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Results of Archaeogeophysical Surveying at the Great Friends Meeting House in Newport, Rhode Island

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Results of Archaeogeophysical Surveying at the Great Friends Meeting House in Newport, Rhode Island

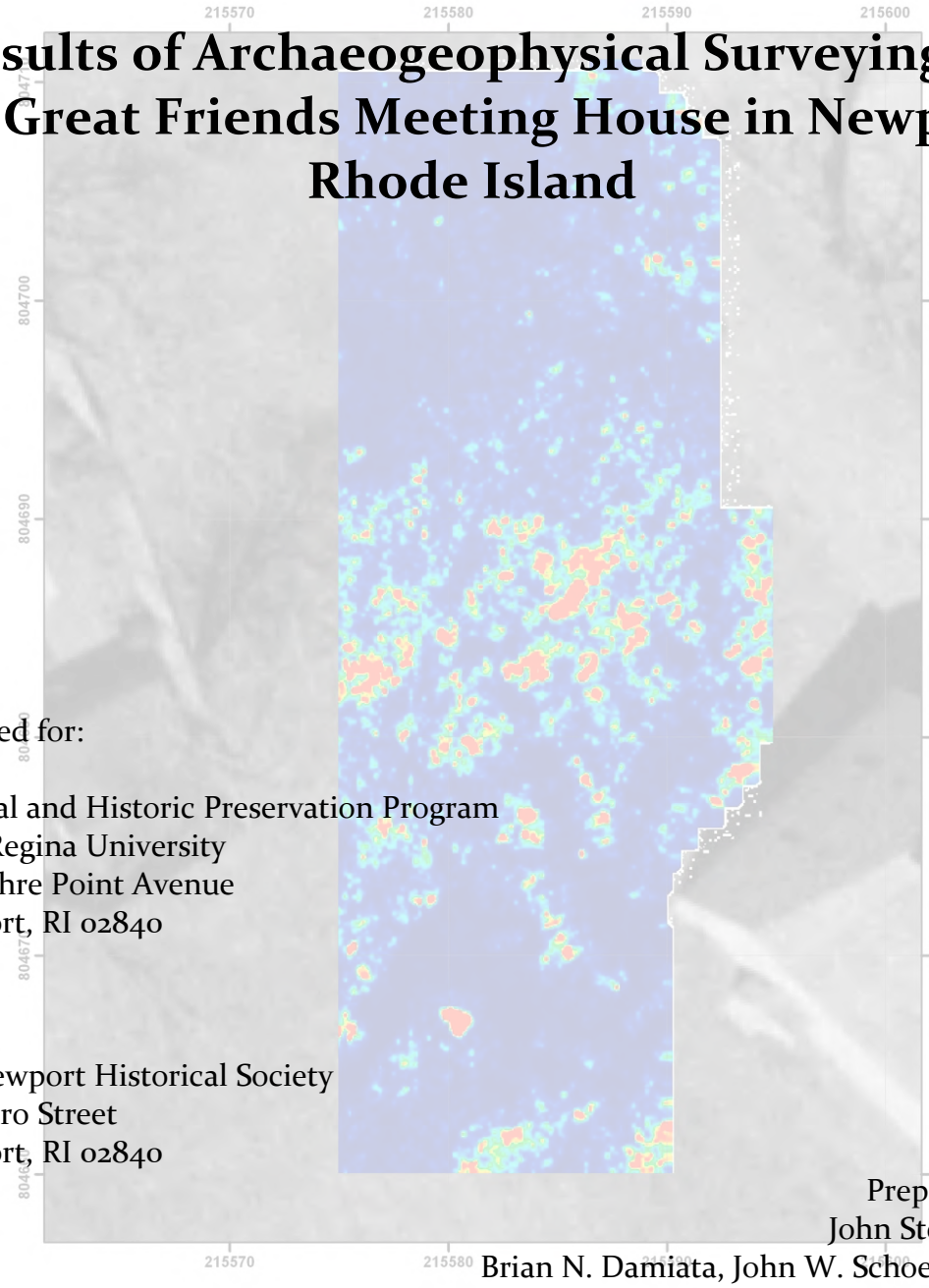

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Table of Contents

List of Figures

List of Tables

Fiske Center for Archaeological Research

The Andrew Fiske Memorial Center for Archaeological Research at the University of Massachusetts Boston was established in 1999 through the generosity of the late Alice Fiske and her family as a living memorial to her late husband Andrew. The Fiske Center was formally known as the Center for Cultural and Environmental History.

As an international leader in interdisciplinary research, the Fiske Center promotes a vision of archaeology as a multi-faceted, theoretically rigorous field that integrates a variety of analytical perspectives into its studies of the cultural and biological dimensions of colonization, urbanization, and industrialization over the past thousand years in the Americas and the Atlantic World. Intellectually the Center staff is committed to building a highly integrated archaeology that embraces the multiplicity of methodological and theoretical approaches the field offers. As part of a public university, the Center maintains a program of local archaeology with a special emphasis on research that meets the needs of cities, towns, and Tribal Nations in New England and the greater Northeast. The Fiske Center also seeks to understand the local as part of a larger Atlantic World.

Acknowledgements

James Garman and Catherine Zipf arranged for this work on behalf of Sarah Schofield, as part of her honors thesis in Culturel and Historic Preservation at Salve Regina University. The work was permitted by Ruth Taylor, Executive Director of the Newport Historical Society. John Steinberg obtained the GPS (Global Positioning System) points. John Steinberg, Sarah Schofield, Catherine Zipf and James Garman specified the location and position of the survey grid. John Schoenfielder mapped the surface features and set out the corners of the survey grid. Brian Damiata, Kathryn Catlin, Christine Campbell, Sarah Schofield, and John Steinberg carried out the archaeogeophysical surveys. John Steinberg and Brian Damiata are responsible for the quality control of the survey interpretation of the data.

None of the suggestions or recommendations in this report should be construed as geological interpretations (although Brian Damiata is a licensed geophysicist in the State of California). Rather, these are archaeological interpretations of shallow geophysical data, in reference to previous excavations whenever possible. The interpretations presented herein should be ground truthed with targeted archaeological excavations. The interpretations and assessments are the responsibility of John Steinberg.

Abstract

Archaeogeophysical surveys were carried out in October 2010 over a 30 x 50 m grid that was established immediately to the north and west of the north end of the Great Friends Meeting House (GFMH) in Newport, RI. The surveys were conducted using a Geonics EM-38 RT ground conductivity meter and a Malå X3M Ground Penetrating Radar (GPR) system that was equipped with 500 and 800 MHz antennas. In addition, a resistance survey was performed over a much smaller central area using a Geoscan RM15 resistance meter. From this work three types of geophysical anomalies have been identified: those associated with individual features, structures, and graves. There may be one large structure to the north of the GFMH with a similar alignment. Forty-two anomalies were identified that are consistent with graves. There are many more anomalies that have not been specifically interpreted as graves because they did not meet enough of our criteria but may indeed be graves. We recommend that additional archaeogeophysical surveys be performed as well as a series of follow-up excavations to ground truth the interpretations.

Introduction

There has been an unreported series of excavations near the northern end of the Great Friends Meeting House (GFMH; Figure 1). Recollections suggest that several bodies had been excavated near the north end and perpendicular to the long dimension of the GFMH. Could there be significant geophysical anomalies around the GFMH that are consistent with graves? If so, how many interments could there be and what is the spatial extent covered by them?

In an attempt to non-invasively assess the number and extent of the unmarked graves, in the middle of October 2010, we applied Ground Penetrating Radar (GPR) and electromagnetic (EM) geophysical methods to the area north and west of the GFMH, as these two methods are commonly used to detect graves (e.g., Bevan 1991). Additionally, Sarah Schofield under the guidance of James Garman, collected ground resistance data over a smaller central section of the region.

GPS & Total Station

When preforming archaeogeophysical surveys, quality control (QC), is critical and involves constant attention to instrument calibration, consistency in use, and instrument recording location. We find that the most important QC parameter is the accuracy of the geophysical survey grid. Geophysical readings must be associated with a very specific location that is accurate and reproducible for the readings to be useful. Slight differences between the actual location of a geophysical reading and the coordinate assigned during survey can weaken or eliminate archaeogeophysical signatures. Inaccurate surveying can also create anomalies where there are none. The effects of inaccurate surveying are magnified when the data is post-processed and filtered.

In anticipation of the geophysical survey, we established three Global Positioning System (GPS) points using a Trimble GeoXH with a Zepher antenna. At each location over 600 readings were collected (in three groups of 200 at 5-second intervals) to establish the point. These 600+ readings were then averaged (Table 1). Two of the GPS points (Fairwell & Marb) were accurate enough to be used as resectioning points for the subsequent land surveying which used the Topcon GPT9005 robotic total station, that was set up midway between these two GPS points. The two points were then remeasured and now serve as semi-permanent benchmarks on the Massachusetts State Plane system. These points are described in Appendix 2 and shown in Figure 2.

We use the Massachusetts State Plane coordinate system because the Rhode Island State Plane system is only in feet and we prefer to work in meters. The Massachusetts State Plane system, as applied to Rhode Island in general and Newport in particular, is more than accurate enough for our purposes.

With benchmarks established, significant features in the yard were measured (e.g., trees, steps, fences). A larger scale topographic grid was established over the entire yard with points measured in at least every 5 meters (m). In areas of significant relief, such as close to the house, the topographic points were measured closer together (see Figure 3). These points are listed in Appendix 2.

Using the Massachusetts State Plane, we established a geophysical grid between East 215570 to East 215600 and North 804660 to North 804710. Within this 30 x 50 m area, PVC flags were positioned with the Topcon GPT9005 every 10 m whenever possible. Along the northern and southern sides of this grid, a measuring tapeline was laid and PVC flags of various colors were placed at integer meter points of the grid. Every even meter, odd meter, 5 m, and 10 m location had a specific color. These colored flags were used as endpoints for the north-south transects traversed in the archaeogeophysical surveys. In general, we refer to coordinates within the GFMH area using the last three digits of the Massachusetts State Plane system. If no cardinal directions are specified, the order is East, North, and Elevation (X, Y, and Z). Note that none of the archaeogeophysical surveys that were performed (GPR 500, GPR 800, EM-38, & resistivity) surveyed exactly the same area, but all focus on the areas to the north and the northwest of the northern end of the current GFMH.

Archaeogeophysics

Archaeogeophysics is the application of non-destructive geophysical methods and principles to archaeological settings. More specifically, archaeogeophysics involves the interpretation of geophysical signatures (anomalies) that may be due to buried archaeological sites and features. In some cases, archaeological features, subsurface geology, graves, and sometimes artifacts and ecofacts can be located and partially analyzed based on their geophysical signatures. Shallow geophysical surveying has been particularly useful in understanding landscape features such as gardens (Cole, et al. 1997; Yentsch and Kratzer 1994) and cemeteries (Jones 2008; King, et al. 1993) that cover a large area and cannot be completely excavated.

Archaeogeophysics is not an exact science. We have found that small differences in the environment (e.g., soil moisture, surface cover, changes in ambient temperature) can affect geophysical measurements, and therefore change the nature and shape of the interpreted geophysical anomalies. A geophysical anomaly is a general term for any area that exhibits a significantly different change in measurement, and therefore change in the physical property that is being measured, as compared to the surrounding environment. Defining an anomaly, however, is subjective. In addition, the causes of an anomaly can be either natural (such as a glacial erratic) or artificial (such as a wall). Determining the cause of an anomaly can be difficult.

In archaeogeophysics, the choice of methods, equipment, and field procedures can have as much or more of an effect on the detection of archaeological features as the contrasts between the features and the surrounding matrix (Pomfret 2006). Because the work is non-destructive, surveys can, and usually are, performed multiple times with slightly different parameters in order to obtain the best results (Kvamme 2006; Kvamme, et al. 2006; Watters 2009).

In general, interpretations based on archaeogeophysical data should be ground truthed through archaeological excavations. Even small excavations of targeted geophysical anomalies can greatly enhance the overall accuracy of the interpretations. Similarly, the archaeogeophysical interpretations can help to guide the efficient placement of excavations. The reflexive use of archaeology and geophysics can establish a local geophysical signature for an archaeological feature. That is, when archaeological investigations are in a feedback loop with geophysical surveys we can turn a geophysical anomaly into an archaeological signature.

In some cases, important archaeological features may not produce a sufficient geophysical contrast with its surroundings to be detected with the methods and post-processing techniques applied herein. The detection of archaeological features depends on the measurable contrast produced between the background subsurface characteristics and the archaeological features. The detectability is a function of size, geometry, depth, and contrast. A given archaeological feature in one environment may not be detectable in another environment. By collecting a series of profiles we assess whether there is any geometry associated with an anomaly and then make an interpretation as to whether the cause is natural or could be an archaeological feature. Sometimes, contrasts between archaeological features and the surrounding environment will show up with one method and may not show up in another. The use of multiple geophysical methods that measure different physical properties of the subsurface may mitigate this problem. Sometimes more accurate archaeogeophysical interpretations can be made when an anomaly only manifests itself with one geophysical method. However, anomalies that manifest themselves in multiple methods are usually substantial.

Archaeological interpretations based only on geophysical results have their limitations. While some anomalies are much more suggestive than others, there are no characteristic anomalies per se (i.e., different types of features can produce an identical geophysical signature) The most “accurate” interpretations are those that take into consideration the archaeological context, the geophysical context, any previous information from excavations, and comparisons with similar anomalies where those anomalies have been excavated at other sites with similar conditions. Given these parameters, we make the most accurate and specific archaeogeophysical assessments we can.

Ground Penetrating Radar

Ground Penetrating Radar (GPR) has become The Fiske Center's principal archaeogeophysical method for high-resolution mapping of buried architecture (Neubauer, et al. 2007), cultural deposits (Goodman, et al. 2008; Goodman, et al. 2007), and graves (Doolittle and Bellantoni 2010). In the method, an antenna/receiver unit pulses microwaves energy as it is towed along the ground surface. At interfaces that exhibit significant contrasts in dielectric constant—an electromagnetic property—some of the energy will be reflected back to the receiver. The longer it takes for the microwaves to return, the deeper the reflector (all other factors being equal). The more energy a feature sends back, the "stronger" the reflection. Buried flat rocks, laying parallel to the ground, are some of the strongest microwave reflectors. Conversely, the presence of saline soils will absorb the energy and limit depth of penetration (Goodman and Conyers 1997). Therefore, assuming a deposit is non-saline, the reflected pulse contains information about the nature of the reflectors over a variety of depths (Conyers 2005). In general, the deeper the target, the more difficult it is to detect and the lower the resolution of the feature.

The strength and time lag of the reflected microwave energy can be plotted to create a pseudo-profile of the intensity of reflectors over the depth, which is called a Radargram. These can be seen in Figure 62 through Figure 67. In these figures the black and white bands are the amplitude of the reflected energy (black is the positive and white is the negative part to the wave). As the depth increases, the area that receives and reflects the microwaves becomes larger, and therefore, the signals reflected back to the receiver become even weaker. The raw data are typically gained to increase the strength of the signals from the lower parts of the radargram. A series of these pseudo-profiles can then be combined and "sliced" at a given depth to create a plan view of the subsurface reflections. The slices use the squared amplitude of the wave, making the positive and negative aspects of the microwave look the same.

In general, the northeast has good suitability for GPR (Doolittle 2009) and Newport should have good soils for application of the method. However, the proximity to the sea of the GFMH may mean some attenuation of the GPR signal due to salt. However, the relatively low apparent ground conductivity measured in the EM survey (avg. of about 11 mS/m) would suggest relatively little salt in this area. Clay can also cause problems for GPR, but the soils around Newport are high in sand and silt.

For the present study, we collected the GPR data using a Malå X3M control unit equipped with 500 and 800 MHz shielded antennas. The radargrams from the 500 MHz antenna yielded more useful information than the 800 MHz and it is the

former that we have used primarily for analysis. Good reflections were recorded from interfaces and features over 2.1 m below the ground surface (bgs) using the 500 MHz antenna and 90 cm bgs with the 800 MHz antenna. For both GPR surveys, transects were spaced 20 cm apart across the survey grid and were traversed unidirectionally. The radargrams were processed with GPR-Slice software (see www.GPR-slice.com), using 7 cm slices every 3.5 cm for the 500 MHz data (60 slices over 2.11 m) and 6.5 cm slices every 4.7 cm for the 800 MHz data (19 slices over 90 cm). In both cases, this provides significant overlap and continuity between slices, yet gives good resolution (all of these are available on the attached CD). The raw data is contained in the enclosed CD and can be re-sliced at other depths and thicknesses. In general, this reports only utilizes every other slice.

Electromagnetics

The Geonics EM-38 ground conductivity meter emits an alternating current and measures the strengths of the resulting direct primary magnetic field as well as the secondary magnetic fields that are generated within the ground (Dalan 1991; McNeill 1980; Tabbagh 2009). The instrument measures apparent ground conductivity (in units of milliSiemens per meter, mS/m) that is a function of bulk ground conductivity. The instrument does not need to be in direct contact with the ground, and therefore, can be used on rough and undulating terrain. The 1-m coil separation provides for a relatively shallow depth of investigation (< 1.5 m) and therefore good resolution of changes in apparent ground conductivity close to the ground surface.

We used an EM-38 RT that was manufactured in 2001 and retrofitted for temperature compensation by Geonics Ltd. in December of 2009. This modification reduces the sensitivity of the unit to changes in temperature caused by changes in sun, shade, or ground heat. However, some conductivity changes may be a response to taking readings with different ambient temperatures.

The EM-38 RT can also yield the In-Phase component (IP) in parts per thousand. The IP readings are similar to those of a metal detector and can be thought of as a field measure of magnetic susceptibility. Unfortunately, the particular model of the EM-38 that we employ (RT) can only record one component at a time. At the GFMH, we chose to record apparent ground conductivity in hopes of identifying changes in conductivity associated with burial shafts. We suggest performing a similar survey with the EM-38 and recording the IP component instead.

In general, clays and salty soils, especially those associated with middens, tend to be conductive. Sandy soils, rocks, dried turf, and especially stonewalls tend to be low conductivity (i.e., resistive) anomalies. By mapping these contrasts through a series of closely spaced transects, buried and subsurface features can be identified if they exhibit sufficiently different conductivity from the background.

During the EM-38 survey, intermediate base-station readings were taken to check for instrument drift. The base station was established at E 990, N 680. In addition, a quality control (QC) line was established east-west at the N 680 line and could be used to tie in all of the north-south transects. This perpendicular transect was run before and after the survey. The repeatability of the QC data indicates that the survey was accurate and reproducible under similar conditions. The results presented in Figure 5 have not been filtered or smoothed, nor has the small offset in the data been accounted for.

For the survey, apparent ground conductivity readings were recorded every 5 cm along north-south transects that were spaced 20 cm apart. The transects were traversed in a unidirectional manner. The apparent ground conductivity ranged from -449 to +109 mS/m, with negative values due to the presence of buried pieces of metal. The average value is 11.6 mS/m with a SD of 14 mS/m. Most of this variation seems to be due to the metal (which cause huge positive and negative swings), possibly associated with a structure (Figure 5). The range of apparent ground conductivity relevant for the identification of non-metallic archaeological features is from 2 to 25 mS/m (Figure 6).

The results of the conductivity survey were not conclusive. Even with dense recording and tightly spaced transects, we are not able to detect individual graves. However, the data does suggest a graveyard area consistent with the overall spatial extent of graves as identified in the GPR (Figure 30). The general grave area is indicated by a more variable series of slightly conductive areas marked in blue (about 17 mS/m). This suggests that the apparent ground conductivity of disturbed graves is higher than the surrounding intact soil.

Resistivity

The resistivity method measures how well the soil conducts electricity by injecting a direct current through a pair of electrodes and measuring the Earth's response through a second pair of electrodes. The resistivity of the subsurface is a function of soil moisture, soil texture, concentrations of salts, and presence of ferrous material. Wet soils with a high clay content and high salt levels provide very good conductive mediums whereas dry rocky and sandy soils are poor conductors.

The resistivity method is good for assessing resistive targets in a conductive environment (Gaffney and Gater 2003; Hargrave, et al. 2002; Kvamme 2006; Linford 2006). For example, resistivity is practical for identifying stone walls in wet clay soil. Resistivity can specifically identify graves if the body, grave, or grave shaft has affected the electrical properties of the soil (Hesse 2009; Jervis, et al. 2009). Resistivity has been shown to identify burial shafts when using an electrode spacing of 0.5 m spacing (Ellwood 1990). For the present study, Sarah

Schofield (a student at Salve Regina University) under the guidance of James Garman employed a Geoscan RM15 resistance meter and collected the data. A current-potential spacing of 0.5 m was used, with one set of electrodes remotely spaced more than 30 m away. Note that the unit provides a measurement of resistance (units of ohms) as compared to the conventional resistivity method (units of ohms-m).

There appears to be little correspondence in the resistance data compared to the graves as interpreted with the GPR data (see next section). Grave shafts (the soil put back into the shaft) can be either resistive or conductive targets even within the same cemetery (Jones 2008:29). Based on the admittedly disappointing results from the EM-38, we suspect that the grave shafts might be marginally more conductive than the surrounding intact soil and therefore resistance may not be the best method to detect graves at the GFMH. Although the general northeastern trend of the data follows the same orientation of graves as interpreted with the GPR data (Figure 8), the correspondence between the two data sets is weak.

Interpretations

Features

Most of the interpretive features are located in the northern and northwestern portions of the surveyed area. No obvious utilities were detected but there may be a few deep pipes. Important and obvious features include the parking pad, tree roots, metal pieces, a buried surface, associated foundations, a well, and a path. The survey was not designed to delineate these suggested features, and therefore the extent of them may not be completely surveyed.

The main feature that may have some effect on the detection of other features is the stone parking pad in the northeast. This feature is visible in both the electromagnetic (EM) data and the upper slices of the GPR data. It also may affect the lower slices by causing an offset of the slices.

Northwest of the grave field is a possible structure. This feature is best observed in the 500 MHz slices. The combination of a buried surface and shallower linear features that surround it probably make up part of a structure of some sort, and it will be described as such hereafter. The foundation shows up in slice 8 (24-32 cm bgs, Figure 18) and is strongest in slice 14 (39-46 cm bgs, Figure 24). The southern part of the foundation area has a particularly strong east-west linear feature that may be a part of the foundation or an altogether different feature (or even tree roots). This feature can be seen best on slice 6 (18-25 cm bgs, Figure 15 & Figure 16). Additionally, parallel to the southern part of the foundation, there may be a tree root or possibly a non-metallic pipe (slice 4, 10-18 cm bgs, Figure 13 & Figure 14) that is labeled as “Tree root”. The buried surface shows up at slice 14 (46-53 cm

bgs, Figure 23 & Figure 24) and is strongest at slice 16 (53-60 cm bgs, Figure 25 & Figure 26). We tentatively interpret this to be a subsurface floor surrounded by a foundation wall. There may be some pieces of metal associated with structure that are clearly evident in the EM data (labeled Metal in Figure 6).

There is also part of a path or some utility which the southeastern part of the survey area just intercepted the corner. This anomaly is labeled "Path" and is first seen in slice 22 (74-81 cm bgs, Figure 32) in the 500 MHz data and is clearly visible in slice 30 (107-110 cm bgs, Figure 43). This same anomaly is also visible on the deepest slices of the 800 MHz data (slice 19, 84-90 cm bgs, Figure 60). In the southern part of the survey area is a feature labeled "Well." This is one of the strongest, most consistent, and deepest anomalies that was encountered. It first shows up in the in slice 15 (66-73 cm bgs, Figure 57) of the 800 MHz data and in slice 17 (75-81 cm bgs,) of the 500 MHz data. Slice 17 is not presented in the figures but the same anomaly can be seen in slice 18 (Figure 27 & Figure 28).

Possible, but unlabeled features include some sort of buried surface just to the west of the grave field that occurs at depths of 60-73 cm bgs (Figure 57) in the 800 MHz data. Because this does not show up particularly well in the 500 MHz data, we have not labeled it. Also, on the deeper 500 MHz slices, there are two strong deep anomalies located 12 m north and northeast of the well (e.g., see Figure 47, Figure 53, and Figure 55). The nature of these strong deep reflectors is not known and they do not appear higher up in the sequence. There also may be several deep pipes, which are not labeled on the slices but can be identified in the radargrams (e.g., Figure 66)

Graves

Quaker graves are a difficult class of burials to detect (Bromberg and Shephard 2006). GPR can be a very effective method for detecting graves when general conditions are suitable for use of the method (King, et al. 1993).

Stronger reflectors that arise from the coffin, the body, and the shaft itself will generally suggest burials. Breaks in the soil stratigraphy and the corresponding grave shaft fill can also be identified (Jones 2008). In addition, either the sides or the bottom of the pit can sometimes be detected if the pit has cut through and disturbed preexisting soil layers (Conyers 2006a:154). Void spaces (e.g., air pockets) from relatively intact coffins and possibly the skull and chest cavity (Hammon, et al. 2000) are potential targets but bones are usually too small to be detected at any depth (Doolittle and Bellantoni 2010). Therefore we use any of several possible interfaces to create reflections in GPR data: the vertical grave shaft against the undisturbed soil around it; the interment itself against the backfill of the grave shaft; and any void spaces against the grave shaft and its backfill (e.g., Conyers 2006b; Dionne, et al. 2010).

The orientation of the individual feature reflections is important for identifying graves. Most obvious in Christian cemeteries is a consistent east-west orientation (Fiedler, et al. 2009). At the GFMH the graves seem to be perpendicular to the long dimension of the Meeting House. Therefore, if GPR survey is performed perpendicular to the long axes of the graves, each burial should be identifiable across several radargrams. In particular, we look for anomalies that appear on multiple transects that would create a 1.2-2.2 m long and 0.4 m wide deep strong reflector that would result from the remains of the casket or box (Hammon, et al. 2000).

The geometry of a group of reflections is also important for identifying graves. Most importantly, a linear sequence of separated reflections may imply a series of graves. In particular, multiple anomalies separated by a meter or so are a strong indication of burials. Between deep strong reflections there can be strong near-surface reflections that result from foot traffic between graves (Fiedler, et al. 2009). All of these geometric possibilities are considered when interpreting the existence and the location of graves.

Because of the complexity of this grave field, we have only identified the most obvious graves. This means that we have identified the deeper larger burials (or at least larger grave shafts) and those with the most intact coffins. Therefore, we have not identified shallower, smaller, and degraded graves. By concentrating on the most obvious graves, we have been able to outline the burial area and suggest a general orientation for the more robust graves. This is a conservative approach to grave identification.

In total, 42 potential graves have been identified within a very well confined area (see Table 2). These selected anomalies are very good candidates, satisfying several criteria for graves. We have omitted many shallower anomalies in that region that are possibly graves. Many of these are just north of the western corner of the GRMH and can be seen in slice 6 (18-25 cm bgs, Figure 15 & Figure 16). The graves that have been identified and numbered generally begin to appear on slice 18 (60-67 cm bgs, Figure 27 &Figure 28) and are most clear on slice 22 (74-81 cm bgs, Figure 31 & Figure 32). These graves show a strong linear anomaly over multiple slices. Furthermore, all of the identified graves have either a break in the surface or a phase change in the lower strong reflector. Even with this conservative approach (each identified grave must have at least one distinct grave characteristic beyond the geometry) the general burial area becomes apparent.

Most of the identified graves are northwest of the northwestern wall of the GFMH and are oriented with respect to the alignment of the wall. These graves are specifically labeled in the annotated radargrams (Figure 63 through Figure 67). Graves 1 through 5 have good signals but their location seems to be separated from

the bulk of the other graves. Also separated out are graves 36-39 and 41, which present good signals, but they are not quite as strong as graves 1-5. The separation of these graves could be an artifact of the grid configuration and the presence of the parking pad. Figure 61 shows an overlay (Goodman, et al. 2008) where all of the strongest reflectors from 63 to 99 cm bgs are presented in one image.

Recommendations

The archaeogeophysical results from the Great Friends Meeting House have provided useful information, and we suggest that more surveys and small targeted excavations be performed. Specifically, we recommend three more surveys. GPR survey using the 500 MHz antenna and with transects oriented east-west should be conducted over the grave shaft area to better delineate the buried surface and associated foundations. We also recommend an EM-38 survey over the same area but recording the IP component along unidirectional transects spaced every 20 cm. This survey might detect individual grave shafts and would provide a complementary dataset that could be compared with the GPR results that have been presented herein.

Assuming that the nature of the foundation and buried floor surface is not documented elsewhere, we also think it very important to perform a GPR survey over this area. The present survey was designed to detect graves and therefore was not focused on possible structures located to the northwest of the grave field. We suggest a complete survey over a larger area (e.g., 50x50 m). This will ensure that the entire structure and its surroundings are captured.

Finally, we recommend that after the above surveys have been performed and results examined, that a series of exploratory archaeological excavations into the major anomalies be carried out. These excavations should be placed so as to crosscut the major anomalies that have been identified.

