3	Y	N	48		497165.2976	4463586.647	497164.989	4463586.279		S218	
021	E	2	N	N	120		497170.3439	4463582.55	497170.3924	4463582.22		--	
022	E	2	N	N	112		497178.3016	4463576.089	497177.9741	4463576.089		--	
023	E	2	N	N	40		497169.8092	4463582.691	497169.4835	4463582.679		S158	
024	C	3	N	N	120	Anomaly "wobbles" laterally.	497164.0681	4463586.677	497163.5444	4463586.307		--	
025	C	4	N	N	48	Coffin (2m wide on 3916??)	497165.9622	4463585.495	497165.6866	4463584.583	G_254	--	
026	B	3	N	Y	96	Shaft on one profile	497170.4511	4463581.887	497170.2504	4463581.335		--	
027	A	6	Y	Y	64	Shafts on 4 profiles. Metal on 2 profiles, different locations.	497173.3819	4463579.11	497172.8595	4463578.017	G_027	S057	
028	C	3	N	N	48		497171.2183	4463580.544	497170.896	4463580.161		S010	
029	C	3	N	N	48		497168.121	4463583.075	497167.3989	4463582.993		S089	
030	B	7	N	N	48		497161.6359	4463587.623	497160.7943	4463586.476	G_009	S055	
031	B	5	N	Y	48	Not shaft--soil slump	497163.3702	4463586.19	497162.644	4463585.631	G_006	S088	
032	E	2	N	N	96		497166.0389	4463584.094	497165.7954	4463584.022		--	
034	B	6	N	Y	80		497164.2418	4463585.282	497163.7058	4463584.112	G_015	S107	
035	C	3	N	N	48		497164.8244	4463584.809	497164.9181	4463584.089		S006	
036	B	7	Y	N	80	Possible metal appears on 1 profile.	497169.8736	4463580.716	497169.0564	4463579.411	g_236	S270	
037	C	3	N	N	96		497169.8736	4463580.716	497169.7733	4463580.153		S270	
038	E	2	N	N	88		497176.3609	4463575.19	497176.3763	4463574.8		--	
040	B	8	N	N	96		497165.2732	4463584.142	497164.2343	4463582.725		--	
041	E	2	N	N	112		497166.666	4463582.672	497166.7308	4463582.335		?	S090

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
042	C	3	N	N	72		497173.1529	4463577.157	497172.8285	4463576.707		--	
044	E	2	N	N	88		497165.9524	4463582.963	497165.9797	4463582.583		--	
045	D	2	Y	N	104		497172.5754	4463577.221	497172.2462	4463577.18		--	
046	C	3	N	N	88		497176.2613	4463574.225	497175.7027	4463574.035	G_141	S339	
047	E	2	N	N	88		497165.6468	4463582.537	497165.5557	4463582.354		--	
048	D	2	Y	N	56		497167.3937	4463581.119	497167.1503	4463581.029		S091	
049	D	2	N	Y	40	Shaft on 1 profile.	497167.5878	4463580.961	497167.3409	4463580.867		--	
050	C	3	N	N	40		497160.6726	4463586.312	497160.5443	4463585.716		S055	
051	E	2	N	N	64		497175.7027	4463574.035	497175.4287	4463573.957	G_141	S339	
052	E	2	N	N	48		497162.0788	4463584.845	497161.9038	4463584.614		--	
053	E	2	N	N	104		497165.1747	4463582.305	497165.3995	4463581.781		--	
054	B	5	N	Y	48	Possible shaft on at least 1 profile.	497171.7423	4463576.952	497171.5442	4463575.785	G_012	S092	
055	E	2	N	N	56		497172.5184	4463576.322	497172.5853	4463575.956		--	
056	E	2	N	N	128		497165.9822	4463581.308	497165.8292	4463581.082		--	
057	A	9	Y	Y	48	Shaft on 2 profiles	497161.7481	4463584.384	497160.3945	4463582.997	G_017	S087	
058	A	10	Y	Y	48	Shaft on at least 1 profile.	497162.7198	4463583.598	497160.8184	4463582.314	G_016	S109	
059	E	2	N	N	128		497178.2667	4463571.017	497178.2586	4463570.595		--	
060	C	3	N	N	96		497164.4111	4463581.315	497164.5211	4463580.999		S310	
061	E	2	N	N	104		497164.8835	4463581.489	497164.5554	4463581.456		S310	
062	C	3	N	N	96		497170.8926	4463576.595	497170.9618	4463576.258		S094	
063	B	3	Y	N	96		497165.3319	4463580.826	497165.3031	4463580.376		--	
064	C	3	N	N	64	Slanted upward at southern end	497178.1447	4463570.43	497178.2166	4463570.159	G_302	--	
065	E	2	N	N	120		497172.9031	4463574.683	497172.7722	4463574.559		--	
066	E	2	N	N	72		497170.3794	4463576.73	497170.05	4463576.758		S093	
067	B	4	Y	N	40		497166.6909	4463579.723	497166.4889	4463579.045		S222	
068	B	6	Y	N	64		497157.8	4463586.658	497157.2606	4463585.483		--	
069	E	2	N	N	96		497159.1611	4463585.558	497158.8515	4463585.518		--	
071	E	2	N	N	96		497163.7391	4463581.623	497163.5667	4463581.395		S311	
072	D	2	Y	N	56	Possible metal on 1 profile.	497169.9952	4463576.637	497169.6059	4463576.538		S093	
074	E	2	N	N	128		497175.4971	4463571.474	497175.1302	4463571.416	G_145	--	
075	E	2	N	N	32		497176.2296	4463571.211	497176.2761	4463570.847	G_144	--	
076	E	2	N	N	112		497176.814	4463570.741	497176.8604	4463570.377		--	
077	B	6	N	N	120		497166.2941	4463579.202	497165.5144	4463578.157	G_237	?	S222
078	D	2	Y	N	112		497169.9885	4463573.233	497169.9999	4463572.901		S398	
079	E	2	N	N	56		497170.2382	4463575.705	497170.0672	4463575.492	G_018	--	
080	E	2	N	N	112		497163.4464	4463580.823	497163.5284	4463580.511		--	
081	D	2	N	Y	64	Possible shaft on 1 profile	497166.5621	4463578.315	497166.4664	4463578.181	G_023	--	
082	E	2	N	N	104		497164.7036	4463579.579	497164.5279	4463579.348		?	S157
083	E	2	N	N	120		497164.7036	4463579.579	497164.7232	4463579.192		?	S157
084	E	2	N	N	128		497175.9091	4463570.789	497175.6486	4463570.719		--	
085	D	2	N	Y	88		497162.7708	4463580.753	497162.5995	4463580.516		--	
086	C	3	N	N	104		497155.9855	4463578.748	497155.6968	4463578.352		--	
087	E	2	N	N	112		497174.1824	4463571.515	497173.6894	4463571.529		--	
088	C	3	N	N	112		497175.3488	4463570.572	497174.5522	4463570.199		--	
090	E	2	N	N	40		497165.6297	4463577.454	497165.6691	4463577.061		S015	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
092	C	4	N	N	128		497172.1213	4463571.498	497171.7548	4463570.715		S406	
093	C	4	N	N	128		497177.4873	4463567.423	497176.7465	4463566.947		?	S014
094	D	2	N	Y	88	Possible shaft on 1 profile.	497164.3655	4463577.81	497164.3781	4463577.479		S110	
097	E	2	N	N	120		497170.7754	4463572.269	497170.3699	4463572.181		?	S188
098	B	7	N	N	112		497169.9999	4463572.901	497168.8507	4463571.767	G_028	S398	
099	E	2	N	N	48	Possible child burial	497171.8573	4463562.415	497171.7381	4463562.197		S242	
100	E	2	N	N	80		497167.2984	4463574.348	497167.1404	4463574.147	G_031	--	
102	E	2	N	N	128		497175.4362	4463567.713	497175.4924	4463567.379		?	S313
103	E	2	N	N	128		497165.975	4463575.091	497165.8345	4463574.885	G_033	?	S322
106	C	3	N	N	72		497165.3923	4463575.563	497165.404	4463574.807	G_034	S323	
107	E	2	N	N	64		497163.3022	4463576.922	497163.0945	4463576.721		S110	
108	E	2	N	N	64		497164.6657	4463575.825	497164.2493	4463575.764	G_035	--	
110	B	3	Y	N	48		497172.3643	4463569.274	497172.1982	4463568.725	G_156	--	
111	E	2	N	N	72		497176.9949	4463565.459	497177.1624	4463564.949	G_149	--	
112	E	2	N	N	56		497170.6278	4463570.705	497170.7836	4463570.181		--	
113	D	2	Y	N	40		497173.8763	4463567.644	497173.9391	4463567.3		--	
114	E	2	N	N	112		497160.7322	4463578.426	497160.5922	4463578.228		--	
115	E	2	N	N	80		497162.4719	4463576.999	497162.5265	4463576.644		--	
116	E	2	N	N	128		497176.3892	4463565.583	497176.0669	4463565.558	G_151	--	
117	E	2	N	N	48		497162.9134	4463576.327	497162.7532	4463576.148		--	
118	E	2	N	N	48		497164.074	4463575.377	497164.1085	4463575.041		--	
119	B	4	Y	N	48	Metal on 1 transect	497159.9218	4463565.966	497160.1188	4463564.96	G_068	?	S137
120	E	2	N	N	72		497160.3104	4463565.652	497160.0206	4463565.724		?	S137
121	C	3	N	N	120		497174.1325	4463567.141	497174.0559	4463566.638		--	
122	C	3	N	N	64		497168.1744	4463571.719	497167.718	4463571.509		S190	
123	E	2	N	N	48		497169.6014	4463570.274	497169.6564	4463569.93		--	
124	B	3	N	Y	40	Shafts/soil slumps on 2 profiles.	497175.1446	4463566.026	497175.0837	4463565.509		S191	
125	E	2	N	N	56		497164.1785	4463574.7	497164.229	4463574.351		S181	
126	C	3	N	N	64		497165.9216	4463573.277	497165.9926	4463572.532		S020	
127	E	2	N	N	40		497168.8267	4463570.906	497168.881	4463570.562		S187	
128	C	4	N	N	56		497165.2193	4463573.166	497165.2359	4463572.78		--	
129	E	2	N	N	80		497162.4845	4463575.772	497162.1261	4463575.702		--	
130	C	3	N	N	96		497164.229	4463574.351	497163.693	4463574.052		?	S181
131	E	2	N	N	40		497166.7659	4463571.898	497166.5859	4463571.666		--	
132	A	7	Y	Y	96	Shaft and metal on 1 profile (together)	497162.8994	4463575.068	497161.1434	4463574.818	G_047	--	
134	E	2	N	N	128		497173.7255	4463566.191	497173.5288	4463565.939		?	S192
135	E	2	N	N	64		497163.4794	4463574.593	497163.5002	4463574.211		--	
136	E	2	N	N	24		497173.9188	4463566.033	497173.143	4463566.257		--	
137	B	5	N	N	96		497165.043	4463572.939	497164.6125	4463571.952		?	S186
138	E	2	N	N	88		497171.793	4463567.371	497171.6394	4463567.164		S340	
139	D	2	N	Y	72	Possible shaft on 1 transect	497158.3324	4463578.14	497158.1795	4463577.937		S402	
140	E	2	N	N	104		497161.2252	4463575.754	497161.2638	4463575.39		?	S396
141	E	2	N	N	88		497168.168	4463570.027	497168.0108	4463569.819		S374	
143	E	2	N	N	112		497170.4436	4463555.839	497170.0762	4463555.798		--	
144	E	2	N	N	80		497162.2277	4463574.594	497161.8857	4463574.545		--	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
145	C	3	N	N	48		497155.5035	4463566.717	497155.2813	4463566.392		S083	
146	B	4	N	N	88		497160.652	4463559.97	497160.1499	4463559.499	G_076	?	S128
147	E	2	N	N	64		497165.5048	4463571.888	497165.546	4463571.517		S184	
148	E	2	N	N	40		497170.1313	4463568.068	497170.1696	4463567.693		--	
149	E	2	N	N	120		497174.9056	4463564.188	497174.7932	4463563.869	G_308	--	
150	E	2	N	N	104		497175.2809	4463563.857	497175.1785	4463563.551	G_307	--	
151	E	2	N	N	120		497163.0416	4463573.589	497163.0707	4463573.225		S411	
152	D	2	Y	N	64		497167.2799	4463570.083	497167.1179	4463569.881		S121	
153	C	3	N	N	72		497168.6284	4463568.968	497168.3139	4463568.549		--	
154	E	2	N	N	56		497171.1328	4463566.897	497170.7798	4463566.856		--	
155	E	2	N	N	64		497162.8779	4463573.385	497162.535	4463573.33		--	
156	E	2	N	N	64		497165.7688	4463570.996	497165.6171	4463570.78		--	
157	B	3	N	Y	64	Possible shaft on 2 profiles.	497173.0925	4463564.945	497173.4446	4463564.985	G_160	--	
158	E	2	N	N	104		497158.5418	4463576.329	497158.5936	4463575.971		--	
159	E	2	N	N	96		497159.8381	4463575.561	497159.7	4463575.376		--	
160	E	2	N	N	104		497161.9571	4463573.808	497161.6302	4463573.787		--	
161	E	2	N	N	48		497164.076	4463572.055	497164.1394	4463571.721		S186	
162	E	2	N	N	112		497171.2033	4463566.159	497171.2812	4463565.843		--	
163	D	2	N	Y	48	Possible shafts/soil slumps on 2 profiles.	497173.3223	4463564.406	497173.0184	4463564.413		--	
164	D	2	N	Y	48		497174.8633	4463563.131	497174.5625	4463563.142		--	
165	E	2	N	N	128		497165.4906	4463570.609	497165.3528	4463570.414		--	
166	E	2	N	N	80		497169.022	4463567.398	497169.0684	4463567.059		S330	
167	C	3	N	N	80		497174.9486	4463562.824	497174.4793	4463562.618		--	
168	E	2	N	N	88		497155.3275	4463566.038	497154.9949	4463566		S268	
169	C	4	N	N	48		497164.0009	4463571.525	497164.3324	4463571.563		--	
170	E	2	N	N	48		497165.1596	4463570.573	497165.0102	4463570.389		--	
171	B	3	N	Y	72	Shafts appear on 2 profiles.	497166.1252	4463569.779	497166.2249	4463569.059	G_262	--	
172	C	3	N	N	96		497167.4771	4463568.668	497166.9978	4463568.424		--	
173	B	10	Y	N	72	Possible appears on at least 2 profiles	497156.2122	4463562.344	497155.1082	4463560.245	G_085	S112	
174	E	2	N	N	96		497154.3653	4463555.097	497154.4357	4463554.761		--	
175	E	2	N	N	64		497159.7926	4463574.672	497159.8483	4463574.293		--	
176	E	2	N	N	64		497160.5656	4463574.037	497160.428	4463573.817		--	
177	C	3	N	N	64		497161.9183	4463572.927	497161.8326	4463572.36	G_044	S189	
178	E	2	N	N	40		497162.498	4463572.451	497162.5535	4463572.073	G_043	--	
179	C	4	N	N	96		497171.3873	4463565.155	497171.3498	4463564.225		?	S078
180	C	4	N	N	96		497173.1266	4463563.728	497173.2831	4463562.64	G_169, G_166	S301	
181	B	5	Y	N	112		497175.395	4463562.159	497174.4431	4463561.689	G_167	?	S096
182	E	2	N	N	104		497164.0993	4463570.804	497163.767	4463570.776		?	S022
183	C	3	N	N	80		497158.8821	4463575.086	497158.9767	4463574.37		--	
184	D	2	N	Y	48	Possible shaft visible on 1 profile	497164.2926	4463570.645	497164.3473	4463570.301		--	
185	C	4	N	N	128		497164.679	4463570.328	497164.2151	4463569.717	G_040	--	
186	C	3	N	N	32		497140.687	4463562.249	497140.4023	4463561.862		--	
187	C	3	N	N	40		497167.2489	4463567.925	497167.1092	4463567.332		?	S272

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
188	E	2	N	N	88		497169.8962	4463566.045	497169.7636	4463565.867		--	
189	C	3	N	N	104		497158.3507	4463575.21	497158.427	4463574.487		--	
190	C	3	N	N	112		497159.5113	4463574.26	497159.3917	4463573.692		S412	
191	C	3	N	N	80		497163.9604	4463570.618	497163.6363	4463570.194	G_041	S022	
192	D	2	Y	N	104	Possible metal on 1 profile.	497160.33	4463573.26	497160.3564	4463572.897		--	
193	E	2	N	N	96		497165.3566	4463569.139	497165.3728	4463568.763	G_303	S275	
194	E	2	N	N	64		497165.7433	4463568.822	497165.7586	4463568.445		--	
195	E	2	N	N	104		497166.6686	4463568.4	497166.5166	4463568.188		--	
196	E	2	N	N	120		497171.5046	4463564.441	497171.3498	4463564.225		?	S336
197	B	3	N	N	56		497172.4718	4463563.649	497172.5114	4463562.881	G_170	S126	
199	E	2	N	N	56		497148.8327	4463545.492	497148.6106	4463545.323		--	
200	E	2	N	N	72		497148.3765	4463545.242	497148.343	4463544.948		--	
203	B	5	N	N	112		497161.3211	4463572.102	497160.749	4463571.325	G_058	?	S189
204	E	2	N	N	48		497164.0033	4463570.249	497163.6363	4463570.194		--	
205	E	2	N	N	128		497161.9875	4463571.318	497161.5938	4463571.216		?	S021
206	C	3	N	N	96		497165.2804	4463568.632	497164.7268	4463568.307	G_050	S275	
207	E	2	N	N	48		497170.0725	4463564.208	497170.1229	4463563.848		--	
208	E	2	N	N	48		497141.3969	4463550.183	497141.0965	4463550.036		--	
209	E	2	N	N	56		497172.5776	4463562.138	497172.4355	4463561.937		?	S337
210	E	2	N	N	48		497174.1192	4463560.864	497174.1699	4463560.504		--	
211	B	3	Y	N	48	Possible metal on 2 profiles	497161.5938	4463571.216	497161.329	4463570.849	G_055	S021	
212	E	2	N	N	40		497158.4288	4463573.227	497158.0819	4463573.238		--	
213	C	3	N	N	120		497155.9269	4463574.947	497155.4627	4463574.676		--	
216	B	4	Y	N	128		497157.8808	4463572.969	497157.6703	4463572.203	G_057	--	
217	E	2	N	N	112		497170.3048	4463563.075	497169.8442	4463563.164		?	S077
218	C	3	N	N	48		497171.1617	4463562.677	497171.1885	4463562.043		?	S394
219	C	3	N	N	88		497158.8656	4463572.617	497158.5515	4463572.134	G_057	--	
220	E	2	N	N	40		497145.9142	4463544.833	497145.7626	4463544.644		S100	
221	E	2	N	N	56		497142.5356	4463544.715	497142.5779	4463544.328		--	
222	D	2	N	Y	56	Possible shaft on 1 profile.	497173.3009	4463560.282	497173.2232	4463560.062		S076	
223	A	11	Y	Y	48	Possible shaft on 4 profiles. Possible metal on 4 profiles	497154.3044	4463575.629	497152.6075	4463573.741	G_058b	S042	
224	A	11	Y	Y	40	Possible metal on 2 profiles. Possible shafts on 4 profiles.	497155.0766	4463574.993	497153.5633	4463572.935	G_058a	S003	
225	C	3	N	N	120		497156.4955	4463574.038	497155.8862	4463574.008		--	
226	C	3	N	N	120		497160.4536	4463570.983	497159.7481	4463570.832	G_226	--	
227	E	2	N	N	104		497160.8681	4463570.228	497160.7135	4463570.038		--	
229	C	3	N	N	104		497170.4203	4463562.683	497170.5613	4463561.94		--	
230	C	4	N	N	112		497164.343	4463567.369	497163.7	4463566.923		S136	
231	E	2	N	N	72		497168.397	4463564.033	497168.2442	4463563.845		--	
232	C	4	N	N	112		497171.8719	4463561.174	497171.2261	4463560.725		--	
233	C	3	N	N	120		497168.5901	4463563.874	497168.6609	4463563.133		--	
234	E	2	N	N	128		497160.9066	4463569.879	497160.9482	4463569.498		--	
235	E	2	N	N	80		497160.5204	4463570.197	497160.3697	4463569.975		?	S176
237	E	2	N	N	72		497167.8897	4463563.769	497167.9455	4463563.427		--	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
238	E	2	N	N	48		497170.9748	4463561.223	497170.8402	4463561.043		--	
239	E	2	N	N	72		497157.1387	4463572.327	497156.9934	4463572.123		--	
240	D	2	Y	N	56	Possible metal on 2 profiles	497162.928	4463567.559	497163.1596	4463567.026		S139	
241	A	6	Y	Y	128	Possible metal on 1 profile. Possible (large) shaft on 5 profiles.	497164.2789	4463566.446	497163.1554	4463565.756	G_264	S136	
242	E	2	N	N	120		497169.1034	4463562.473	497168.9405	4463562.248		--	
243	C	3	N	N	120		497169.8753	4463561.837	497169.5272	4463561.386		?	S203
245	C	3	N	N	104		497164.1231	4463566.23	497163.415	4463566.116		S136	
246	E	2	N	N	8		497148.1757	4463538.224	497147.8579	4463538.182		S359	
248	B	5	N	N	128		497157.3788	4463571.804	497156.7868	4463571		--	
249	E	2	N	N	40		497148.6923	4463536.125	497148.4637	4463535.793		--	
250	E	2	N	N	88		497159.5139	4463569.677	497159.3734	4463569.467	G_064	--	
251	E	2	N	N	72		497160.2842	4463569.039	497160.1432	4463568.829	G_265	--	
252	E	2	N	N	128		497161.0544	4463568.402	497160.9131	4463568.191	G_063	S141	
253	E	2	N	N	96		497156.679	4463571.701	497156.7346	4463571.358		--	
254	C	3	N	N	128		497157.8337	4463570.744	497157.5588	4463570.365	G_065	--	
255	E	2	N	N	88		497162.6452	4463566.755	497162.5212	4463566.587	G_061	S139	
256	C	3	N	N	104		497164.1848	4463565.478	497164.5063	4463564.643		?	S079
257	E	2	N	N	112		497167.0717	4463563.085	497167.1505	4463562.77		?	S328
258	E	2	N	N	128		497178.3388	4463570.272	497178.4111	4463570.002		--	
260	C	3	N	N	128		497164.0643	4463565.314	497163.6242	4463565.016		?	S080
262	C	4	N	N	128		497155.1915	4463572.63	497154.1368	4463572.452		--	
263	B	6	Y	N	112	Metal on 1 profile	497168.847	4463560.74	497168.2462	4463559.602	G_311	?	S132
266	E	2	N	N	88		497165.3651	4463563.591	497165.3804	4463563.21		S324	
267	B	7	N	N	112		497170.0077	4463559.79	497169.4039	4463558.648	G_310	S133	
268	E	2	N	N	56		497155.2839	4463571.485	497154.9924	4463571.507		--	
269	C	3	N	N	128		497161.3046	4463566.519	497161.2192	4463566.062		S137	
270	E	2	N	N	128		497155.5715	4463571.03	497155.6206	4463570.669		--	
271	B	5	N	N	128		497156.3437	4463570.395	497156.2304	4463568.956	G_072	--	
272	B	4	N	N	104		497165.9964	4463562.453	497165.7378	4463561.669		S392	
273	B	3	N	N	56		497166.5755	4463561.976	497166.0757	4463561.731		--	
274	E	2	N	N	80		497161.1701	4463566.424	497161.0262	4463566.221		?	S137
275	C	3	N	N	112		497161.9423	4463565.788	497161.8285	4463565.225		?	S277
276	B	5	N	N	120		497164.0659	4463564.041	497163.2247	4463563.292		S356	
277	C	3	N	N	128		497158.3234	4463568.445	497157.6339	4463568.345		--	
279	C	3	N	N	80		497164.7789	4463562.033	497165.0964	4463561.236		S325	
280	E	2	N	N	80		497154.5466	4463570.888	497154.2875	4463570.529		--	
281	C	4	N	N	128		497164.1942	4463562.94	497164.3243	4463561.871		--	
282	B	3	Y	N	38	Metal on 1 profile	497152.9275	4463571.63	497152.9356	4463571.245	G_270	--	
285	E	2	N	N	40		497164.5846	4463562.19	497164.2024	4463562.151		--	
286	E	2	N	N	194		497168.2761	4463559.201	497167.7954	4463559.213		--	
288	C	3	N	N	80		497155.4586	4463569.621	497155.3025	4463568.943	G_073	--	
290	C	3	N	N	80		497167.7988	4463559.012	497167.1459	4463558.907		--	
291	E	2	N	N	120		497155.831	4463568.862	497155.8804	4463568.465	G_072	--	
292	B	5	N	Y	40	Possible shaft visible on 3 profiles	497166.4476	4463560.124	497165.7705	4463559.602		?	S333