Figures

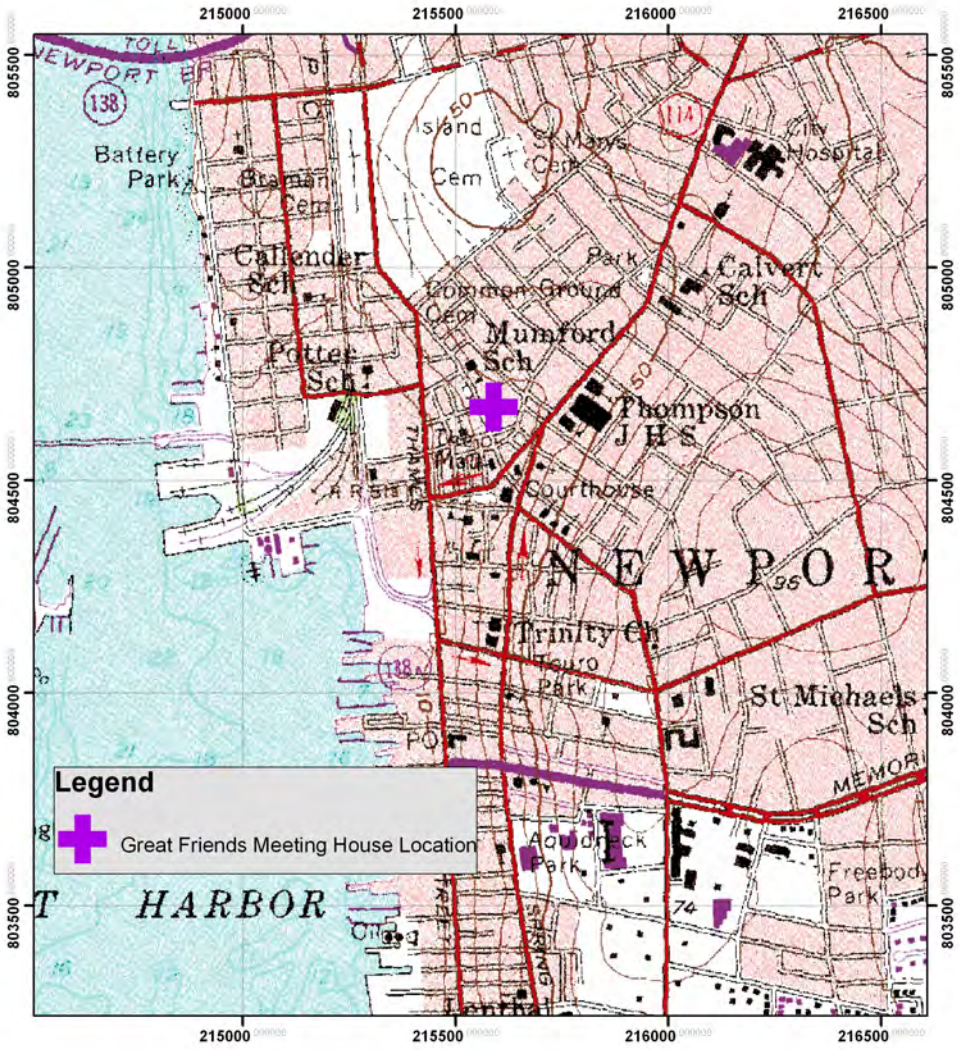

Figure 1. Location of the Great Friends Meeting House.

Figure 2. 2008 georefrenced air photo.

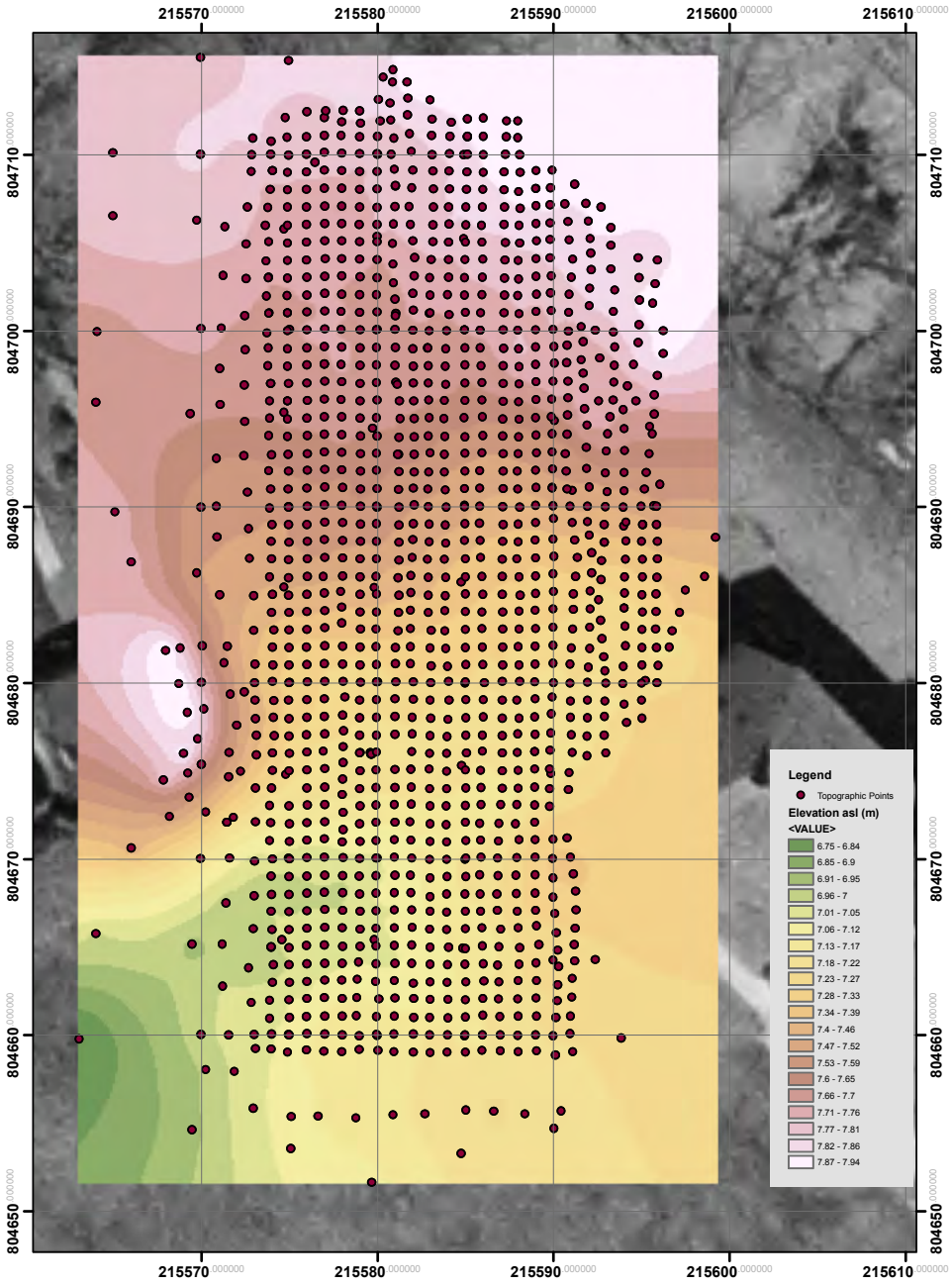

Figure 3. Topographic points.

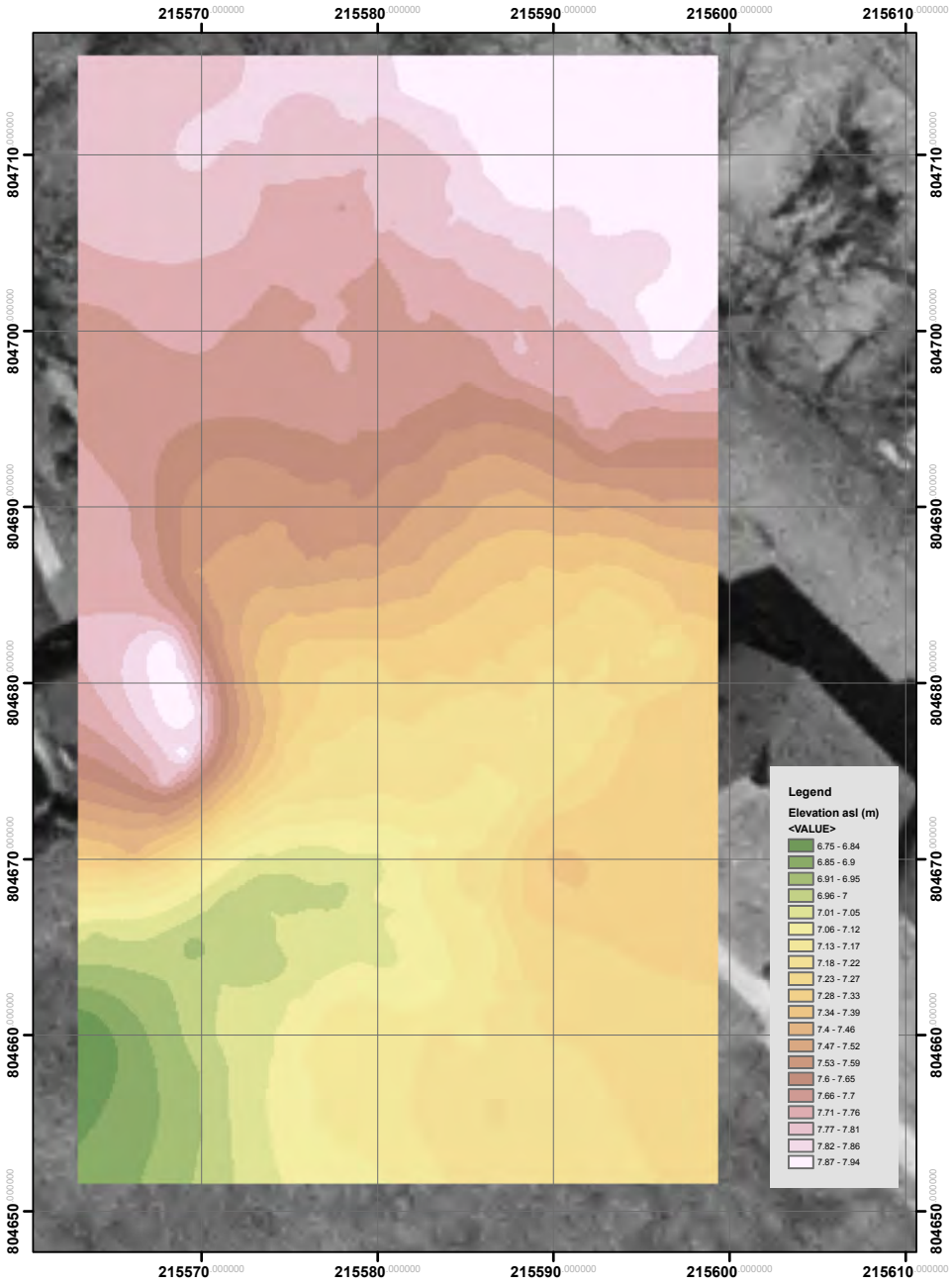

Figure 4. General Topography.

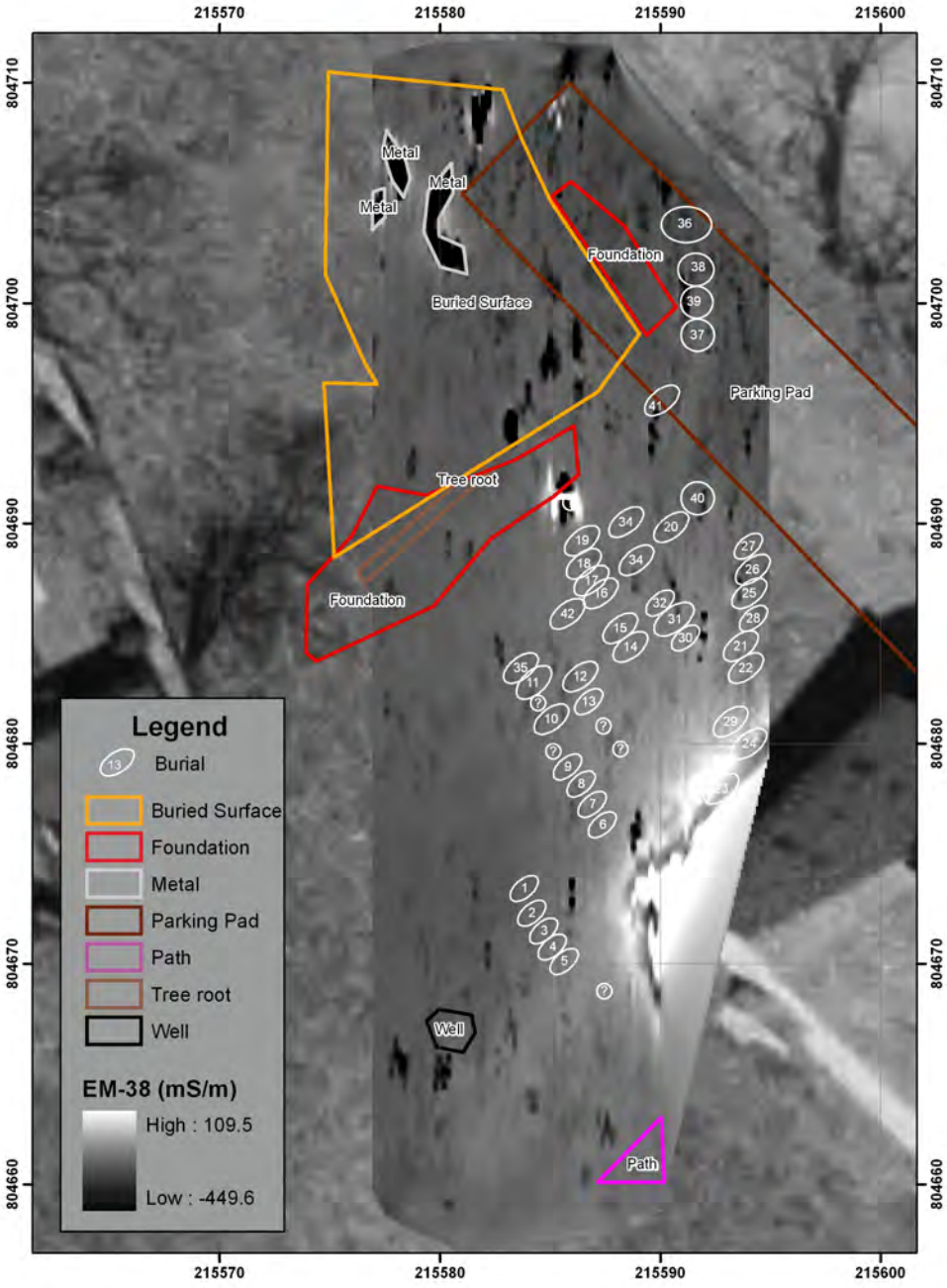

Figure 5. Apparent ground conductivity readings (Q) in black and white scale.

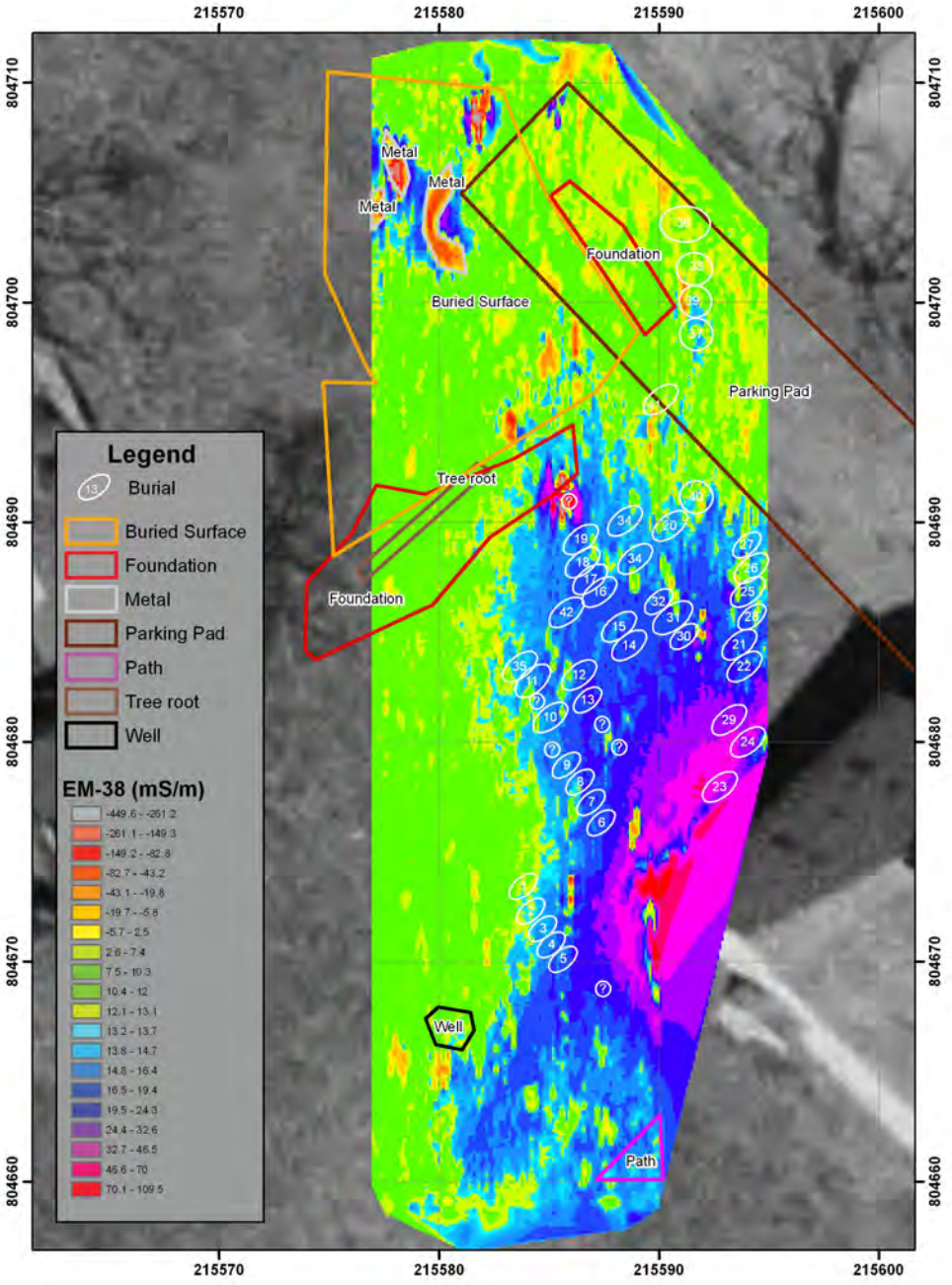

Figure 6. Apparent ground conductivity readings in color scale.

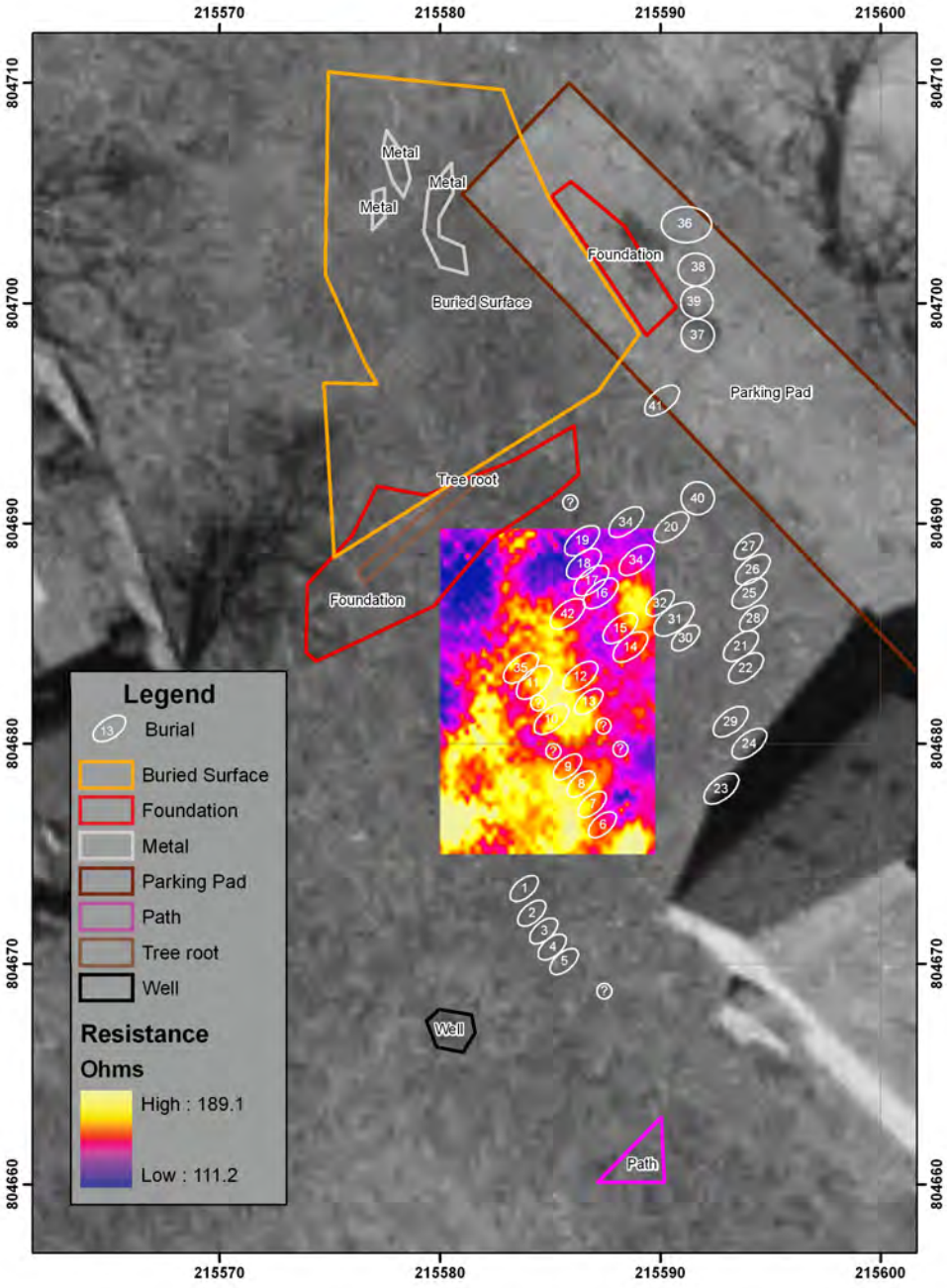

Figure 7. Resistance in color scale (ohm) showing graves and other features identified in GPR.

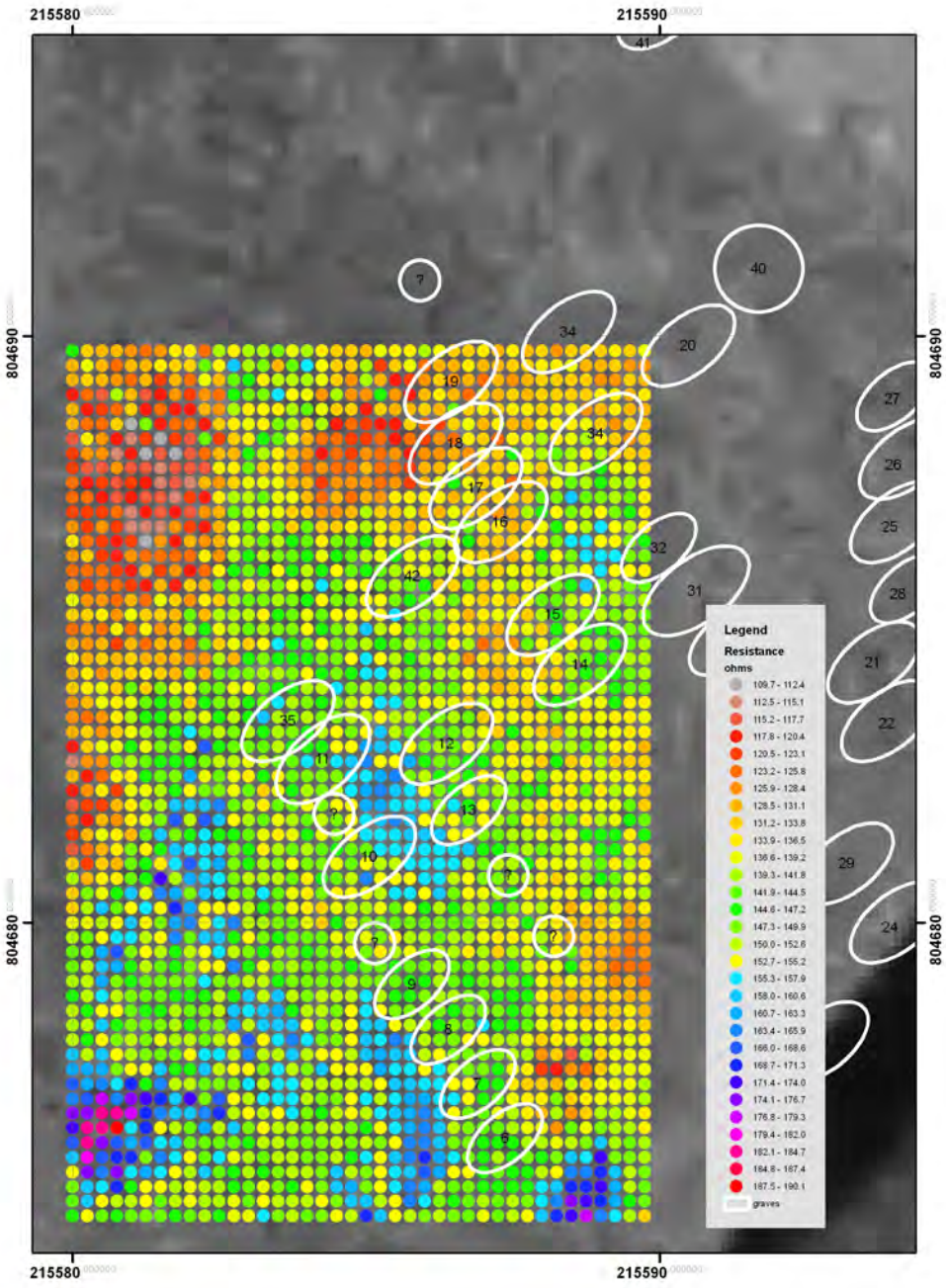

Figure 8. Close up showing resistance in color scale (ohm) showing graves identified in GPR.

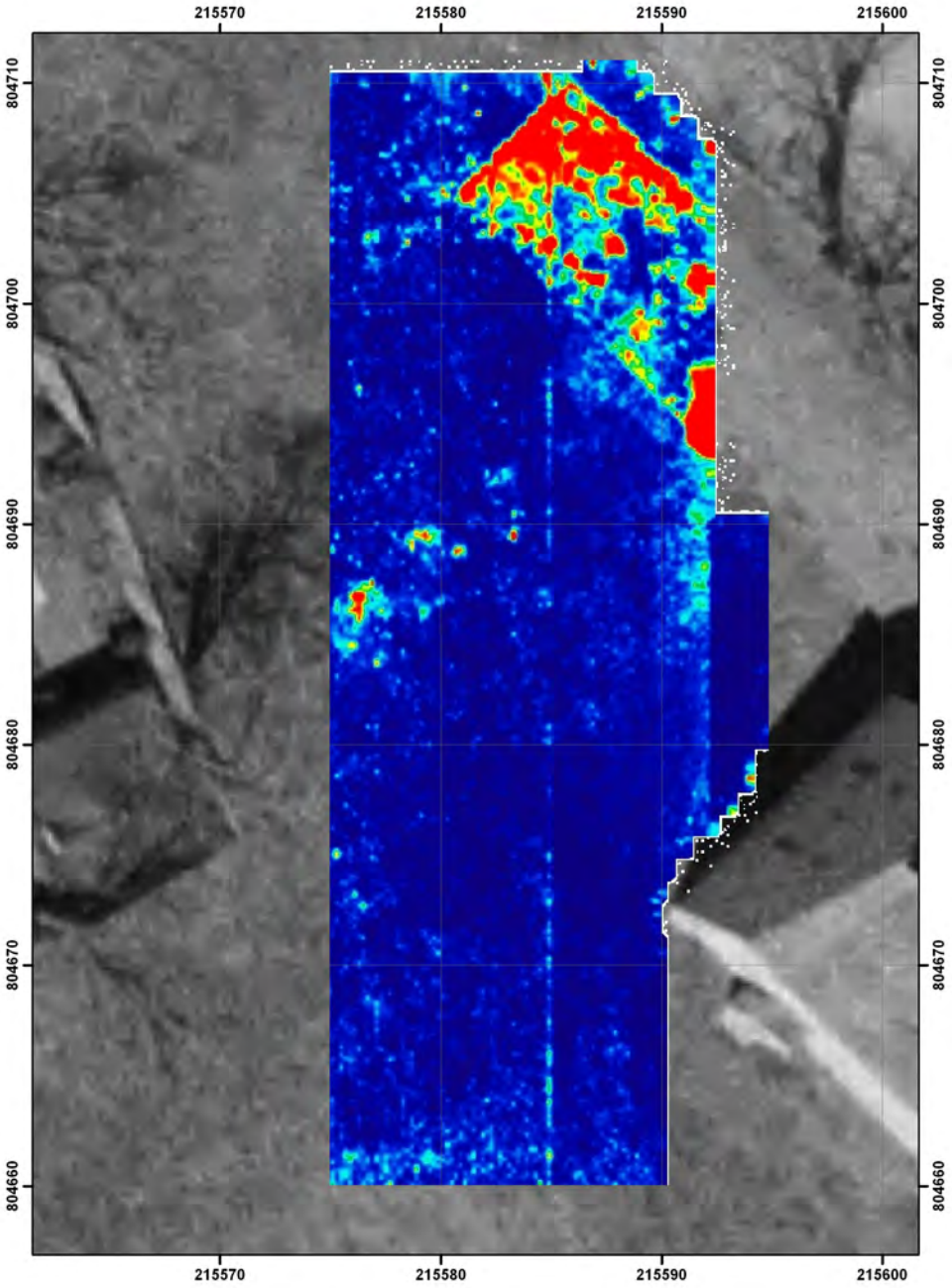

Figure 9. GPR slice 1 of the 500 MHz data at 0-7 cm bgs. Strong reflectors are in red.

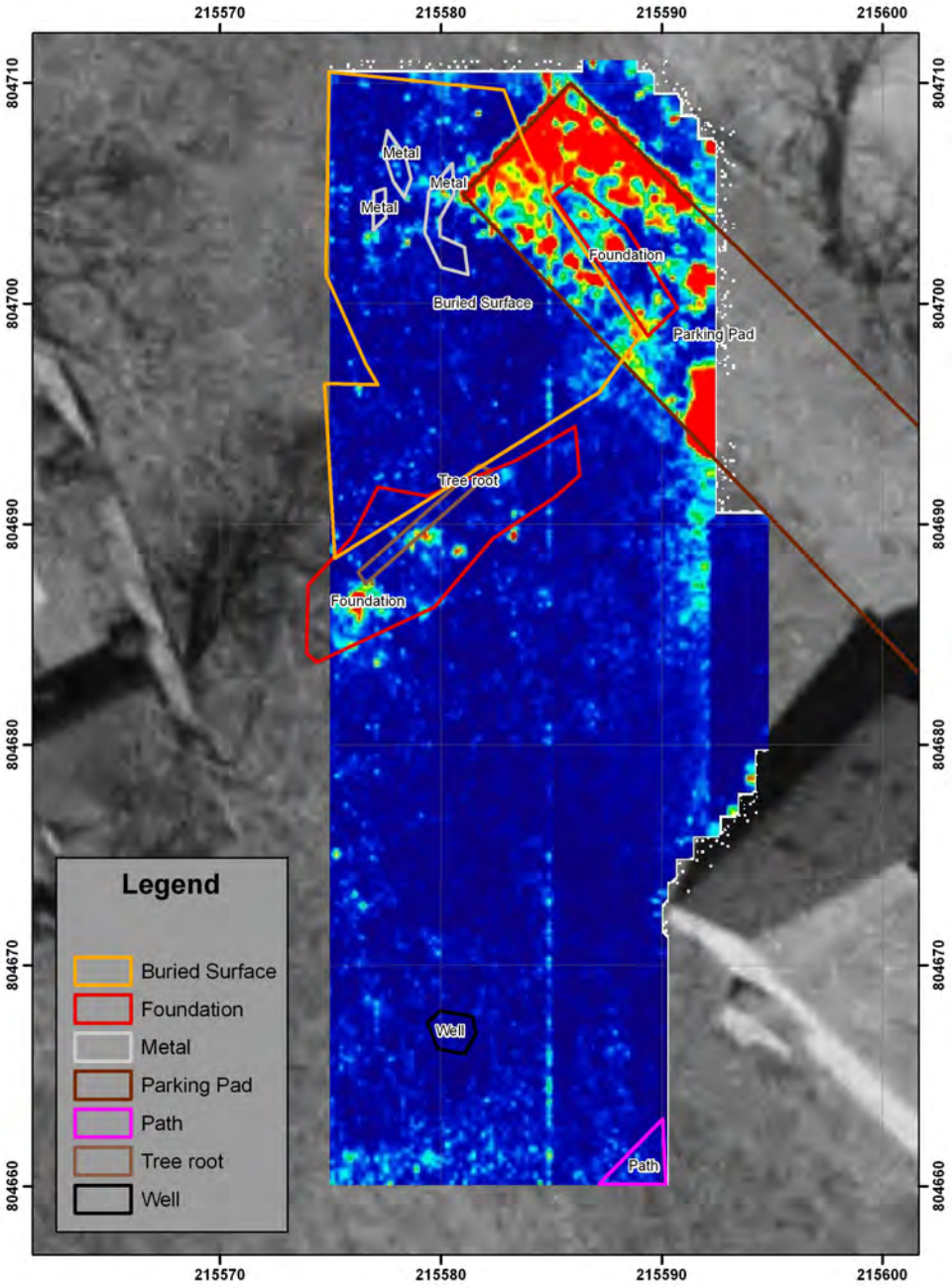

Figure 10. GPR slice 1 of the 500 MHz data at 0-7 cm bgs. Strong reflectors are in red. Suggested features are outlined.

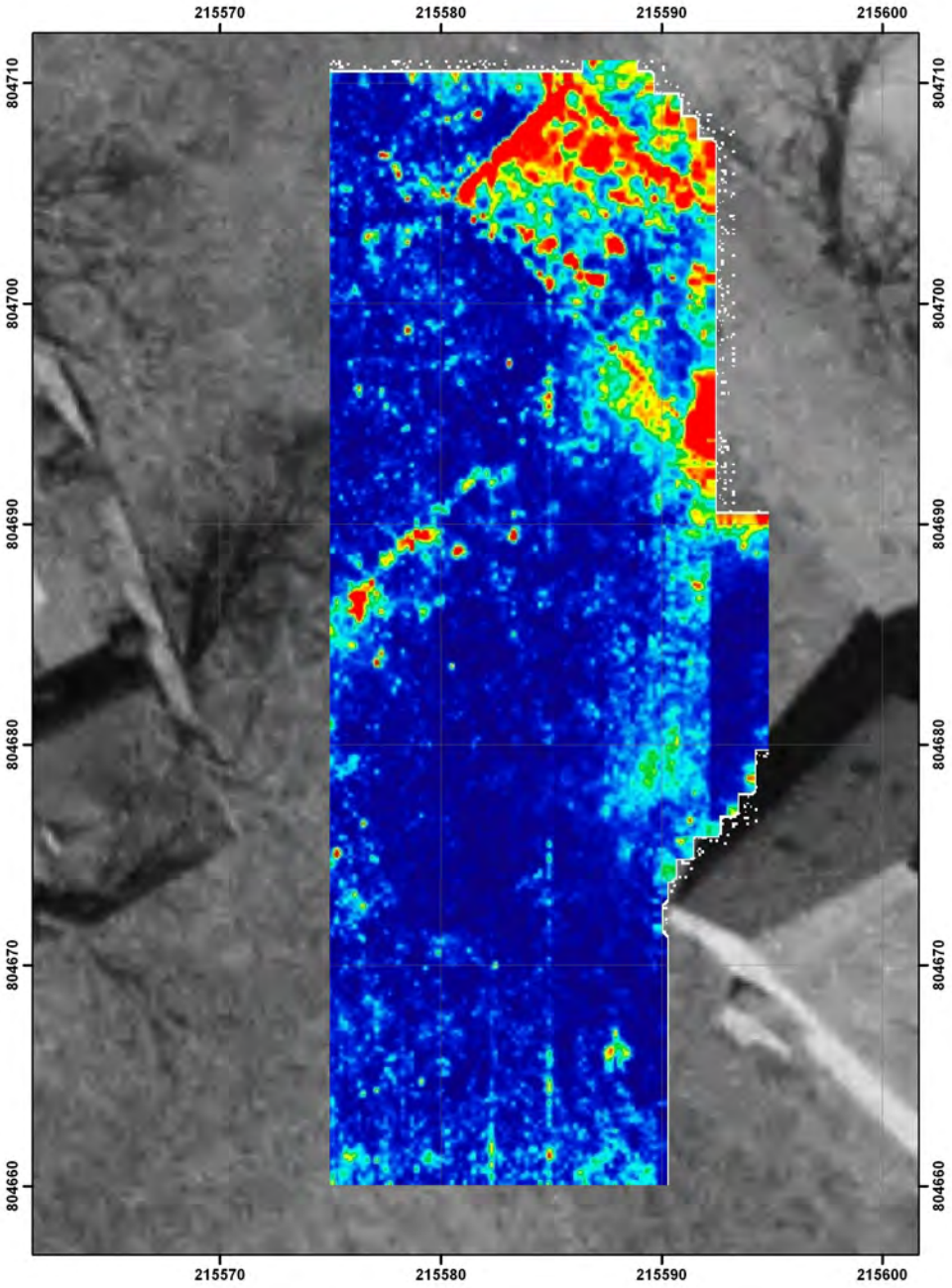

Figure 11. GPR slice 2 of the 500 MHz data at 4-11 cm bgs. Strong reflectors are in red.

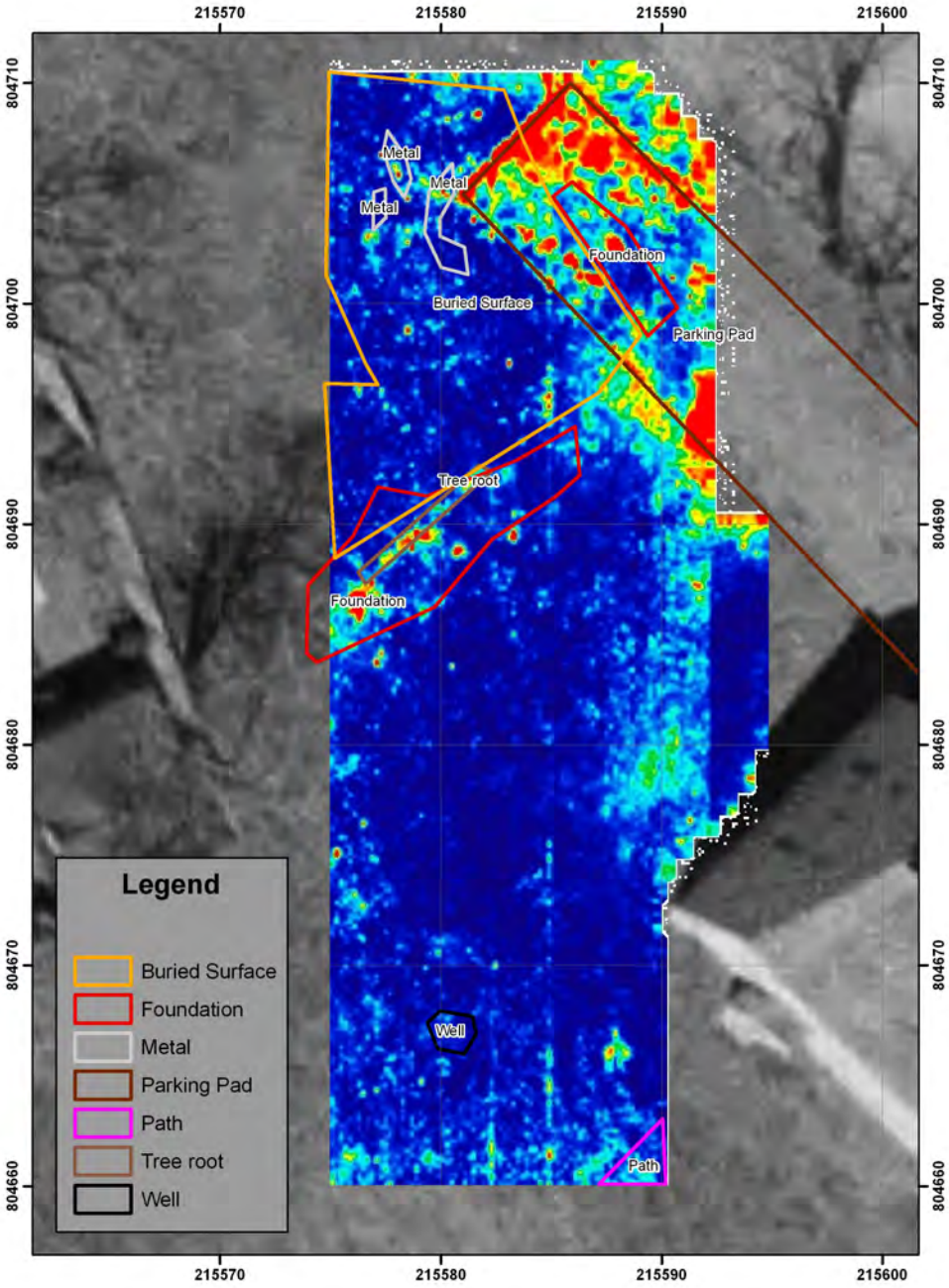

Figure 12. GPR slice 2 of the 500 MHz data at 4-11 cm bgs. Strong reflectors are in red. Suggested features are outlined.

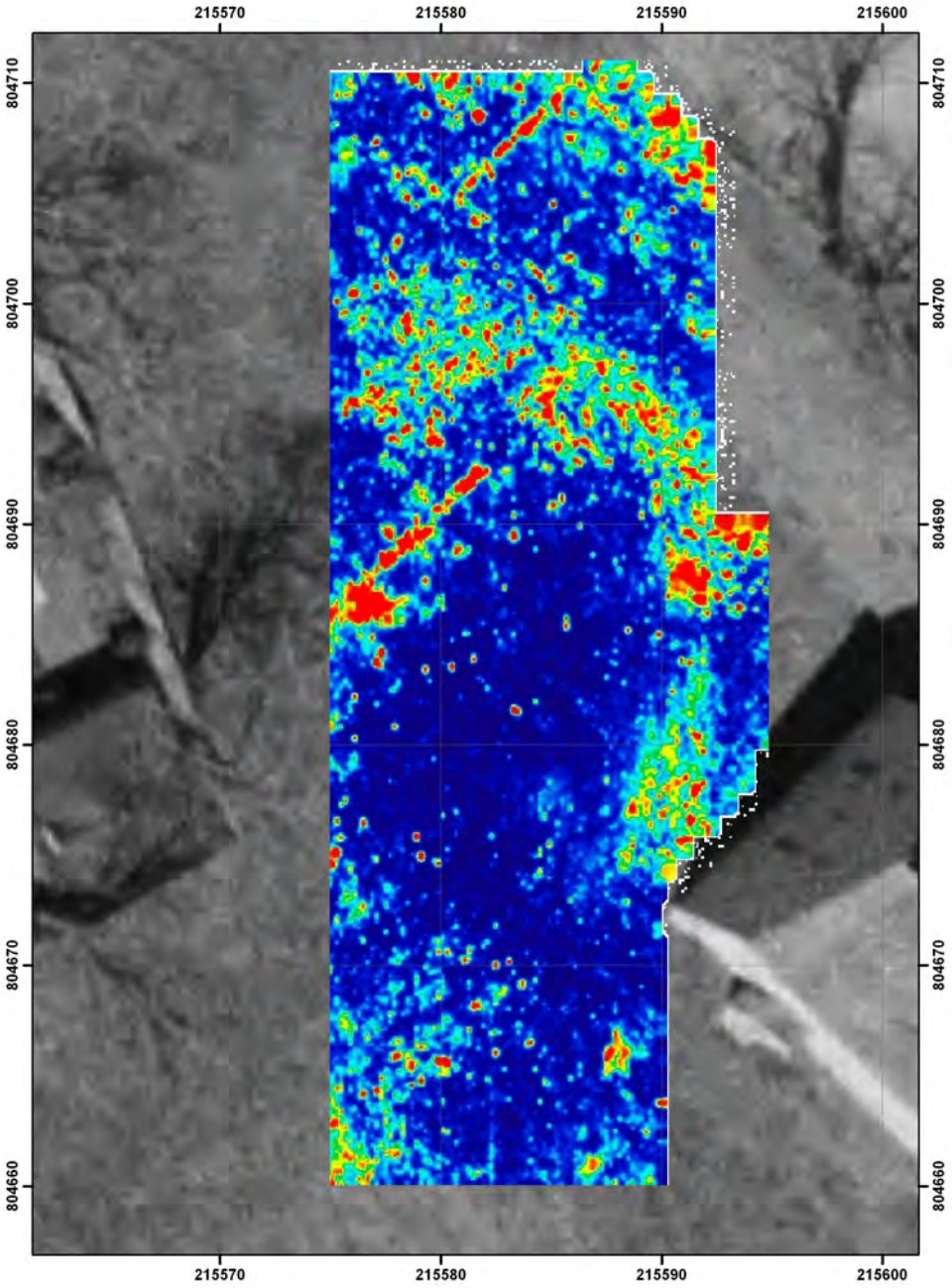

Figure 13. GPR slice 4 of the 500 MHz data at 10-18 cm bgs. Strong reflectors are in red.

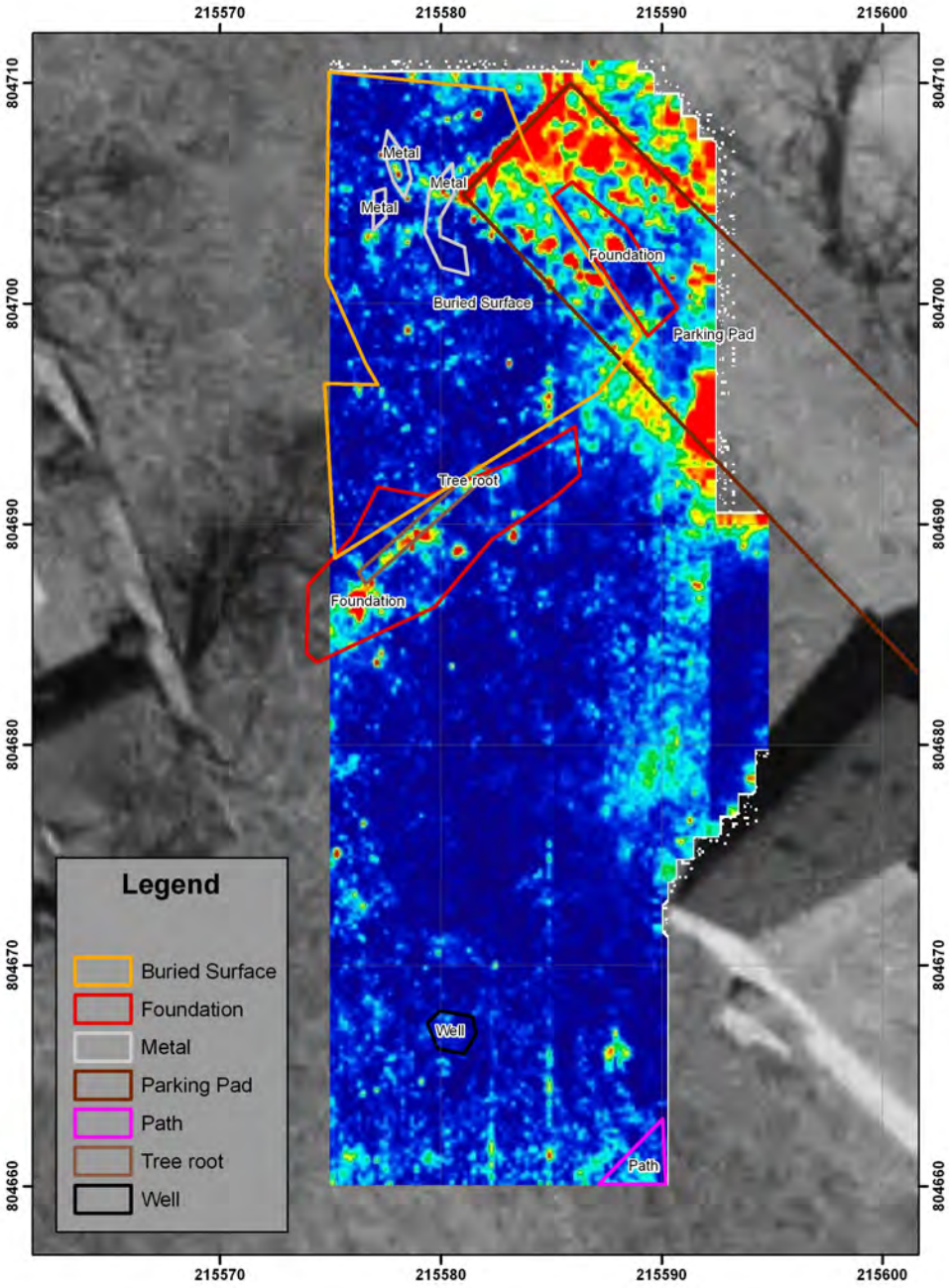

Figure 14. GPR slice 4 of the 500 MHz data at 10-18 cm bgs. Strong reflectors are in red. Suggested features are outlined.

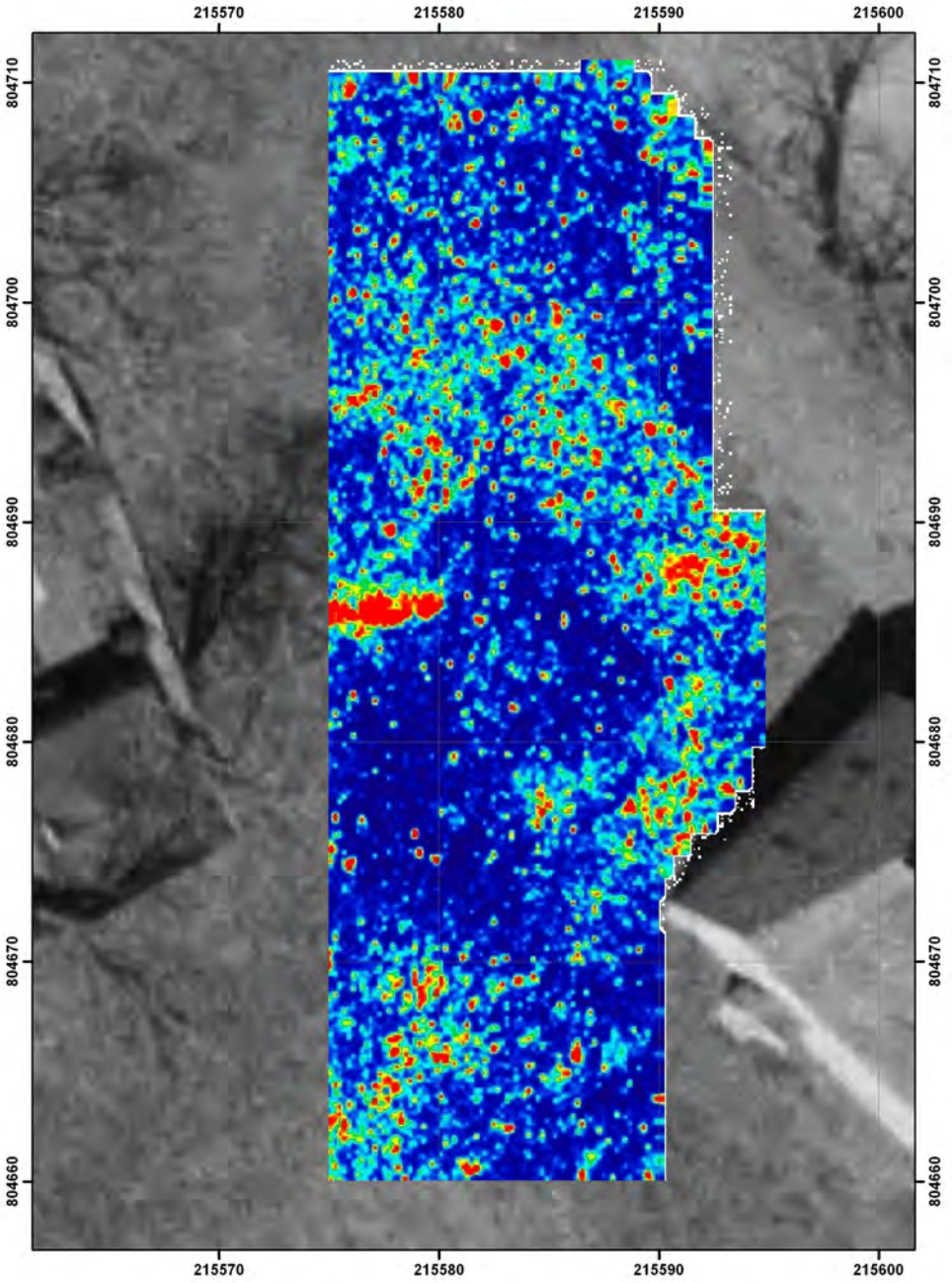

Figure 15. GPR slice 6 of the 500 MHz data at 18-25 cm bgs. Strong reflectors are in red.

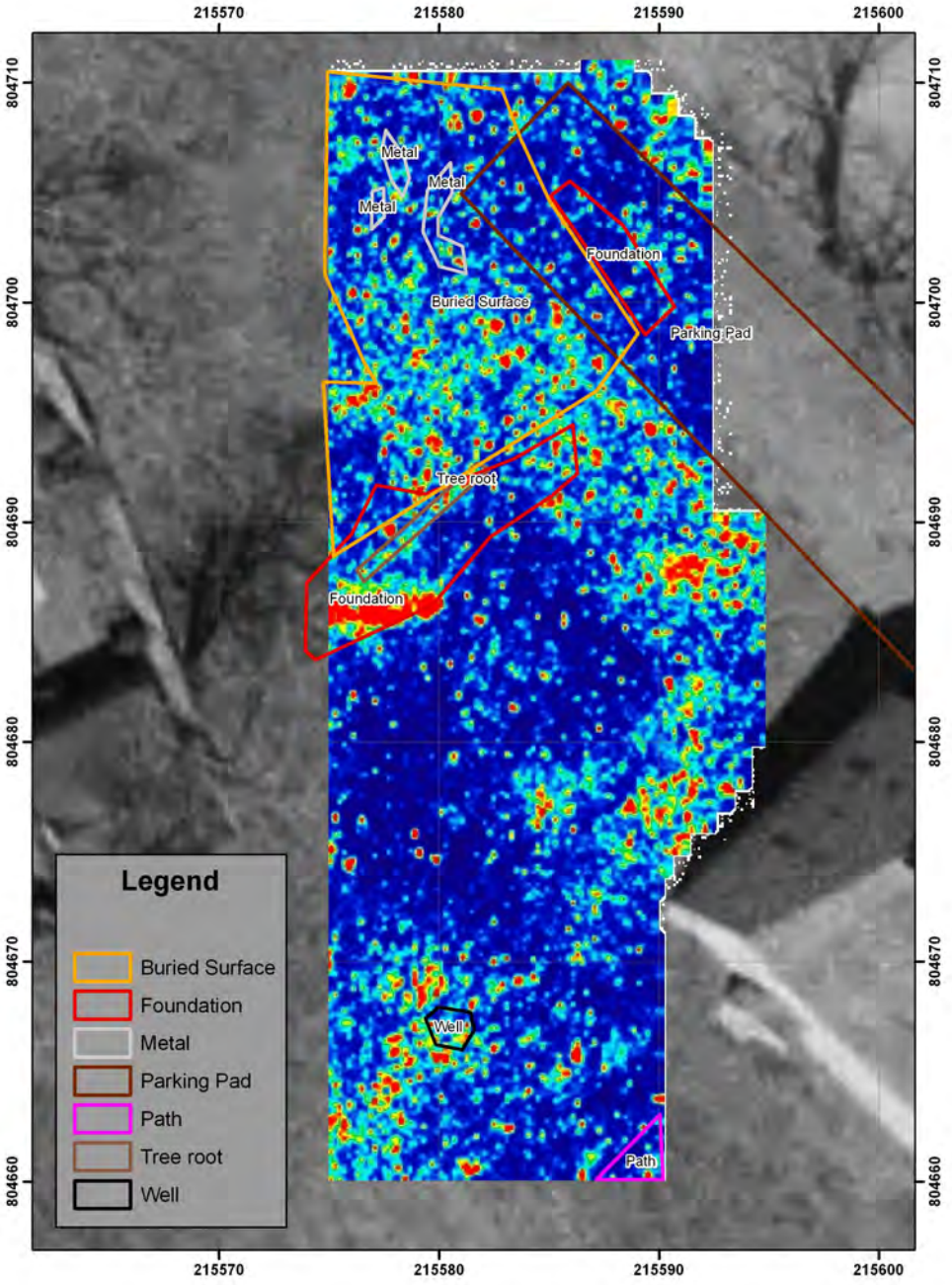

Figure 16. GPR slice 6 of the 500 MHz data at 18-25 cm bgs. Strong reflectors are in red. Suggested features are outlined.

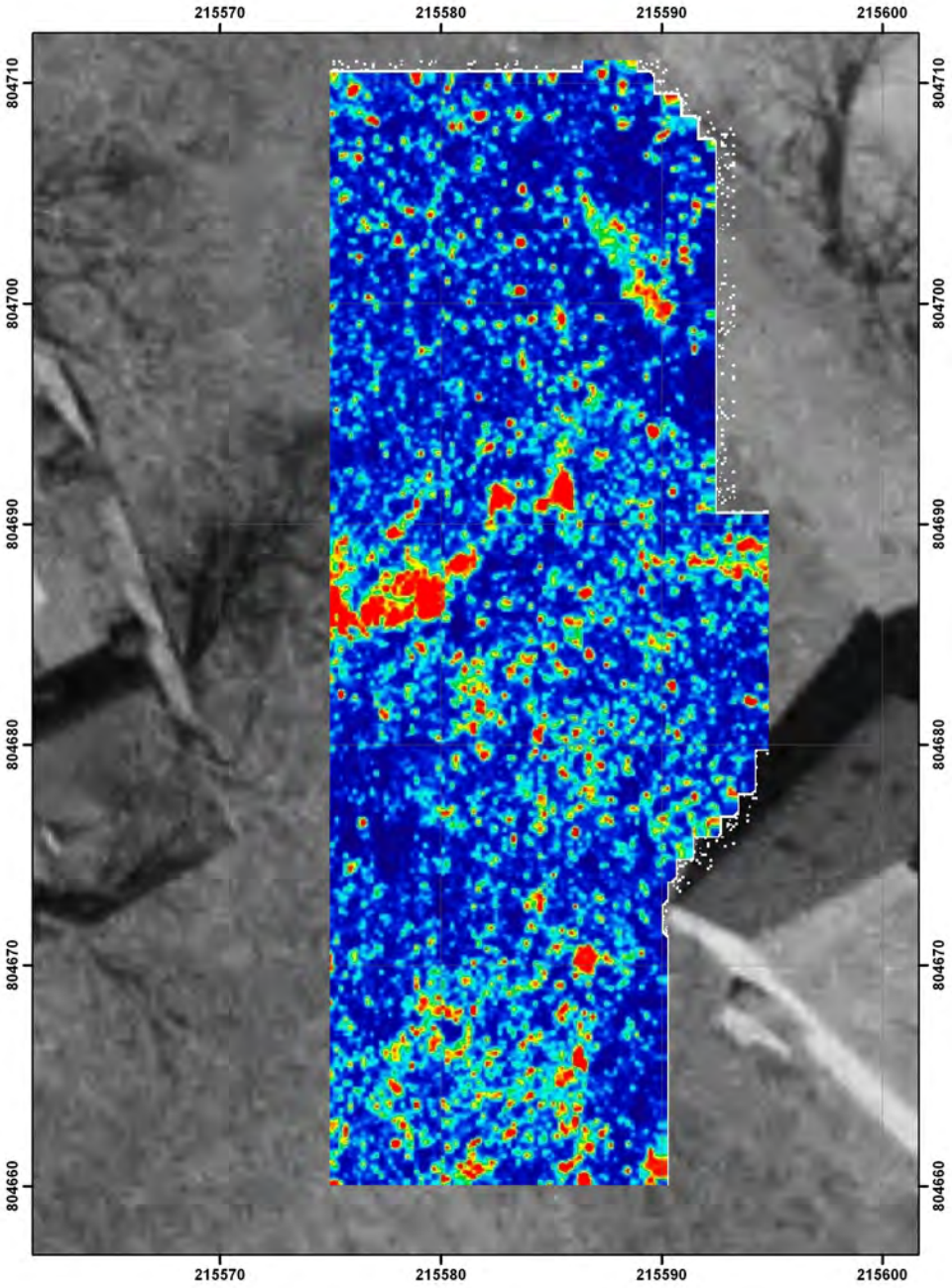

Figure 17. GPR slice 8 of the 500 MHz data at 24-32 cm bgs. Strong reflectors are in red.