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
293	B	4	Y	N	56	Metal appears on 1 profile	497159.1447	4463566.596	497158.7702	4463566.075	G_069	?	
294	E	2	N	N	80		497152.9906	4463570.855	497152.7529	4463570.552		--	
295	E	2	N	N	56		497162.4306	4463563.048	497162.3326	4463562.894		--	
297	B	6	N	N	112		497167.8249	4463558.587	497167.6935	4463557.163	G_192a	?	S297
298	B	6	N	N	112	Possible metal appears on 1 profile	497168.9808	4463557.631	497168.852	4463556.211	G_191	?	S134
299	B	9	N	N	104	Possible metal appears on 2 profiles	497160.4073	4463564.489	497159.4326	4463562.343	G_068	S131	
300	B	5	N	N	104		497161.1775	4463563.851	497161.1283	4463562.562		--	
301	B	4	Y	N	104	Possible metal on 1 profile	497169.8413	4463556.675	497169.3629	4463556.062	G_190	S135	
302	C	4	N	N	48		497170.0542	4463556.153	497169.8175	4463555.417	G_189	S028	
303	B	4	N	Y	104	Possible shaft and soil slump on 1 profile	497166.16	4463559.289	497165.9556	4463558.593		--	
304	E	2	N	N	64		497166.3547	4463559.132	497166.4115	4463558.82		?	S265
306	C	3	N	N	120		497166.7972	4463558.502	497166.5349	4463558.116	G_192b	?	S023
307	E	2	N	N	40		497168.5915	4463556.698	497168.6589	4463556.37		--	
308	C	3	N	N	40		497158.6964	4463565.182	497158.425	4463564.786		S032	
309	E	2	N	N	48		497169.7486	4463555.744	497169.8175	4463555.417		S028	
310	C	3	N	N	104		497162.8059	4463561.471	497162.3881	4463560.92	G_067	S404	
312	B	3	Y	N	64	Possible metal on 1 profile.	497155.6947	4463566.556	497155.8595	4463565.915		S267	
313	B	8	N	N	88		497160.6669	4463562.369	497160.1552	4463560.771		S129	
314	B	10	N	N	88		497161.4319	4463561.725	497161.0396	4463559.654	G_314	S128	
315	C	3	N	N	48		497154.7385	4463567.361	497154.7031	4463566.87		S034	
316	E	2	N	N	128		497162.3644	4463560.881	497162.0267	4463560.819		--	
317	E	2	N	N	88		497162.7501	4463560.563	497162.6049	4463560.341		--	
318	E	2	N	N	128		497167.1862	4463556.905	497166.8449	4463556.838		--	
319	E	2	N	N	88		497166.2667	4463557.316	497165.9335	4463557.287		S200	
320	C	3	N	N	88		497167.0376	4463556.679	497166.8977	4463556.492		S199	
321	E	2	N	N	128		497168.3867	4463555.564	497168.2476	4463555.378		S390	
322	A	4	Y	Y	40	Shafts visible on all 4 profiles. Metal on 1 profile	497162.0768	4463560.469	497161.6547	4463559.856	G_074	--	
323	E	2	N	N	72		497162.8481	4463559.833	497162.7127	4463559.641		?	S358
324	E	2	N	N	72		497163.6195	4463559.197	497163.8704	4463558.687		--	
326	C	3	N	N	104		497161.1691	4463560.912	497160.6907	4463560.652		?	S128
327	C	4	N	N	56		497154.0712	4463566.436	497153.4809	4463565.813	G_279	S034	
329	C	3	N	N	48		497163.9116	4463558.329	497163.2403	4463558.225		S205	
330	C	3	N	N	40		497164.8764	4463557.534	497164.0115	4463557.588		?	S201 or S197
331	E	2	N	N	72		497165.2623	4463557.216	497164.9323	4463557.15		?	S202
332	B	5	N	N	128		497165.6482	4463556.898	497165.0699	4463556.086		S413	
333	C	4	N	N	128		497168.1565	4463554.832	497167.6293	4463554.285		?	S196
334	E	2	N	N	80		497152.0146	4463567.813	497151.6711	4463567.772		--	
335	E	2	N	N	64		497158.9555	4463562.084	497158.6126	4463562.044		S127	
336	C	3	N	N	72		497162.4259	4463559.219	497162.5901	4463558.391		--	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
337	C	4	N	N	96	Possible metal on 1 profile	497159.3411	4463561.766	497159.2852	4463560.86		--	
338	E	2	N	N	48		497164.7395	4463557.31	497164.3972	4463557.27		S201	
339	C	3	N	N	48		497154.0838	4463564.085	497154.0554	4463563.666		S113	
340	C	3	N	N	80		497155.7203	4463564.431	497155.4288	4463564.042	G_275	--	
341	E	2	N	N	80		497156.4916	4463563.794	497156.5819	4463563.286		--	
342	E	2	N	N	128		497161.3121	4463559.816	497161.4273	4463559.338		--	
343	B	3	Y	N	128	Possible metal on 1 profile	497166.1325	4463555.838	497165.8412	4463555.45	G_343	S399	
344	E	2	N	N	88		497157.357	4463562.451	497156.8286	4463562.287		--	
347	C	3	N	N	56		497154.9417	4463563.792	497154.5373	4463563.459		--	
350	C	3	N	N	96		497153.9772	4463564.588	497153.9582	4463563.936		--	
351	B	8	N	N	46		497156.8706	4463562.202	497156.0839	4463561.011	G_078	--	
352	C	3	N	N	104		497158.6067	4463560.771	497158.3976	4463560.281		--	
353	B	3	Y	N	56	Possible metal on 1 profile.	497151.256	4463566.16	497150.8037	4463565.931		--	
355	A	9	N	Y	49	Shaft visible on 2 profiles. Metal not included--slab was skipped, but grave is visible at ends of it and mapped accordingly.	497150.505	4463567.45	497149.3081	4463565.839	G_080	S059	
356	E	2	N	N	120		497158.147	4463560.76	497158.0115	4463560.599		S156	
358	E	2	N	N	48		497166.6605	4463553.795	497166.5042	4463553.608		S240	
359	E	2	N	N	40		497167.4345	4463553.162	497167.0832	4463553.131		?	S295
361	E	2	N	N	120		497153.5722	4463564.254	497153.6712	4463563.986		--	
362	B	5	N	N	56		497153.8877	4463563.383	497153.1634	4463562.655	G_239	S113	
363	E	2	N	N	104		497159.2416	4463559.345	497159.0919	4463559.085		?	S117
364	E	2	N	N	72		497160.0099	4463558.705	497160.0556	4463558.289		S130	
365	E	2	N	N	96		497160.9703	4463557.905	497160.8266	4463557.652		--	
366	C	3	N	N	88		497163.8515	4463555.505	497163.5455	4463555.074	G_314	S152	
367	E	2	N	N	40		497168.0773	4463551.985	497167.9583	4463551.761		--	
368	B	6	N	N	56		497151.3662	4463565.906	497150.8503	4463564.565	G_079	S147	
369	E	2	N	N	40		497162.3686	4463556.378	497162.1992	4463556.192		S075	
370	E	2	N	N	56		497163.3323	4463555.582	497163.3532	4463555.234		--	
371	C	4	N	N	64		497154.8514	4463562.587	497154.668	4463561.746		S155	
372	E	2	N	N	120		497163.9302	4463554.755	497163.5536	4463554.744		--	
373	E	2	N	N	128		497165.8535	4463553.158	497165.6604	4463552.977		--	
379	C	3	N	N	112		497164.9222	4463552.944	497164.6454	4463552.565		--	
380	E	2	N	N	128		497165.5005	4463552.467	497165.5597	4463552.118		--	
381	E	2	N	N	80		497159.388	4463557.208	497159.2413	4463557.014		--	
382	E	2	N	N	112		497163.6311	4463553.708	497163.6804	4463553.36	G_196	?	S072
383	C	3	N	N	72		497161.1714	4463555.425	497161.1104	4463554.918		--	
384	E	2	N	N	48		497161.5574	4463555.108	497161.5371	4463554.998		--	
385	E	2	N	N	40		497162.9084	4463553.995	497162.6892	4463554.038		--	
386	E	2	N	N	40		497151.4142	4463563.231	497151.2404	4463563.012		--	
387	C	3	N	N	40		497160.577	4463555.799	497160.1377	4463555.295		--	
388	C	3	N	N	40		497166.5399	4463550.377	497166.1575	4463550.009	G_206	S118	
389	B	10	N	N	72		497150.0643	4463563.943	497148.9137	4463561.962	G_094	S116	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
390	B	11	N	N	72		497148.3002	4463565.34	497146.8241	4463563.349	G_096	S115	
391	B	4	Y	N	80	Possible metal appears on 1 profile.	497153.3838	4463560.858	497153.1174	4463560.082		?	S037
392	E	2	N	N	56		497158.4009	4463556.725	497158.4398	4463556.368		--	
393	B	3	N	Y	48	Shaft visible on 2 profiles (cuts through path).	497161.1025	4463554.5	497160.6276	4463554.274		--	
394	D	2	N	Y	48	Possible shaft visible on 1 profile.	497154.3486	4463560.063	497154.0021	4463560.024		--	
395	B	3	N	Y	48	Possible shaft on 1 profile.	497154.388	4463559.706	497153.8895	4463559.446	G_085	--	
396	B	3	N	Y	64	Possible shaft visible on 1 profile.	497154.7739	4463559.388	497154.6615	4463558.811		S162	
397	C	3	N	N	48		497155.7386	4463558.594	497155.0475	4463558.493		S153	
398	C	3	N	N	40		497156.3174	4463558.117	497156.0126	4463557.698		S086	
399	E	2	N	N	56		497164.8801	4463550.787	497164.6983	4463550.548		?	S399
400	E	2	N	N	72		497160.6276	4463554.274	497160.645	4463553.885		--	
401	C	3	N	N	88		497157.3637	4463556.586	497157.3637	4463556.586		S285	Not mapped properly into ArcGIS
402	E	2	N	N	48		497149.6953	4463562.584	497149.3455	4463562.56		--	
404	E	2	N	N	48		497165.7241	4463549.407	497165.7661	4463549.072		?	S298
405	C	3	N	N	48		497154.9478	4463557.958	497154.8657	4463557.419		S153	
406	E	2	N	N	40		497157.266	4463556.054	497156.9329	4463556.014		--	
407	E	2	N	N	56		497164.2207	4463550.341	497164.0748	4463550.136		--	
408	C	3	N	N	128		497161.3725	4463552.36	497160.8748	4463552.104		--	
409	C	3	N	N	112		497163.3027	4463550.771	497163.1898	4463550.196	G_212	--	
410	C	3	N	N	128		497160.0213	4463553.472	497159.9102	4463552.899	G_214	--	
411	B	3	N	Y	40	Possible shaft on at least 1 profile	497153.8445	4463558.556	497153.3509	4463558.305		--	
412	E	2	N	N	120		497156.0253	4463556.468	497156.0517	4463556.079		?	S350
413	E	2	N	N	120		497162.0149	4463551.515	497162.0323	4463551.15	G_213	--	
414	E	2	N	N	96		497162.7855	4463550.878	497162.611	4463550.673		?	S054
415	E	2	N	N	48		497164.9046	4463549.125	497164.7332	4463548.924		--	
416	E	2	N	N	112		497148.5278	4463562.28	497148.1699	4463562.23		--	
417	E	2	N	N	48		497157.981	4463554.489	497157.5904	4463554.4		--	
418	C	3	N	N	88		497154.322	4463557.116	497154.4332	4463556.465		S380	
419	E	2	N	N	56		497165.2607	4463547.856	497165.0362	4463547.71		--	
420	D	2	Y	N	56	Possible metal on at least 1 profile.	497144.7941	4463564.423	497144.4573	4463564.338		--	
421	D	2	N	Y	40	Possible shaft on at least 1 profile.	497146.5292	4463562.991	497146.3879	4463562.75		--	
422	D	2	N	Y	48	Possible shaft on 1 profile	497147.6859	4463562.036	497147.5463	4463561.797		--	
423	C	3	N	N	80		497158.2889	4463553.281	497157.994	4463552.849		--	
424	B	9	N	N	56		497149.4768	4463560.208	497147.8816	4463558.936	G_240	S050	
425	E	2	N	N	96		497155.8477	4463554.967	497155.6783	4463554.756		--	
426	E	2	N	N	128		497160.288	4463551.313	497160.1167	4463551.101		--	
427	E	2	N	N	96		497161.6394	4463550.202	497161.4676	4463549.988		?	S238

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
428	B	3	Y	N	72	Metal on 1 profile.	497146.0295	4463562.703	497145.5235	4463562.45		?	S114
429	B	3	Y	N	64	Possible metal on 1 profile.	497147.9593	4463561.114	497147.4456	4463560.851	G_107	S111	
430	E	2	N	N	40		497150.6609	4463558.889	497150.7077	4463558.538		S084	
431	C	3	N	N	88		497150.275	4463559.207	497149.9444	4463558.773		--	
432	C	3	N	N	128		497154.5205	4463555.71	497154.5575	4463554.937		--	
433	C	4	N	N	96		497142.2147	4463565.528	497141.9627	4463564.798		--	
434	B	8	Y	N	24	Possible metal on at least 1 profile	497142.8325	4463564.688	497142.5817	4463563.951	G_111	S039	
436	E	2	N	N	40		497153.603	4463556.154	497153.4042	4463555.896		?	S160
438	B	4	Y	N	112	Possible metal on 1 profile	497163.6402	4463547.893	497163.158	4463547.276	G_218	?	S145
439	C	4	N	N	32		497157.2705	4463553.136	497156.7994	4463552.533		S064	
440	C	4	N	N	40		497162.4382	4463548.383	497161.6165	4463548.55		?	S216 or S069
441	E	2	N	N	128		497144.6153	4463562.892	497144.6603	4463562.568		--	
442	B	5	Y	N	56	Possible metal on at least 1 profile	497145.5781	4463562.095	497144.9872	4463561.321	G_109	S114	
443	B	5	N	N	56		497147.5037	4463560.501	497147.1097	4463559.572	G_107	S111	
444	C	3	N	N	40		497154.4357	4463554.761	497154.1699	4463554.426		--	
447	E	2	N	N	80		497153.2804	4463555.718	497153.1384	4463555.559		?	S351
448	D	2	Y	N	64	Possible metal on at least 1 profile	497155.206	4463554.123	497154.8725	4463554.125		?	S284
449	D	2	Y	N	112	Possible metal on 1 profile	497161.8953	4463548.077	497162.1946	4463548.072		--	
451	E	2	N	N	80		497149.7278	4463558.077	497149.3685	4463558.017		--	
452	E	2	N	N	80		497150.6934	4463557.284	497150.3323	4463557.221		--	
453	E	2	N	N	48		497152.6248	4463555.696	497152.4528	4463555.47		--	
454	E	2	N	N	56		497153.0111	4463555.379	497152.8383	4463555.152		--	
456	B	4	Y	N	128	Possible metal on 2 profiles.	497149.754	4463557.699	497149.1098	4463557.279	G_106	?	S228
457	B	3	Y	N	72	Possible metal on 2 profiles.	497155.5371	4463552.923	497155.256	4463552.546		--	
458	C	3	N	N	56		497162.284	4463547.351	497161.4346	4463547.464		--	
459	C	3	N	N	88		497162.284	4463547.351	497161.8208	4463547.147		S282	
460	C	3	N	N	40		497163.4406	4463546.396	497163.3655	4463545.876	G_217	--	
461	C	3	N	N	56		497149.5613	4463557.858	497149.2705	4463557.469		--	
462	A	5	Y	Y	40	Possible metal on 2 profiles. Possible shaft on 1 profile	497150.583	4463556.711	497150.3734	4463555.589	G_113	--	
465	C	3	N	N	56		497162.0663	4463546.663	497162.1396	4463545.887	G_219	?	S149
466	C	3	N	N	40		497152.7459	4463554.611	497152.2742	4463554.25		--	
467	E	2	N	N	32		497151.8171	4463555.06	497151.6931	4463554.724		--	
468	E	2	N	N	120		497153.3642	4463553.793	497153.0491	4463553.618		--	
469	E	2	N	N	40		497158.9722	4463549.198	497158.6665	4463549.035		?	S262
470	E	2	N	N	64		497159.1656	4463549.04	497159.2476	4463548.561		--	
471	D	2	N	Y	80	Possible shaft on 1 profile.	497160.906	4463547.614	497160.7973	4463547.296		--	
472	D	2	N	Y	40	Possible shaft on 1 profile	497161.0994	4463547.455	497160.991	4463547.138		S122	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
473	B	3	N	Y	72	Possible shaft on 1 profile	497161.8729	4463546.821	497161.561	4463546.364		--	
475	E	2	N	N	72		497162.7343	4463545.716	497162.5254	4463545.569		--	
476	C	5	N	N	48	Skips 1 transect, rounded up to 5 transects crossed, letter not updated.	497141.1147	4463563.222	497140.4953	4463562.409	G_111	--	
478	E	2	N	N	40		497152.1094	4463554.157	497151.9422	4463553.961		--	
480	E	2	N	N	96		497158.2819	4463549.068	497158.1139	4463548.871		S289	
481	B	5	N	N	56		497145.5512	4463559.565	497145.0958	4463558.557		--	
482	E	2	N	N	112		497143.2631	4463561.119	497143.1389	4463560.855		--	
483	C	3	N	N	48		497144.4204	4463560.165	497144.1155	4463559.754		--	
484	E	2	N	N	40		497147.1205	4463557.938	497147.1917	4463557.518		--	
485	C	3	N	N	40		497153.2923	4463552.848	497152.7994	4463552.602		S085	
486	C	3	N	N	48		497155.6067	4463550.939	497154.9221	4463550.854		--	
487	C	4	N	N	64		497159.1571	4463547.665	497158.1673	4463547.374		S256	
488	C	3	N	N	80		497161.8589	4463545.44	497161.6826	4463544.922		--	
489	C	3	N	N	88		497161.087	4463546.076	497161.0906	4463545.382		--	
491	C	3	N	N	40		497152.2204	4463553.079	497152.2431	4463552.291		--	
492	E	2	N	N	88		497162.2551	4463544.814	497162.0773	4463544.615		--	
493	E	2	N	N	40		497148.168	4463556.417	497148.1627	4463555.99		S043	
496	C	3	N	N	56		497153.7216	4463551.335	497153.4527	4463550.967		S291	
497	E	2	N	N	48		497154.68	4463550.533	497154.5464	4463550.369		--	
498	B	5	Y	N	48	Possible metal on 2 profiles.	497142.0703	4463560.781	497141.3011	4463560.146		--	
499	C	3	N	N	104		497147.0608	4463556.616	497146.9714	4463556.057		--	
500	B	5	N	N	56		497151.0915	4463553.252	497150.5319	4463552.478	G_120	--	
501	E	2	N	N	112		497161.3218	4463544.914	497161.3353	4463544.495		?	S106
502	E	2	N	N	32		497149.2305	4463554.492	497149.2753	4463554.136		--	
503	E	2	N	N	88		497146.7356	4463556.575	497146.9714	4463556.057		--	
504	E	2	N	N	56		497142.9394	4463559.42	497142.9887	4463559.058		--	
505	C	3	N	N	40		497144.4754	4463558.139	497143.9934	4463557.909		--	
506	E	2	N	N	48		497144.8594	4463557.819	497144.7174	4463557.618		--	
507	C	4	N	N	96		497145.2434	4463557.498	497144.8218	4463556.911		--	
508	E	2	N	N	48		497145.6274	4463557.178	497145.4857	4463556.978		--	
509	C	3	N	N	96		497146.2034	4463556.698	497145.7242	4463556.472		--	
510	C	3	N	N	48		497151.5793	4463552.214	497151.3012	4463551.839		--	
511	E	2	N	N	72		497154.2673	4463549.973	497153.9369	4463549.937		?	S381
512	E	2	N	N	48		497161.8007	4463543.924	497161.6463	4463543.719		?	S408
513	E	2	N	N	56		497142.2204	4463559.699	497142.0703	4463559.507		--	
514	E	2	N	N	48		497149.9034	4463553.298	497149.955	4463552.957		--	
515	E	2	N	N	40		497158.7054	4463546.046	497158.3506	4463546.005		S104	
518	C	3	N	N	40		497152.8397	4463550.561	497152.6123	4463550.078		--	
519	E	2	N	N	56		497147.5222	4463554.684	497147.37	4463554.33		S169	
520	B	5	N	N	56	Shaft visible on 4 profiles. Possible metal visible on 2 profiles.	497150.4154	4463552.298	497149.5567	4463551.502	G_120	--	
521	A	4	Y	Y	64		497156.2019	4463547.527	497155.591	4463546.981	G_324	S150	
522	E	2	N	N	128		497158.7094	4463545.459	497158.4371	4463545.353		?	S104