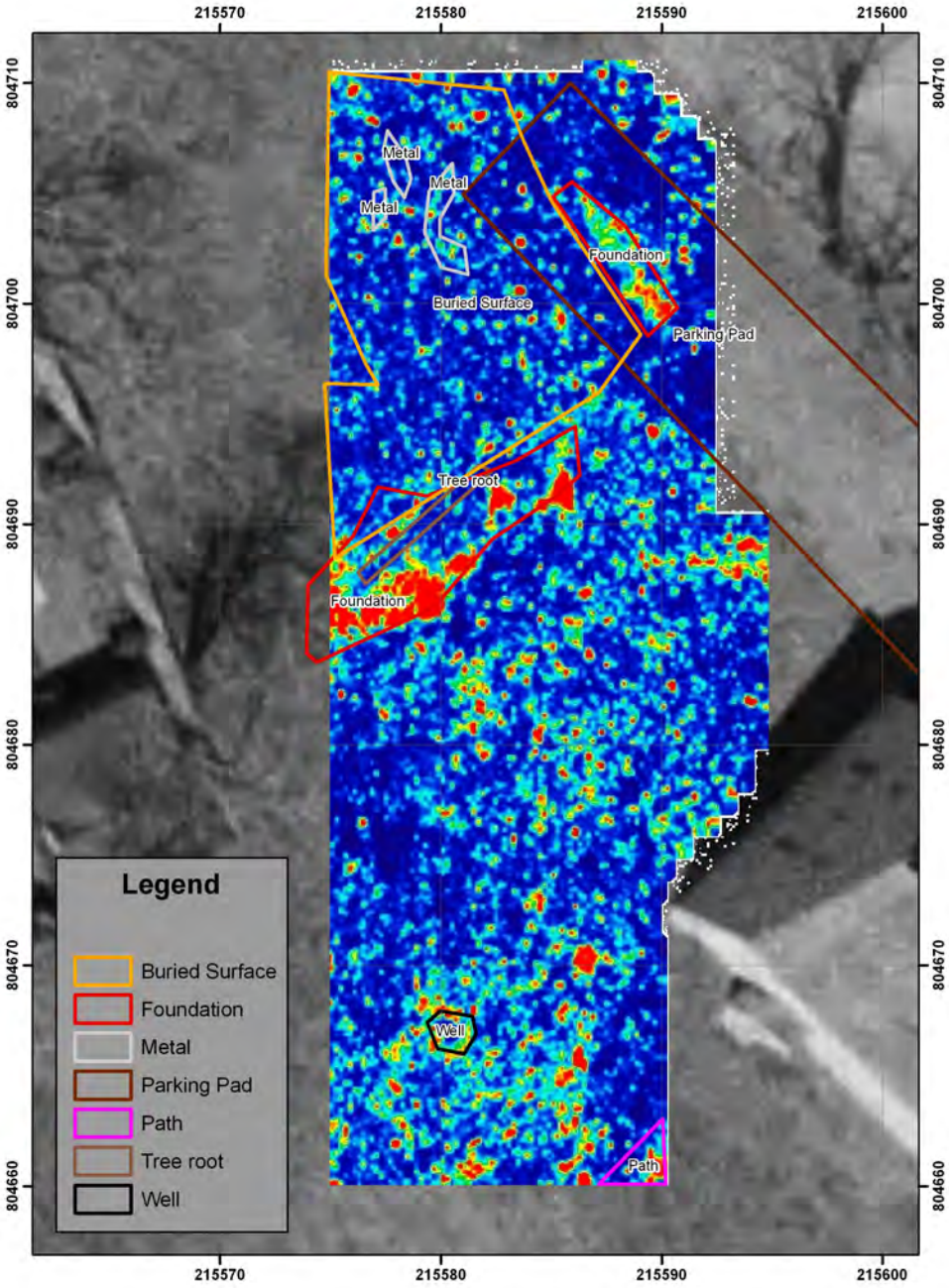

Figure 18. GPR slice 8 of the 500 MHz data at 24-32 cm bgs. Strong reflectors are in red. Suggested features are outlined.

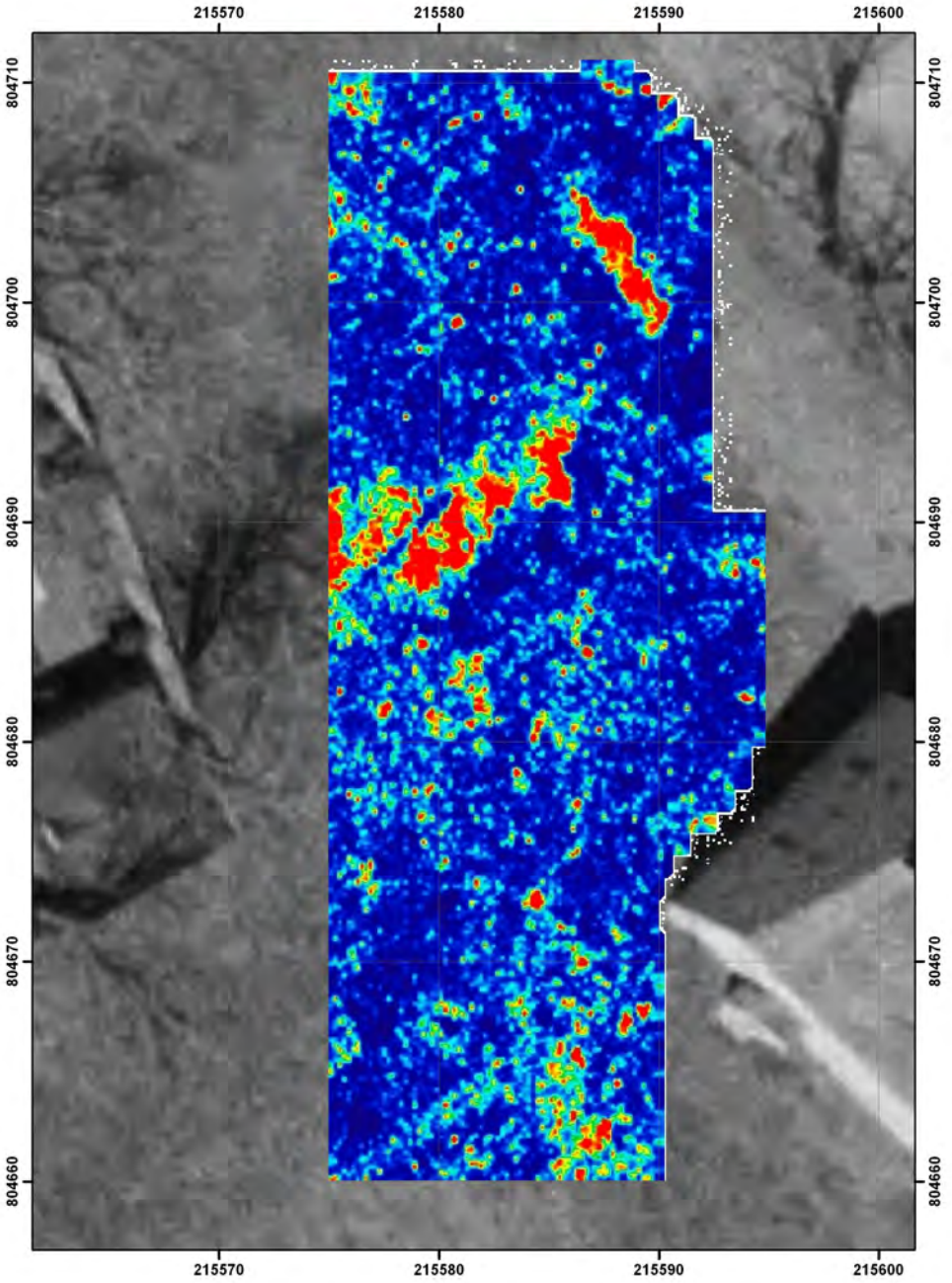

Figure 19. GPR slice 10 of the 500 MHz data at 32-39 cm bgs. Strong reflectors are in red.

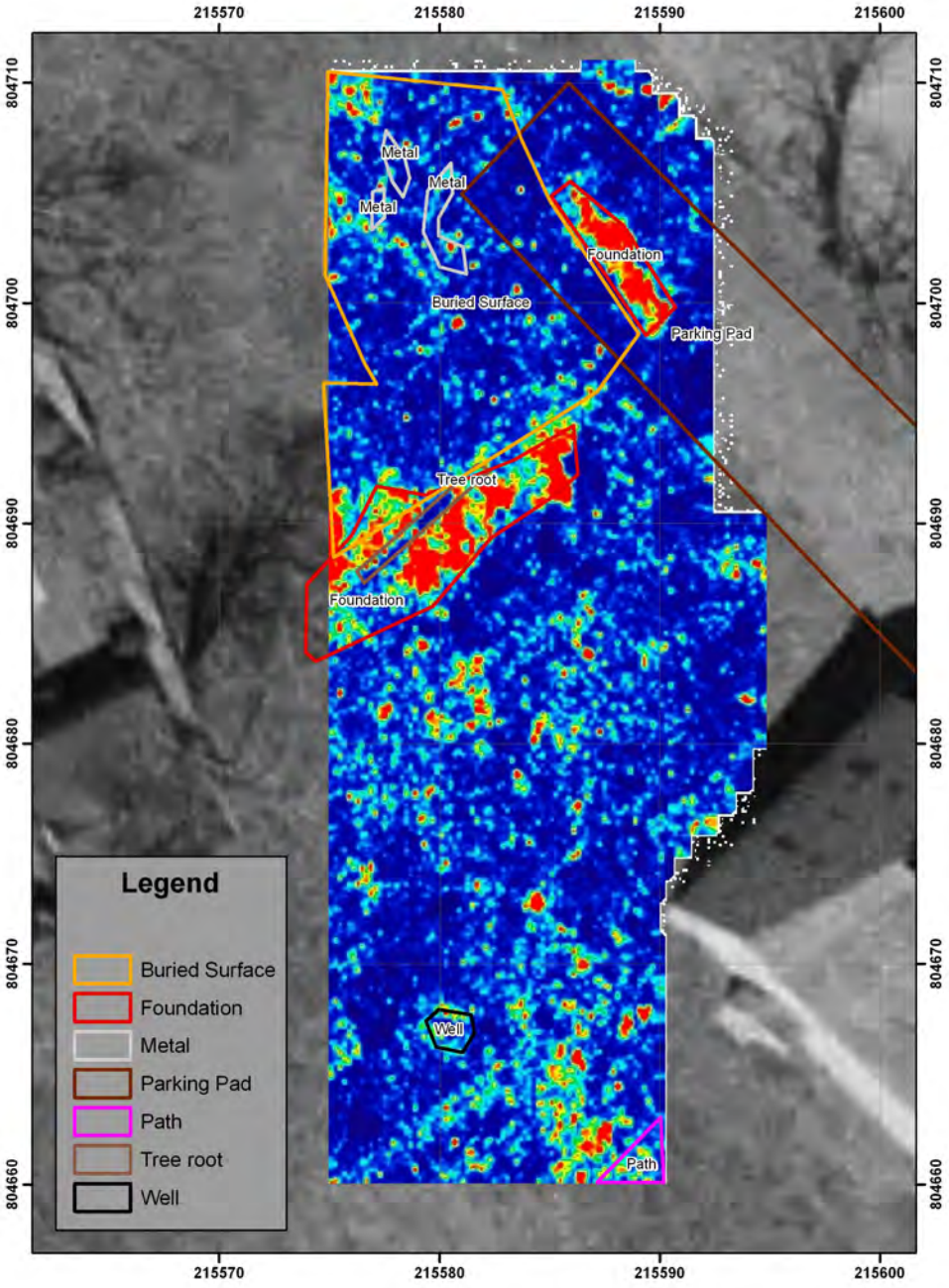

Figure 20. GPR slice 10 of the 500 MHz data at 32-39 cm bgs. Strong reflectors are in red. Suggested features are outlined.

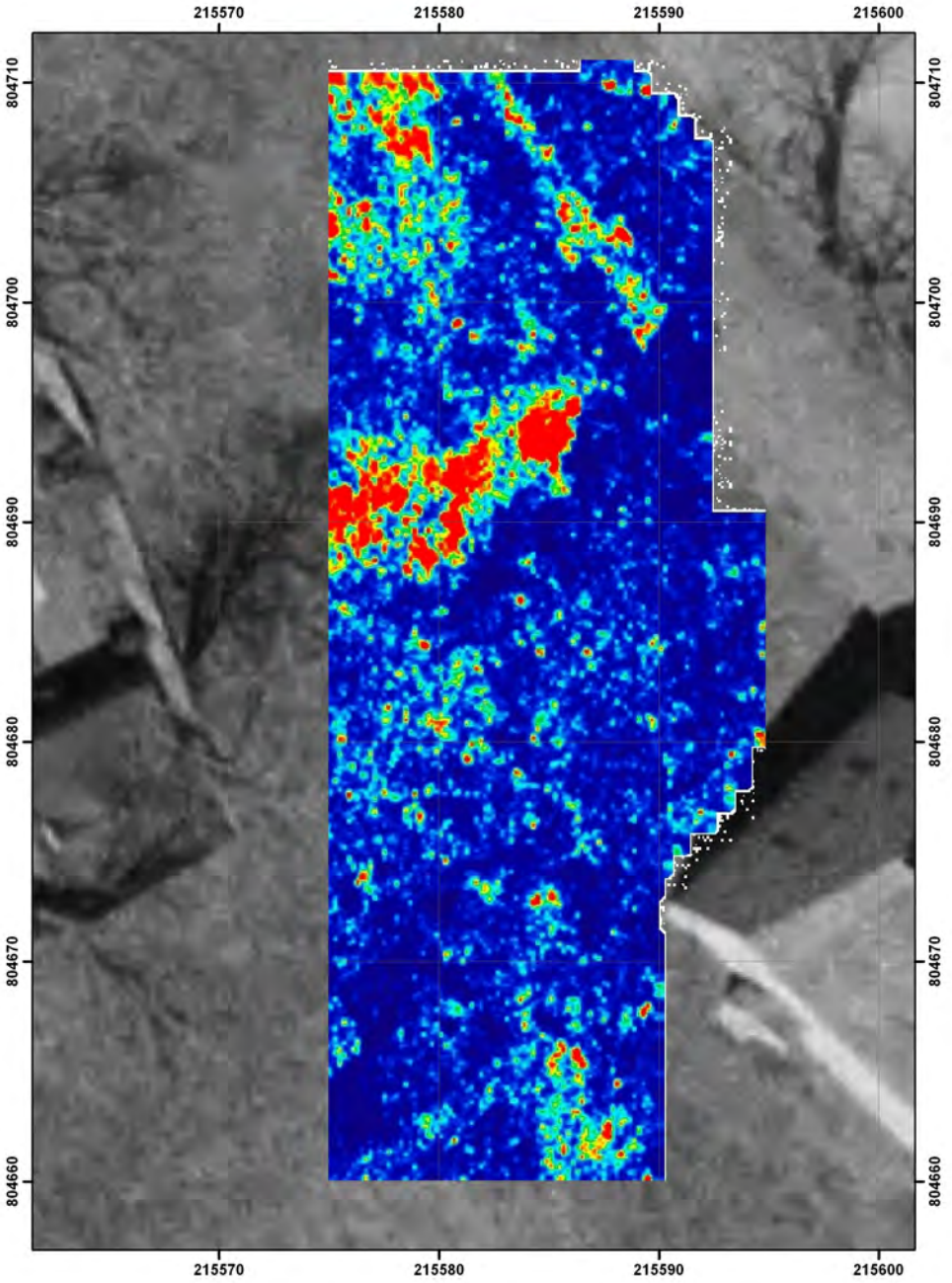

Figure 21. GPR slice 12 of the 500 MHz data at 39-46 cm bgs. Strong reflectors are in red.

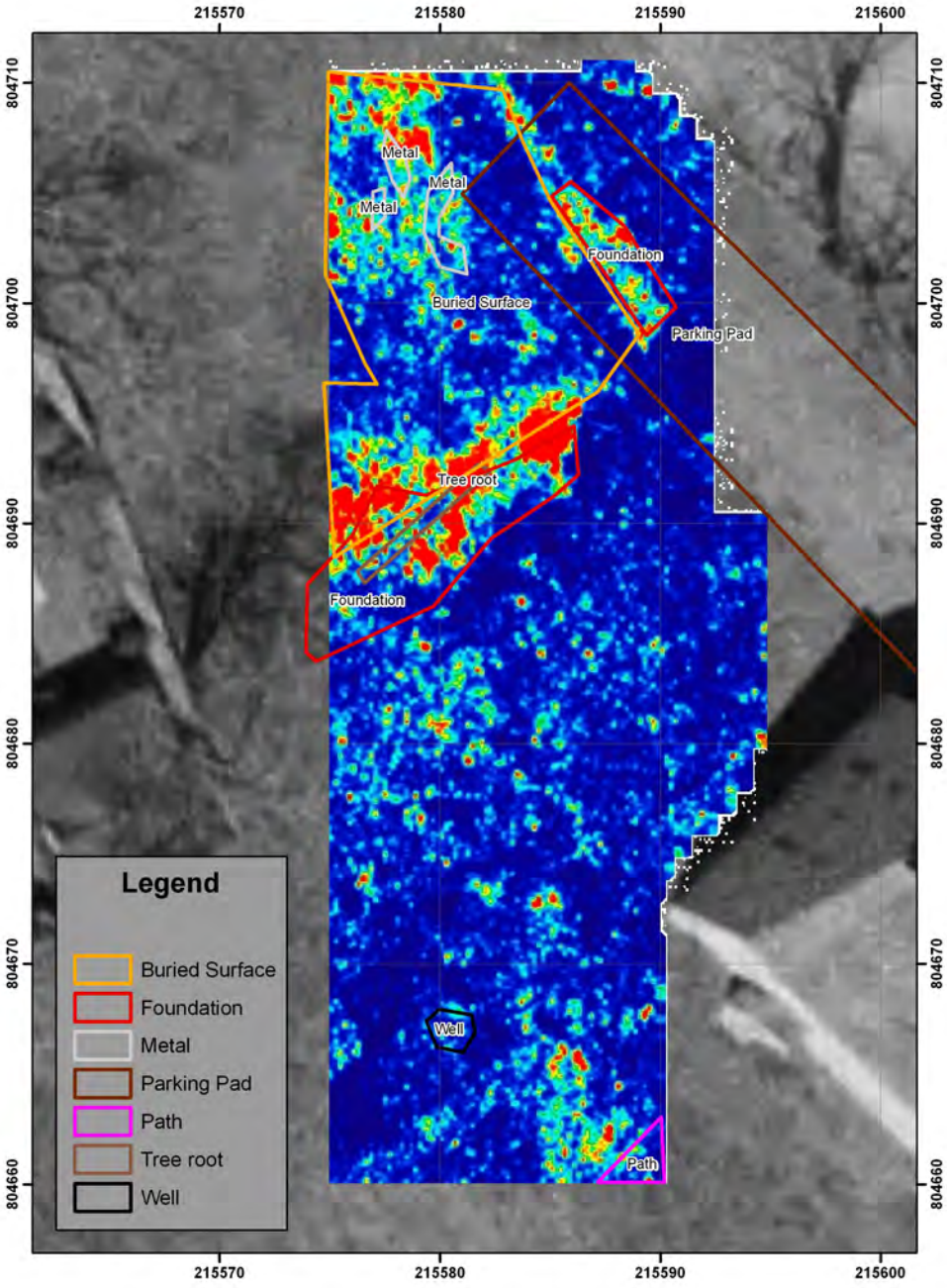

Figure 22. GPR slice 12 of the 500 MHz data at 39-46 cm bgs. Strong reflectors are in red. Suggested features are outlined.

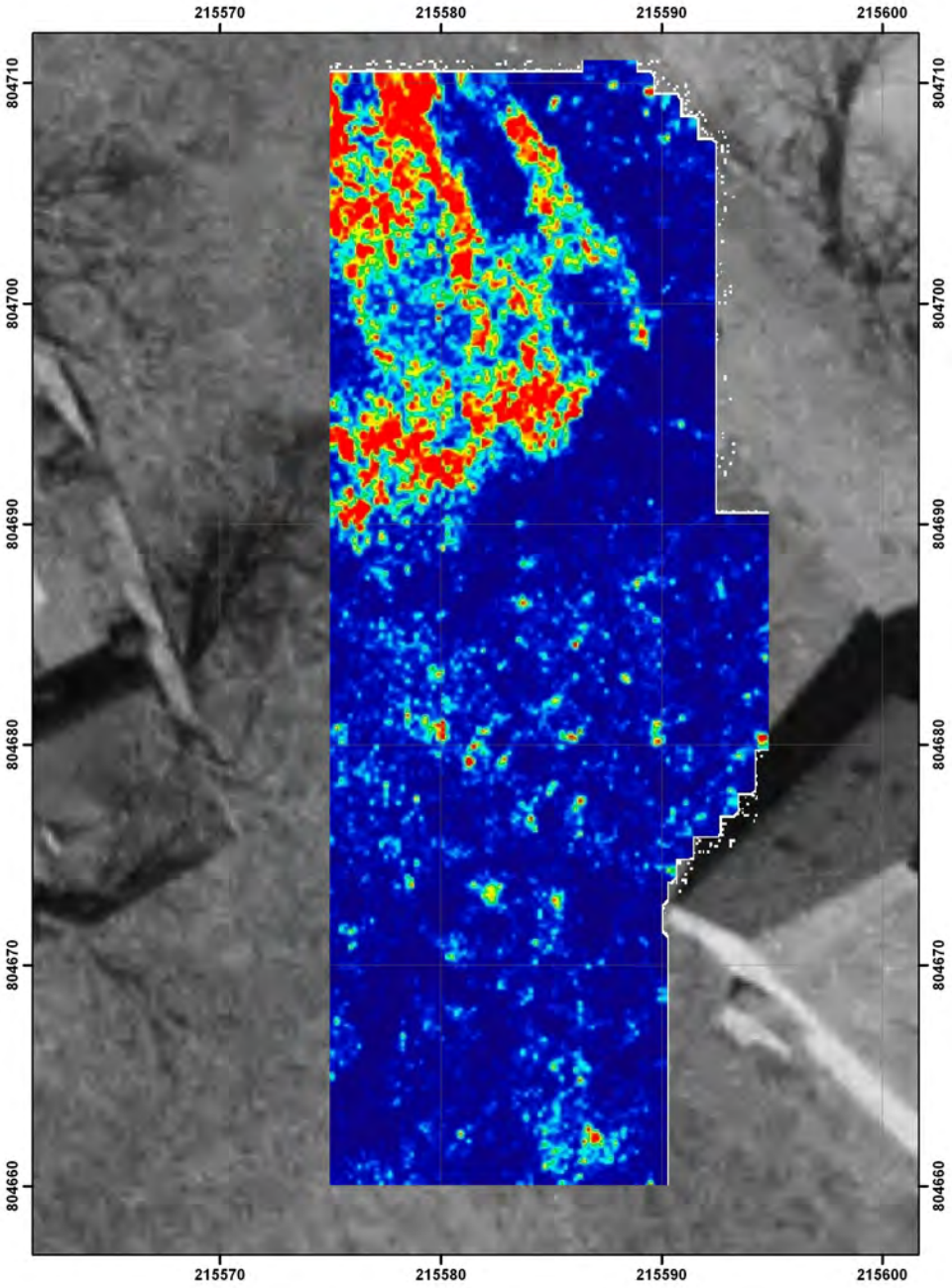

Figure 23. GPR slice 14 of the 500 MHz data at 46-53 cm bgs. Strong reflectors are in red.

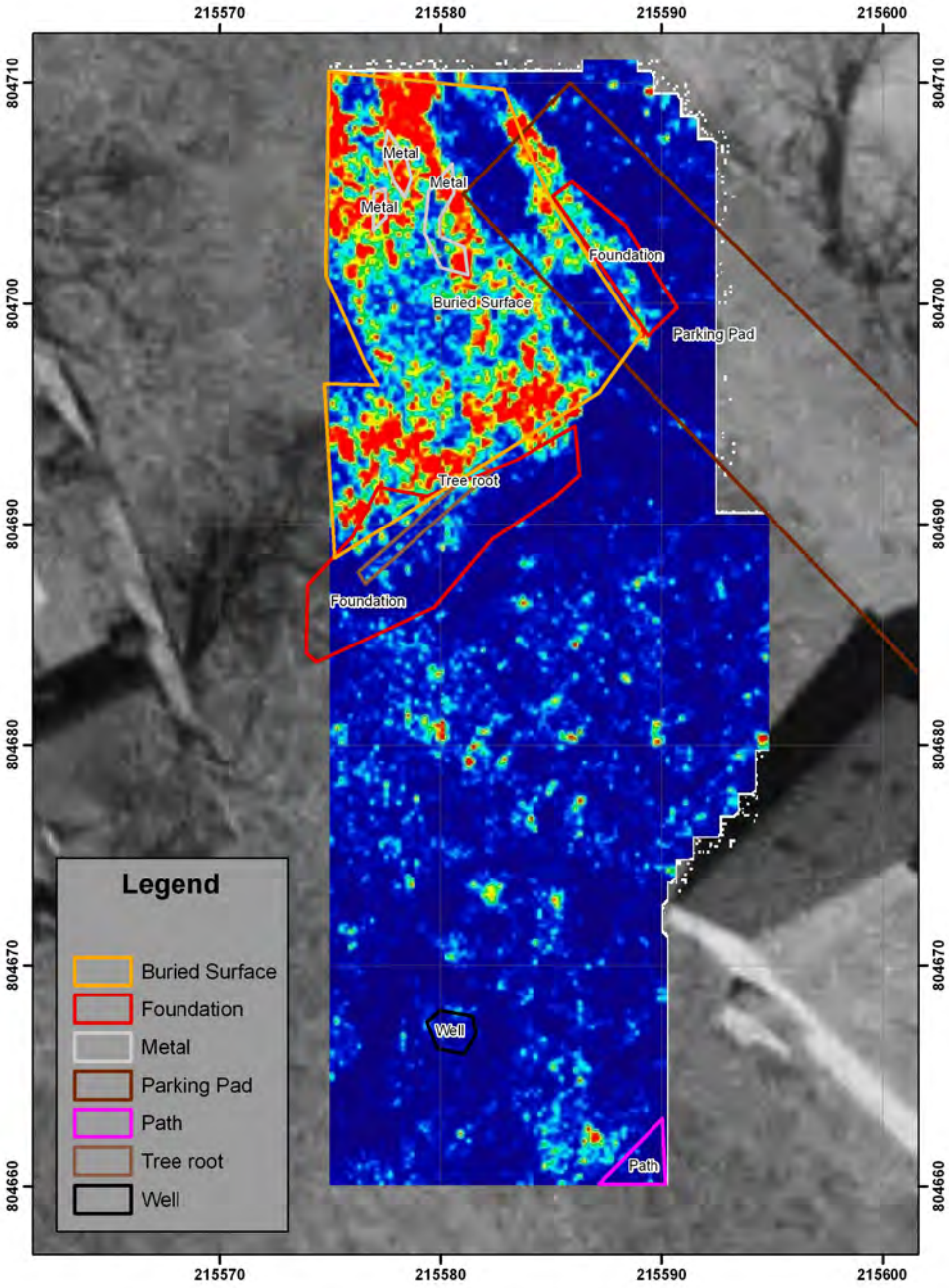

Figure 24. GPR slice 14 of the 500 MHz data at 46-53 cm bgs. Strong reflectors are in red. Suggested features are outlined.

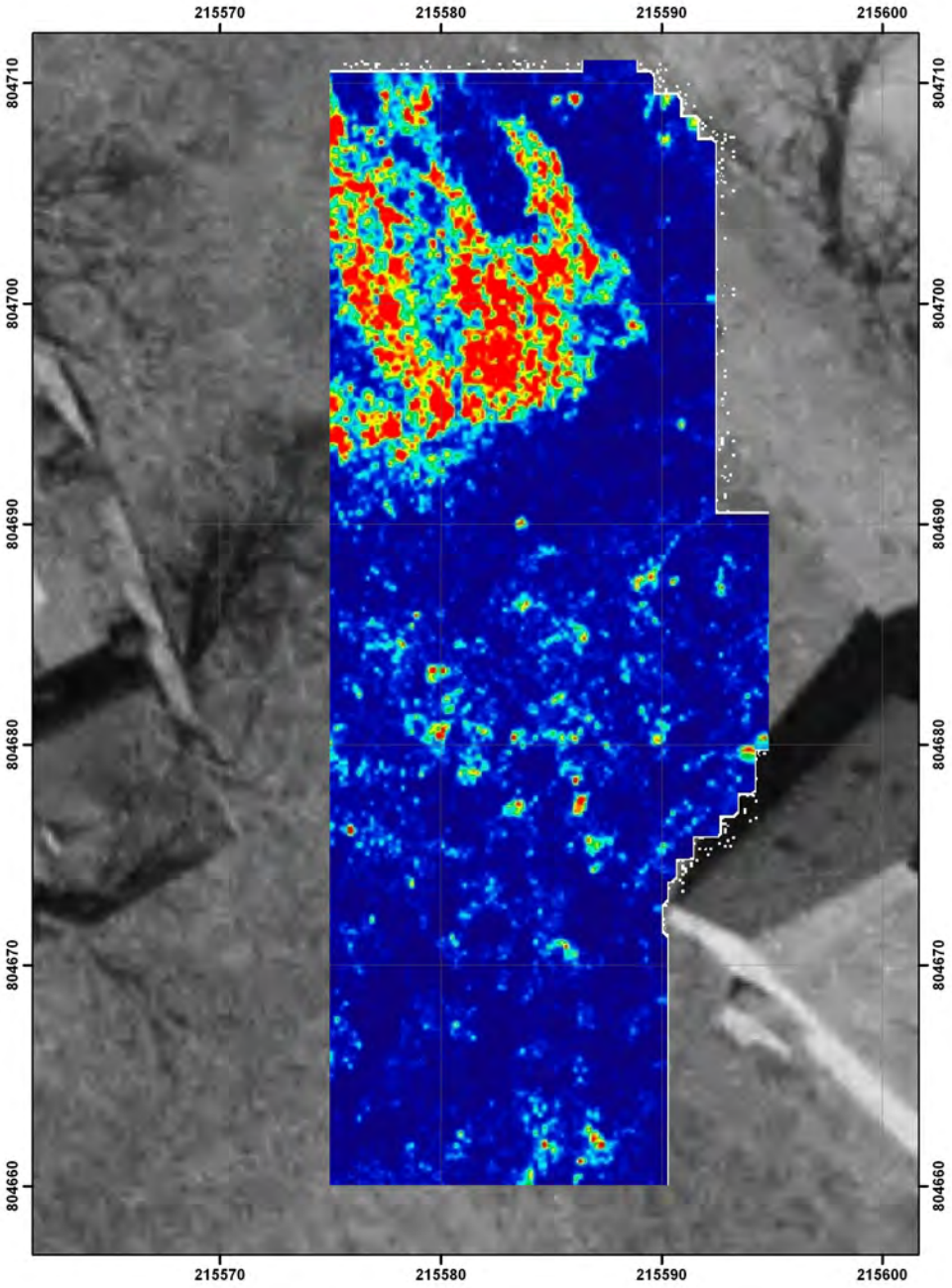

Figure 25. GPR slice 16 of the 500 MHz data at 53-60 cm bgs. Strong reflectors are in red.