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
523	E	2	N	N	104		497160.6382	4463543.869	497160.3787	4463543.778		--	
524	C	3	N	N	104		497161.6026	4463543.073	497161.1553	4463543.148		--	
527	E	2	N	N	80		497153.3889	4463549.448	497153.2255	4463549.235		--	
528	C	3	N	N	48		497158.6312	4463545.196	497158.3185	4463544.787		S104	
529	B	6	N	N	56		497160.1845	4463543.936	497159.7753	4463542.648	G_223	S236	
530	E	2	N	N	56		497150.6707	4463551.653	497150.5029	4463551.434		--	
531	C	3	N	N	56		497151.4473	4463551.023	497151.1102	4463550.584		--	
532	C	3	N	N	56		497143.2794	4463556.973	497143.0017	4463556.577		S154	
533	E	2	N	N	104		497148.1879	4463552.934	497147.8045	4463552.914		--	
534	C	3	N	N	72		497150.3309	4463551.211	497150.3538	4463550.519		S163	
535	E	2	N	N	56		497152.4739	4463549.487	497152.6719	4463548.993		?	S373
536	E	2	N	N	112		497157.1496	4463545.727	497157.1499	4463545.386		S384	
538	C	3	N	N	72		497159.2926	4463544.004	497158.9021	4463543.975		S237	
539	E	2	N	N	48		497140.9362	4463558.393	497140.8066	4463558.207		--	
540	C	3	N	N	72		497141.875	4463557.568	497141.5622	4463557.552		--	
541	C	3	N	N	56		497151.1349	4463549.894	497150.8271	4463549.453		S105	
542	B	4	N	Y	40	Possible shafts visible on at least 3 profiles	497153.2827	4463548.177	497153.0315	4463547.439	G_115	S063	
544	E	2	N	N	48		497156.4067	4463545.679	497156.0761	4463545.628		?	S103
545	E	2	N	N	120		497156.4067	4463545.679	497156.4655	4463545.314		--	
546	C	3	N	N	112		497161.2881	4463541.775	497160.5454	4463541.702		--	
547	C	3	N	N	56		497148.483	4463551.744	497148.9871	4463551.611		S045	
548	E	2	N	N	80		497148.706	4463551.204	497148.5567	4463551.05		?	S044
549	C	3	N	N	72		497149.6701	4463550.408	497149.3461	4463550.085		S163	
550	C	3	N	N	56		497152.1769	4463548.34	497152.072	4463547.89		S119	
551	C	3	N	N	104		497154.1052	4463546.748	497154.2138	4463546.165		S393	
552	E	2	N	N	80		497153.3339	4463547.385	497153.2261	4463547.282		--	
554	E	2	N	N	40		497148.1676	4463551.364	497147.9831	4463551.183		S045	
555	C	4	N	N	48		497159.6464	4463542.101	497159.012	4463541.684		S207	
556	B	4	Y	N	48	Possible metal on at least 2 profiles	497149.1514	4463550.242	497148.8301	4463549.721		S163	
558	C	3	N	N	96		497151.2932	4463548.517	497151.1046	4463548.206		--	
559	E	2	N	N	120		497156.9398	4463543.97	497157.1968	4463543.466		--	
560	C	3	N	N	128		497159.6657	4463541.775	497159.3978	4463541.366		--	
561	B	6	N	N	48		497140.5865	4463557.067	497139.888	4463556.126		S229	
562	C	4	N	N	104		497143.4272	4463554.619	497143.2853	4463553.982		--	
564	C	3	N	N	48	Possible visible grave goods?	497152.3327	4463547.391	497151.9153	4463547.175		S063	
565	E	2	N	N	96		497152.5272	4463547.234	497152.2617	4463547.252		--	
566	C	3	N	N	48		497153.5001	4463546.449	497153.0723	4463546.221		S062	
567	C	3	N	N	72		497159.9207	4463541.268	497159.4355	4463540.97		--	
568	E	2	N	N	72		497143.0042	4463554.887	497143.0454	4463554.495		--	
569	E	2	N	N	72		497145.8972	4463552.501	497145.3593	4463552.585		--	
571	E	2	N	N	40		497144.1614	4463553.933	497144.0095	4463553.699		S061	
572	E	2	N	N	80		497159.012	4463541.684	497158.6642	4463541.606		--	
573	E	2	N	N	112		497142.6598	4463554.813	497142.5133	4463554.618		--	
574	D	2	Y	N	48	Possible metal on 1 profile	497146.9019	4463551.313	497147.1452	4463550.804		S172	
576	E	2	N	N	128		497145.7942	4463551.917	497145.4547	4463551.87		--	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
577	E	2	N	N	64		497149.6541	4463548.738	497149.6993	4463548.372		--	
578	C	4	N	N	64		497156.7949	4463542.859	497156.1738	4463542.377		--	
579	E	2	N	N	56		497147.1911	4463550.439	497147.4098	4463549.922		?	S172
580	E	2	N	N	40		497148.9276	4463549.008	497148.9527	4463548.65		--	
581	C	3	N	N	88		497151.0499	4463547.259	497150.573	4463546.981		--	
582	C	4	N	N	40		497152.7863	4463545.828	497151.9884	4463545.488		S062	
583	B	5	N	N	40		497151.4599	4463546.582	497150.2114	4463546.254		--	
585	E	2	N	N	88		497139.614	4463555.631	497139.3097	4463555.509		--	
587	C	3	N	N	40		497149.028	4463548.251	497148.7978	4463547.761		--	
588	E	2	N	N	40		497149.9936	4463547.457	497150.0549	4463547.073		--	
589	E	2	N	N	40		497154.0494	4463544.124	497153.7286	4463544.062		S212	
590	C	4	N	N	48		497139.8073	4463555.472	497139.16	4463555.093		S230	
591	C	3	N	N	64		497140.194	4463555.155	497140.1414	4463554.476		--	
592	E	2	N	N	40		497140.3874	4463554.997	497140.1414	4463554.476		--	
594	E	2	N	N	56		497136.986	4463557.407	497136.8493	4463557.164		--	
595	C	3	N	N	40		497143.9569	4463551.714	497143.4062	4463551.597		--	
597	C	3	N	N	48		497144.1505	4463551.556	497143.4062	4463551.597		--	
598	B	4	N	Y	48	Possible shaft appears on 1 profile.	497146.8614	4463549.342	497146.0604	4463549.171	G_133	?	S172
599	C	3	N	N	88		497150.9278	4463546.021	497150.3546	4463545.877		?	S407
601	E	2	N	N	104		497156.7368	4463541.277	497156.4083	4463541.195		?	S209
602	E	2	N	N	40		497158.7321	4463539.297	497158.461	4463539.203		S102	
603	C	3	N	N	72		497151.9543	4463544.831	497151.2562	4463544.863		--	
604	E	2	N	N	48		497140.5111	4463553.98	497140.2874	4463553.959		--	
605	E	2	N	N	104		497147.4594	4463548.26	497147.4075	4463548.054		--	
606	C	3	N	N	96		497155.5659	4463541.587	497155.5954	4463540.975		--	
607	E	2	N	N	104		497148.2315	4463547.625	497148.1772	4463547.416		--	
608	C	4	N	N	56		497149.3319	4463546.458	497149.2035	4463545.799		--	
609	E	2	N	N	40		497153.373	4463543.107	497152.9107	4463543.221		--	
611	E	2	N	N	56		497139.1037	4463554.769	497138.8718	4463554.707		--	
614	C	3	N	N	80		497150.9931	4463544.825	497150.9176	4463544.341		--	
615	E	2	N	N	56		497155.2119	4463541.296	497155.1383	4463541.033		--	
616	C	3	N	N	88		497139.0632	4463554.546	497139.3015	4463553.848		--	
617	C	3	N	N	56		497138.6346	4463554.679	497138.5604	4463554.252		--	
618	E	2	N	N	96		497148.2512	4463546.609	497148.2677	4463546.254		--	
620	E	2	N	N	48		497150.5367	4463544.665	497150.3662	4463544.476		--	
621	E	2	N	N	120		497152.0604	4463543.37	497151.8923	4463543.184		--	
622	B	5	N	Y	40	Shaft visible on 2 profiles	497152.4413	4463543.046	497151.7967	4463542.317	G_230	--	
623	E	2	N	N	120		497153.0127	4463542.56	497152.4647	4463542.699		--	
624	C	4	N	N	40		497151.489	4463543.856	497150.8935	4463543.377		S258	
625	E	2	N	N	48		497144.8338	4463549.162	497144.6477	4463549.061		--	
626	E	2	N	N	48		497145.2154	4463548.839	497145.0281	4463548.736		--	
627	E	2	N	N	56		497145.7877	4463548.354	497145.7891	4463548.088		?	Possibly S246
629	B	7	N	N	48		497140.6529	4463552.467	497139.6999	4463551.661	G_242	S099	
630	E	2	N	N	48		497142.1747	4463551.17	497142.1426	4463550.838		--	
631	C	3	N	N	56		497147.5011	4463546.628	497147.2365	4463546.216		--	
632	B	5	N	N	104		497150.1643	4463544.357	497149.3113	4463543.823		--	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
633	E	2	N	N	72		497152.6373	4463542.248	497152.4153	4463542.079		--	
635	C	3	N	N	64		497155.2689	4463539.646	497155.0042	4463539.274		--	
636	C	3	N	N	56		497156.22	4463538.835	497155.5752	4463538.788		?	Possible S281 -- different depths
637	E	2	N	N	56		497139.0661	4463553.203	497139.0172	4463552.891		--	
638	D	2	Y	N	48	Possible metal on 1 profile	497144.9563	4463548.166	497144.9172	4463547.866		--	
639	B	4	Y	N	72	Possible metal on 1 profile	497149.3266	4463544.429	497148.777	4463544.007		S259	
640	C	4	N	N	48		497150.6566	4463543.292	497150.1019	4463542.864		--	
641	C	4	N	N	72		497151.0366	4463542.967	497150.4805	4463542.537		S258	
642	E	2	N	N	80		497154.6468	4463539.88	497154.4333	4463539.761		?	Possibly S280 -- far away
643	E	2	N	N	56		497141.1108	4463551.108	497140.7574	4463551.13		--	
644	E	2	N	N	56		497145.5096	4463547.07	497145.3699	4463546.947		?	Possibly S246
645	B	3	Y	N	56	Possible metal on 2 profiles	497146.0798	4463546.583	497145.545	4463546.572	G_243	?	Possibly S309
646	E	2	N	N	40		497146.6301	4463546.407	497146.8402	4463545.934		--	
648	E	2	N	N	72		497141.7078	4463550.318	497141.5843	4463550.213		--	
649	E	2	N	N	80		497142.8483	4463549.344	497142.9093	4463549.07		S244	
650	C	3	N	N	56		497148.1708	4463544.797	497147.8077	4463544.602		--	
651	E	2	N	N	72		497149.6915	4463543.498	497149.7234	4463543.19		S257	
652	D	2	N	Y	64	Shaft visible on 2 profiles.	497151.4023	4463542.037	497151.0483	4463542.047	G_230	--	
653	C	3	N	N	48		497140.6379	4463551.03	497140.5294	4463550.526		--	
654	B	3	Y	N	80	Possible metal on 1 profile.	497154.0635	4463539.763	497153.9653	4463539.265		--	
655	E	2	N	N	88		497155.7803	4463537.964	497155.4695	4463537.947		--	
656	C	3	N	N	48		497149.3161	4463543.289	497148.9062	4463542.988		--	
657	A	9	Y	Y	72	Shaft visible on 6 profiles. Possible metal visible on at least 1 profile.	497148.6585	4463543.492	497147.293	4463541.982	G_136	S120	
658	E	2	N	N	56		497143.0556	4463548.071	497143.1035	4463547.682		--	
659	E	2	N	N	48		497146.0753	4463545.448	497145.9354	4463545.224		--	
660	E	2	N	N	40		497149.4724	4463542.496	497149.3336	4463542.274		--	
661	E	2	N	N	80		497150.2273	4463541.841	497150.0888	4463541.618		--	
662	E	2	N	N	32		497150.2273	4463541.841	497150.6552	4463541.127		S049	
663	E	2	N	N	64		497153.247	4463539.217	497153.2983	4463538.832		S364	
664	E	2	N	N	40		497154.9456	4463537.742	497154.9974	4463537.357	G_289	--	
667	A	6	Y	Y	80	Shaft visible on 6 profiles. Possible metal visible on 1 profile.	497148.2009	4463543.257	497147.5483	4463542.083		S120	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
668	A	2	Y	Y	80	Shaft visible on 2 profiles. Possible metal visible on 1 profile. May be infant burial in ôstyrofoam coffin.ö	497147.9922	4463543.032	497148.0305	4463542.68	G_290	S120	
669	E	2	N	N	48		497140.4358	4463549.582	497140.66	4463549.063		--	
670	E	2	N	N	48		497143.6473	4463546.798	497143.3058	4463546.771		--	
671	E	2	N	N	56		497144.214	4463546.307	497144.0617	4463546.117		--	
672	E	2	N	N	48		497151.0147	4463540.412	497151.0543	4463540.061		--	
673	E	2	N	N	40		497152.9038	4463538.774	497153.1331	4463538.261		?	Possibly S364 -- different depths
674	D	2	Y	N	48	Possible metal appears on 1 profile.	497142.3609	4463547.59	497142.4564	4463547.114		S244	
675	D	2	N	Y	40	Possible shaft on 1 profile.	497154.645	4463536.952	497154.6074	4463536.705		S101	
676	B	3	N	Y	56	Possible shaft on 1 profile.	497141.3173	4463548.09	497141.0871	4463547.606		--	
678	C	4	N	N	48		497151.7595	4463539.144	497151.0776	4463538.714		S208	
680	E	2	N	N	64		497141.1984	4463547.736	497141.0871	4463547.606		--	
683	C	3	N	N	48		497145.8739	4463544.186	497145.4579	4463543.87		S100	
684	C	3	N	N	48		497149.0128	4463541.103	497148.8068	4463540.675		S233	
685	C	3	N	N	56		497150.5376	4463539.809	497149.9422	4463539.694		--	
686	E	2	N	N	48		497148.1184	4463541.595	497148.2391	4463541.165		?	Possible S261
687	E	2	N	N	48		497154.5795	4463536.072	497154.2945	4463535.937		S234	
689	C	3	N	N	48		497144.0761	4463544.759	497144.1399	4463543.947	G_138	--	
690	C	3	N	N	88		497145.2115	4463543.779	497144.8999	4463543.297		S252	
691	C	3	N	N	40		497146.1576	4463542.962	497145.6598	4463542.647		S213	
692	C	3	N	N	48		497149.5637	4463540.021	497148.8897	4463539.885		S232	
693	B	3	Y	N	56	Possible metal on 1 profile.	497142.9249	4463545.4	497142.4796	4463545.075		S123	
695	C	3	N	N	56		497154.0196	4463535.498	497153.3637	4463535.452		S234	
696	E	2	N	N	40		497150.4097	4463538.585	497150.268	4463538.411		S208	
697	E	2	N	N	80		497148.6072	4463540.505	497148.5097	4463540.21		--	
698	E	2	N	N	48		497144.6253	4463542.928	497144.2863	4463542.864		--	
701	E	2	N	N	40		497151.4641	4463537.077	497151.4995	4463536.681		--	
702	B	4	N	Y	56	Possible shaft visible on 1 profile.	497152.6039	4463536.102	497151.748	4463535.794		--	
703	E	2	N	N	40		497154.3136	4463534.639	497154.3468	4463534.241		--	
708	B	3	Y	N	40	Possible metal on 2 profiles	497149.2216	4463538.634	497148.7137	4463538.401		--	
709	C	3	N	N	48		497143.7132	4463542.993	497143.2122	4463542.807		S171	
710	E	2	N	N	56		497144.6614	4463542.178	497144.3518	4463542.147		--	
711	E	2	N	N	104		497145.6096	4463541.364	497145.3	4463541.333		S382	
712	E	2	N	N	24		497149.9713	4463537.617	497149.6619	4463537.586		--	
713	E	2	N	N	48		497153.1952	4463534.848	497153.0755	4463534.654		S234	

Anomaly Number	Ranking	Transects Crossed	Metal	Shaft	Approx. Average Depth	Radargram Notes	Start: Easting	Start: Northing	End: Easting	End: Northing	Linked Marker	Linked Slice Anomaly	Slice Anomaly Notes
715	C	3	N	N	48		497149.6619	4463537.586	497149.3153	4463537.248		?	Maybe S361 - different depths
716	E	2	N	N	40		497152.5065	4463535.143	497152.1297	4463535.156		--	
717	E	2	N	N	96		497149.4734	4463537.435	497149.3153	4463537.248		S361	
718	C	3	N	N	40		497153.6476	4463533.853	497153.1581	4463533.609		--	
719	E	2	N	N	48		497145.1369	4463540.825	497145.0185	4463540.631		--	
721	C	3	N	N	20		497148.5555	4463537.898	497148.3198	4463537.42		--	
722	C	3	N	N	48		497149.5052	4463537.086	497149.2691	4463536.607		--	
723	E	2	N	N	80		497149.7508	4463536.549	497149.8387	4463536.119		?	Possibly S360
724	C	4	N	N	128		497152.2116	4463534.426	497152.1777	4463533.278		S365	
725	C	3	N	N	40		497151.4073	4463534.368	497151.049	4463533.824		--	
726	E	2	N	N	40		497144.0713	4463541.065	497143.7061	4463540.987		--	
727	C	3	N	N	104		497176.1487	4463578.249	497176.2245	4463577.504		--	
728	C	3	N	N	96		497167.9488	4463583.524	497167.634	4463583.015		--	
730	E	2	N	N	40		497148.1785	4463540.199	497147.8547	4463540.165		--	

Figure F.1 – Ranked radargram anomalies and mapped features

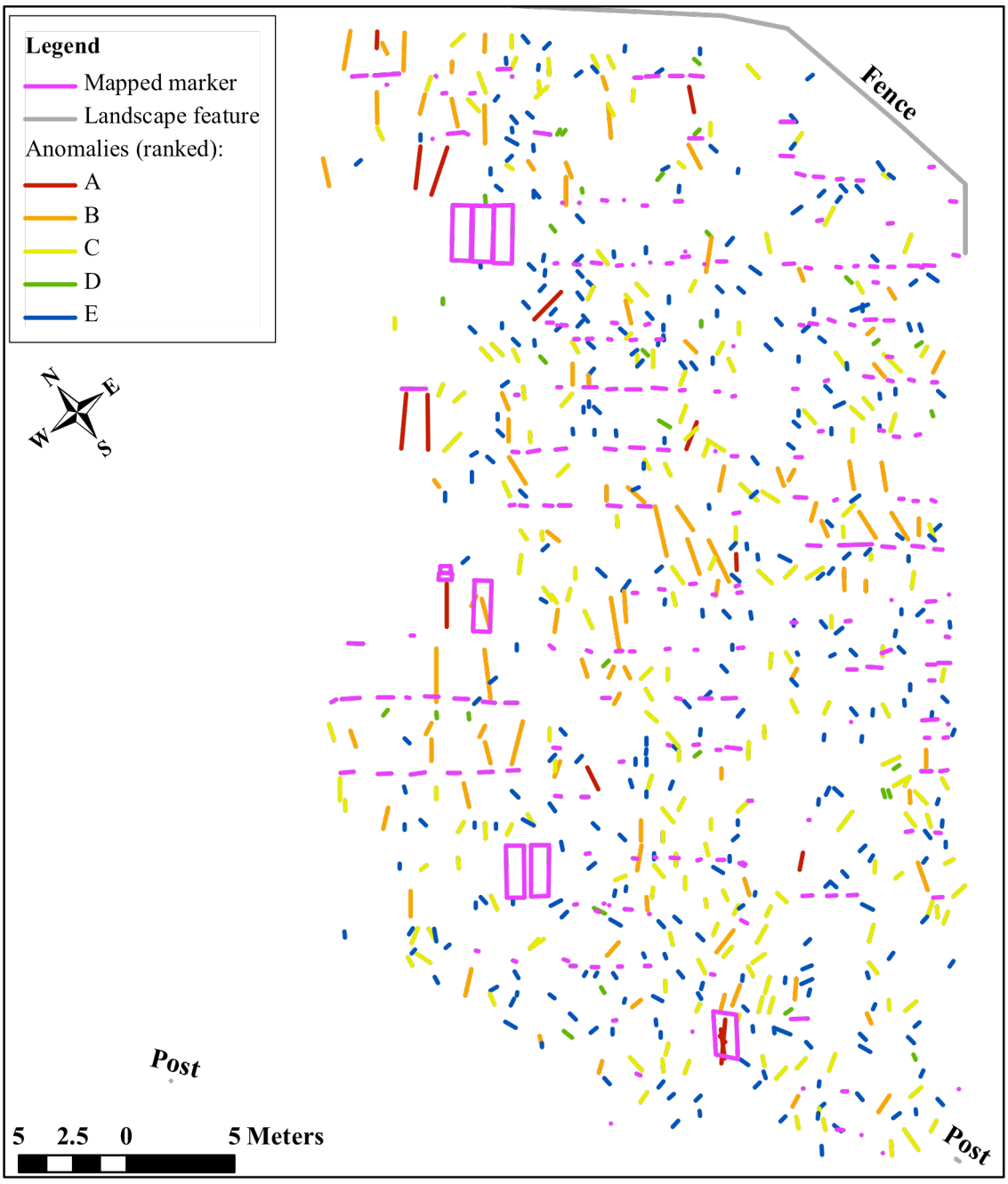


Figure F.2 – Radargram anomalies with metal or shafts

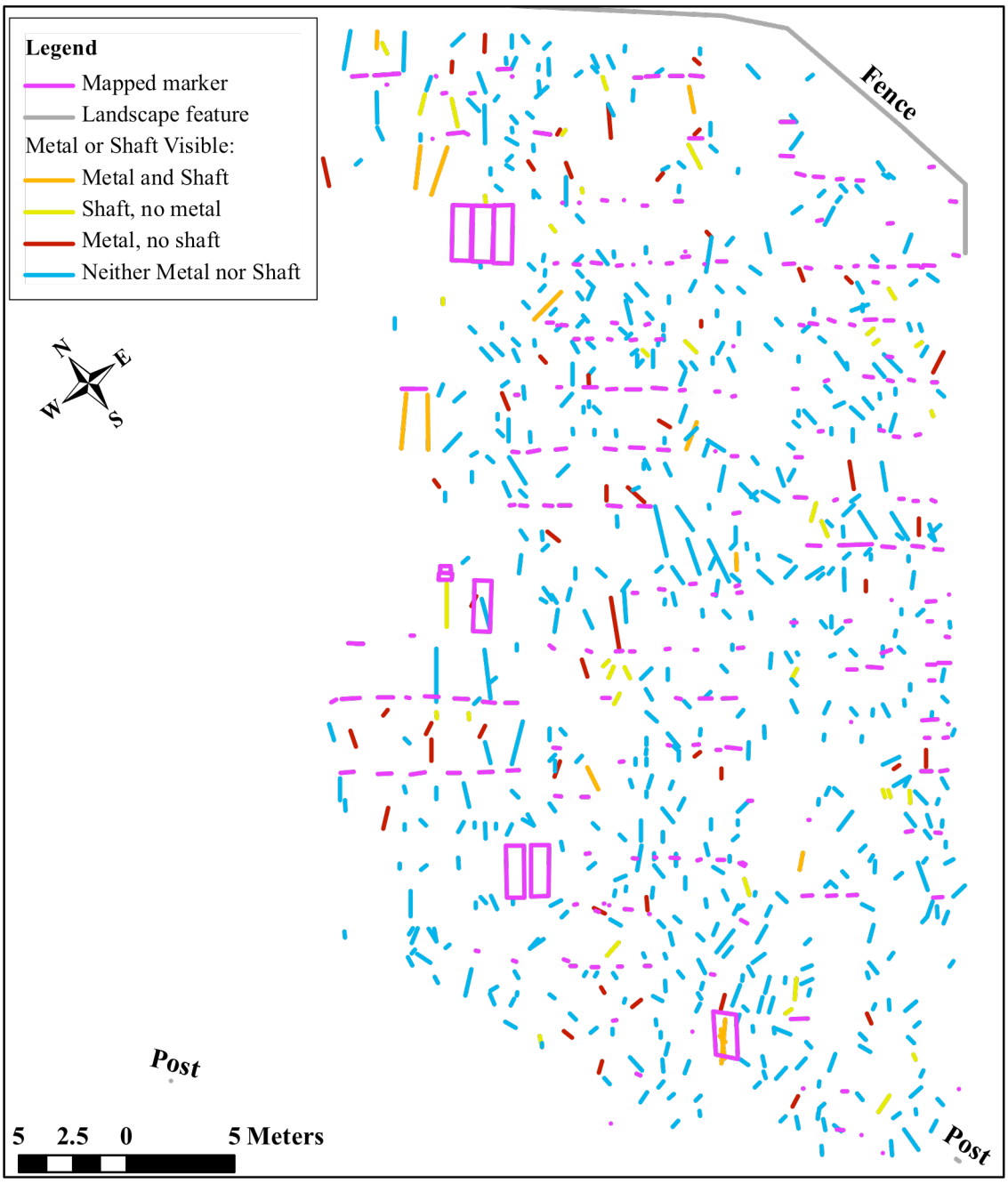


Figure F.3 – Anomalies found on radargrams and their appearance on time slices

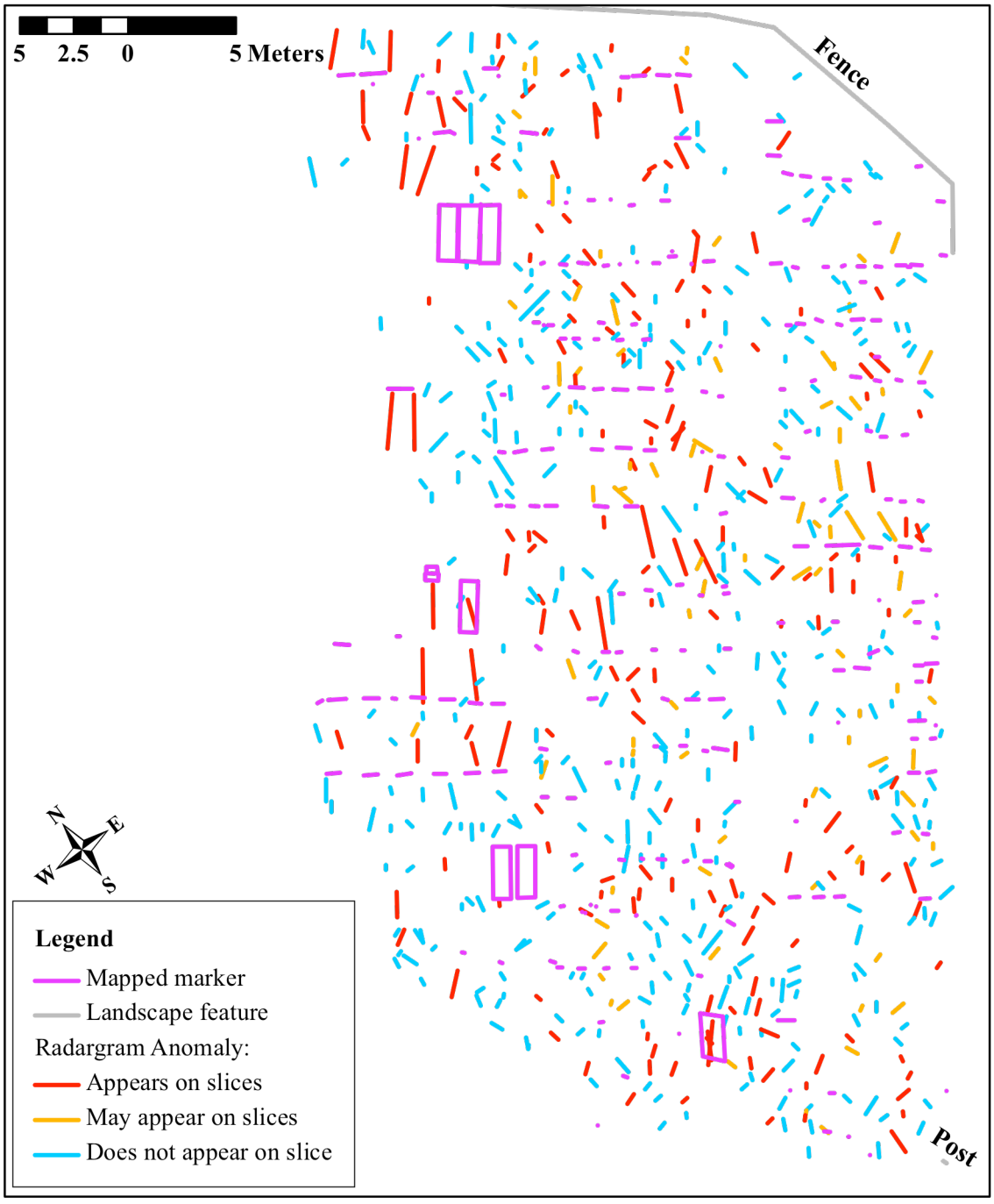
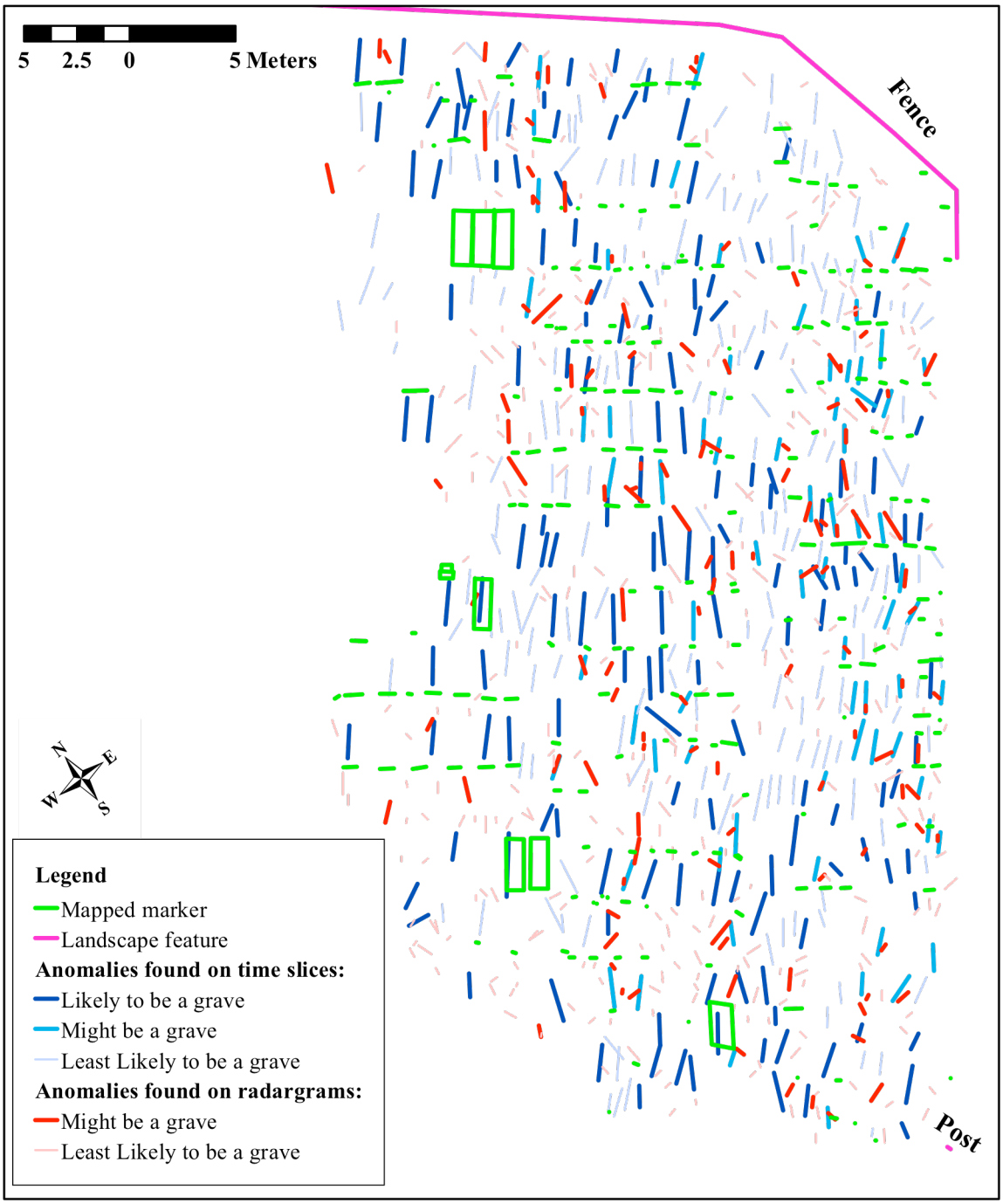


Figure F.3 – GPR anomalies ranked by likelihood of representing graves



APPENDIX G:
EQUATIONS FOR MAPPING ANOMALIES FROM RADARGRAMS
(Special thanks to Katheryn Catlin for creating the initial formulae.)

FileMaker Equations

Slope = (Stop::North-Start::North)/(Stop::East-Start::East)

Angle = Abs (Atan (Slope))

Sign North = Sign (Stop::North-Start::North)

Sign East = Sign (Stop::East-Start::East)

East=((Hypot dis from Start* GPR Files::Sign East)*Cos (GPR Files::Angle)+Start::East)

North =((Hypot dis from Start*GPR Files::Sign North)*Sin (GPR Files::Angle)+Start::North)

Formal Equations

$$E = \Delta\phi \cos\left| \tan^{-1}\frac{K-\kappa}{H-\eta}\right| + \eta$$

Where E is the east coordinate, Δ is the distance along transect, ϕ is the sign (+/-) of the direction of the travel, K is the north coordinate of the transect stop, κ is the north coordinate of the transect start, H is the east coordinate of the transect end, η is east coordinate of the transect start

$$N = \Delta\phi \sin\left| \tan^{-1}\frac{K-\kappa}{H-\eta}\right| + \eta$$

Where N is the north coordinate, Δ is the distance along transect, ϕ is the sign (+/-) of the direction of the travel, K is the north coordinate of the transect stop, κ is the north coordinate of the transect start, H is the north coordinate of the transect end, η is north coordinate of the transect start

APPENDIX H:
GPR TIME SLICES

The following pages of Appendix H include each time slice created from the radargrams using GPR-SLICE v7.0. There are 20 slices, which were created at 2.3ns intervals with 10% overlap. The associated depths in centimeters below the ground surface (cmbs), calculated by hyperbola matching, appear with each slice. Red indicates the strongest reflectors.