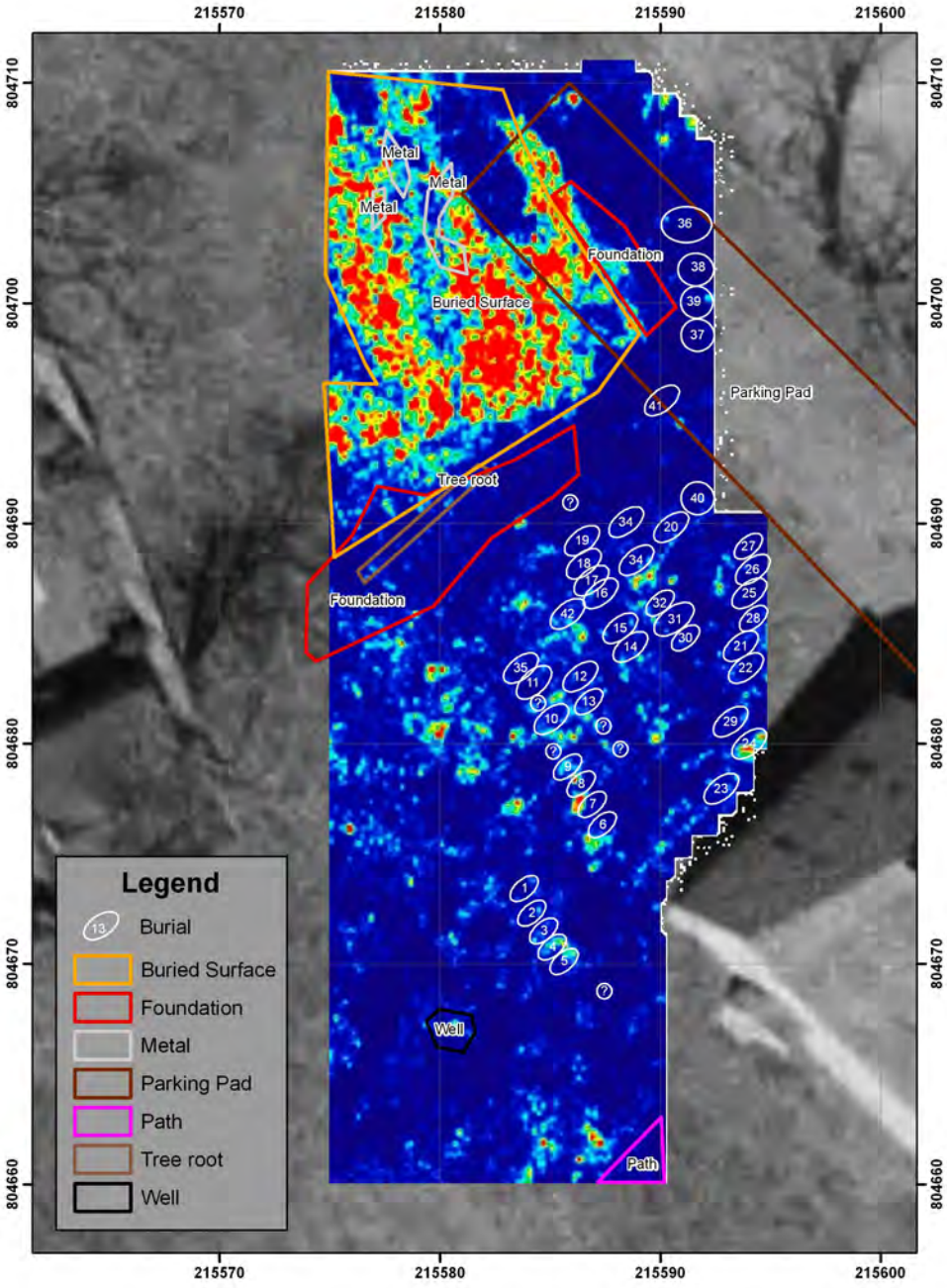

Figure 26. GPR slice 16 of the 500 MHz data at 53-60 cm bgs. Strong reflectors are in red. Suggested features are outlined.

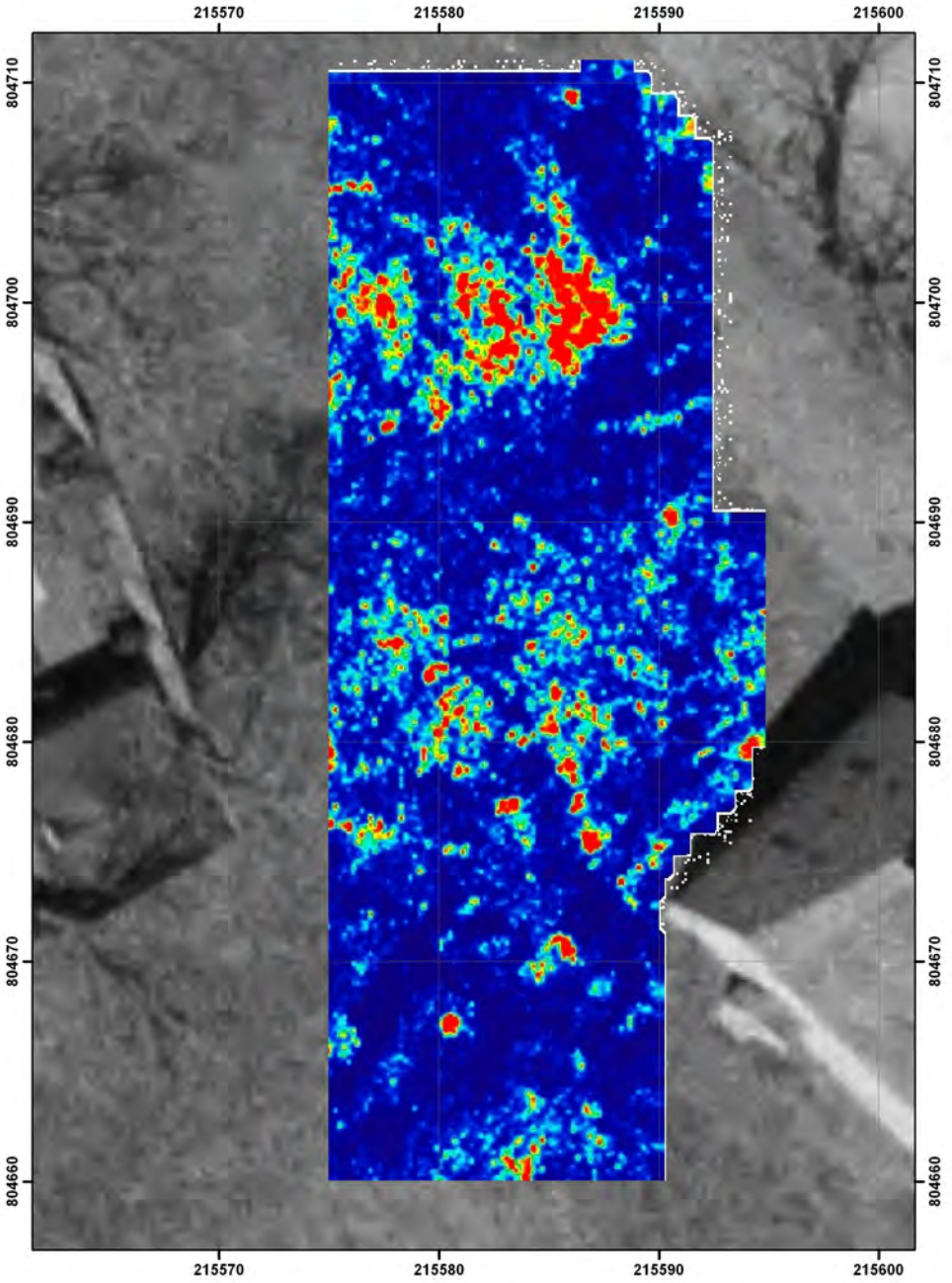

Figure 27. GPR slice 18 of the 500 MHz data at 60-67 cm bgs. Strong reflectors are in red.

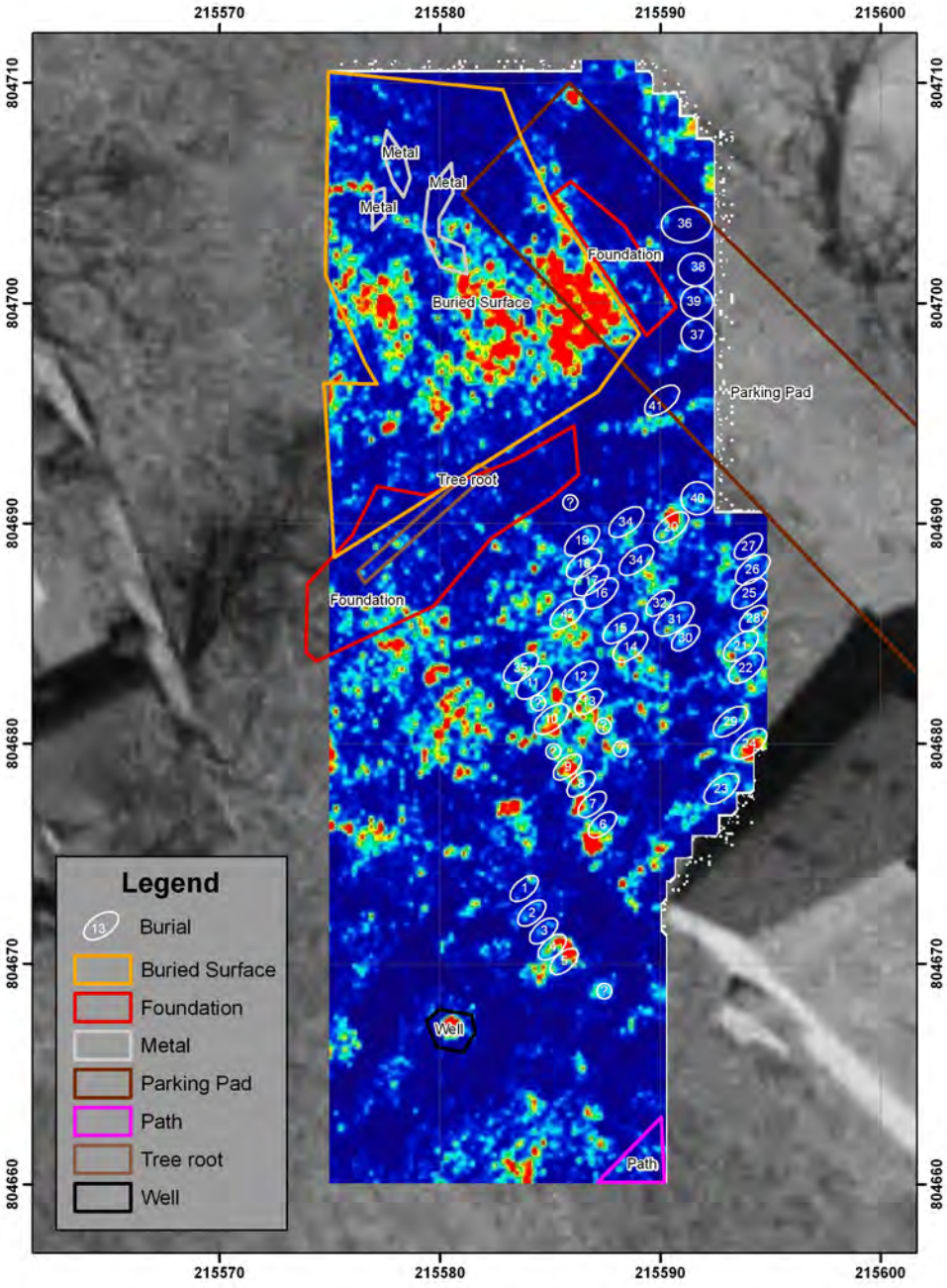

Figure 28. GPR slice 18 of the 500 MHz data at 60-67 cm bgs. Strong reflectors are in red. Suggested features are outlined.

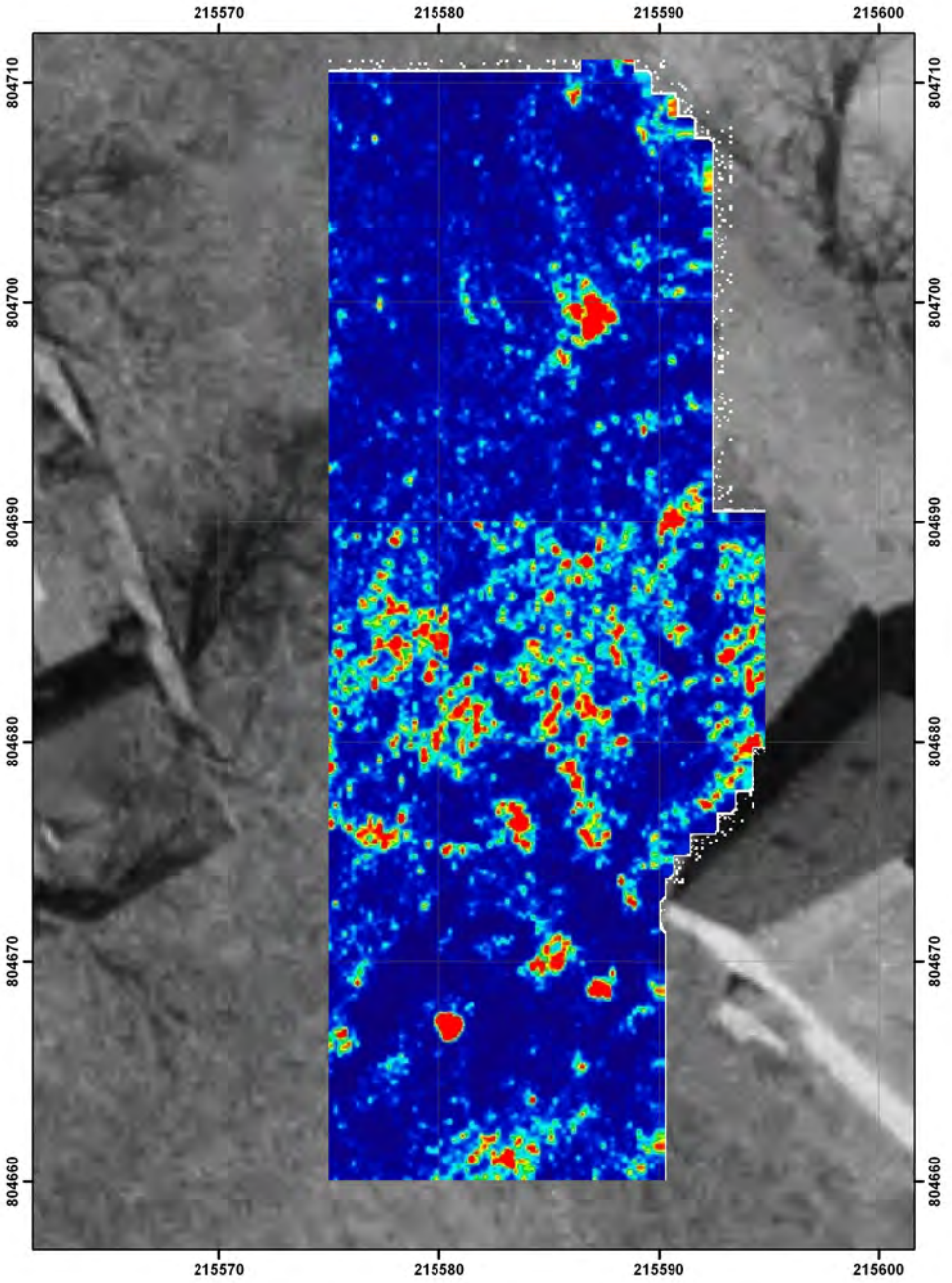

Figure 29. GPR slice 20 of the 500 MHz data at 67-74 cm bgs. Strong reflectors are in red.

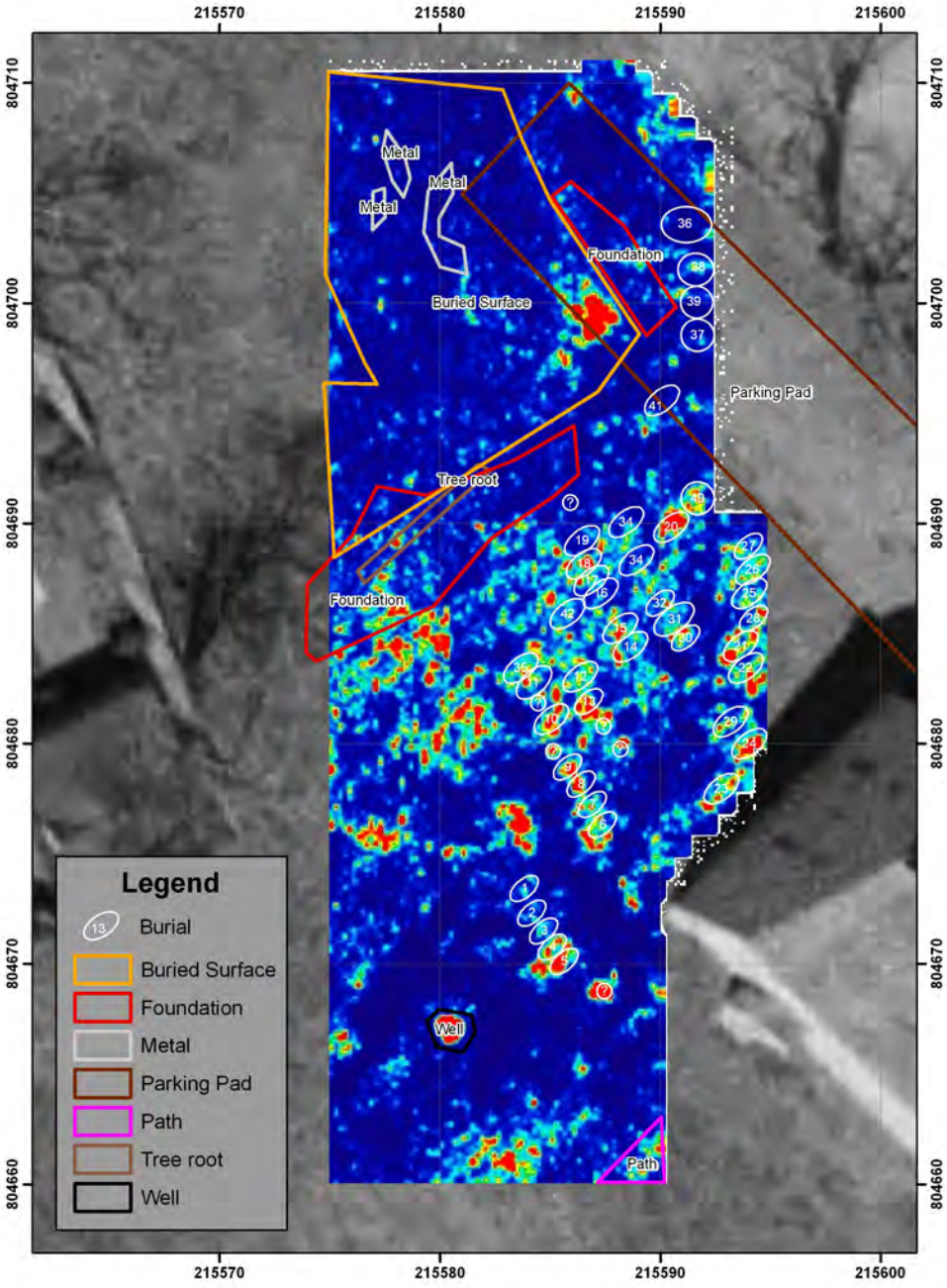

Figure 30. GPR slice 20 of the 500 MHz data at 67-74 cm bgs. Strong reflectors are in red. Suggested features are outlined.

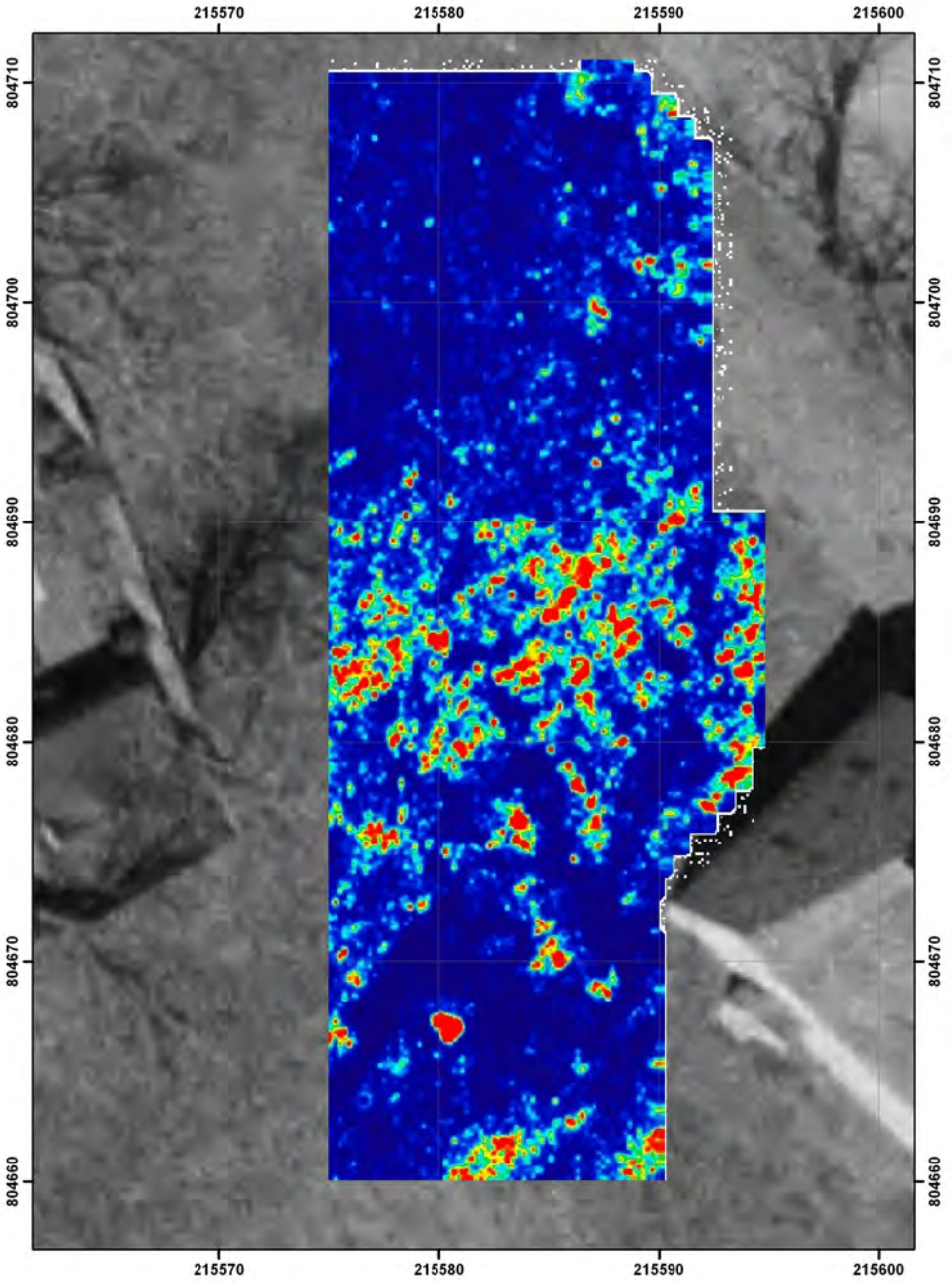

Figure 31. GPR slice 22 of the 500 MHz data at 74-81 cm bgs. Strong reflectors are in red.

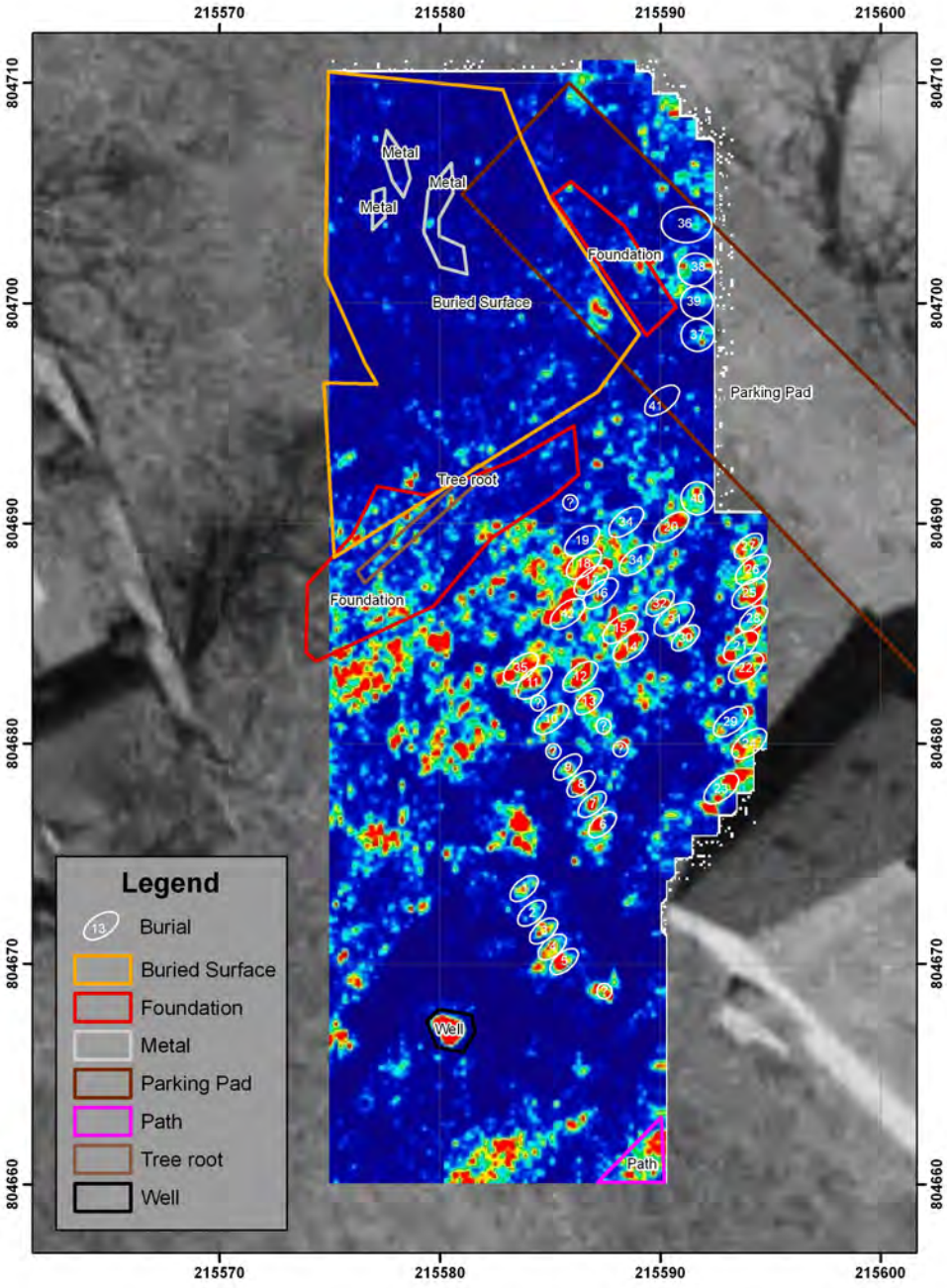

Figure 32. GPR slice 22 of the 500 MHz data at 74-81 cm bgs. Strong reflectors are in red. Suggested features are outlined.

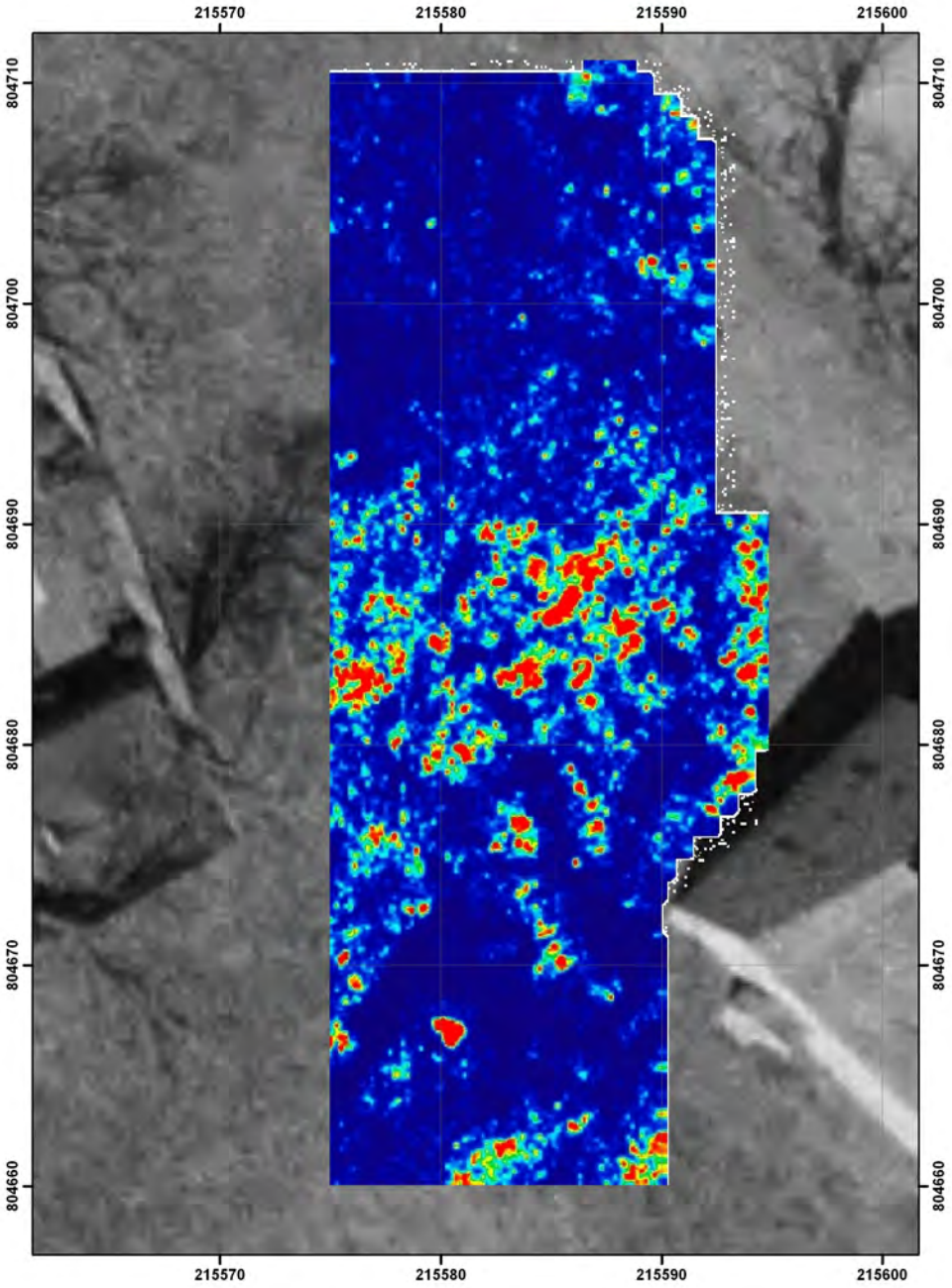

Figure 33. GPR slice 23 of the 500 MHz data at 77-85 cm bgs. Strong reflectors are in red.