Figure H.1 – Time Slice at 1-10cmbs

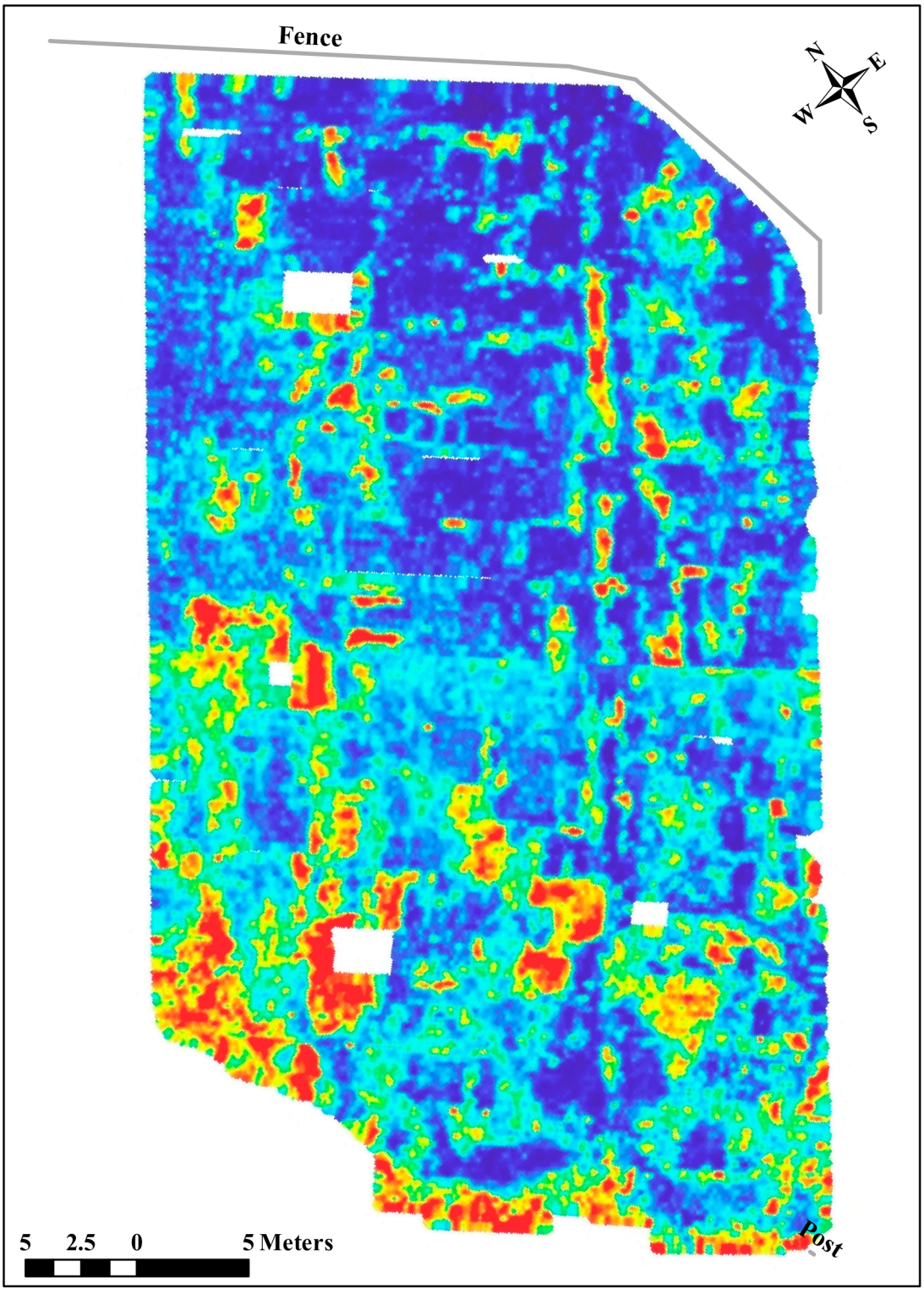


Figure H.2 – Time slice at 8-17cmbs

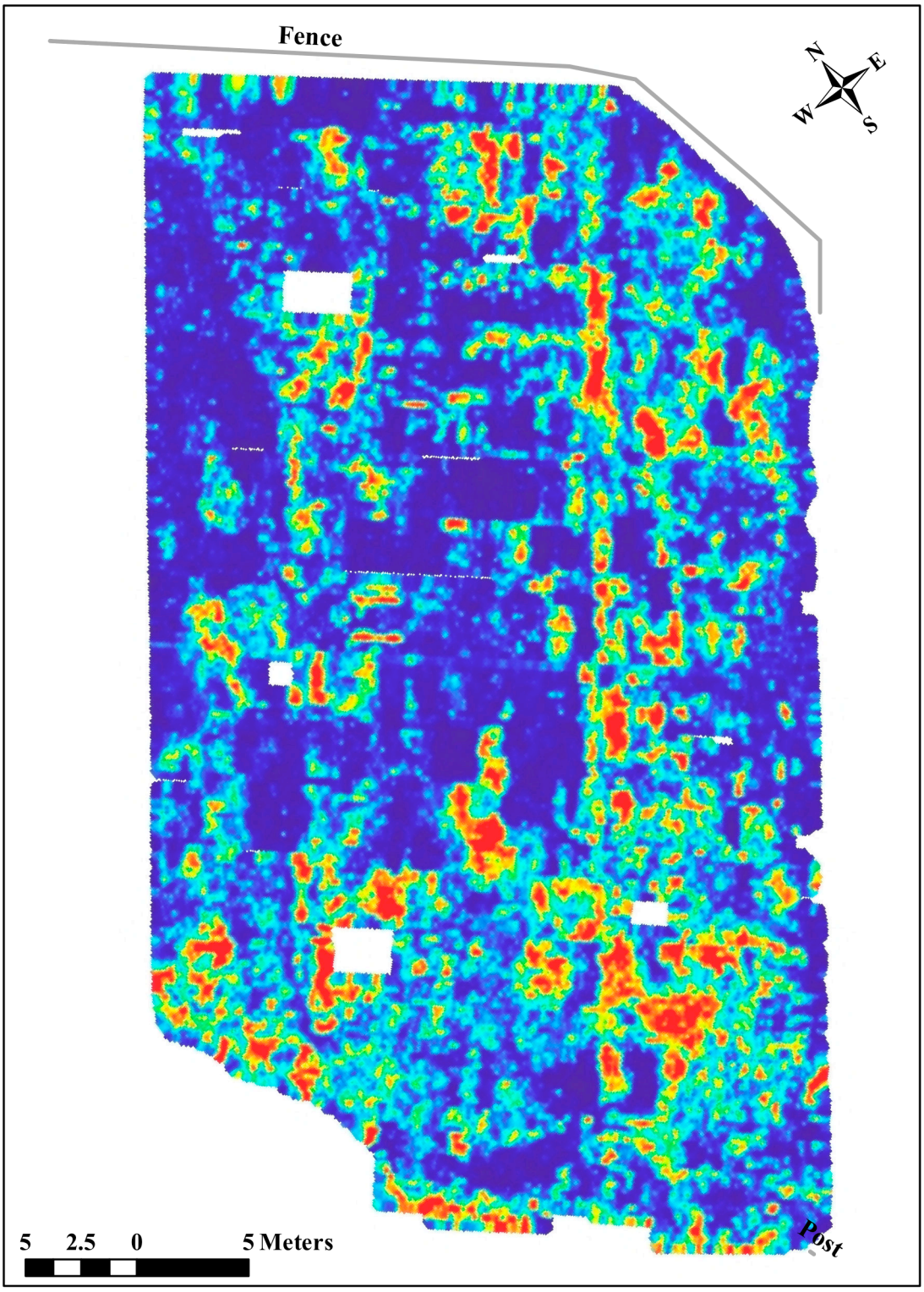


Figure H.3 – Time slice at 15-24cmbs

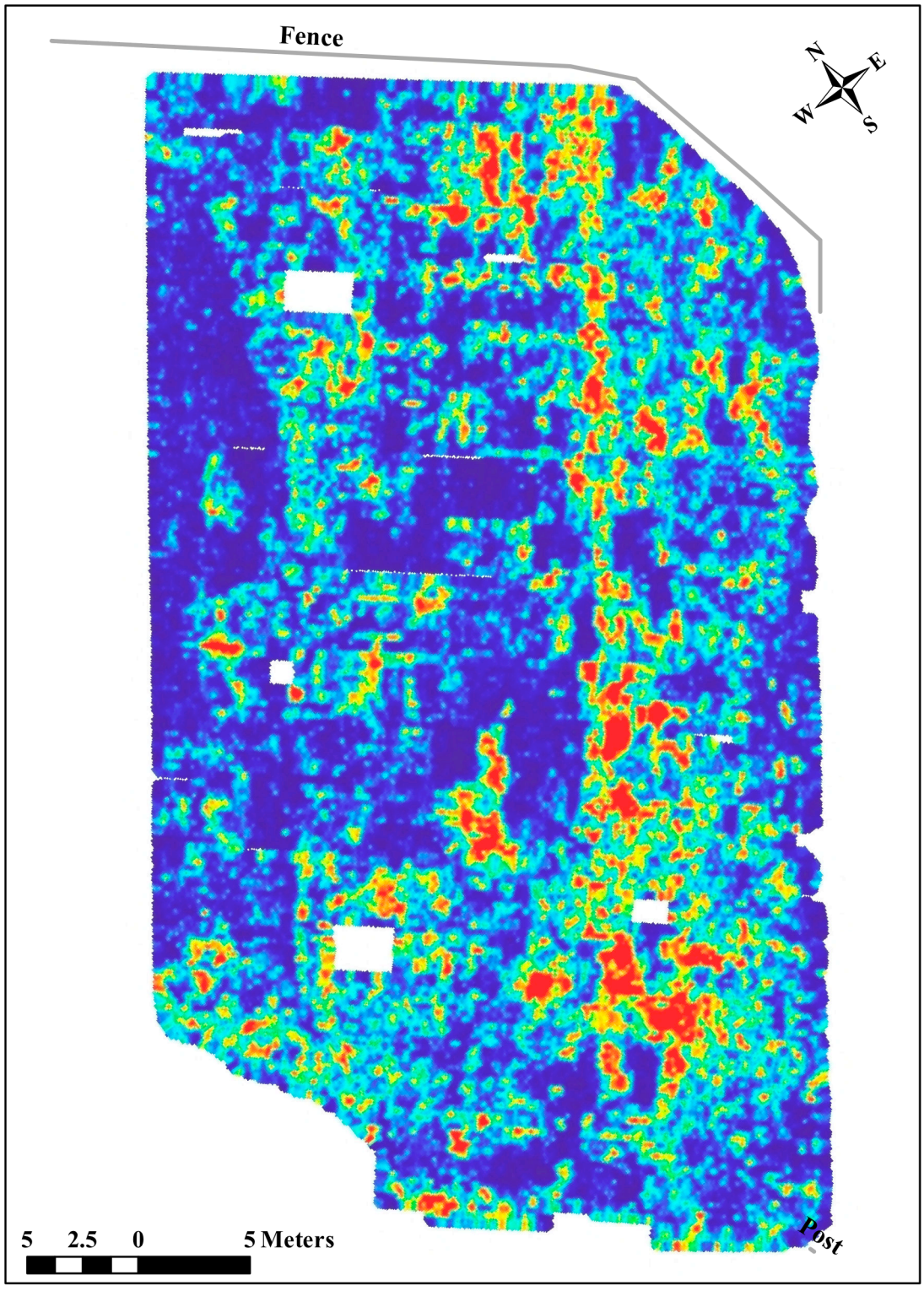


Figure H.4 – Time slice at 22-30cmbs

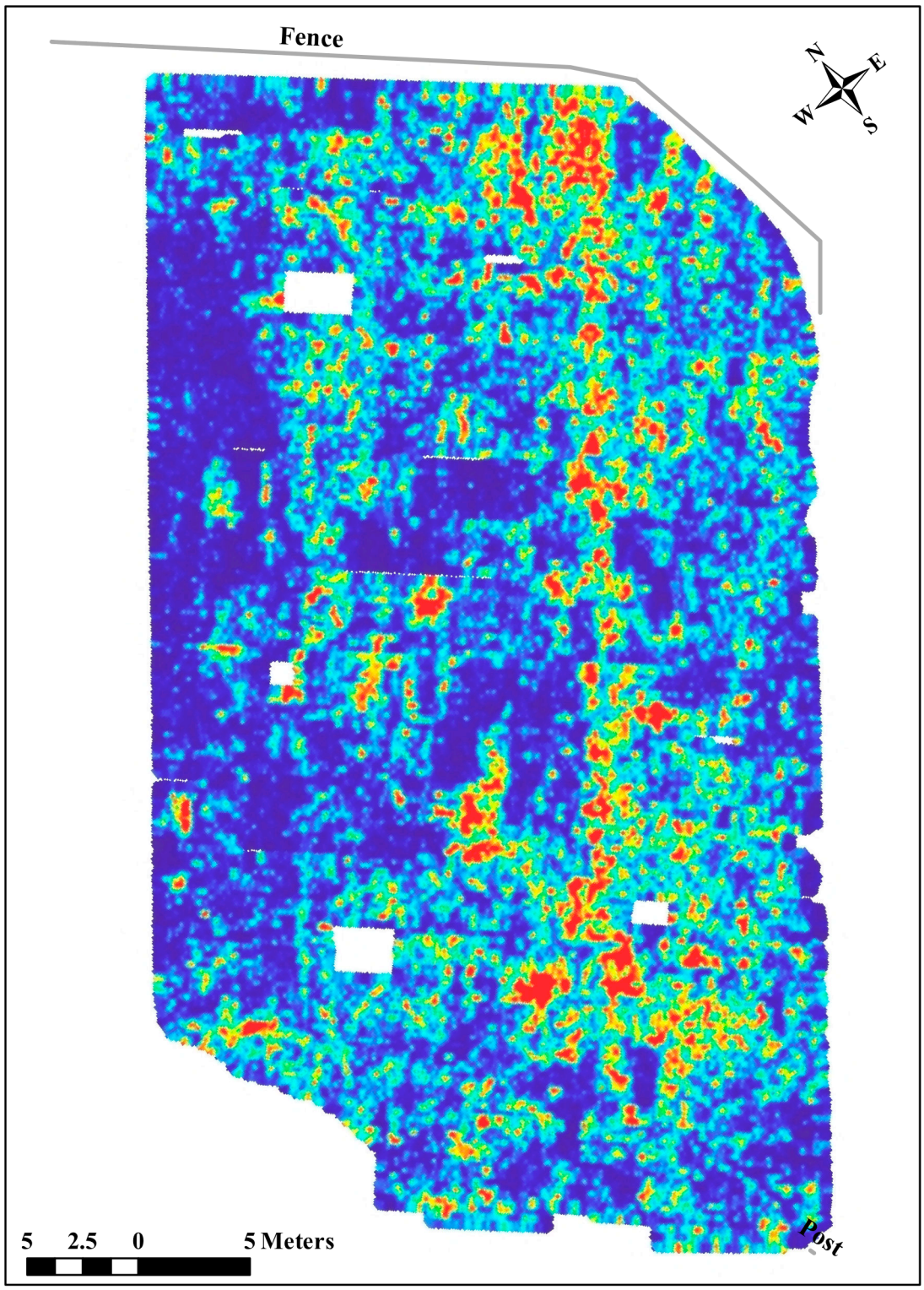


Figure H.5 – Time slice at 29cmbs-37cmbs

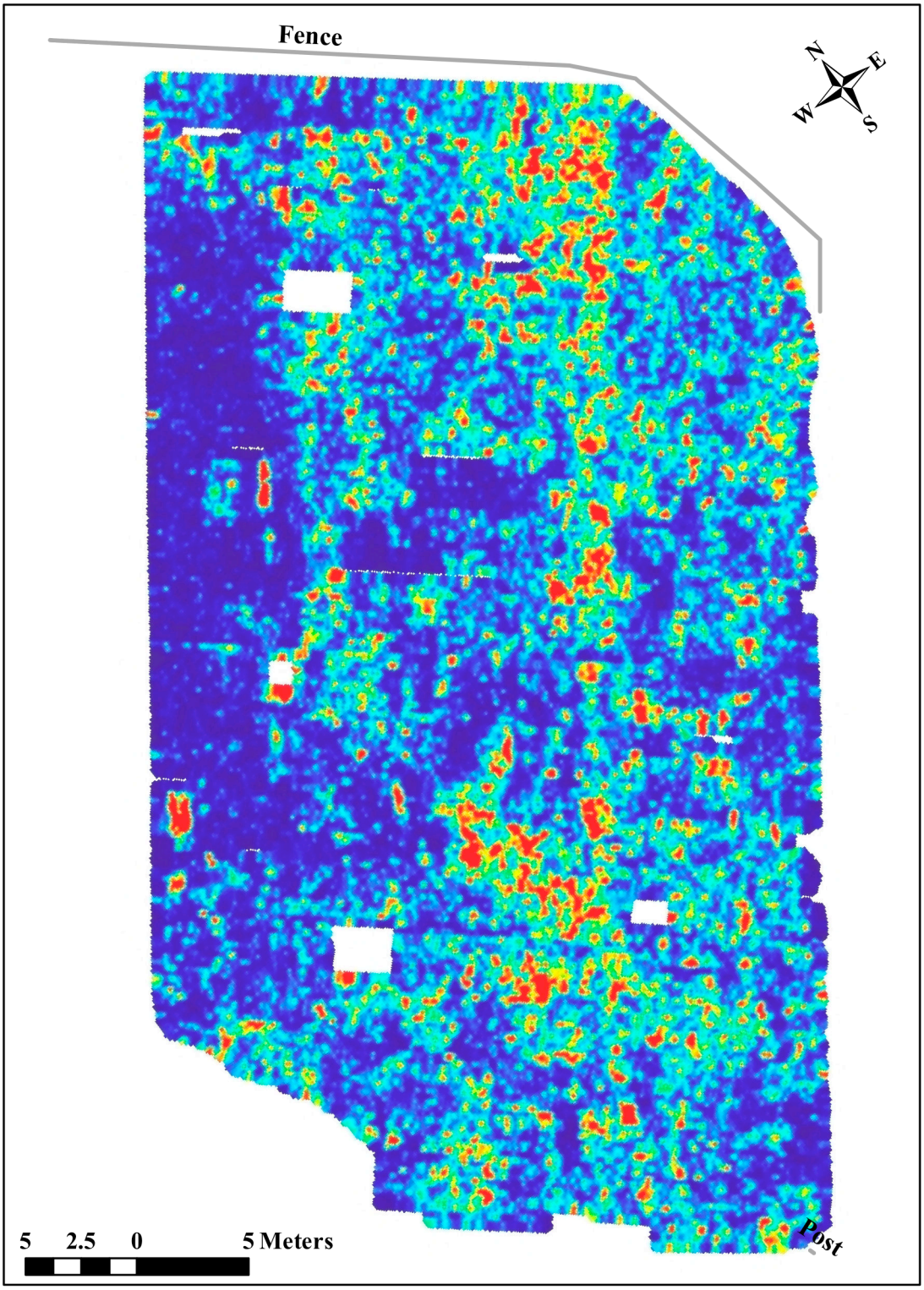


Figure H.6 – Time slice at 36-44cmbs

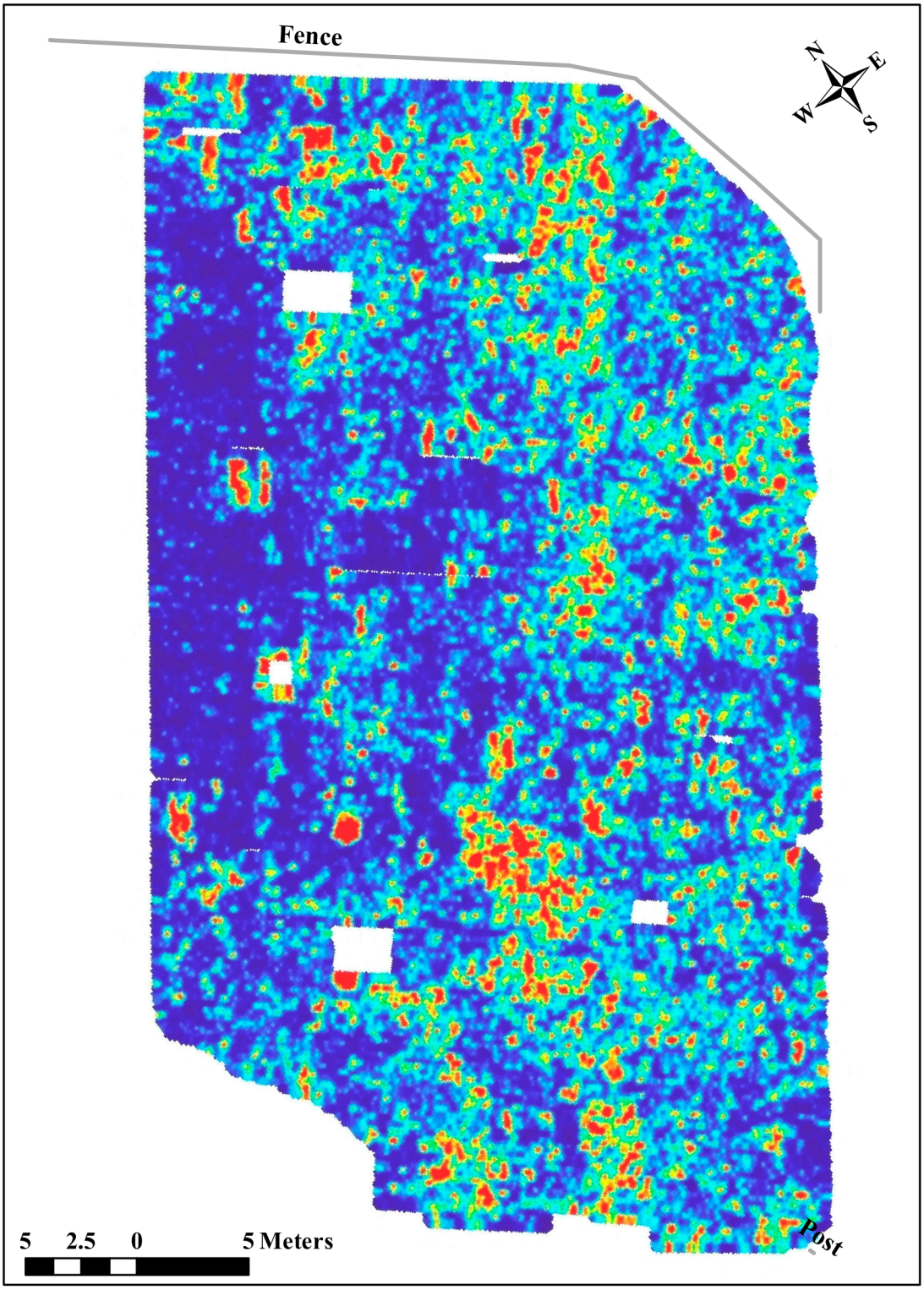


Figure H.7 – Time slice at 46-51cmbs

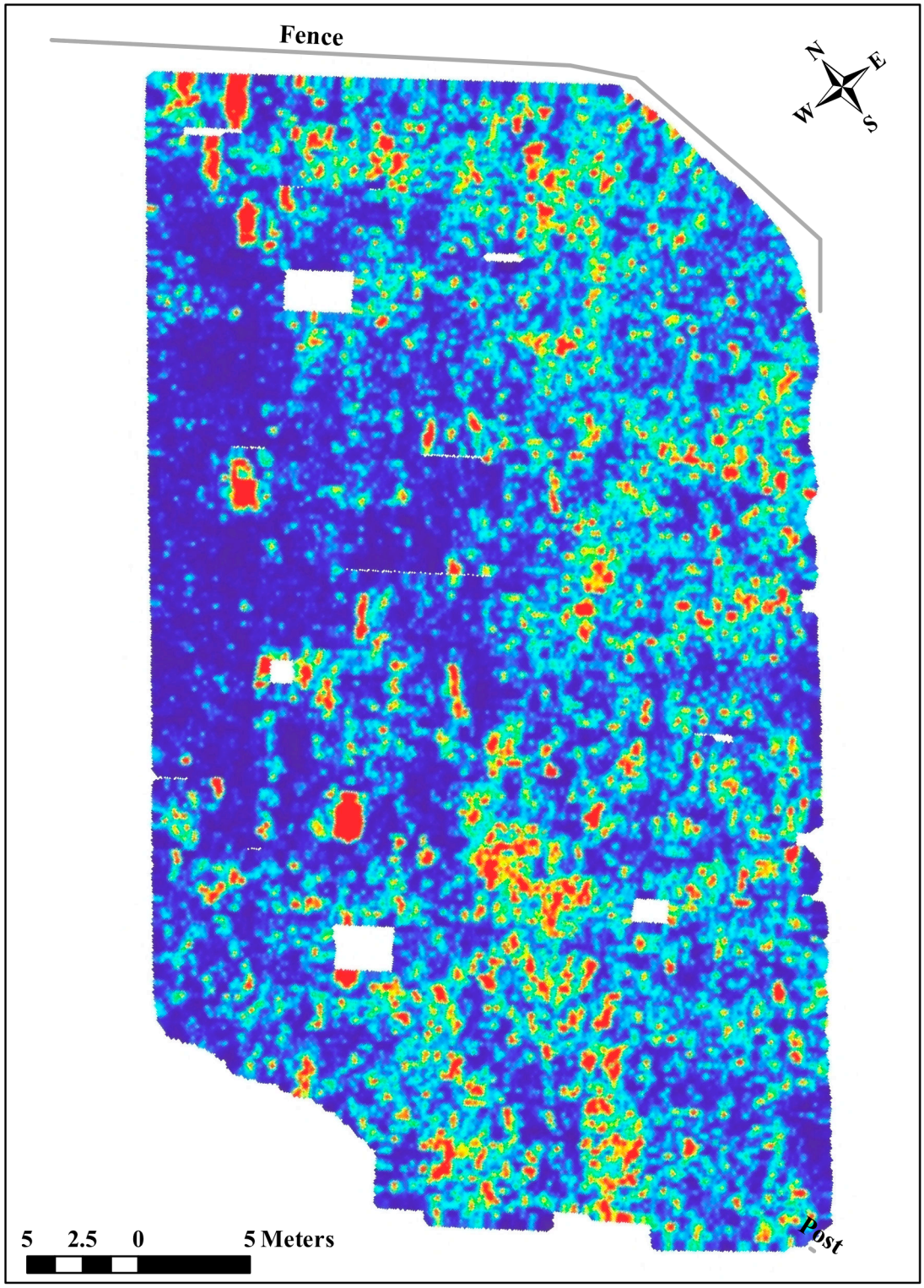


Figure H.8 – Time slice at 50-58cmbs

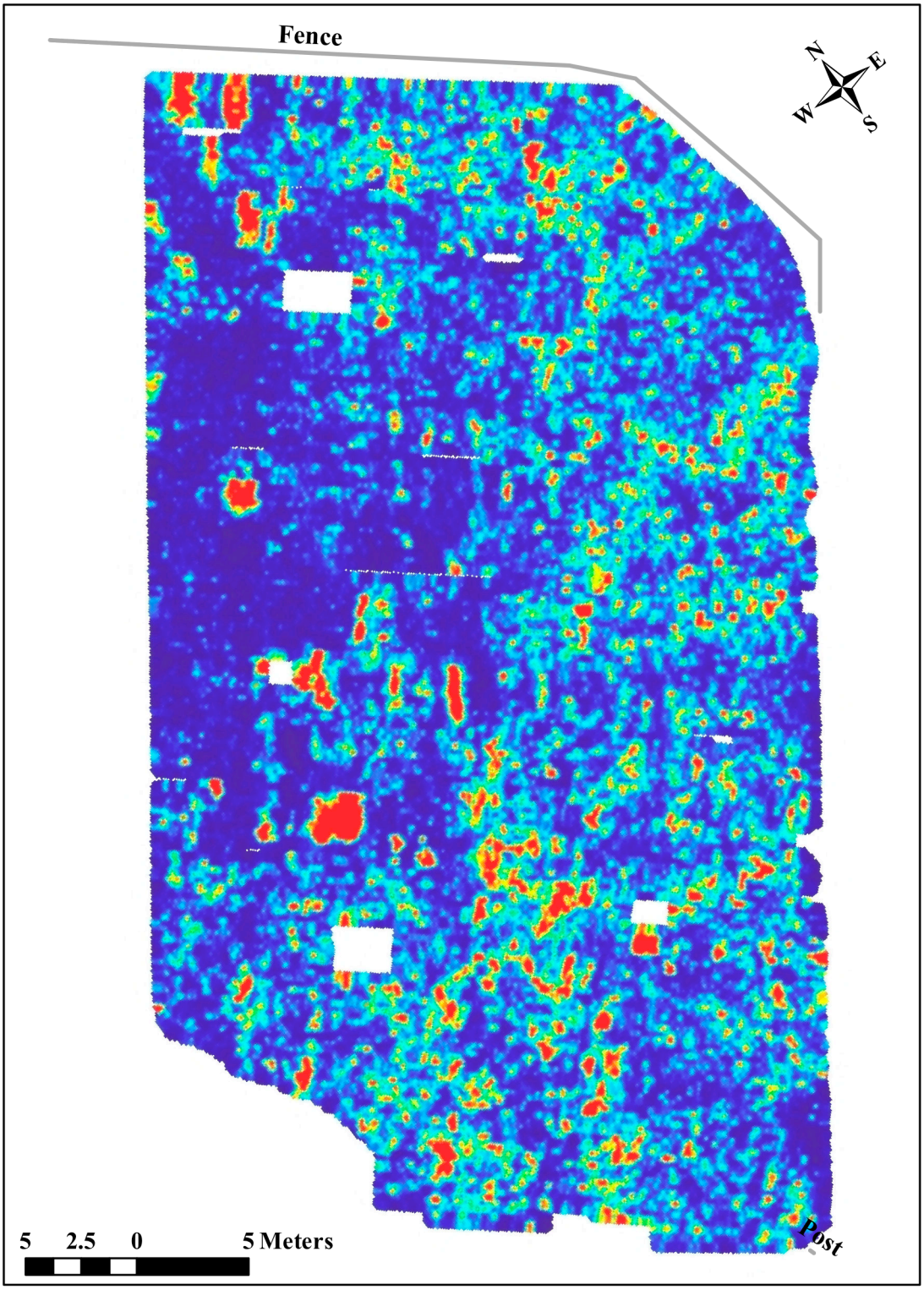


Figure H.9 – Time slice at 56-66cmbs

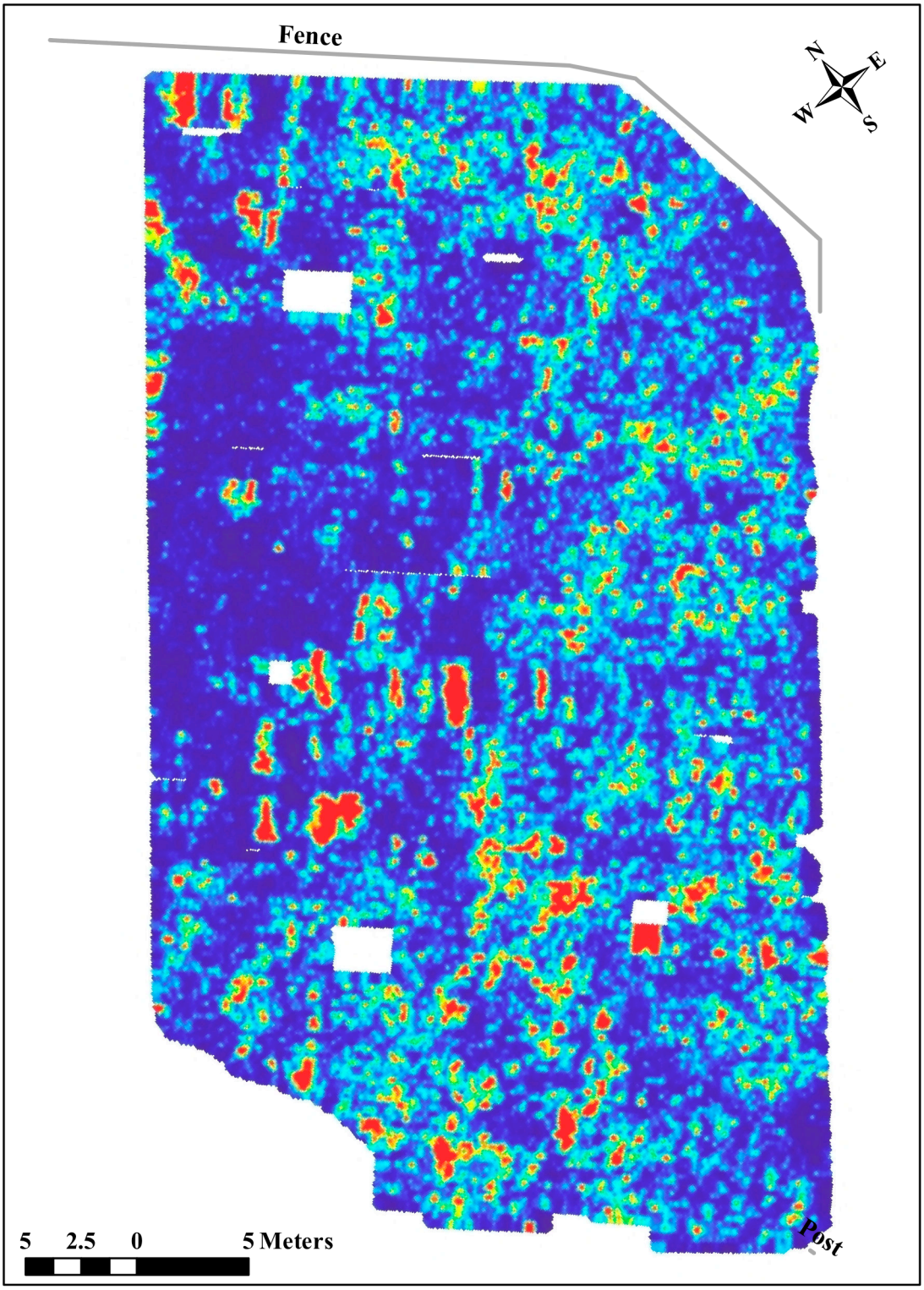


Figure H.10 – Time slice at 63-71cmbs

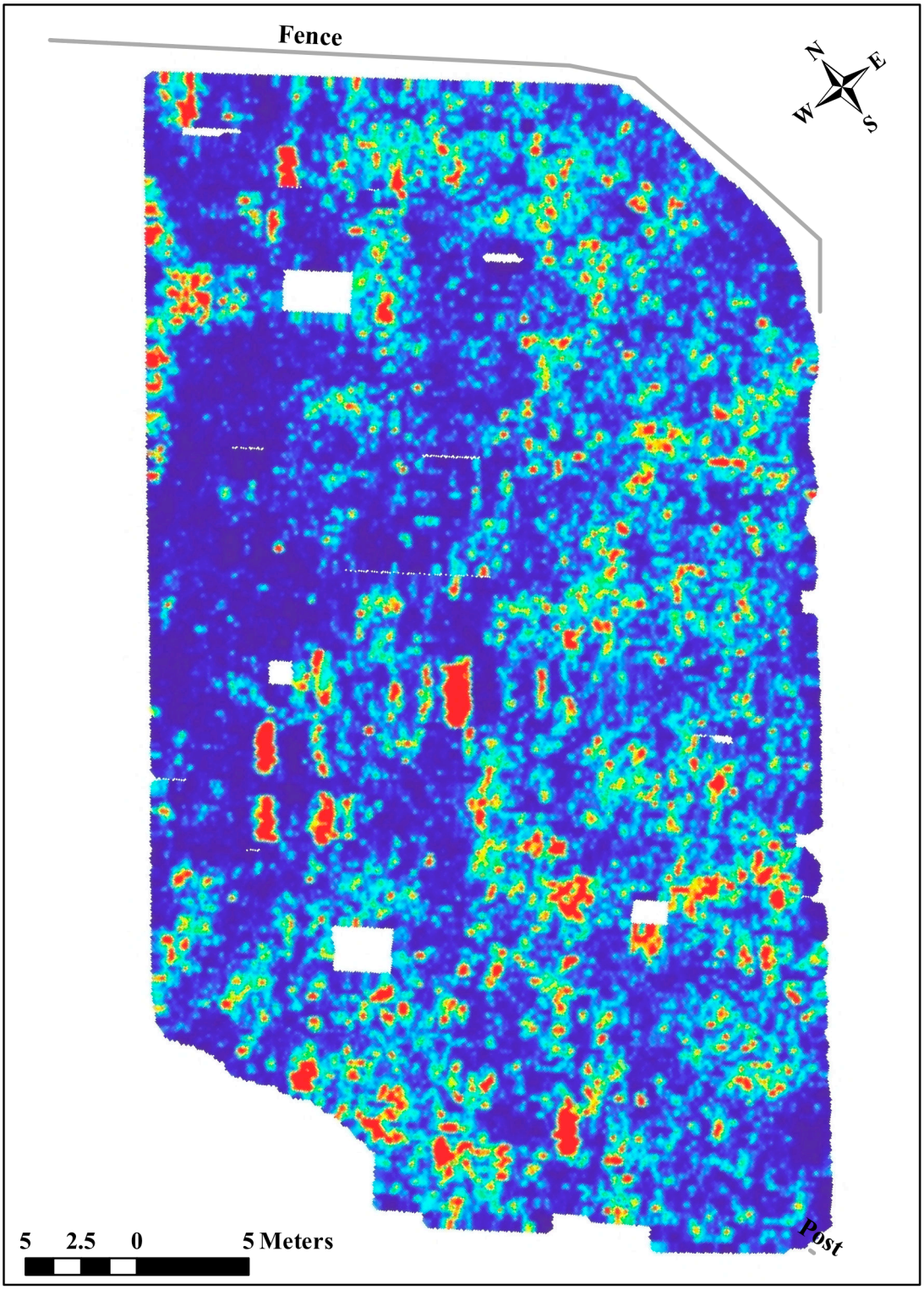


Figure H.11 – Time slice at 70-78cmbs

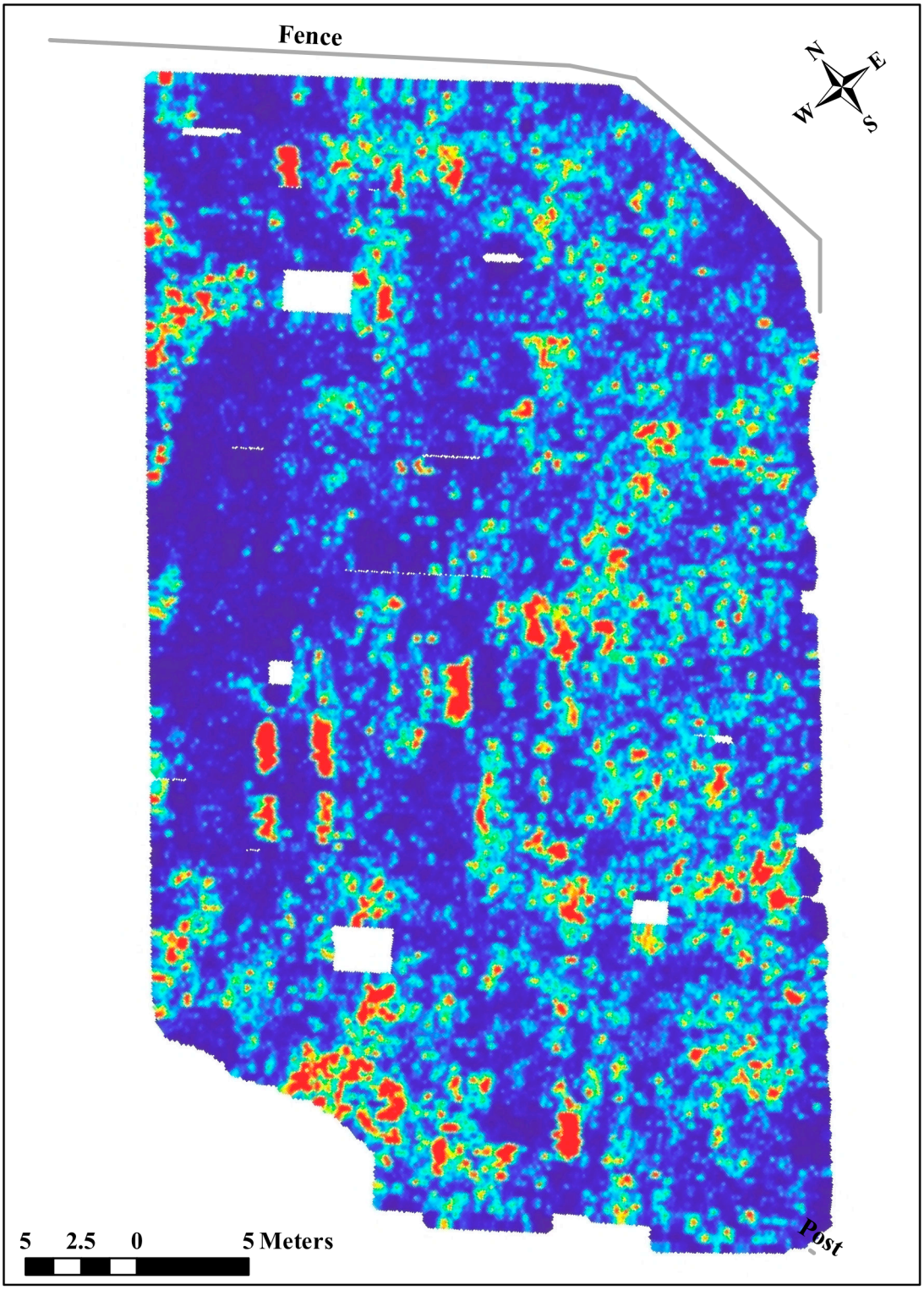


Figure H.12 – Time slice at 77-85cmbs

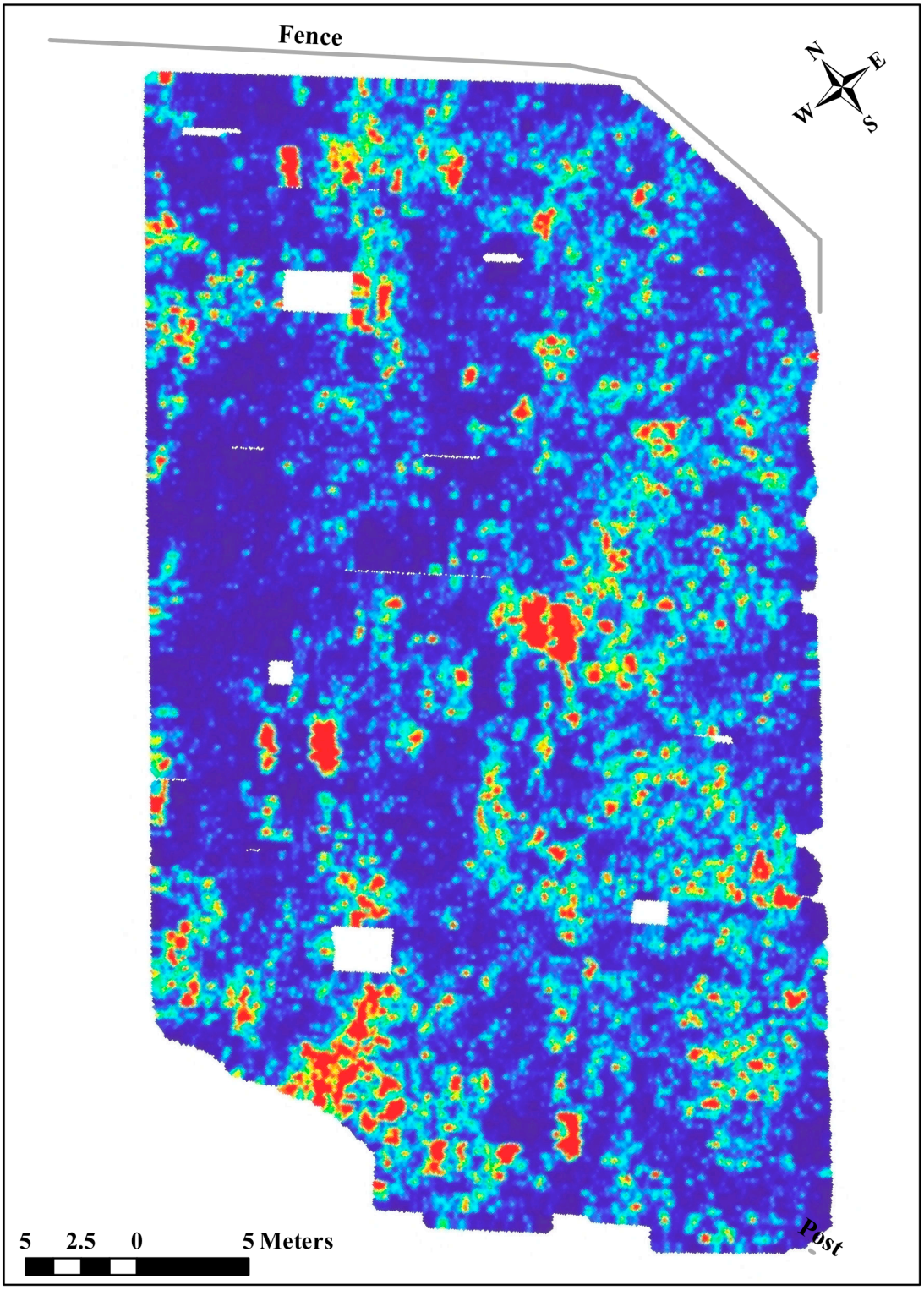


Figure H.13 – Time slice at 84-92cmbs

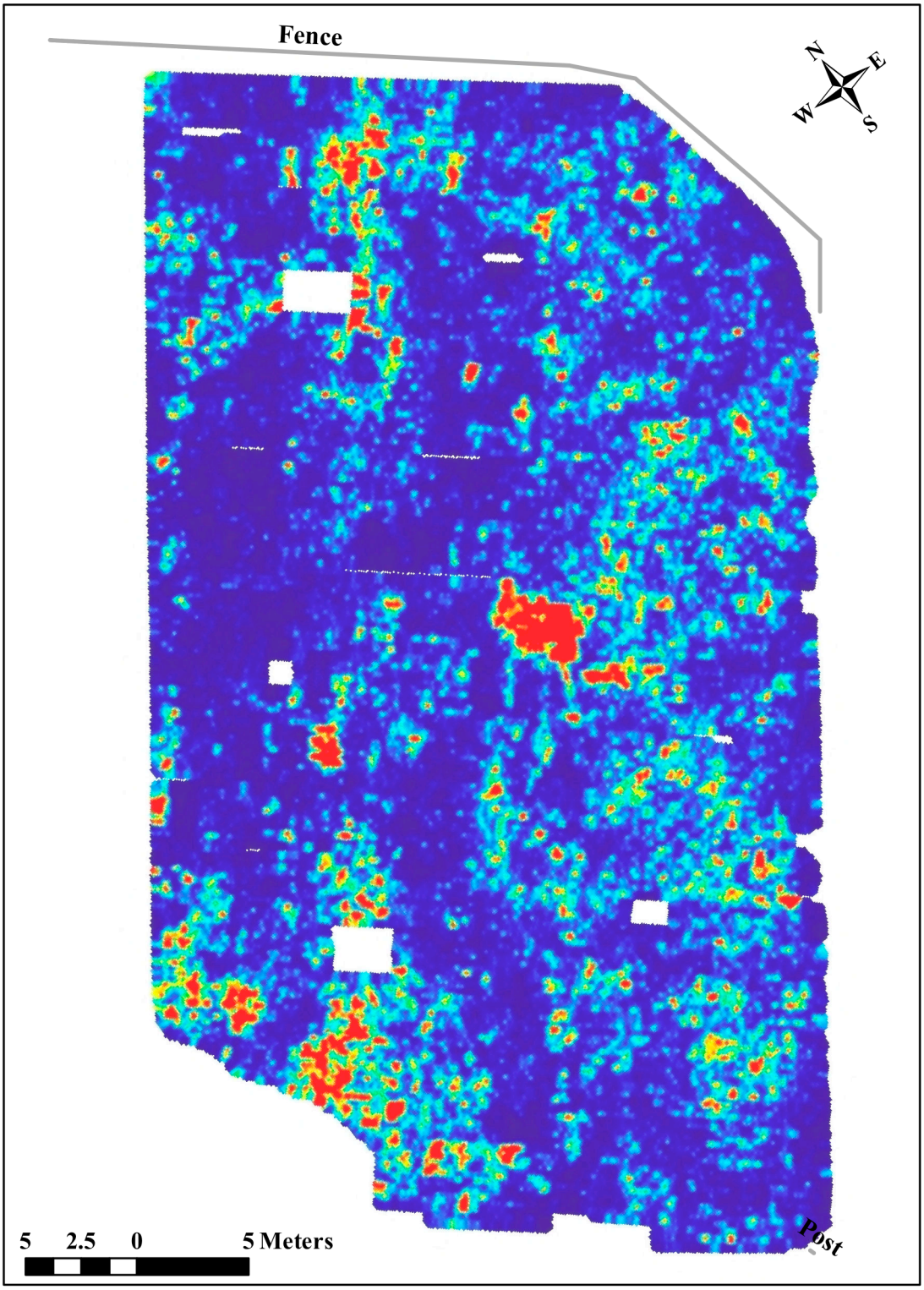


Figure H.14 – Time slice at 91-99cmbs

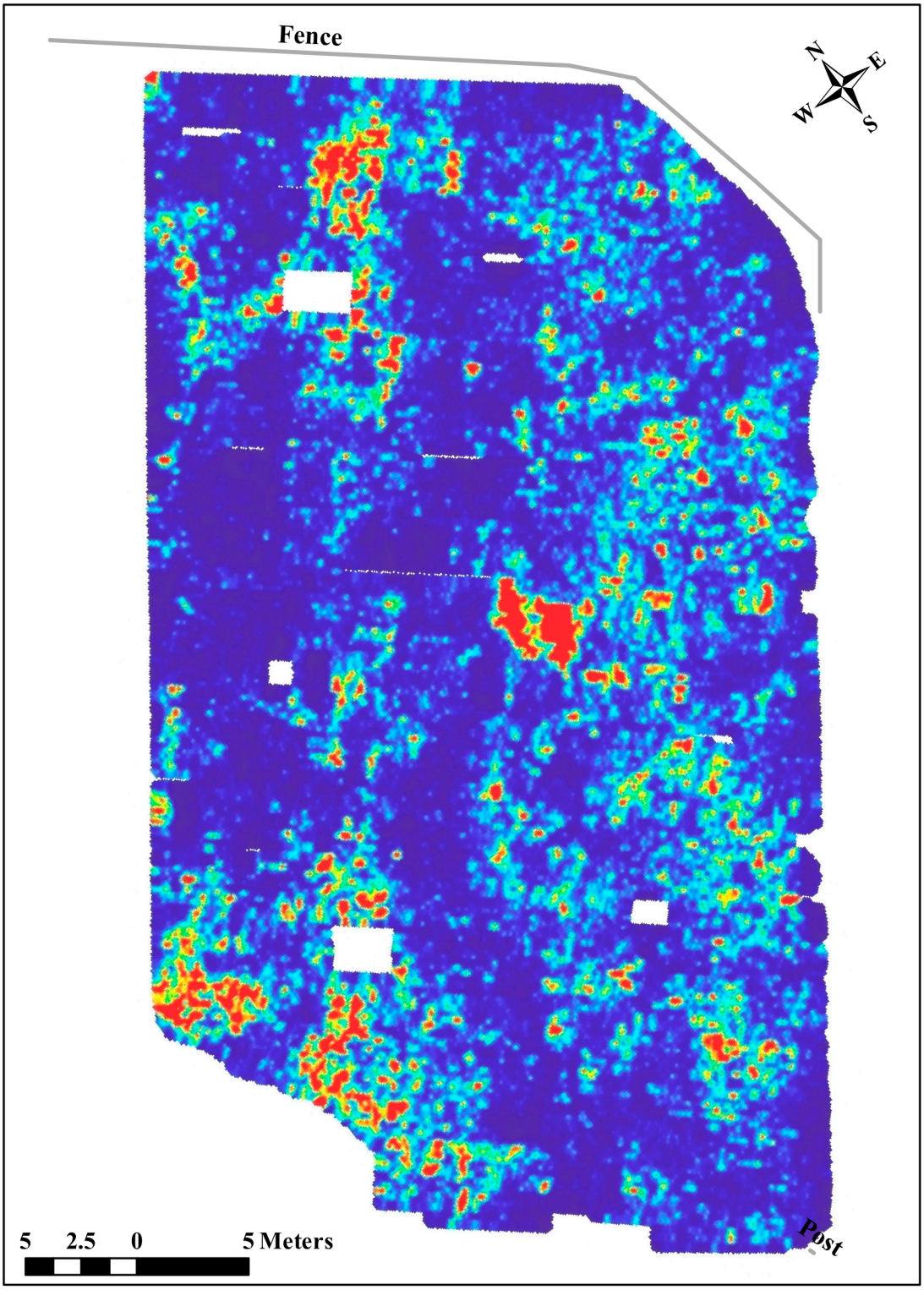


Figure H.15 – Time slice at 97-106cmbs

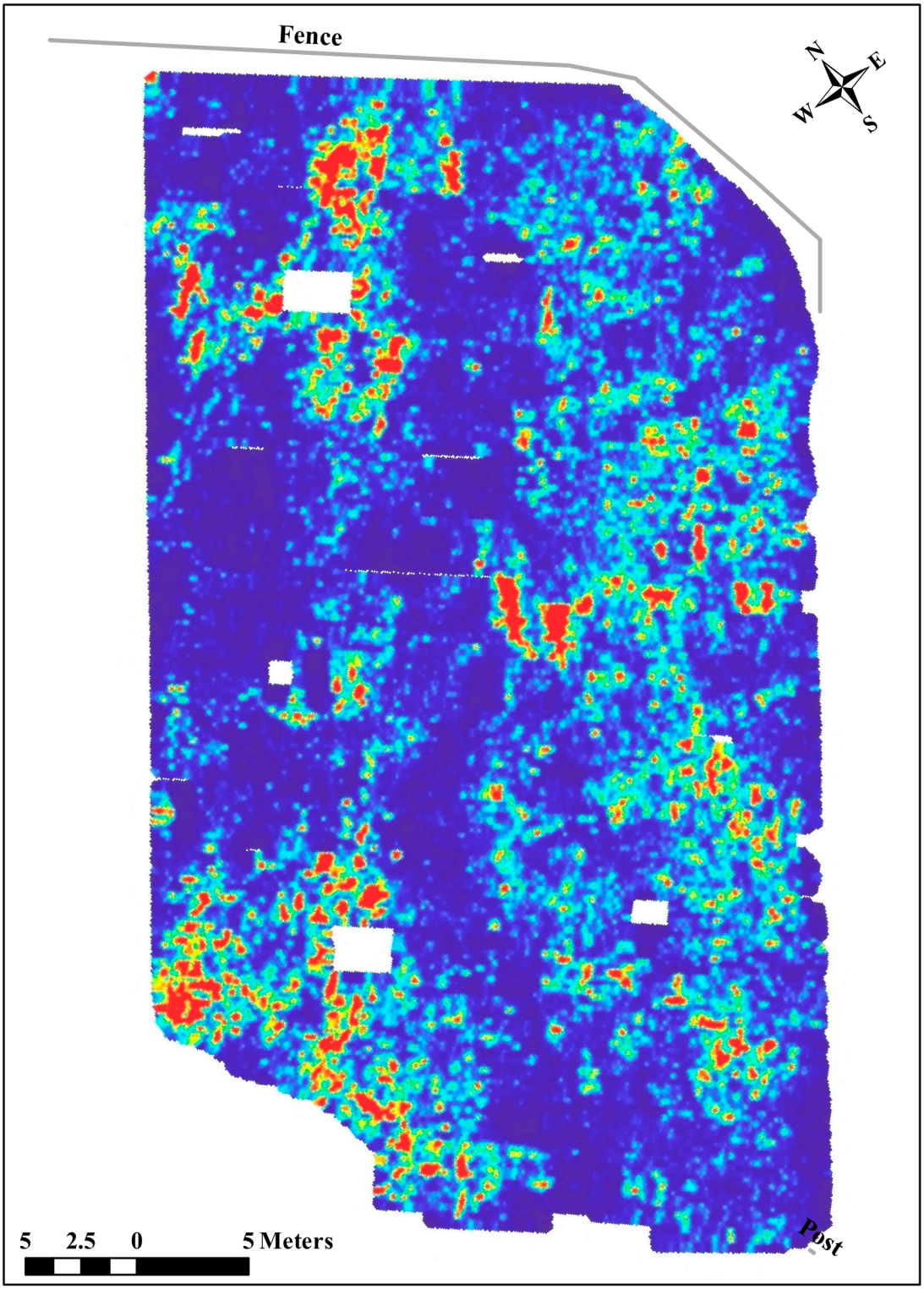


Figure H.16 – Time slice at 104-113cmbs

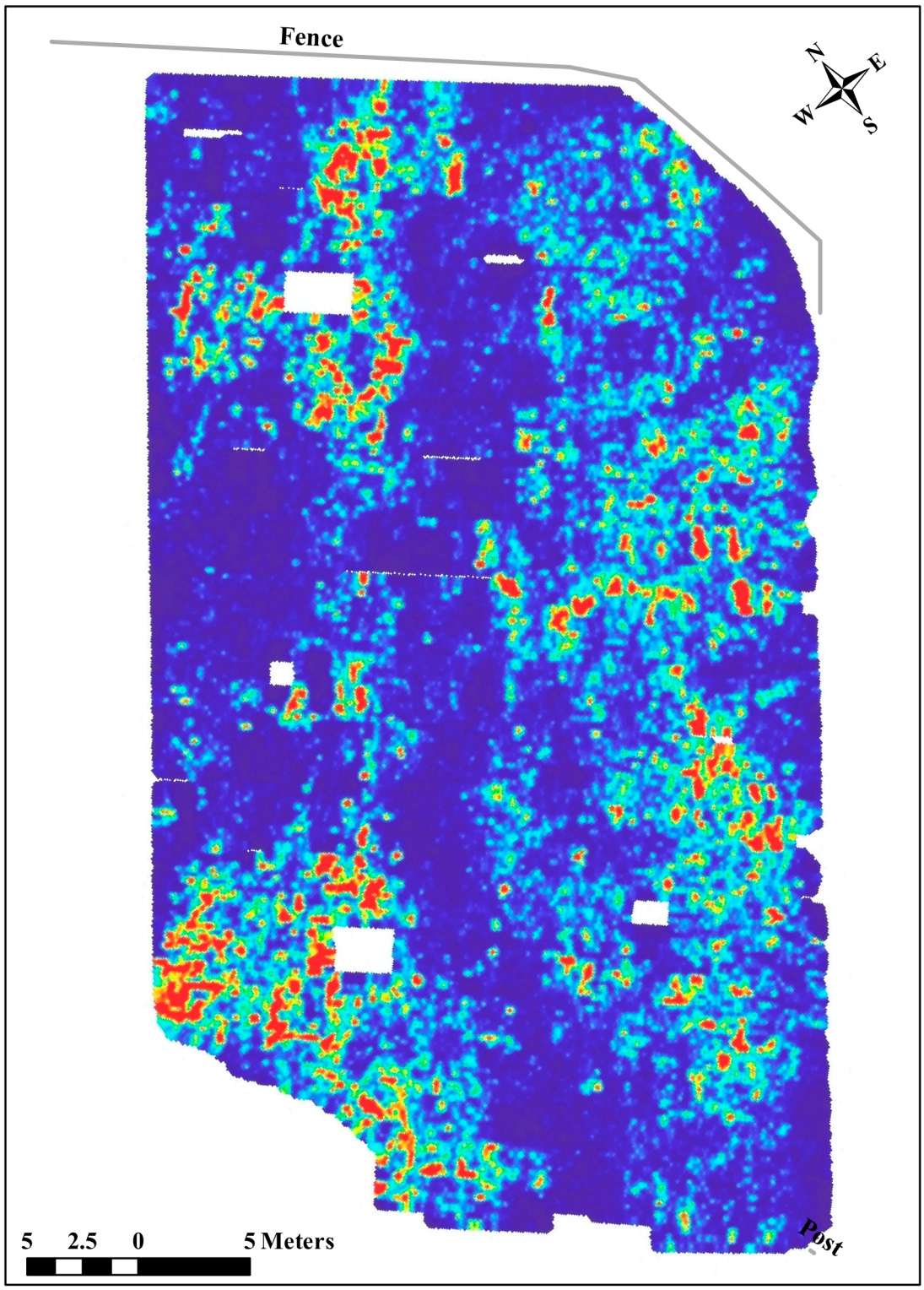


Figure H.17 – Time slice at 111-119cmbs

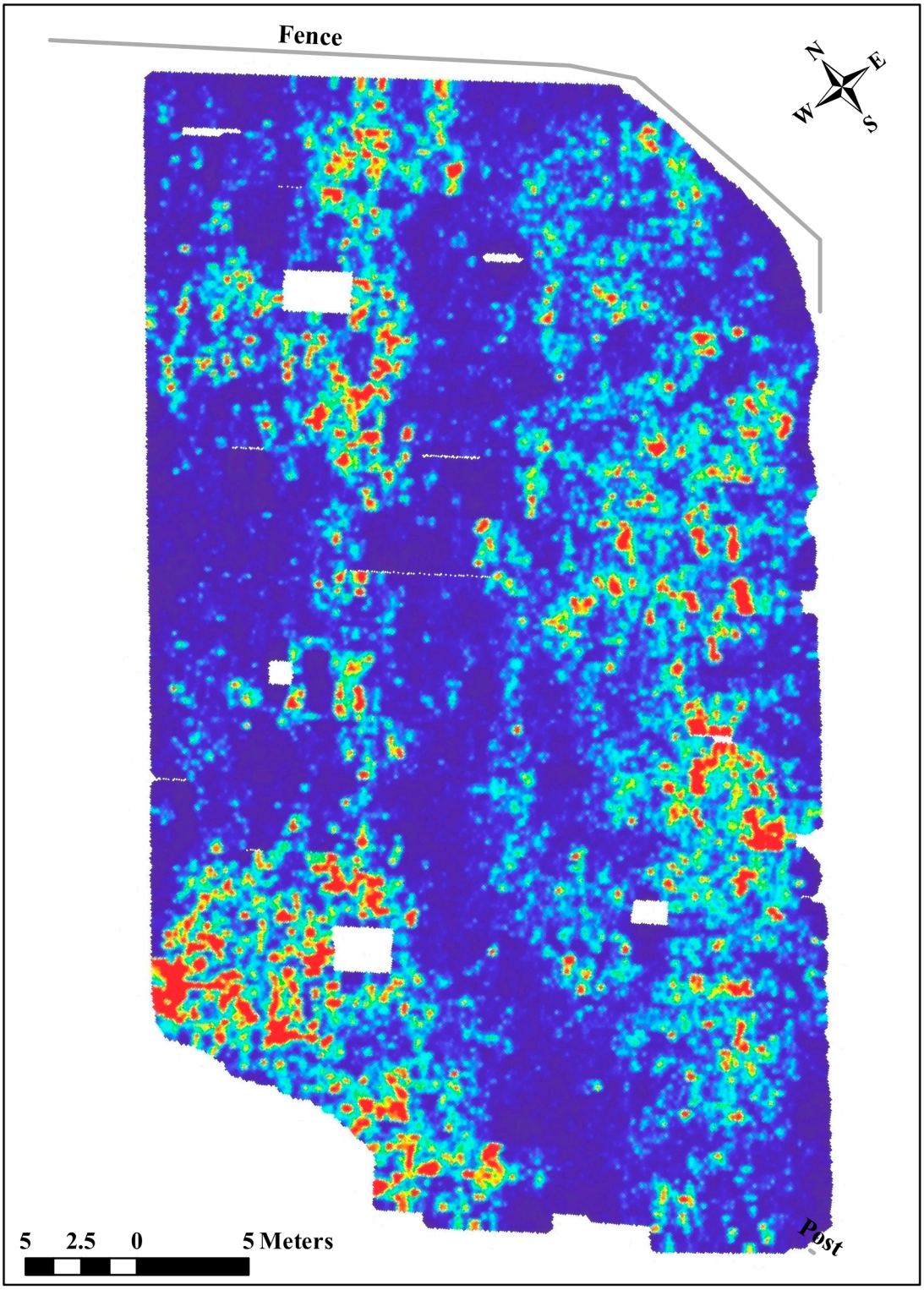


Figure H.18 – Time slice at 118-126cmbs

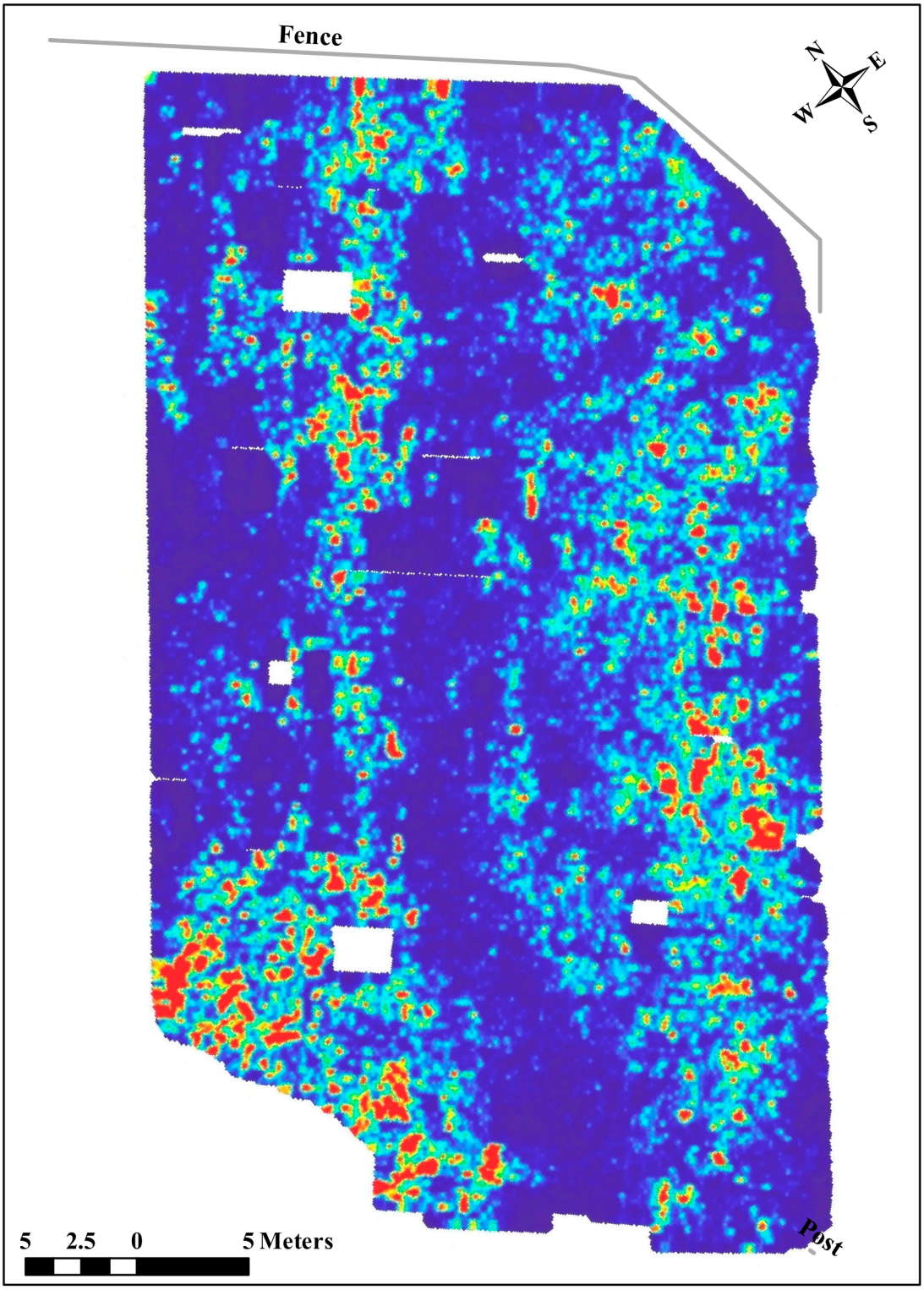


Figure H.19 – Time slice at 125-133cmbs

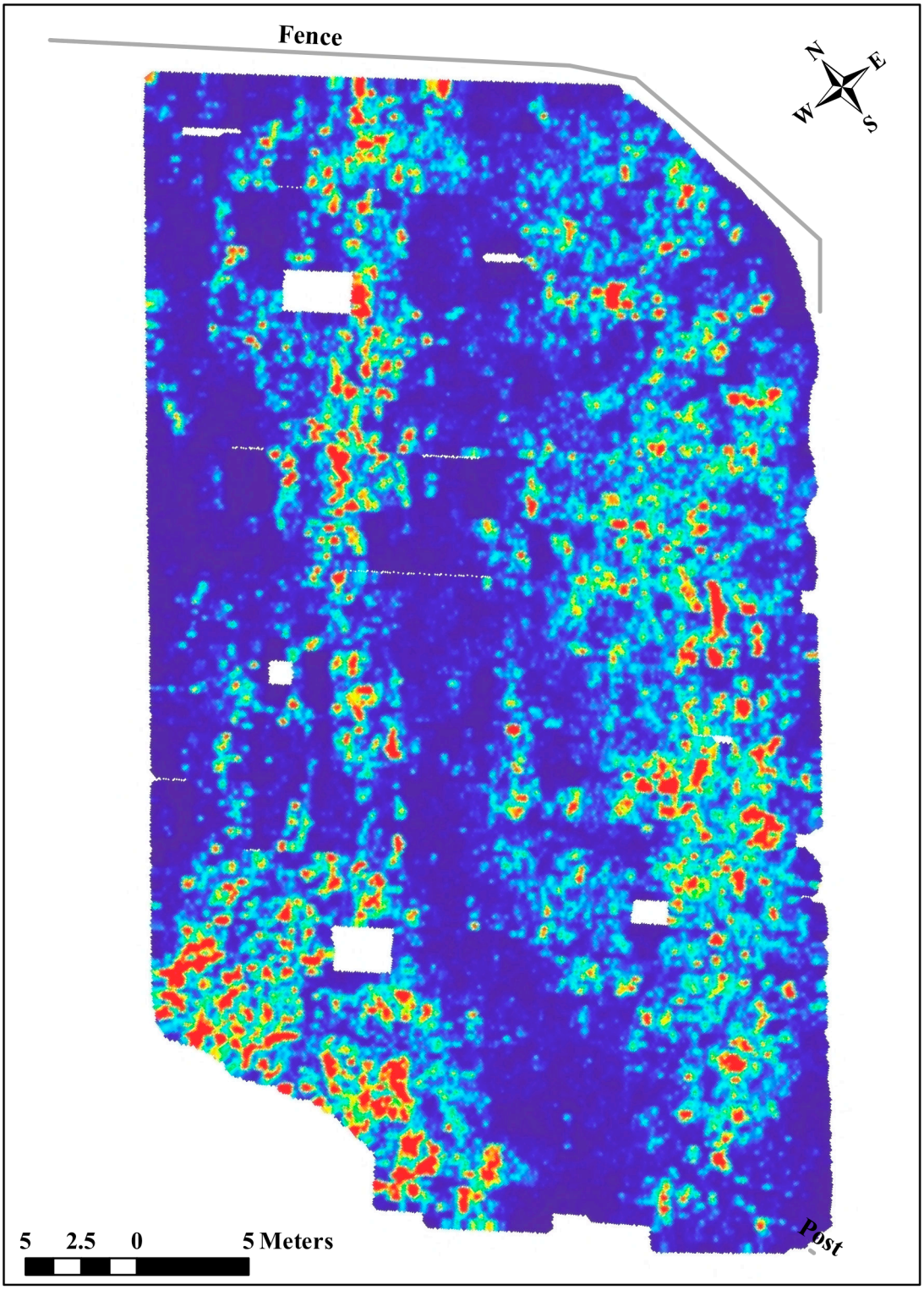
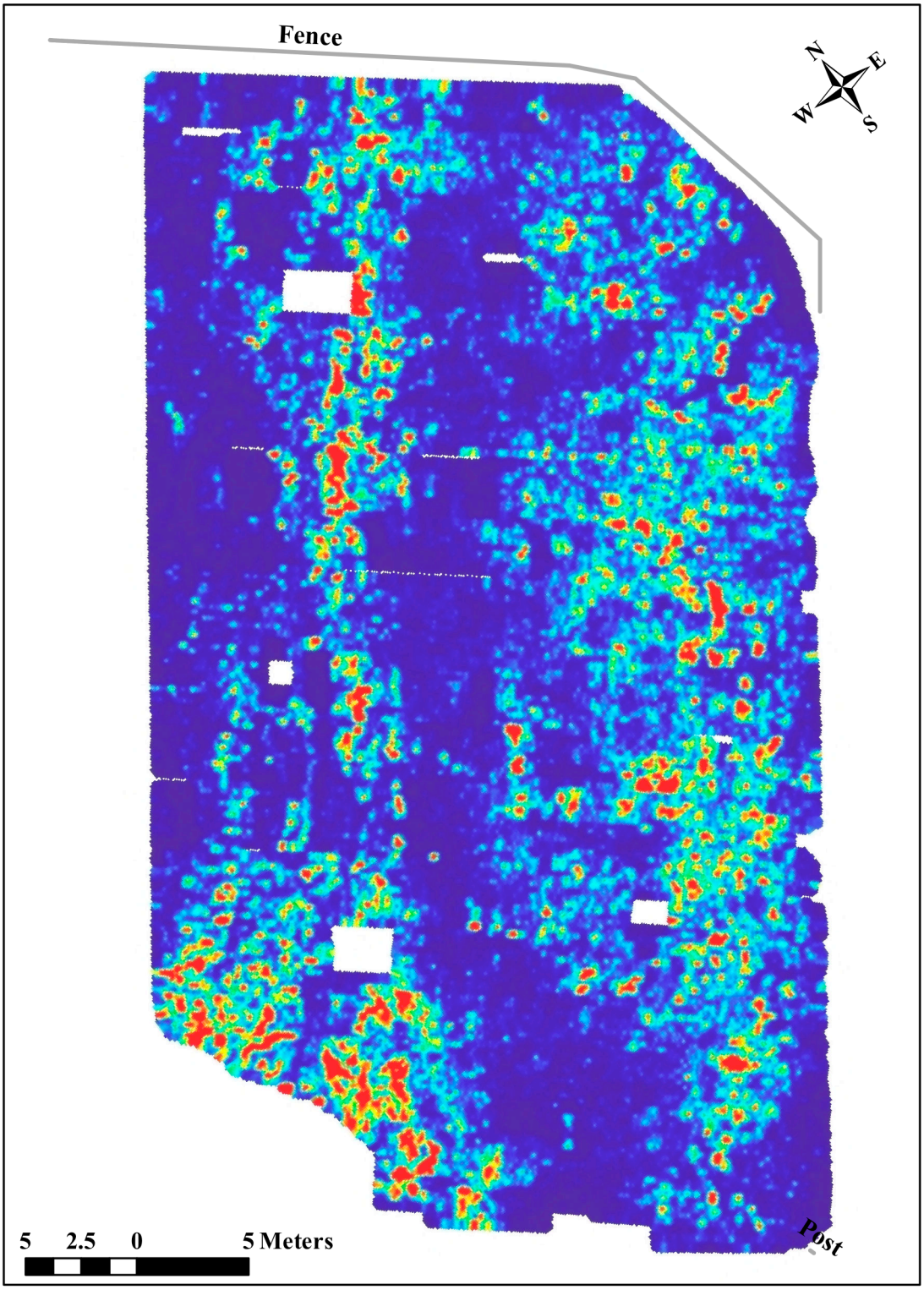


Figure H.20 – Time slice at 132-138cmbs



APPENDIX I:
ANOMALIES FOUND ON TIME SLICES

Table I.1 – All anomalies found on time slices

Slice No. – Arbitrary number assigned to anomaly found on time slices

Visible at Approx. Depths (cmbs) – Range of depths visible, based on center points of each timeslice

Transects Crossed – Number of transects crossed by anomaly

Appearance on No. of Slices – How many time slices the anomaly was found on

Linked Radargram – ID number of anomaly found on radargrams which has been connected to this anomaly by location and depth; Includes those which have been linked (###), may be linked (?), or which have not been linked (--)

Linked Radargram Anomaly – ID number of another radargram anomaly which has been linked to a time slice anomaly; these are generally for radargram anomalies which appear to have skipped at least one transect

Radargram notes – Possible linked radargram ID numbers and other relevant notes

Slice No.	Visible at Approx. Depths (cmbs)	Transects crossed	Appearance on no. of slices	Linked Radargram Anomaly	Linked Radargram Anomaly (secondary)	Radargram notes
S001	40-67	7	5	003	--	
S002	40-74	9	6	001	--	
S003	26-46.5	8	4	224	--	
S004	26-33	9	2	--	--	
S005	26-40	7	3	--	--	
S006	26-40	7	3	035	--	
S007	26-33	7	2	?	?	Possibly Anomalies 015 and 018-different depths
S008	26-54	7	5	--	--	
S009	26-33	5	2	--	--	
S010	26-33	6	2	028	--	
S011	26-33	7	2	--	--	
S012	26-40	7	3	--	--	
S013	26-33	6	2	--	--	
S014	26-40	7	3	?	--	Anomaly 093 -- different depths
S015	33-54	6	4	090	--	
S016	26-40	4	4	--	--	
S017	26-40	5	3	--	--	
S018	26-33	9	2	--	--	
S019	26-33	7	2	--	--	
S020	40-54	5	3	126	--	
S021	33-54	6	4	211	?	Possibly also Anomaly 205 -- different depths
S022	40-60.5	5	6	191	?	Possibly also Anomaly 182 -- different depths
S023	26	9	1	?	--	Possibly Anomaly 306 -- different depths
S024	40-54	4	3	--	--	
S025	26	5	1	--	--	
S026	26-33	5	2	--	--	
S027	40-46.5	4	2	--	--	
S028	40-60.5	6	4	302	309	
S029	26-33	5	2	--	--	
S030	40-67	5	5	--	--	
S031	26-33	5	2	--	--	
S032	40-81	3	7	308	--	
S033	26-33	5	2	--	--	
S034	40-88	8	8	327	315	
S035	26-33	7	2	--	--	
S036	26-33	10	2	--	--	
S037	26-33	5	2	?	?	Anom. 391 -- different depths
S038	26-33	5	2	--	--	
S039	26-46.5	7	4	434	--	
S040	26-40	8	3	--	--	
S041	26-33	8	2	--	--	
S042	40-67	8	5	223	--	
S043	26-33	6	2	493	--	
S044	26-46.5	6	4	?	--	Possibly 548 -- different depths
S045	26-33	9	2	554	547	
S046	26-33	5	2	--	--	
S047	26-40	5	3	--	--	
S048	26-40	6	3	--	--	
S049	26-46.5	5	4	662	--	
S050	40-81	8	7	424	--	
S051	26-33	5	2	--	--	
S052	26-33	4	2	--	--	
S053	26-33	6	2	--	--	
S054	26-33	8	2	?	--	Possibly Anomaly 414 -- different depths
S055	33-40	8	2	030	050	
S056	33-60.5	7	5	--	--	
S057	33-67	7	5	027	--	
S058	33-46.5	6	3	--	--	
S059	33-54	9	4	355	--	
S060	33-40	3	2	--	--	
S061	33-60.5	13	5	571	--	
S062	33-40	6	2	566	582	
S063	26-60.5	7	2	542	564	
S064	33-60.5	7	5	439	--	
S065	33-46.5	6	3	--	--	
S066	33-46.5	6	3	--	--	

Slice No.	Visible at Approx. Depths (cmbs)	Transects crossed	Appearance on no. of slices	Linked Radargram Anomaly	Linked Radargram Anomaly (secondary)	Radargram notes