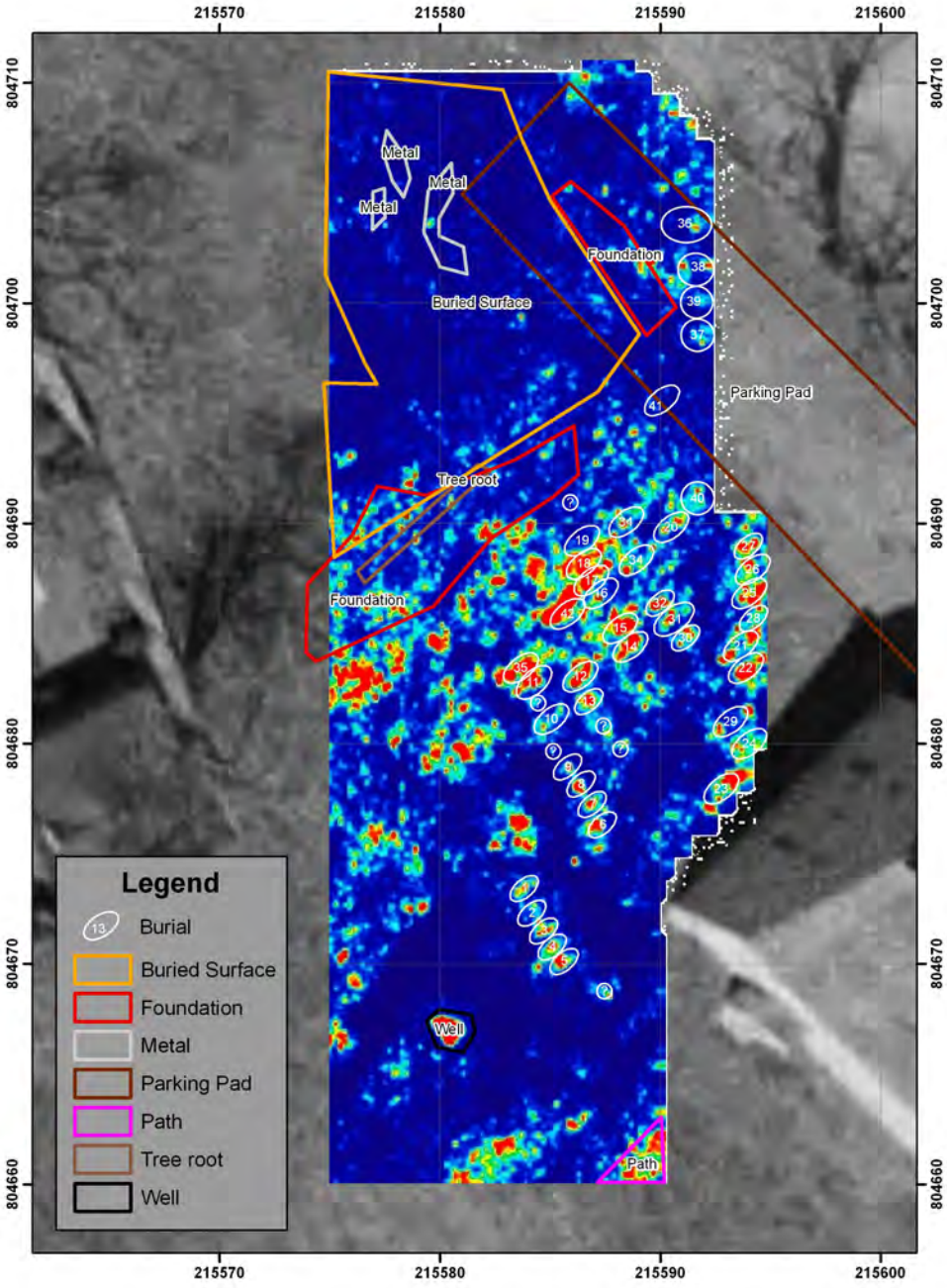

Figure 34. GPR slice 23 of the 500 MHz data at 77-85 cm bgs. Strong reflectors are in red. Suggested features are outlined.

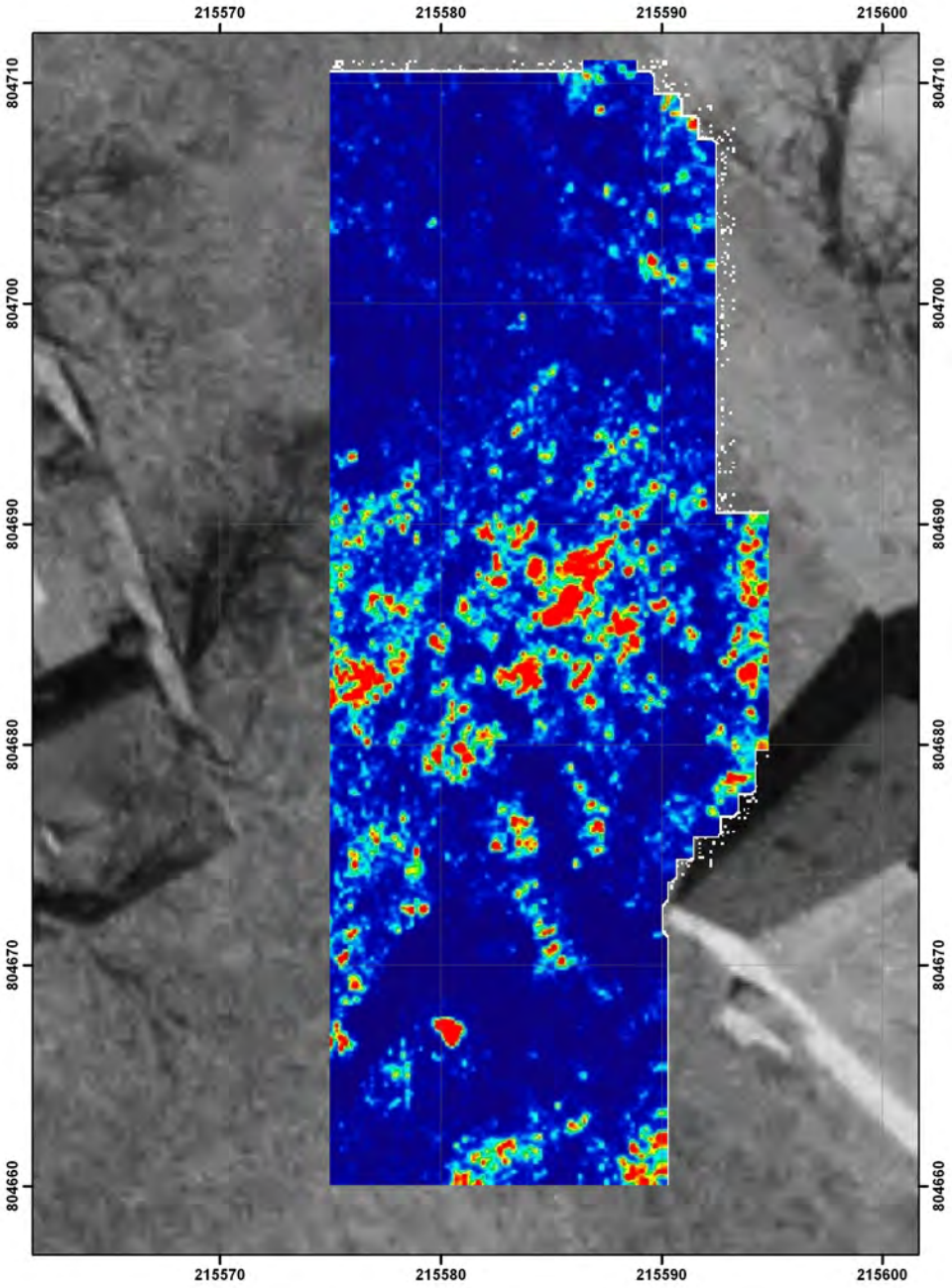

Figure 35. GPR slice 24 of the 500 MHz data at 81-88 cm bgs. Strong reflectors are in red.

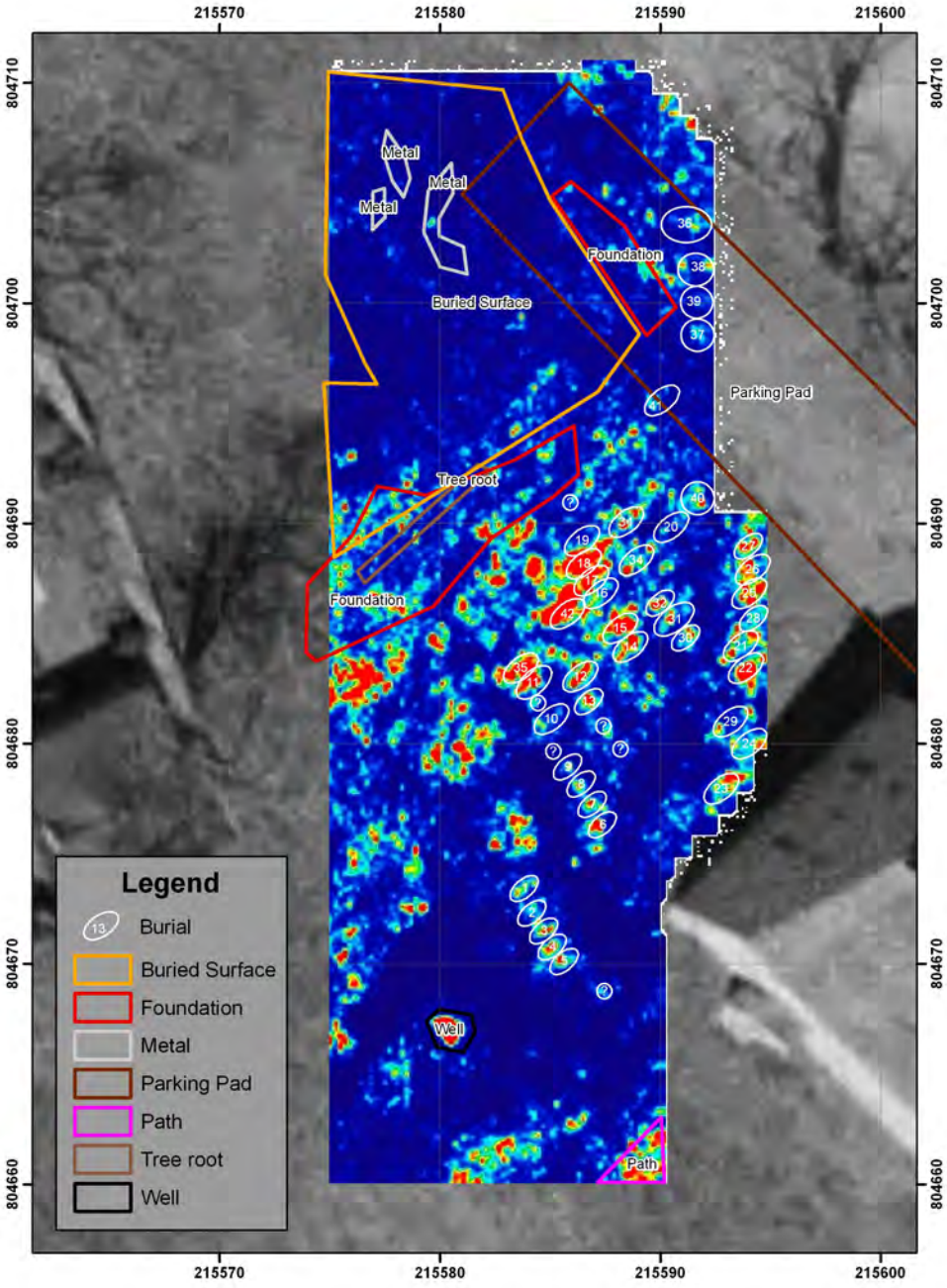

Figure 36. GPR slice 24 of the 500 MHz data at 81-88 cm bgs. Strong reflectors are in red. Suggested features are outlined.

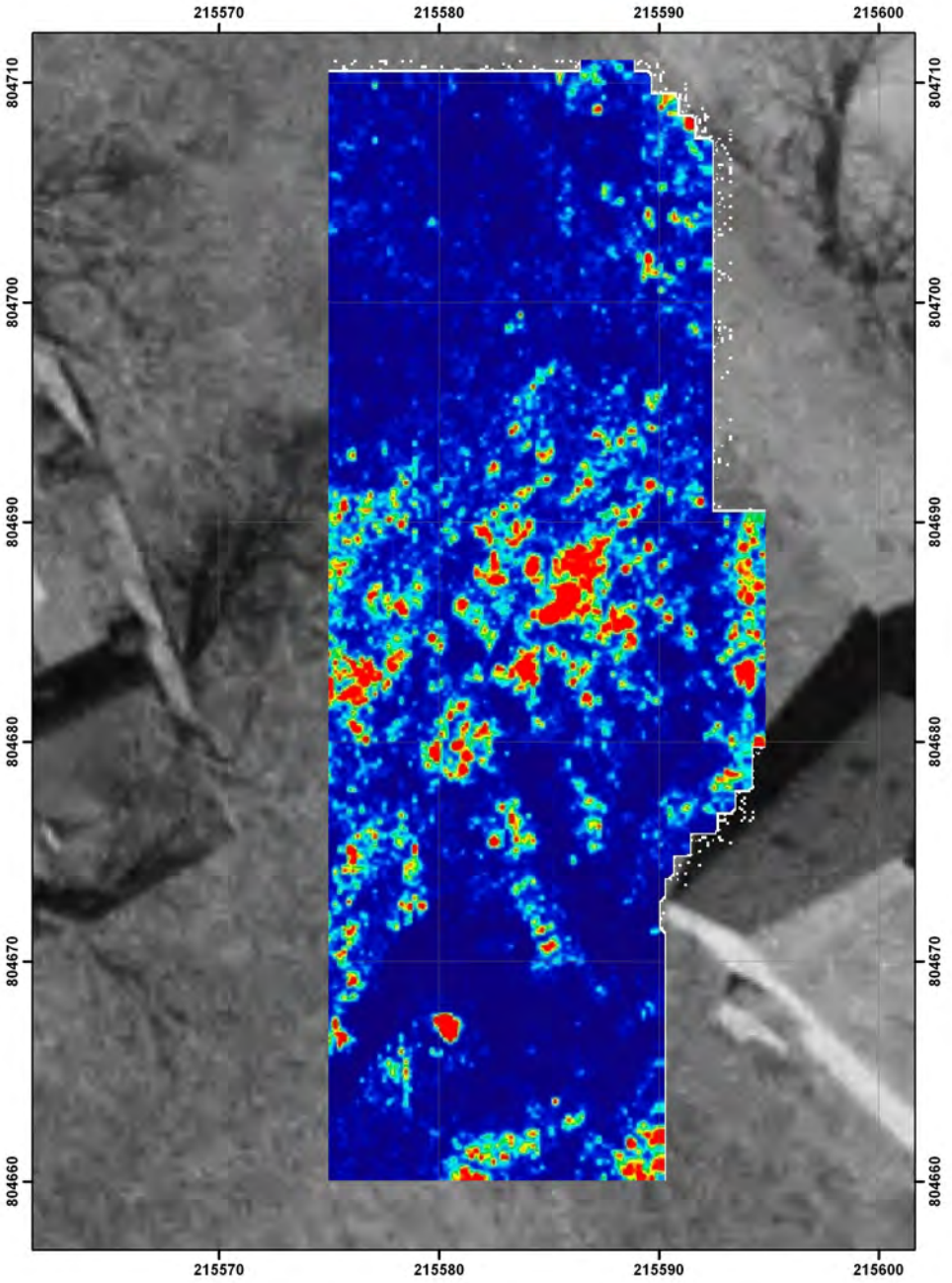

Figure 37. GPR slice 25 of the 500 MHz data at 84-92 cm bgs. Strong reflectors are in red.

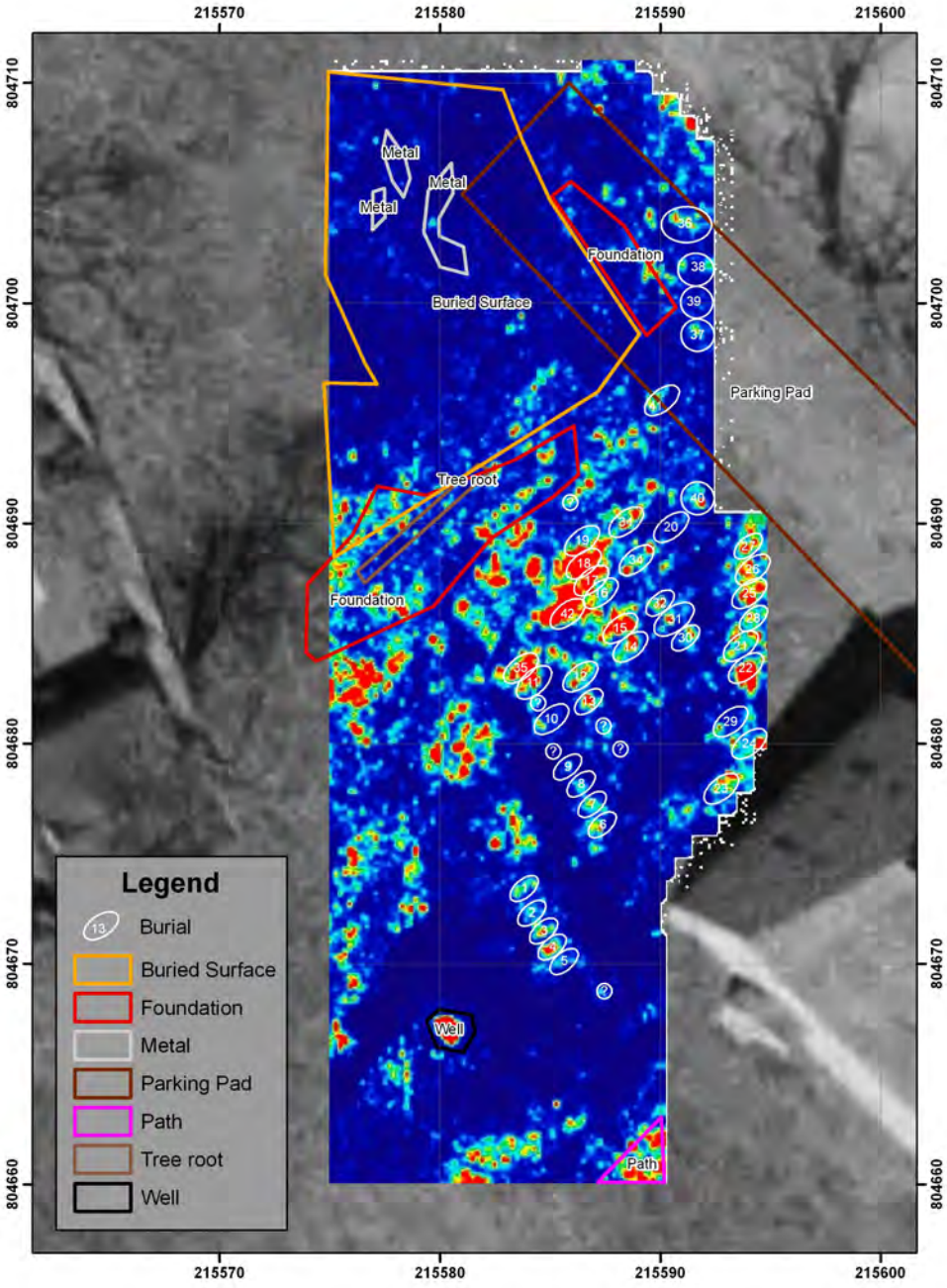

Figure 38. GPR slice 25 of the 500 MHz data at 84-92 cm bgs. Strong reflectors are in red. Suggested features are outlined.

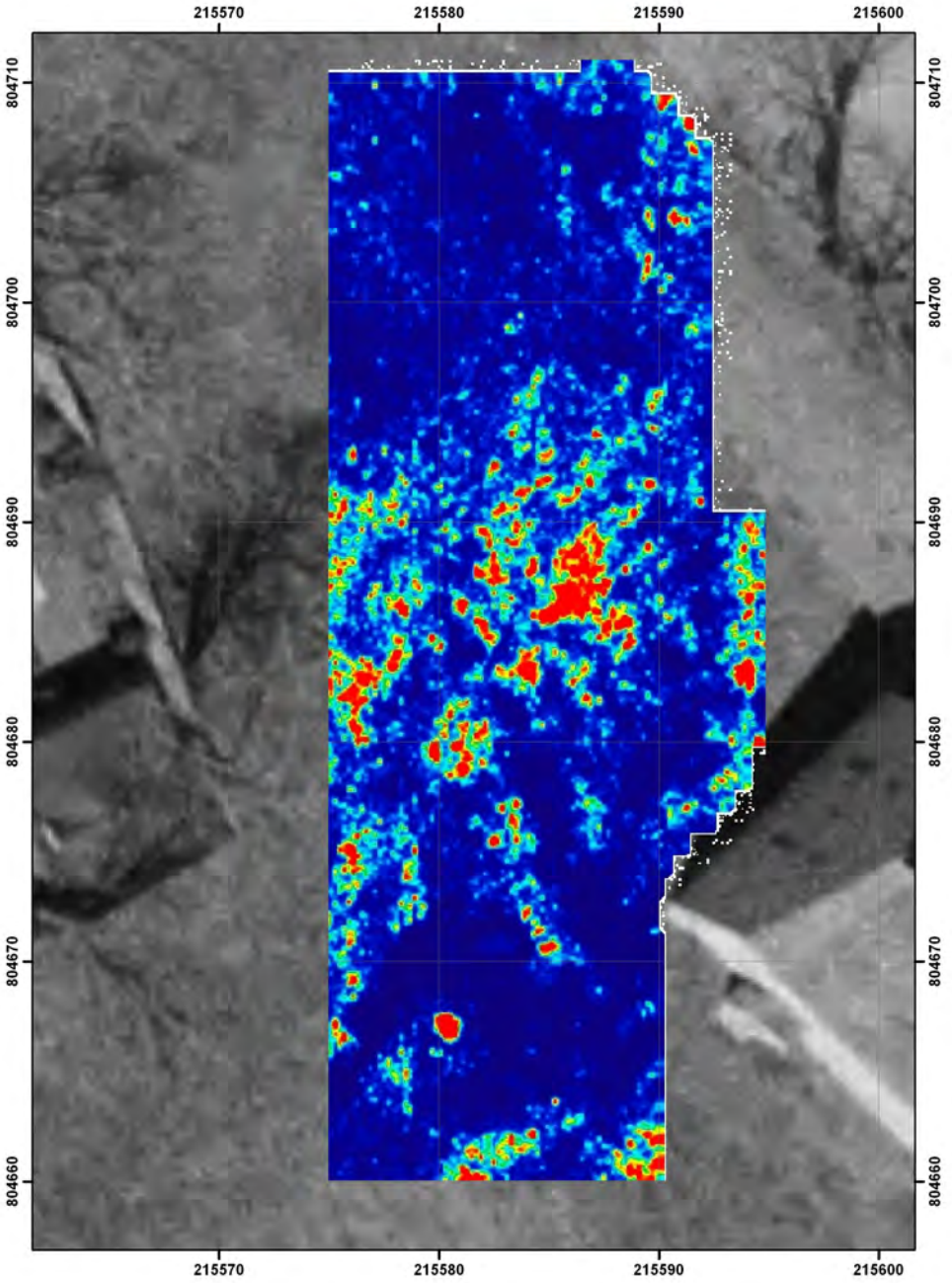

Figure 39. GPR slice 26 of the 500 MHz data at 88-95 cm bgs. Strong reflectors are in red.

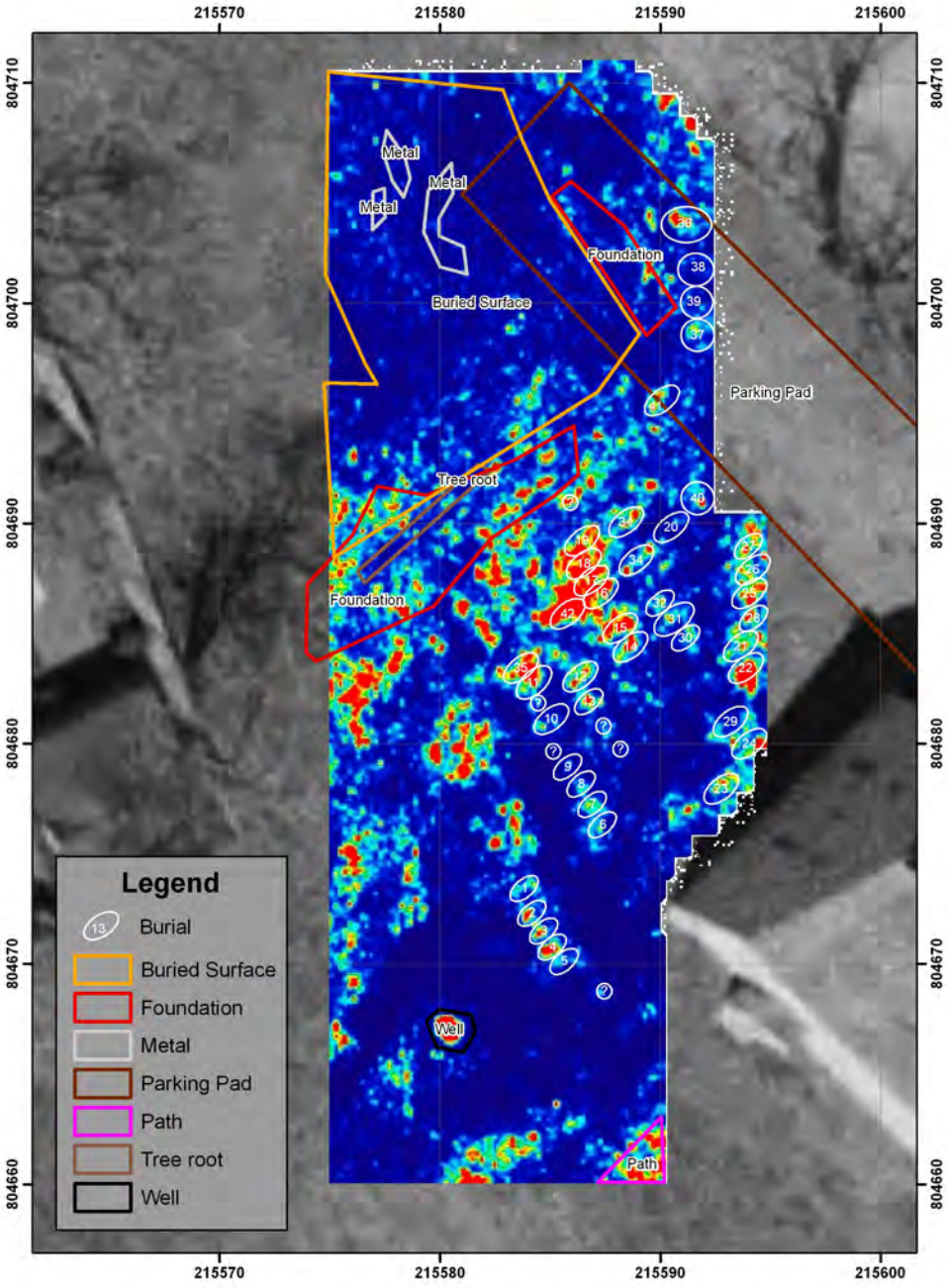

Figure 40. GPR slice 26 of the 500 MHz data at 88-95 cm bgs. Strong reflectors are in red. Suggested features are outlined.