S067	33	5	1	--	--	
S069	33-46.5	8	3	?	--	Possibly Anomaly 440 -- could also be S216
S070	33-67	7	6	--	--	
S071	33-46.5	5	3	?	--	Possibly Anomaly 213 -- different depths
S072	26.5-46.5	4	4	?	--	Possibly Anomaly 382 -- different depths
S073	26-33	6	2	--	--	
S074	26-33	5	2	--	--	
S075	33-54	6	4	369	--	
S076	33-81	5	8	222	--	
S077	33-54	5	3	?	--	Possibly Anomaly 217 -- different depths
S078	33-46.5	5	3	?	--	Possibly Anomaly 179 -- different depths
S079	33-46.5	5	3	?	--	Possibly Anomaly 256 -- different depths
S080	33-60.5	5	5	?	--	Possibly Anomaly 260 -- different depths
S081	26-40	3	3	--	--	
S082	33-40	8	2	--	--	
S083	33-46.5	4	3	145	--	
S084	26-46.5	8	4	430	--	
S085	33-40	5	2	485	--	
S086	33-54	9	5	398	--	
S087	40-67	9	5	057	--	
S088	40-54	7	3	031	--	
S089	40-54	3	3	029	--	
S090	33-67	4	5	?	--	Possibly Anomaly 041 -- different depths
S091	33-88	5	8	048	--	
S092	40-95	8	8	054	--	
S093	40-81	6	6	072	066	
S094	40-67	6	4	?	--	Possibly Anomaly 062 -- different depths
S095	40-60.5	3	4	--	--	
S096	40-54	4	3	?	--	Possibly Anomaly 181 -- different depths
S097	40-74	8	4	--	--	
S098	40-74	6	4	--	--	May be edge of crypt.
S099	33-67	5	6	629	--	
S100	40-54	6	3	683	220	
S101	40-46.5	4	2	675	--	
S102	33-60.5	4	5	?	--	Possibly Anomaly 602 - far
S103	40-60.5	5	4	?	--	Possibly Anomaly 544
S104	40-46.5	5	2	528	515	Possibly Anomaly 522 -- different depths
S105	40-54	8	3	541	--	
S106	40-54	5	3	?	--	Possibly Anomaly 501 -- different depths
S107	67-88	6	4	034	--	
S108	40-46.5	6	2	--	--	
S109	46.5-74	7	5	058	--	
S110	60.5-95	6	6	107	094	
S111	54-81	9	5	443	429	
S112	46.5-81	10	6	173	--	
S113	46.5-74	8	5	362	339	
S114	46.5-81	7	6	442	?	Possibly Anomaly 428 -- diff. depths, locations
S115	46.5-88	8	7	390	--	
S116	46.5-88	7	7	389	--	
S117	54-74	8	4	?	--	Possibly Anomaly 363
S118	40-46.5	7	2	388	--	
S119	40-60.5	7	4	550	--	
S120	54-88	8	6	657	667	Also 668
S121	46.5-74	6	5	152	--	
S122	40-60.5	5	4	472	--	
S123	33-60.5	7	5	693	221	
S124	81-101.5	7	4	--	--	
S125	81-108.5	4	5	--	--	
S126	46.5-60.5	4	3	?	--	Possibly Anomaly 196-- 0.3-0.8m away
S127	67-81	8	3	335	--	
S128	60.5-115	10	8	314	?	May also be Anomalies 146 and 326
S129	67-88	9	4	313	--	
S130	74-88	8	3	364	--	
S131	81-108.5	10	5	299	--	
S132	95-122	7	5	263	--	
S133	101.5-122	6	4	267	--	
S134	88-135	5	8	?	--	Possibly Anomaly 298?

Slice No.	Visible at Approx. Depths (cmbs)	Transects crossed	Appearance on no. of slices	Linked Radargram Anomaly	Linked Radargram Anomaly (secondary)	Radargram notes
S135	81-115	5	6	301	--	
S136	115-129	8	3	230	245	Also 241 -- is this a multiple burial?
S137	108.5-122	8	3	269	?	Possibly Anomalies 120, 119 -- different depth
S138	46.5-67	5	4	--	--	
S139	54-67	7	3	240	255	
S140	60.5-67	8	2	--	--	Checked this one against radargram.
S141	67-81	5	3	?	--	Possibly Anomaly 252 -- different depths
S142	46.5-54	5	2	017	--	
S143	40-46.5	6	2	?	--	Possibly Anomalies 008 and 011 -- different depths
S144	40-46.5	4	2	--	--	
S145	101.5-129	5	2	438	--	
S146	60.5-67	6	2	--	--	
S147	46.5-74	7	5	368	--	
S148	26-33	4	2	010	--	
S149	26-33	3	2	?	--	Possibly Anomaly 465 -- different depths
S150	46.5-81	9	6	521	--	
S151	46.5-67	4	5	--	--	
S152	88-101.5	6	3	366	--	
S153	40-60.5	8	4	397	405	
S154	54-74	5	4	532	--	
S155	60.5-74	11	3	371	--	
S156	67-101.5	7	6	356	--	depths do not match entirely, but close match
S157	26-40	6	3	?	--	Possibly Anomalies 083 and 082 -- different depths
S158	26-40	5	3	023	--	
S159	26-33	5	2	--	--	
S160	54-88	6	6	?	--	Maybe Anomaly 436
S161	60.5-74	5	3	--	--	
S162	54-74	5	4	396	--	
S163	54-74	8	4	549	534	Also Anomaly 556
S164	40-46.5	3	2	--	--	
S165	26-54	6	5	--	--	
S166	101.5-115	5	3	--	--	
S167	67-88	6	4	--	--	
S168	46.5-67	7	4	--	--	
S169	46.5-54	6	2	519	--	
S170	40-54	7	3	--	--	
S171	40-60.5	5	4	709	--	
S172	46.5-54	5	3	574	?	Possibly also Anomalies 598 and 579 -- too far
S173	33-60.5	7	5	--	--	
S174	46.5-54	6	2	--	--	
S175	46.5-67	7	4	--	--	
S176	46.5-54	7	2	?	--	Possibly Anomaly 235 -- different depths
S177	26-33	6	2	--	--	
S178	26-40	6	3	--	--	
S179	33-67	6	5	--	--	
S180	33-40	9	2	--	--	
S181	46.5-54	5	2	125	?	Possibly also 130
S182	40-54	5	3	--	--	
S183	46.5-60.5	9	3	--	--	
S184	46.5-60.5	3	3	147	--	
S185	46.5-54	3	2	--	--	
S186	40-54	6	3	161	?	Possibly also Anomaly 137 -- different depths
S187	40-60.5	4	4	127	--	
S188	46.5-67	5	4	?	--	Possibly also Anomaly 097
S189	60.5-67	6	2	177	?	Possibly also Anomaly 203 -- different depths
S190	46.5-74	5	5	122	--	
S191	40-67	6	5	124	--	
S192	46.5-54	4	2	?	--	Possibly Anomaly 134 -- different depths
S193	46.5-54	6	2	--	--	
S194	46.5-54	4	2	--	--	
S195	46.5-74	6	6	--	--	
S196	46.5-60.5	6	3	?	--	Possibly Anomaly 333 -- different depths
S197	46.5-60.5	6	4	?	--	Possibly Anomaly 330 (may instead by S201)
S198	60.5-67	6	2	--	--	
S199	60.5-67	4	2	320	--	

Slice No.	Visible at Approx. Depths (cmbs)	Transects crossed	Appearance on no. of slices	Linked Radargram Anomaly	Linked Radargram Anomaly (secondary)	Radargram notes
S200	67-74	4	2	319	--	
S201	46.5-54	5	2	338	--	Possibly also Anomaly 330 (may instead be S197)
S202	33-46.5	4	3	?	--	Possibly Anomaly 331 -- different depths
S203	54-67	6	3	?	--	Possibly Anomaly 243 -- different depths
S204	67-81	5	3	--	--	
S205	46.5-54	5	2	329	--	
S206	46.5-54	5	2	--	--	
S207	40-60.5	5	4	555	--	
S208	40-60.5	7	4	678	696	
S209	40-46.5	6	2	?	--	Possibly Anomaly 601; different depths
S210	46.5-54	4	2	--	--	
S211	46.5-54	6	2	--	--	
S212	46.5-54	6	2	589	--	
S213	46.5-60.5	7	3	691	--	
S214	40-54	7	3	--	--	
S215	46.5-54	8	2	--	--	
S216	46.5-54	6	2	?	--	Possibly 440 -- could also be S069
S217	40-54	4	3	--	--	Artificial reading; picking up 004 and 005?
S218	54-60	7	2	020	--	
S219	54-67	8	3	--	--	
S220	54-67	5	3	--	--	
S221	54-60.5	6	2	--	--	
S222	54-60.5	7	2	067	?	Possibly also Anomaly 077 -- different depths
S223	46.5-60.5	5	4	--	--	
S224	54-60.5	6	2	--	--	
S225	54-60.5	6	2	--	--	
S226	54-67	8	3	--	--	
S227	54-67	6	3	--	--	
S228	46.5-74	5	5	?	--	Anom. 456 -- depths do not match
S229	46.5-67	4	6	561	--	
S230	46.5-54	3	2	590	--	
S231	46.5-60.5	4	3	--	--	
S232	46.5-60.5	7	3	692	--	
S233	54-60.5	5	2	684	--	
S234	54-60.5	8	2	695	713	Also Anomaly 687
S235	60.5-81	5	4	--	--	
S236	54-60.5	5	2	529	--	
S237	54-67	5	3	538	--	
S238	54-67	8	3	?	--	Possibly Anomaly 427 -- different depths
S239	54-60.5	5	2	--	--	
S240	60.5-81	6	4	?	--	Possibly Anomaly 358 -- different depths
S241	54-60.5	5	2	--	--	
S242	54-60.5	5	2	099	--	
S243	60.5-67	5	2	006	012	
S244	54-67	9	3	674	649	
S245	60.5-74	4	3	--	--	
S246	60.5-88	9	5	?	?	Maybe Anomalies 644 and 627
S247	54-81	7	5	--	--	
S248	54-74	5	4	--	--	
S249	54-67	5	3	--	--	
S250	54-74	8	4	--	--	
S251	54-67	5	3	?	--	Possibly Anomaly 297 -- different depth
S252	67-88	7	4	690	--	
S253	67-74	4	2	--	--	
S254	67-81	7	3	--	--	
S255	88-101.5	4	3	--	--	
S256	67-74	5	2	487	--	
S257	74-81	7	2	651	--	
S258	74-81	7	2	641	?	Maybe also 624 (different depth)
S259	81-88	8	2	639	--	
S260	88-101.5	6	3	--	--	
S261	67-74	4	2	?	--	Possibly Anomaly 686 -- different depths
S262	67-81	4	3	?	--	Possibly Anomaly 469 -- different depths
S263	60.5-74	4	3	--	--	
S264	67-74	4	2	--	--	
S265	67-74	7	2	304	--	

Slice No.	Visible at Approx. Depths (cmbs)	Transects crossed	Appearance on no. of slices	Linked Radargram Anomaly	Linked Radargram Anomaly (secondary)	Radargram notes
S266	67-81	5	3	--	--	
S267	67-81	7	3	312	--	
S268	67-95	7	5	168	--	
S270	60.5-108.5	5	7	036	037	
S271	67-81	4	3	--	--	
S272	60.5-74	4	0	?	--	Possibly Anomaly 187 -- different depths
S273	74-95	4	4	--	--	
S274	67-74	4	2	--	--	
S275	74-101.5	6	5	206	193	
S276	67-88	8	4	?	--	Possibly Anomaly 293 -- different depths
S277	81-88	10	2	?	--	Possibly Anomaly 275 -- different depths
S278	67-74	6	2	--	--	
S279	74-81	7	2	--	--	
S280	88-101.5	5	3	?	--	Possibly Anomaly 642 -- far
S281	95-115	6	4	?	--	Possibly Anomaly 636 -- different depths
S282	74-95	6	4	459	--	
S283	67-81	8	3	--	--	
S284	81-95	4	3	?	--	Maybe Anomaly 448
S285	81-88	5	2	401	--	401 not mapped properly
S286	74-88	7	3	--	--	
S287	74-88	6	3	--	--	
S288	74-88	6	3	--	--	
S289	74-88	5	3	480	--	
S290	74-81	5	2	--	--	
S291	74-108.5	6	6	496	--	
S292	81-95	4	3	--	--	
S293	81-101.5	5	4	--	--	
S294	60.5-88	8	5	--	--	
S295	74-95	5	4	?	--	Possibly Anomaly 359 -- different depths
S296	81-95	5	3	--	--	
S297	67-74	2	2	--	--	
S298	67-81	5	3	?	--	Possibly Anomaly 404 -- different depths
S299	74-81	3	2	--	--	
S300	74-81	3	2	--	--	
S301	74-81	8	2	?	--	Possibly Anomaly 180
S302	67-74	5	2	--	--	
S303	67-74	4	3	--	--	
S304	67-74	5	2	--	--	
S305	67-74	4	3	--	--	
S306	54-67	5	3	--	--	
S307	74-81	9	2	--	--	
S308	81-88	5	2	--	--	
S309	74-95	8	4	?	--	Possibly Anom. 645
S310	74-95	7	4	060	061	
S311	88-95	5	2	071	--	
S312	88-95	6	2	--	--	
S313	81-88	5	2	?	--	Possibly Anomaly 102 -- different depths
S314	88-101.5	4	3	--	--	
S315	95-115	5	4	--	--	
S316	101.5-115	5	2	--	--	
S317	81-101.5	5	4	--	--	
S318	67-81	6	3	--	--	
S319	81-88	4	2	--	--	
S320	81-101.5	5	3	--	--	
S321	81-88	4	2	--	--	
S322	81-88	4	2	?	--	Possibly Anomaly 103 -- different depths
S323	74-88	4	3	106	--	
S324	81-95	5	3	266	--	
S325	81-95	4	3	279	--	
S326	88-101.5	4	3	--	--	
S327	88-108.5	5	4	--	--	
S328	88-95	5	2	?	--	Possibly Anomaly 257 -- different depths
S329	88-95	5	2	--	--	
S330	88-95	4	2	166	--	
S331	88-101.5	4	3	--	--	
S333	81-95	6	3	?	--	Possibly Anomaly 292 -- different depths
S334	101.5-108.5	6	2	--	--	

Slice No.	Visible at Approx. Depths (cmbs)	Transects crossed	Appearance on no. of slices	Linked Radargram Anomaly	Linked Radargram Anomaly (secondary)	Radargram notes
S335	81-88	4	2	--	--	
S336	74-88	4	3	?	--	Possibly Anomaly 196 -- different depths
S337	88-108.5	6	4	?	--	Possibly Anomaly 209 -- different depths
S338	74-88	4	3	--	--	
S339	81-95	5	3	046	051	
S340	81-88	5	2	?	--	Possibly Anomaly 138 -- appear to be diff. graves
S341	81-101.5	8	4	044	047	
S342	81-101.5	6	4	--	--	
S343	88-108.5	6	4	--	--	
S344	115-135	6	4	--	--	
S345	95-108.5	8	3	--	--	
S346	101.5-108.5	5	2	--	--	
S347	88-95	3	2	--	--	
S348	81-115	6	6	--	--	
S349	88-122	5	6	--	--	
S350	88-95	4	2	?	--	Maybe 412 - different depths
S351	88-101.5	8	3	?	?	Maybe 447 - far away
S352	88-95	4	2	--	--	
S353	81	4	1	--	--	
S354	81-95	4	3	--	--	
S355	81-122	5	6	--	--	
S356	115-129	5	3	276	--	
S357	122-135	4	3	--	--	
S358	95-108.5	6	3	?	--	Possibly Anomaly 323 -- different depths
S359	88-108.5	7	4	246	--	
S360	101.5-115	4	3	?	--	Possibly 723 -- different depths
S361	95-135	7	7	717	--	Maybe 715 -- different depths
S362	95-101.5	4	2	--	--	
S363	88-115	2	6	--	--	
S364	60.5-74	4	3	663	--	Maybe also 673 but different depths
S365	101.5-122	3	4	724	--	
S366	81-95	5	3	--	--	
S367	88-115	7	5	--	--	
S368	81-101.5	6	3	--	--	
S369	88-108.5	5	4	--	--	
S370	95-108.5	4	3	--	--	
S371	95-101.5	6	2	--	--	
S372	95-108.5	6	3	--	--	
S373	95-101.5	5	2	?	--	Possibly Anomaly 535 -- different depths
S374	95-108.5	4	3	141	--	
S375	95-108.5	4	3	--	--	
S376	101.5-108.5	4	2	--	--	
S377	95-122	6	5	--	--	
S378	101.5-115	3	3	--	--	
S379	101.5-122	10	4	--	--	
S380	81-115	8	6	418	--	
S381	101.5-108.5	9	2	?	--	Possibly Anomaly 511 - different depths
S382	101.5-115	7	3	711	--	
S383	101.5-115	5	3	--	--	
S384	108.5-129	3	4	536	--	
S385	108.5-115	6	3	--	--	
S386	101.5-115	5	3	--	--	
S387	95-108.5	4	3	--	--	
S388	108.5-129	6	4	--	--	
S389	101.5-115	8	3	--	--	
S390	122-135	6	3	321	--	
S391	129-135	5	2	--	--	
S392	101.5-122	5	4	272	--	
S393	108.5-122	9	4	551	--	
S394	101.5-115	5	3	?	--	Possibly Anomaly 218 -- different depths
S395	108.5-115	5	2	--	--	
S396	129-135	9	2	?	--	Possibly Anomaly 140 -- different depths
S397	108.5-115	5	2	--	--	
S398	108.5-115	6	2	098	078	
S399	108.5-129	4	4	343	--	
S400	115-135	4	4	--	--	

Slice No.	Visible at Approx. Depths (cmbs)	Transects crossed	Appearance on no. of slices	Linked Radargram Anomaly	Linked Radargram Anomaly (secondary)	Radargram notes
S401	115-135	6	4	--	--	
S402	115-135	8	4	139	--	
S403	108.5-122	7	3	--	--	
S404	115-129	4	3	310	--	
S405	122-135	8	3	--	--	
S406	115-135	4	4	092	--	
S407	122-135	5	3	?	--	Possibly Anomaly 599 -- different depths
S408	122-135	5	3	?	--	Possibly Anomaly 512 -- different depths
S409	115-135	5	4	?	--	Possibly Anomaly 399 -- different depths
S410	122-135	4	3	--	--	
S411	122-135	3	3	151	--	
S412	115-135	9	4	190	--	
S413	122-135	5	3	332	--	
S414	101.5-129	6	5	--	--	
S415	40-46.5	7	2	--	--	
S416	67-74	6	2	--	--	

Figure I.1 – Slice anomalies, mapped and ranked by whether they appear on radargram profiles, including modern-day path through cemetery mapped via GPR

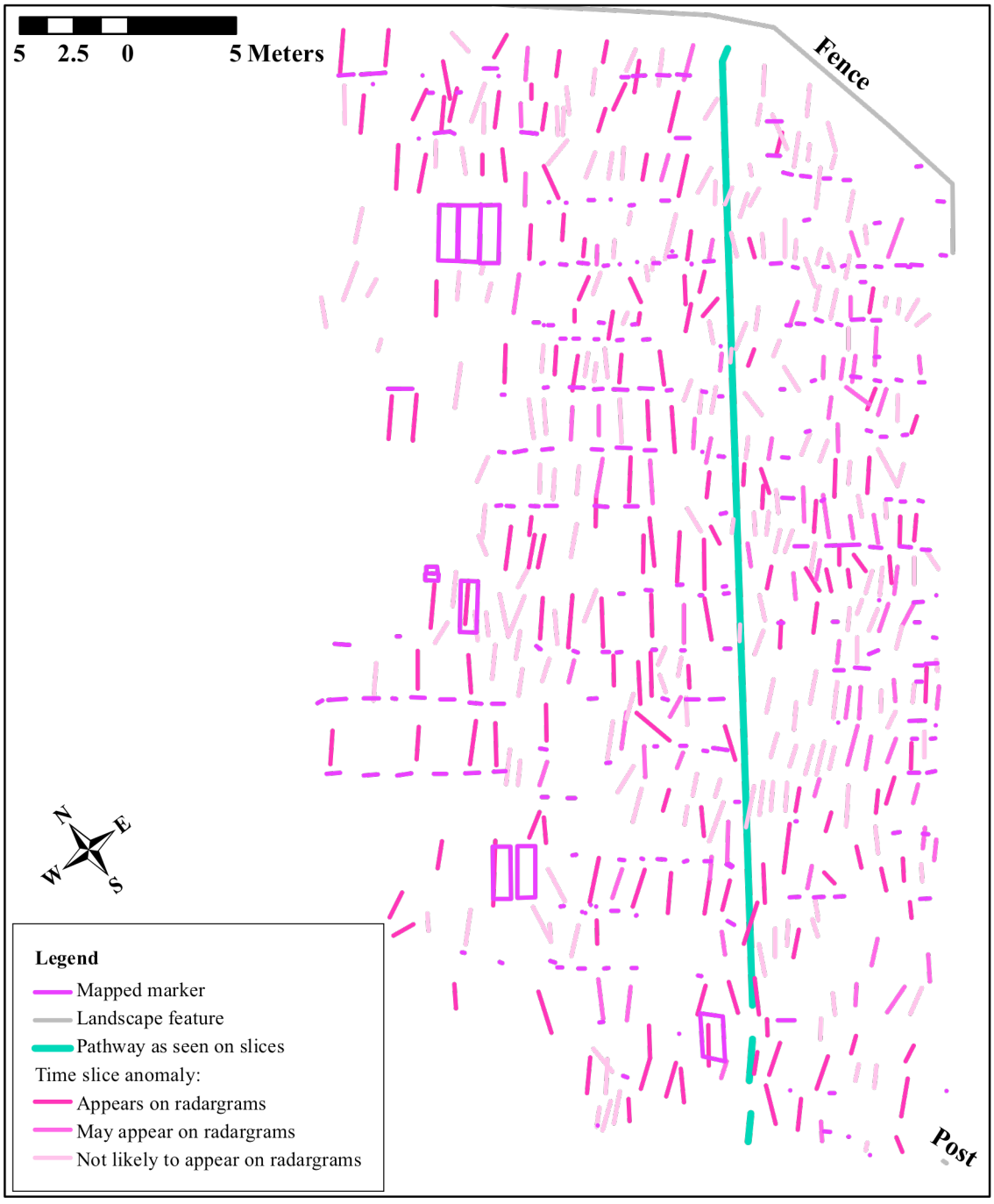
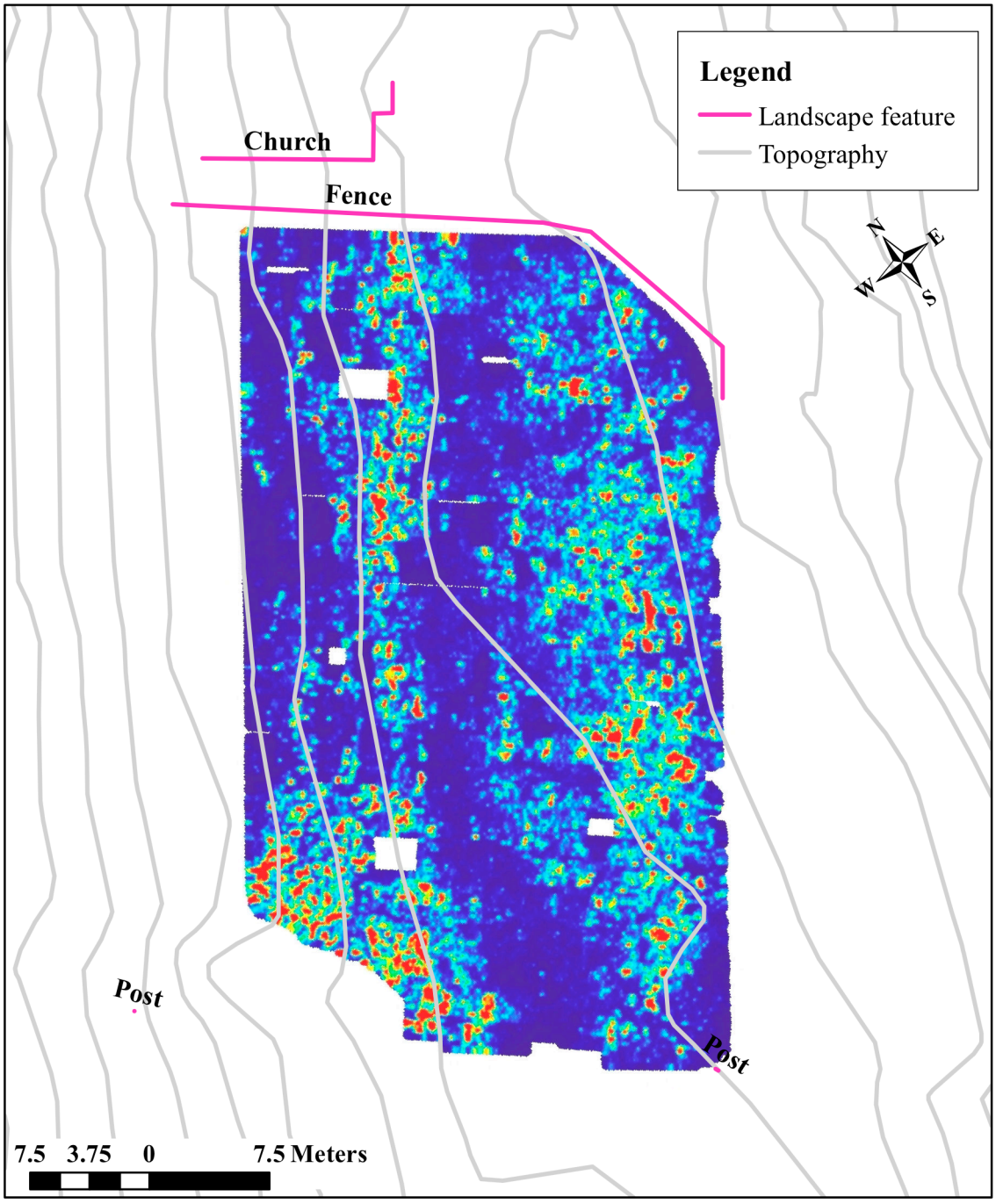


Figure I.2 – Time slice at 125-133cmbs possibly showing underlying geological strata and/or bedrock, with topographical overlay.



APPENDIX J:
PHOTOGRAPHS OF SOUTHERN POSTS

Figure J.1 – Southeast post (facing North)

Figure J.2 – Southwest post (facing East). Portion of fill pile is visible in extreme right of image

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