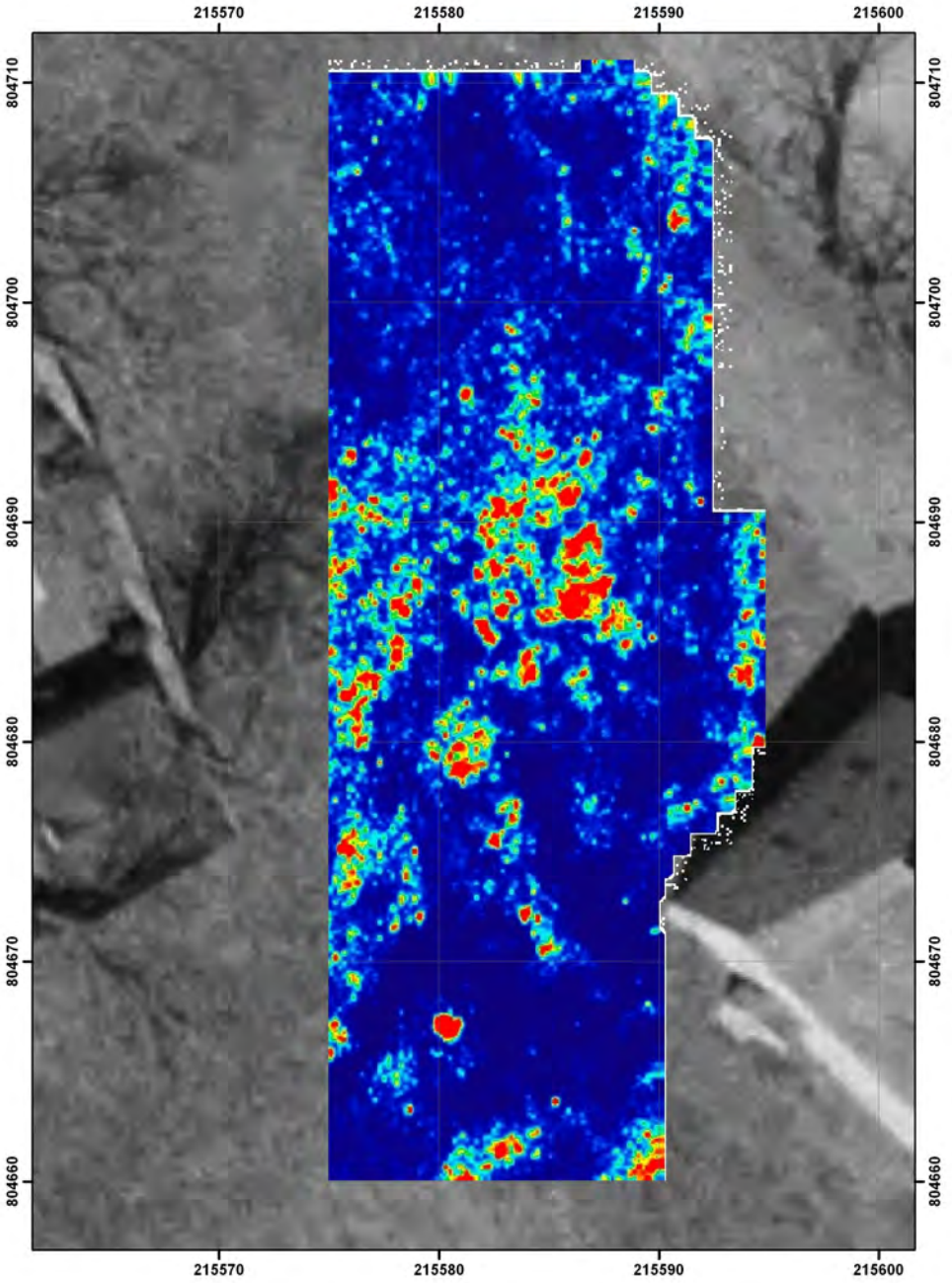

Figure 41. GPR slice 28 of the 500 MHz data at 95-102 cm bgs. Strong reflectors are in red.

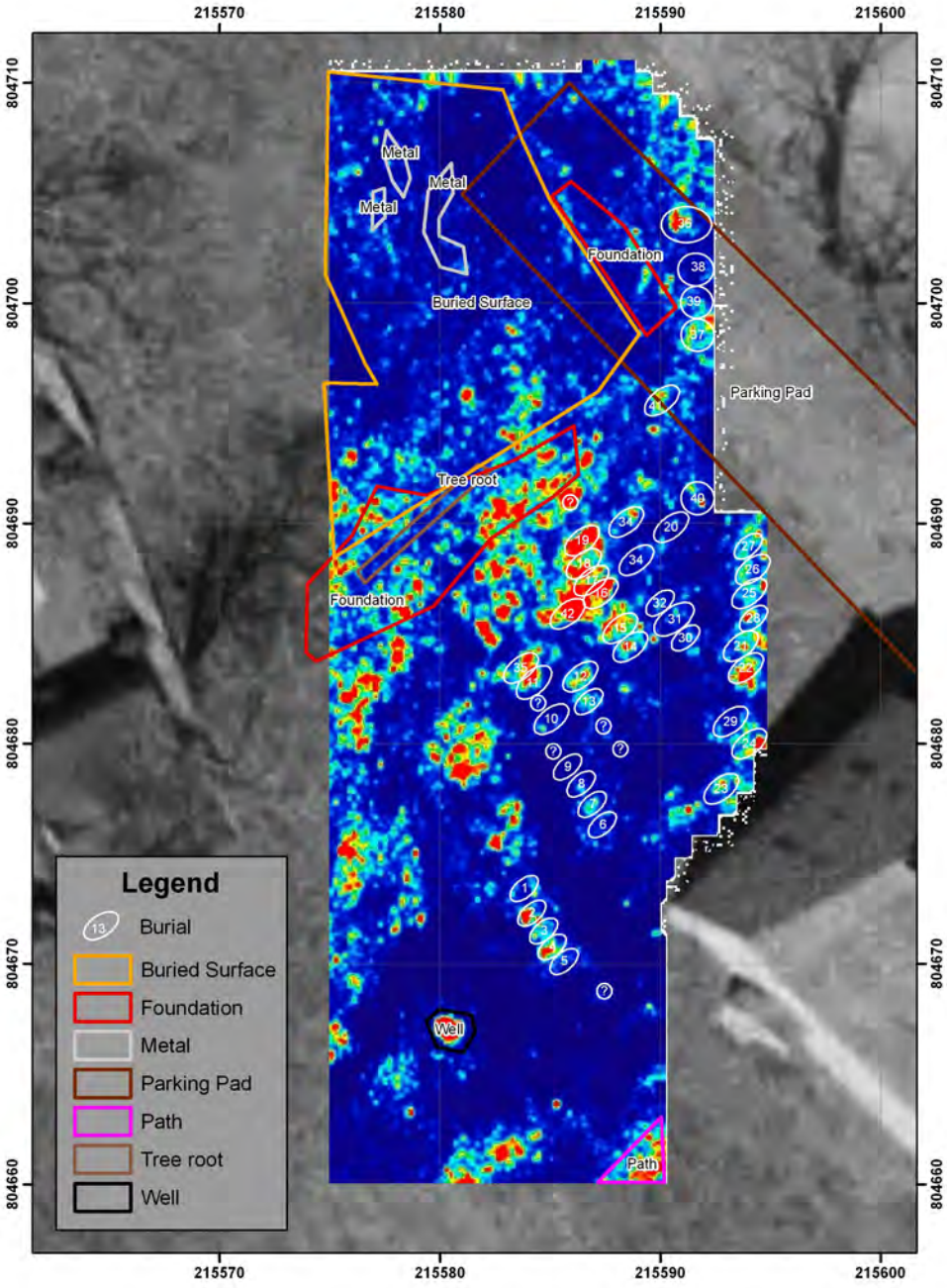

Figure 42. GPR slice 28 of the 500 MHz data at 95-102 cm bgs. Strong reflectors are in red. Suggested features are outlined.

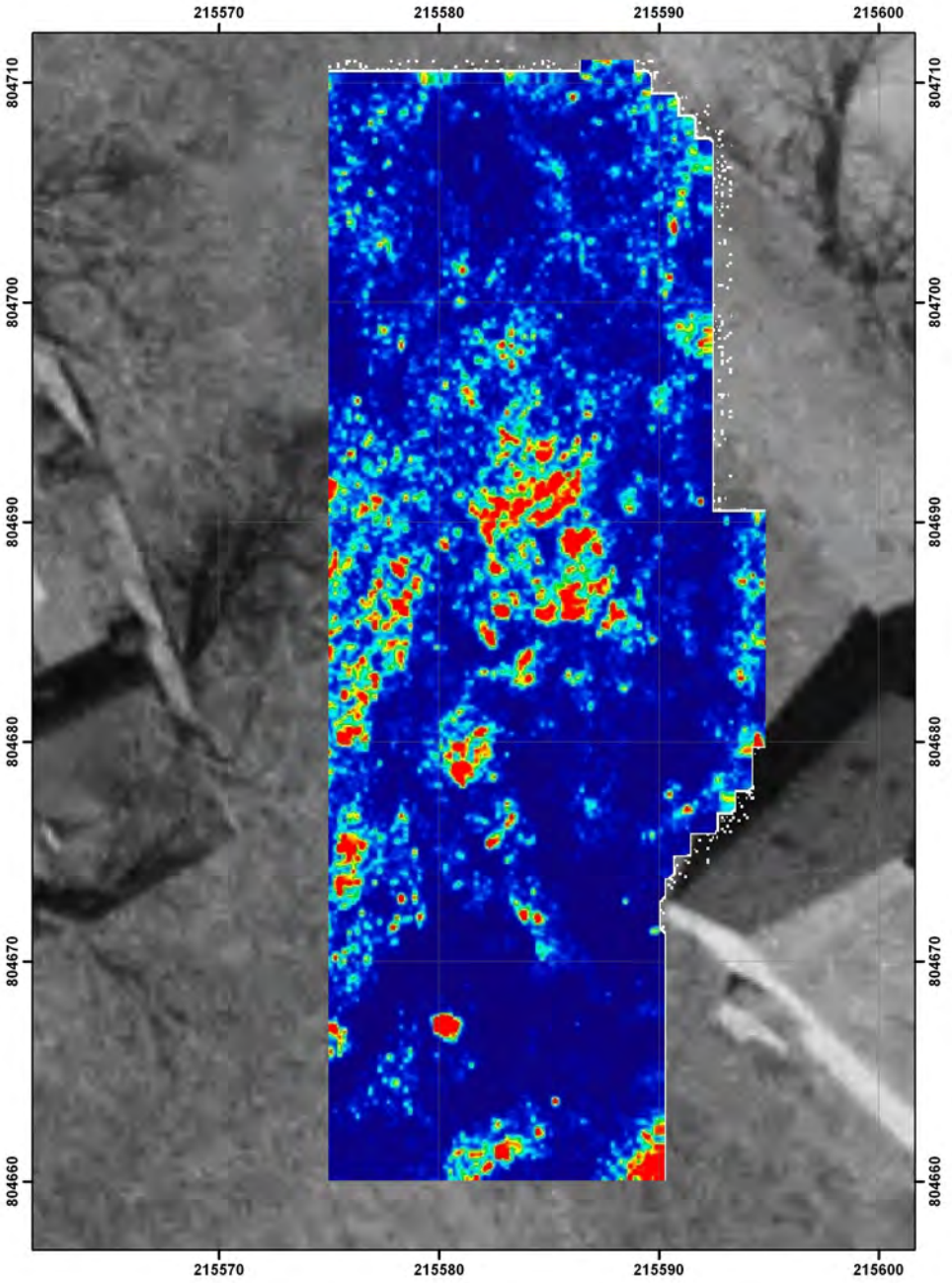

Figure 43. GPR slice 30 of the 500 MHz data at 102-109 cm bgs. Strong reflectors are in red.

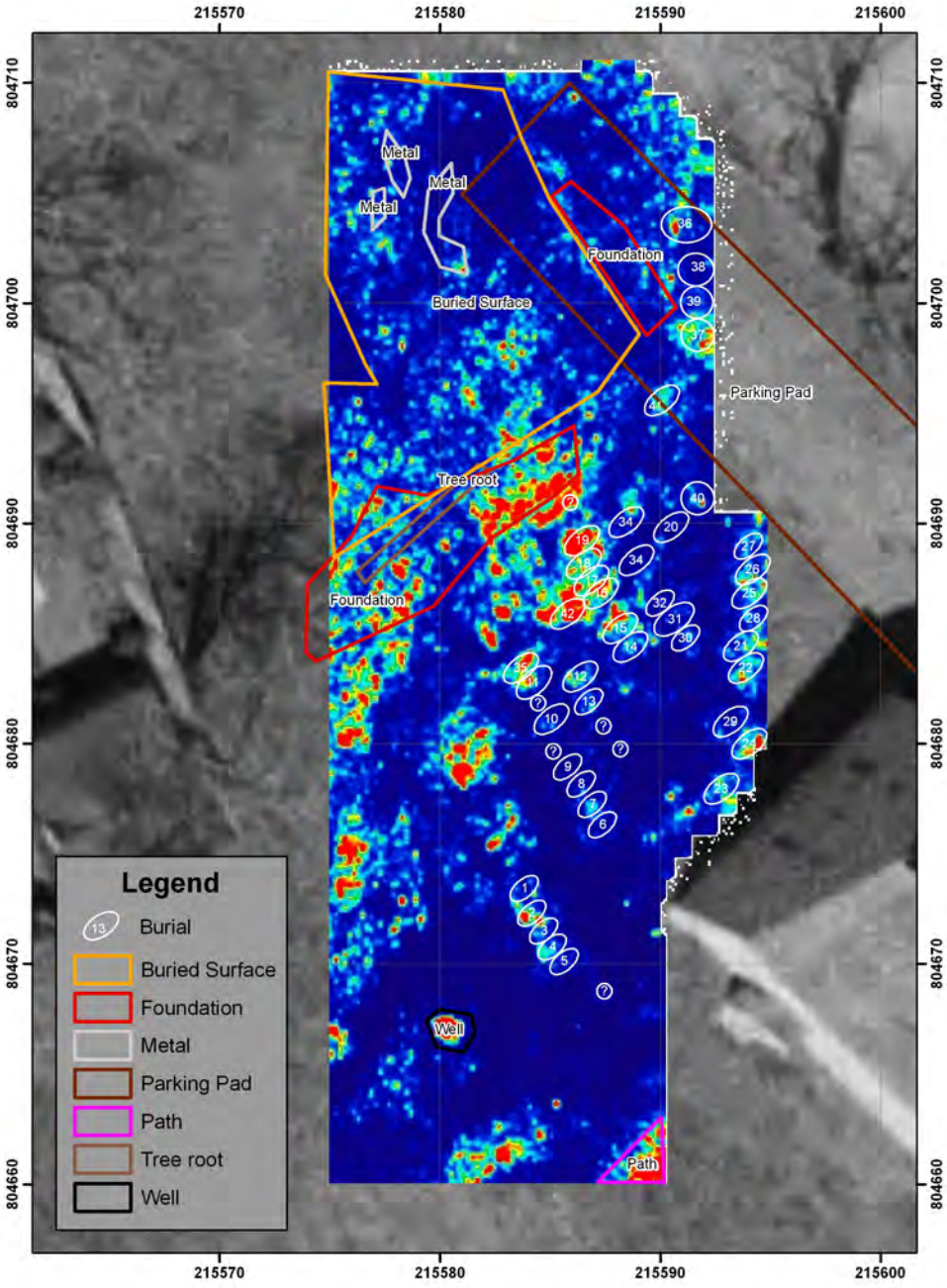

Figure 44. GPR slice 30 of the 500 MHz data at 102-109 cm bgs. Strong reflectors are in red. Suggested features are outlined.

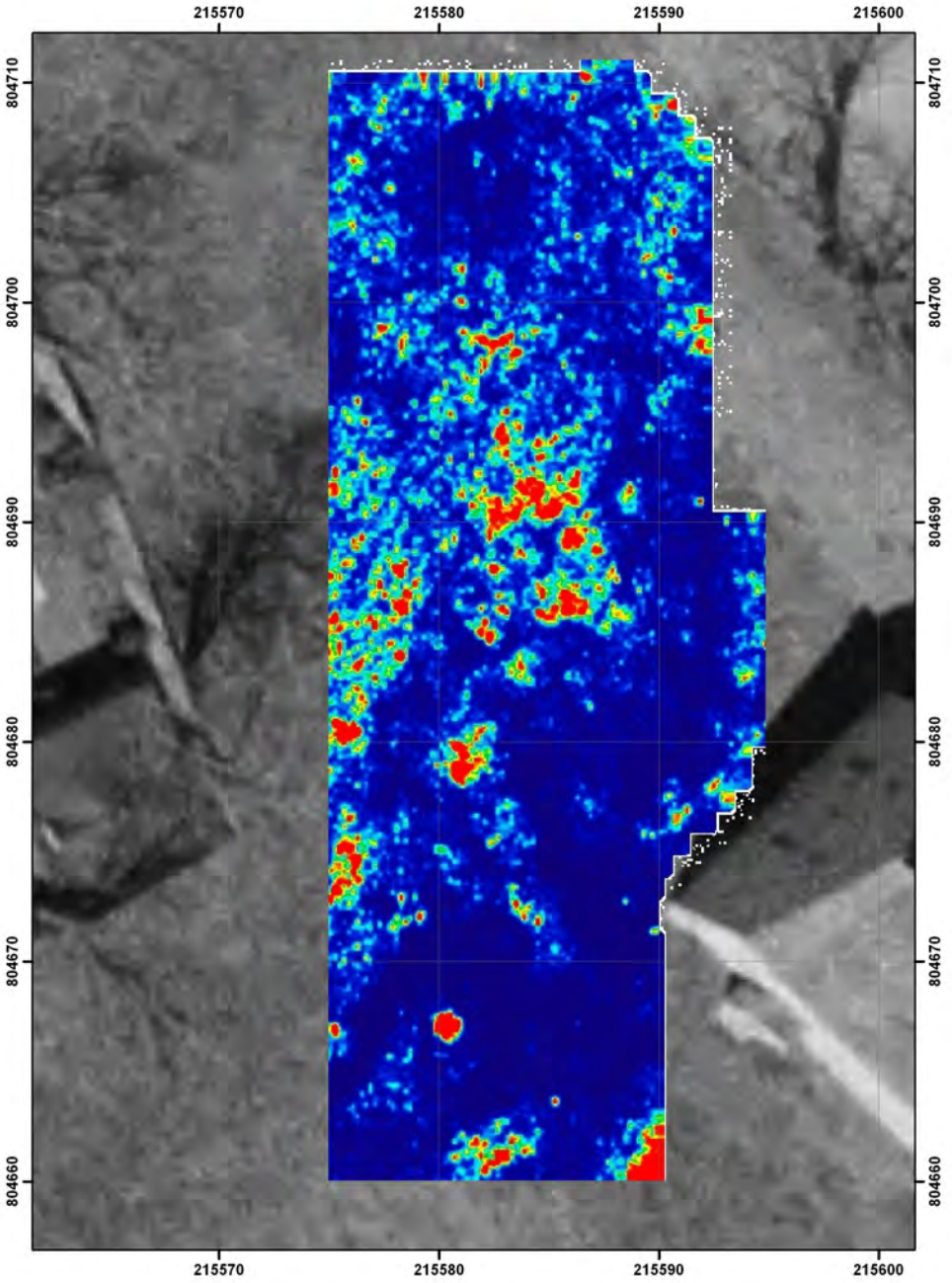

Figure 45. GPR slice 32 of the 500 MHz data at 116-124 cm bgs. Strong reflectors are in red.

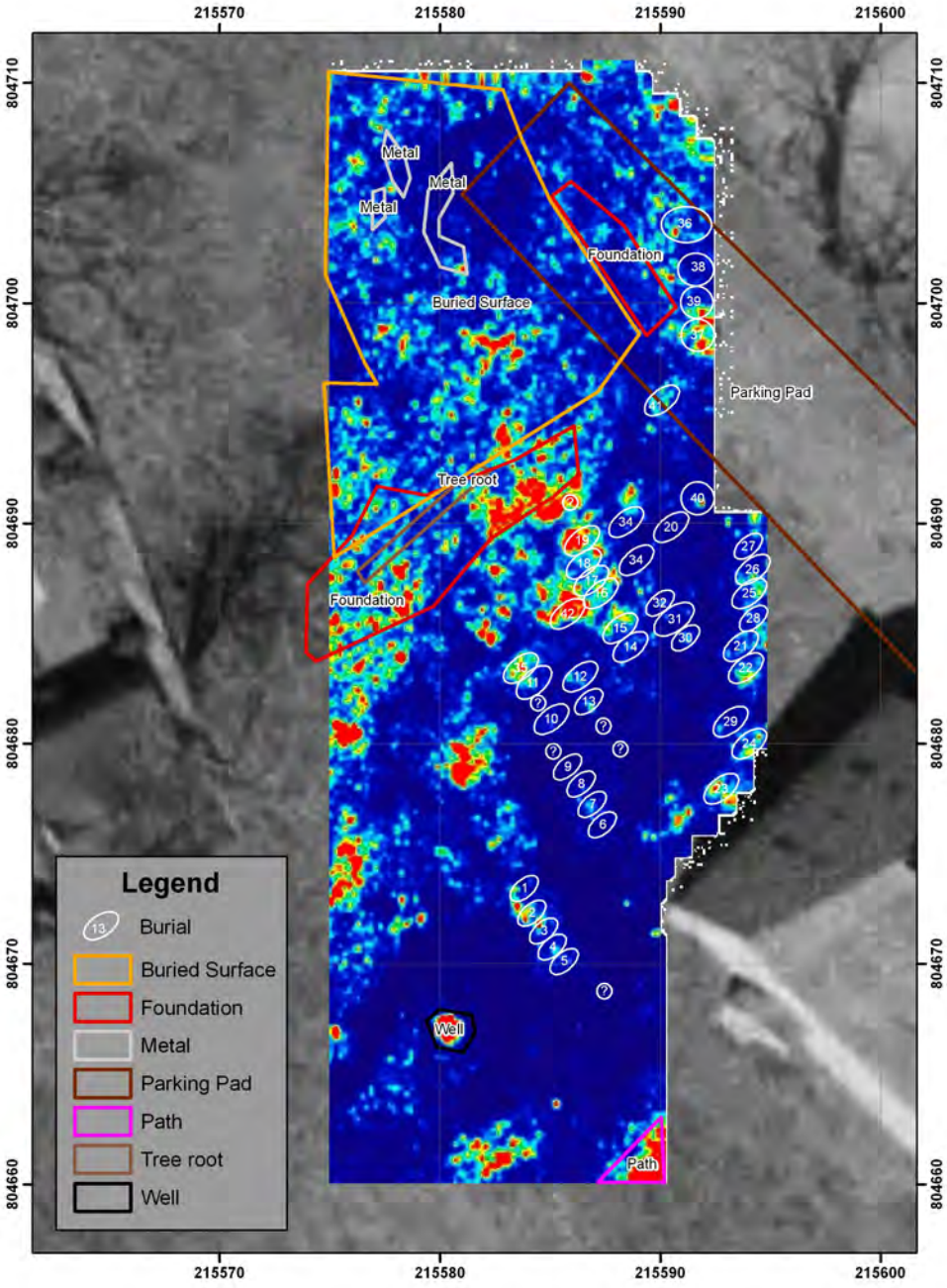

Figure 46. GPR slice 32 of the 500 MHz data at 116-124 cm bgs. Strong reflectors are in red. Suggested features are outlined.

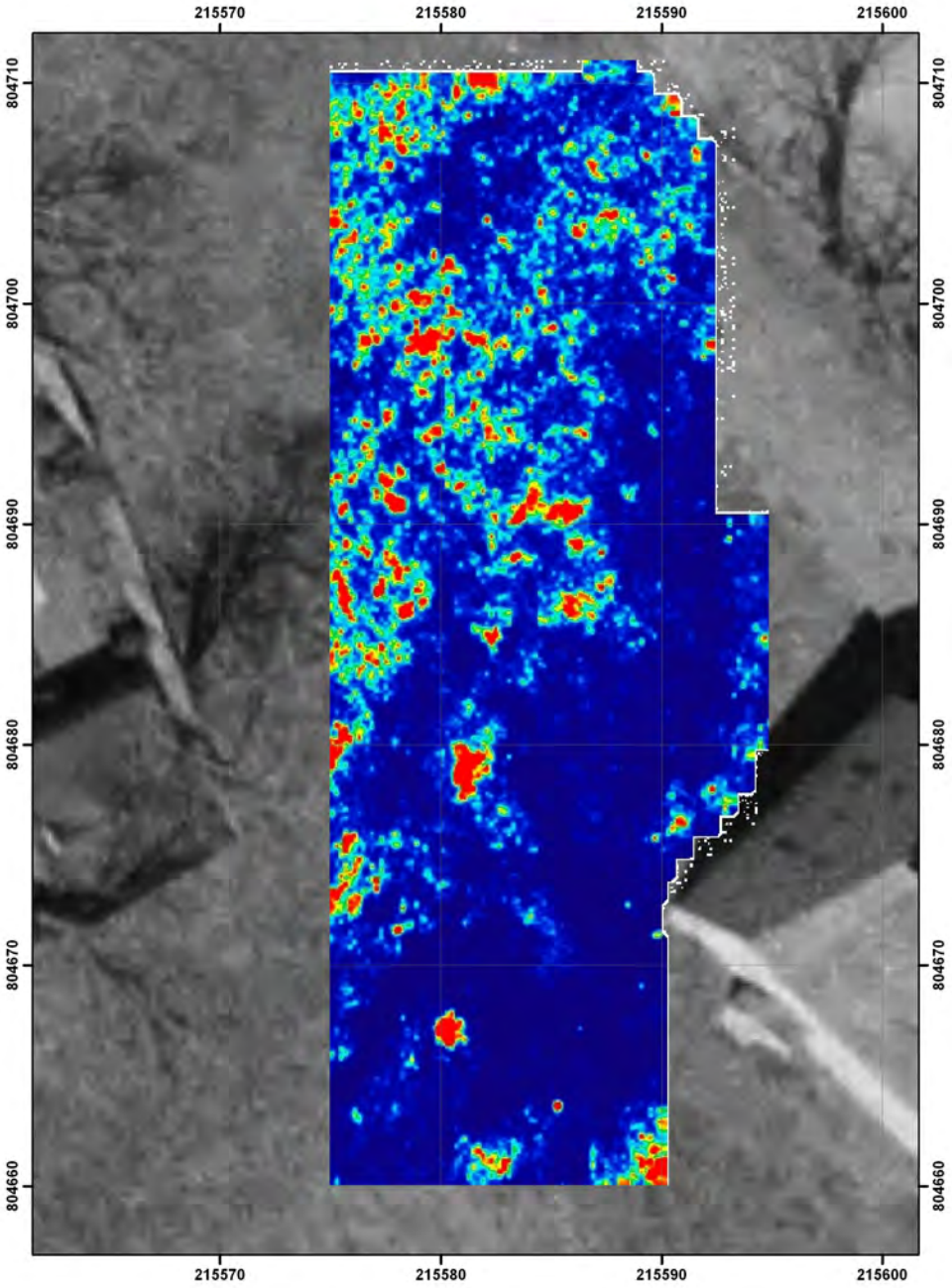

Figure 47. GPR slice 36 of the 500 MHz data at 123-131 cm bgs. Strong reflectors are in red.

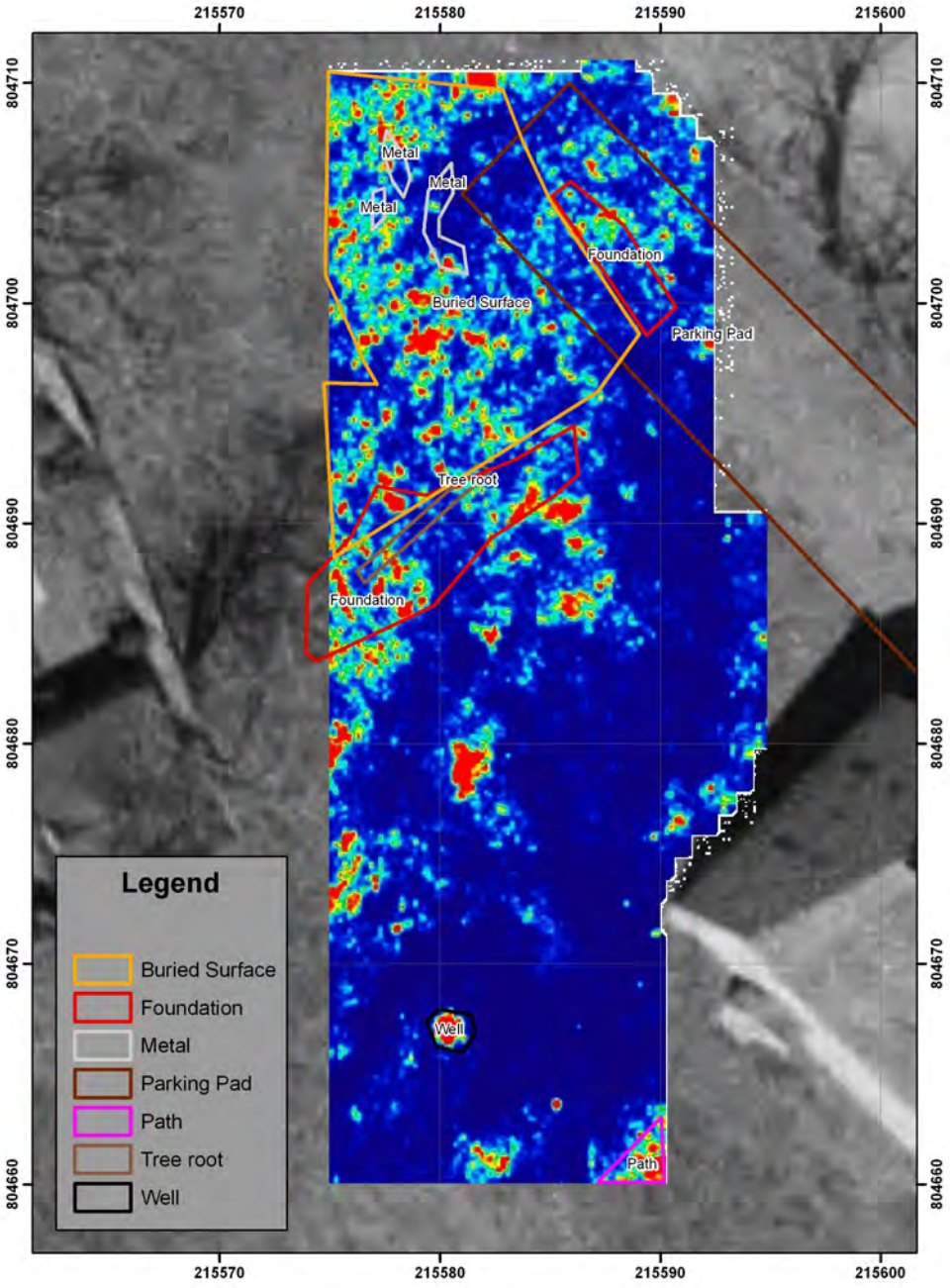

Figure 48. GPR slice 36 of the 500 MHz data at 123-131 cm bgs. Strong reflectors are in red. Suggested features are outlined.

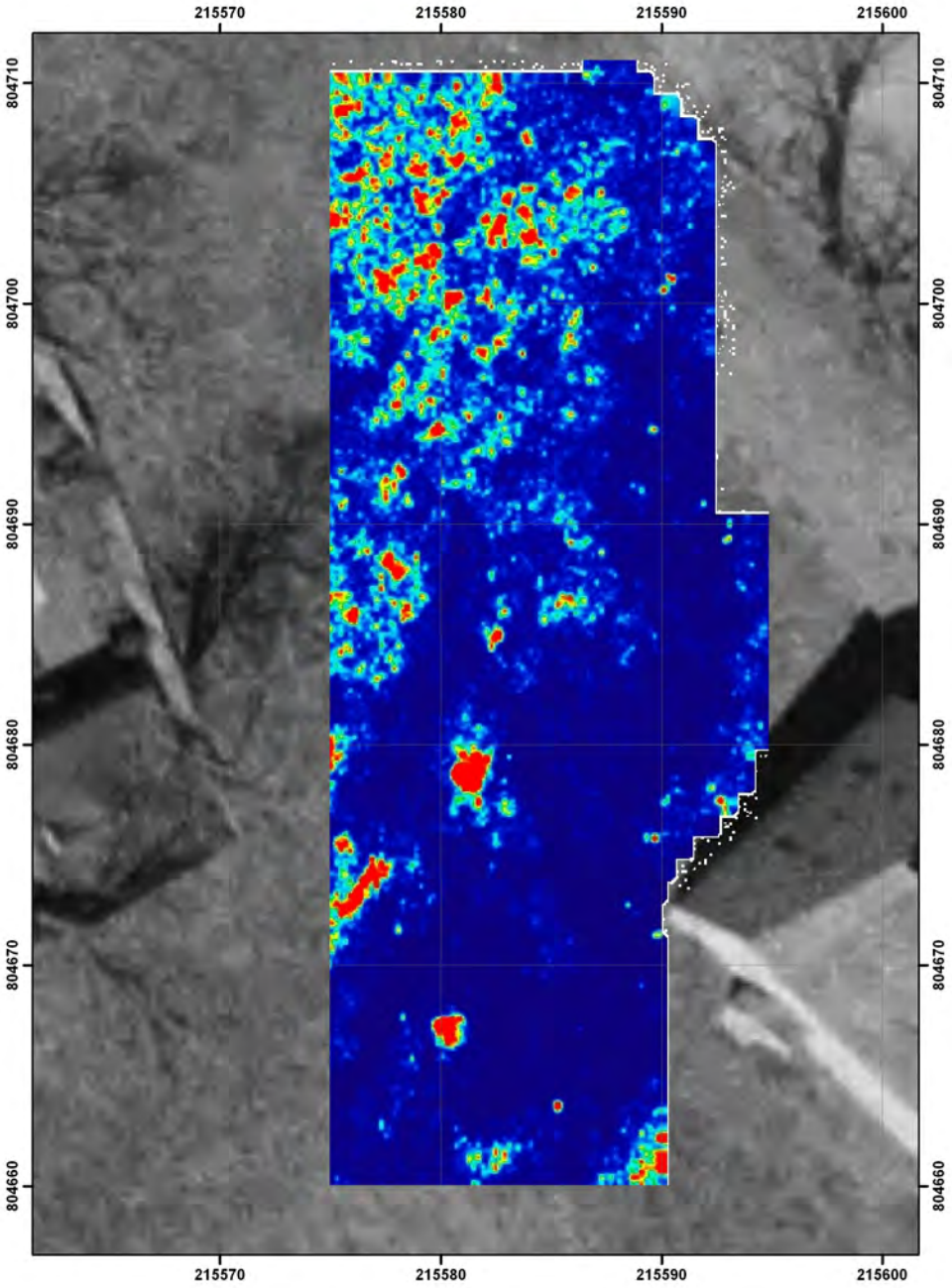

Figure 49. GPR slice 40 of the 500 MHz data at 137-145 cm bgs. Strong reflectors are in red.

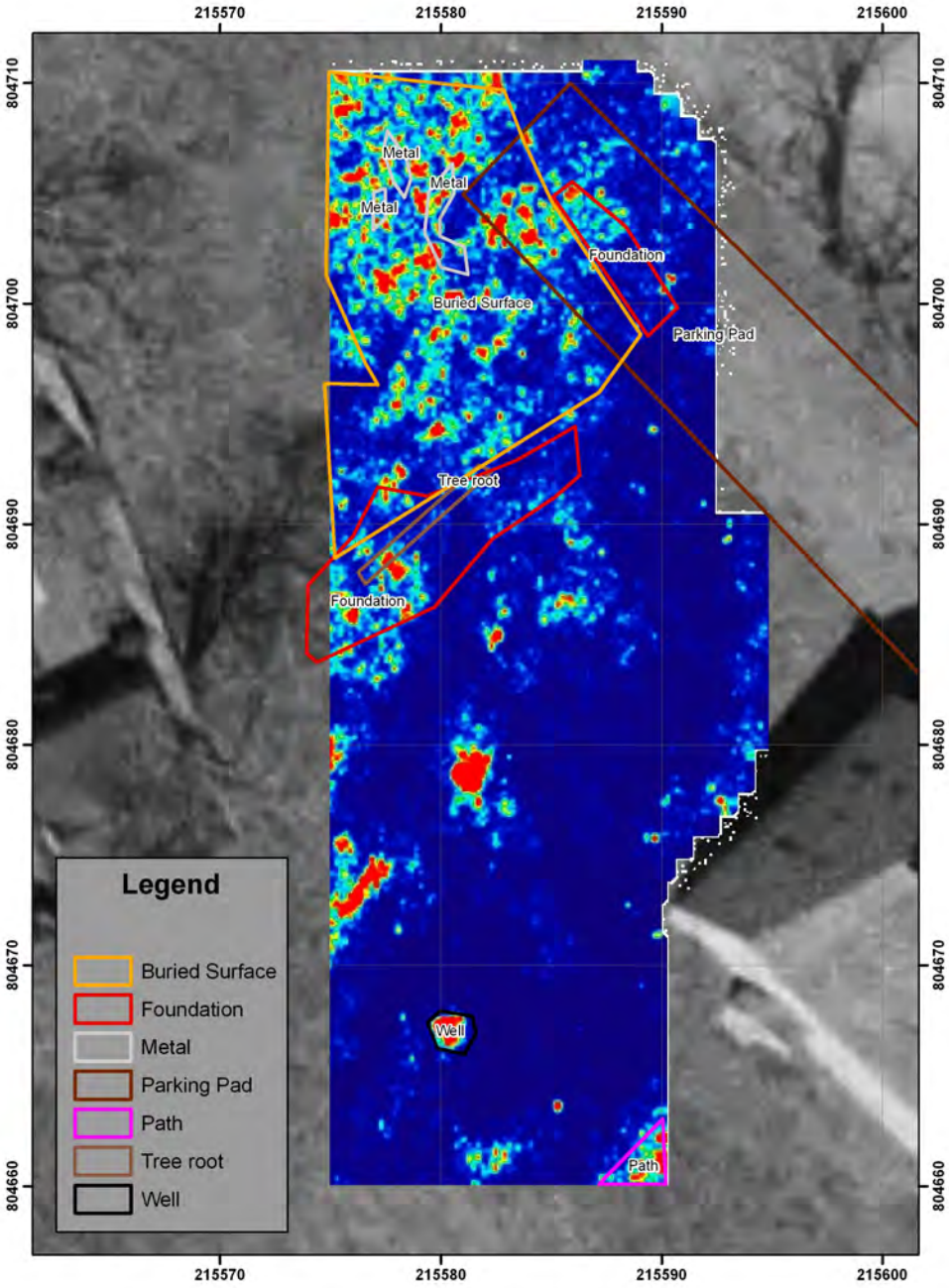

Figure 50. GPR slice 40 of the 500 MHz data at 137-145 cm bgs. Strong reflectors are in red. Suggested features are outlined.

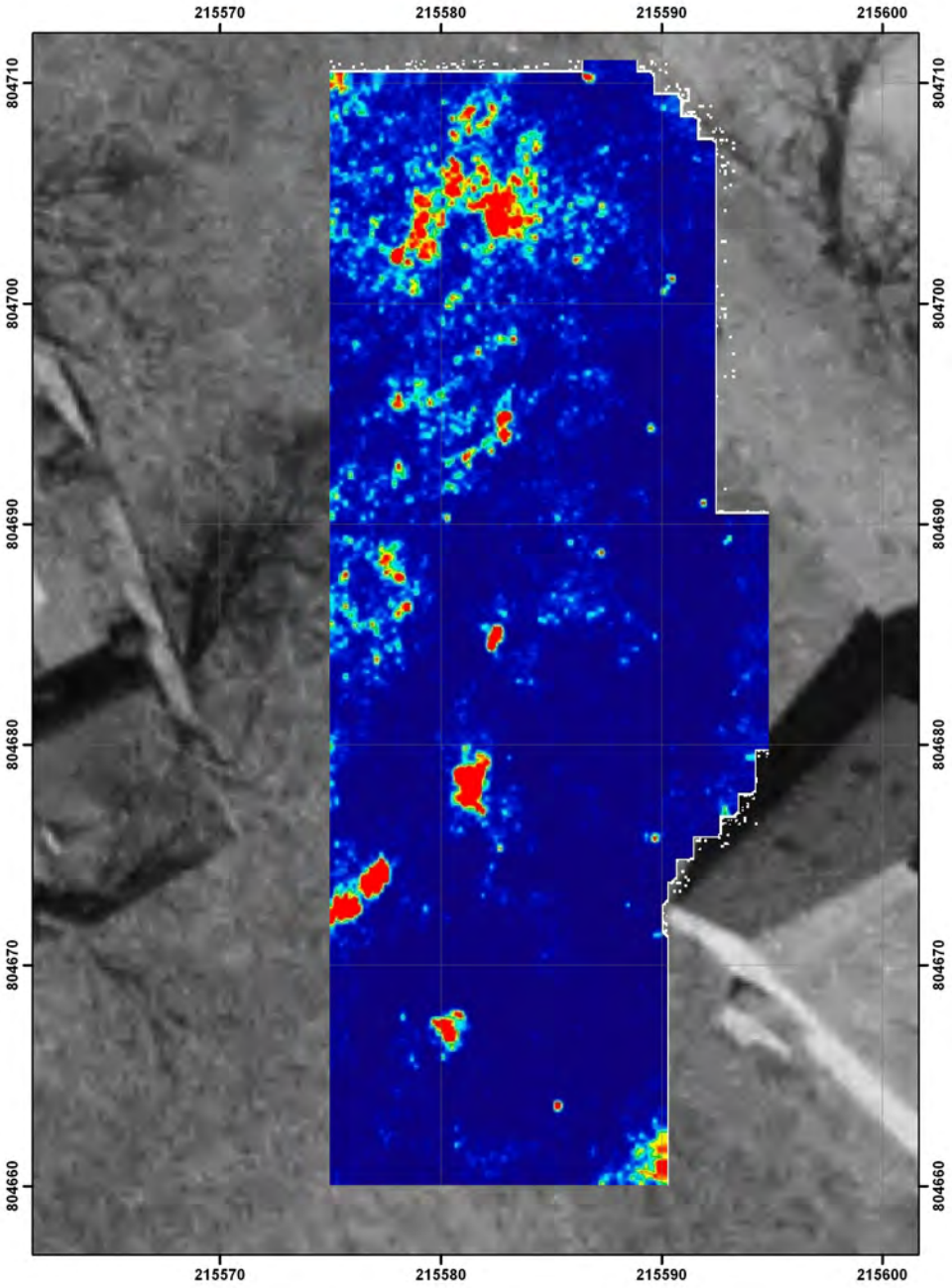

Figure 51. GPR slice 44 of the 500 MHz data at 151-159 cm bgs. Strong reflectors are in red.

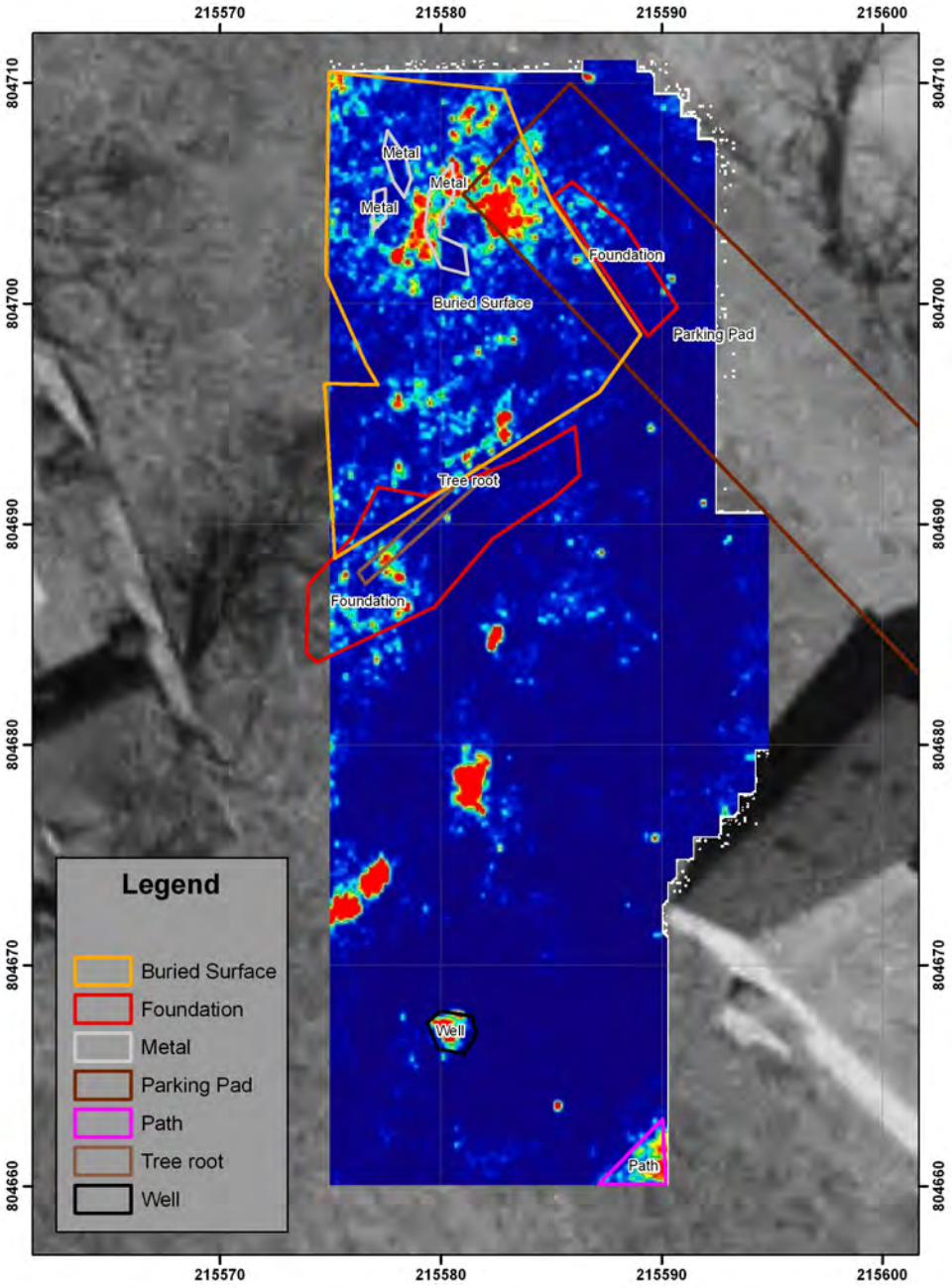

Figure 52. GPR slice 44 of the 500 MHz data at 151-159 cm bgs. Strong reflectors are in red. Suggested features are outlined.

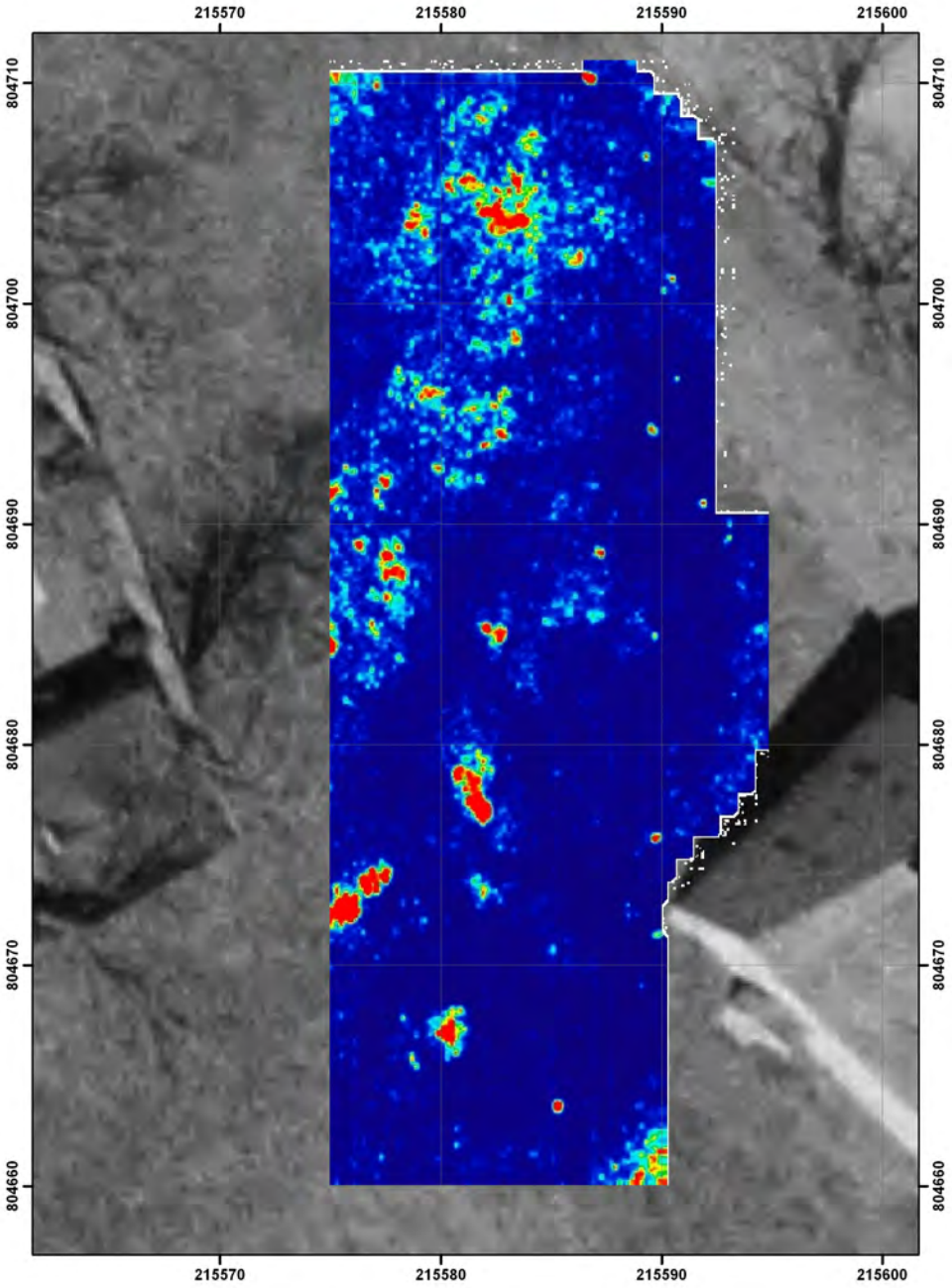

Figure 53. GPR slice 48 of the 500 MHz data at 165-173 cm bgs. Strong reflectors are in red.

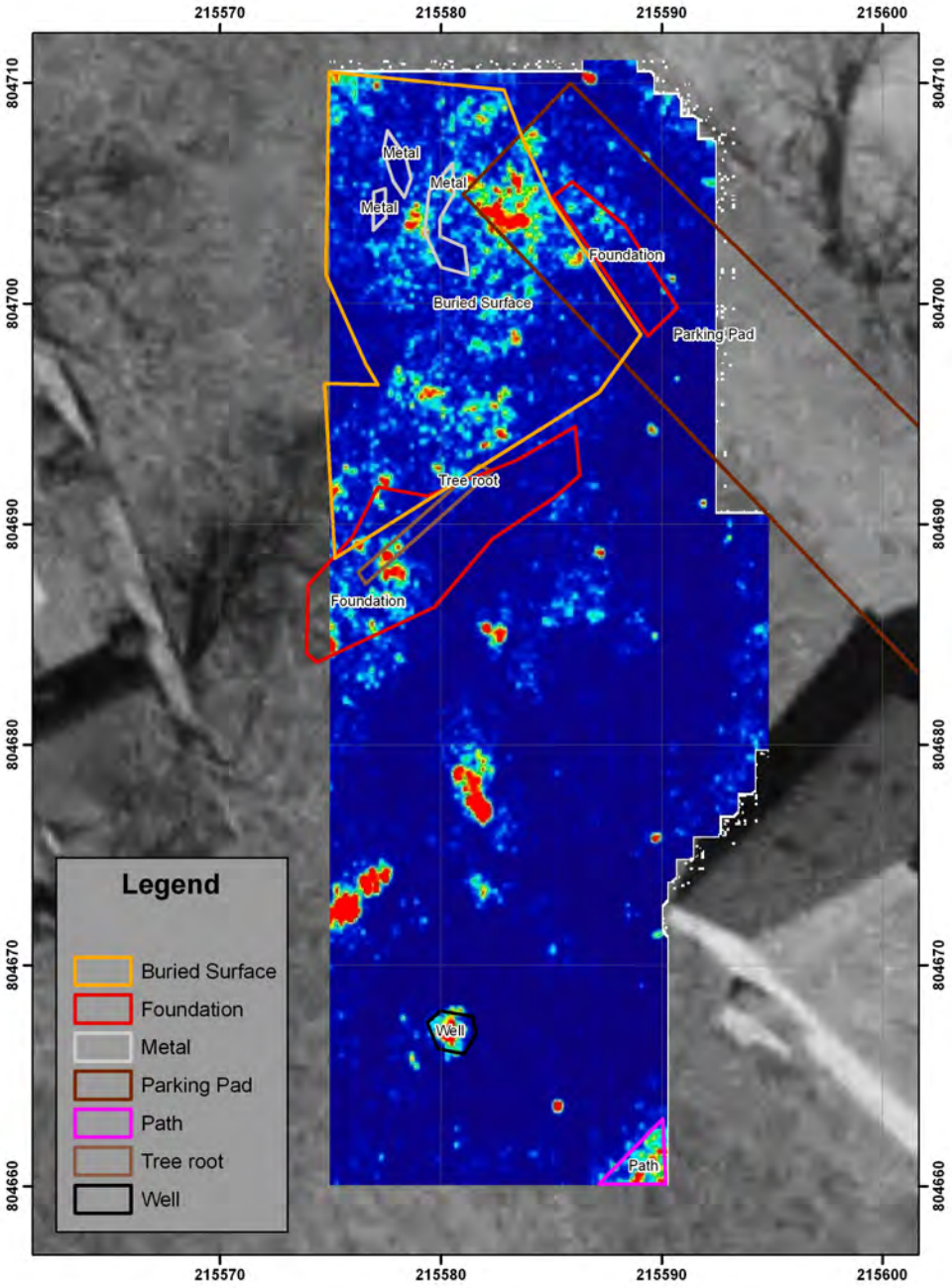

Figure 54. GPR slice 48 of the 500 MHz data at 165-173 cm bgs. Strong reflectors are in red. Suggested features are outlined.

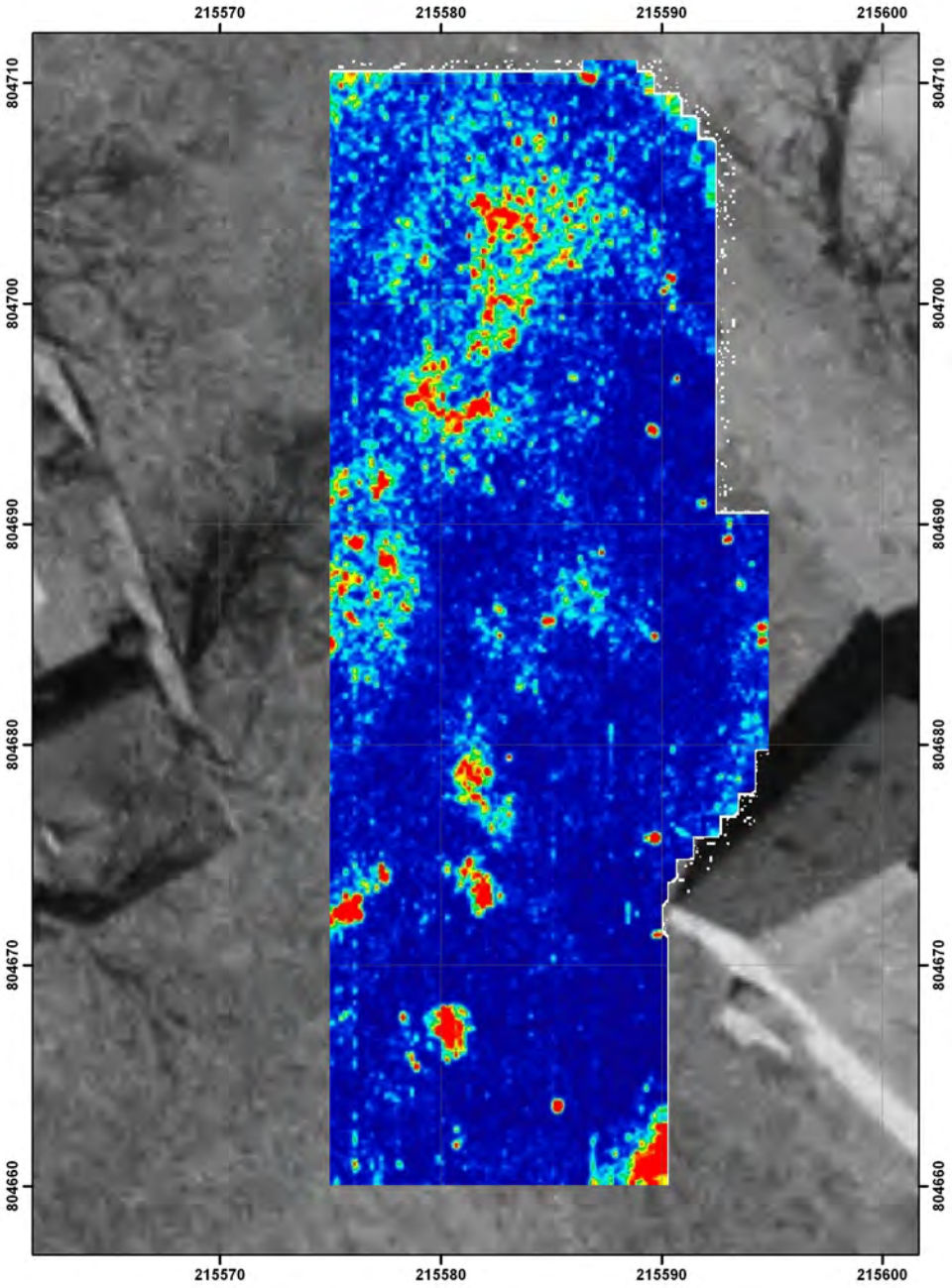

Figure 55. GPR slice 52 of the 500 MHz data at 180-187 cm bgs. Strong reflectors are in red.

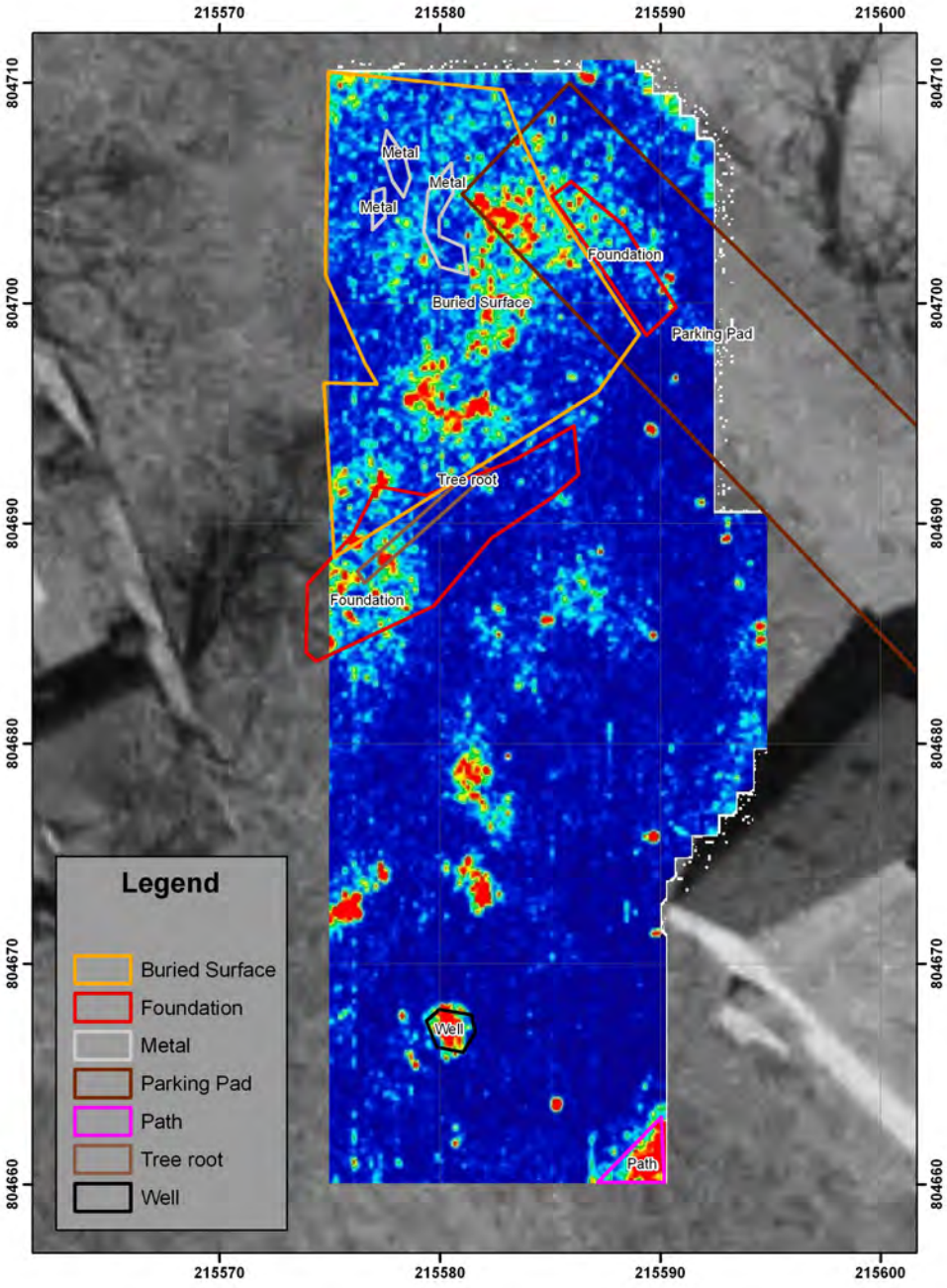

Figure 56. GPR slice 52 of the 500 MHz data at 180-187 cm bgs. Strong reflectors are in red. Suggested features are outlined.

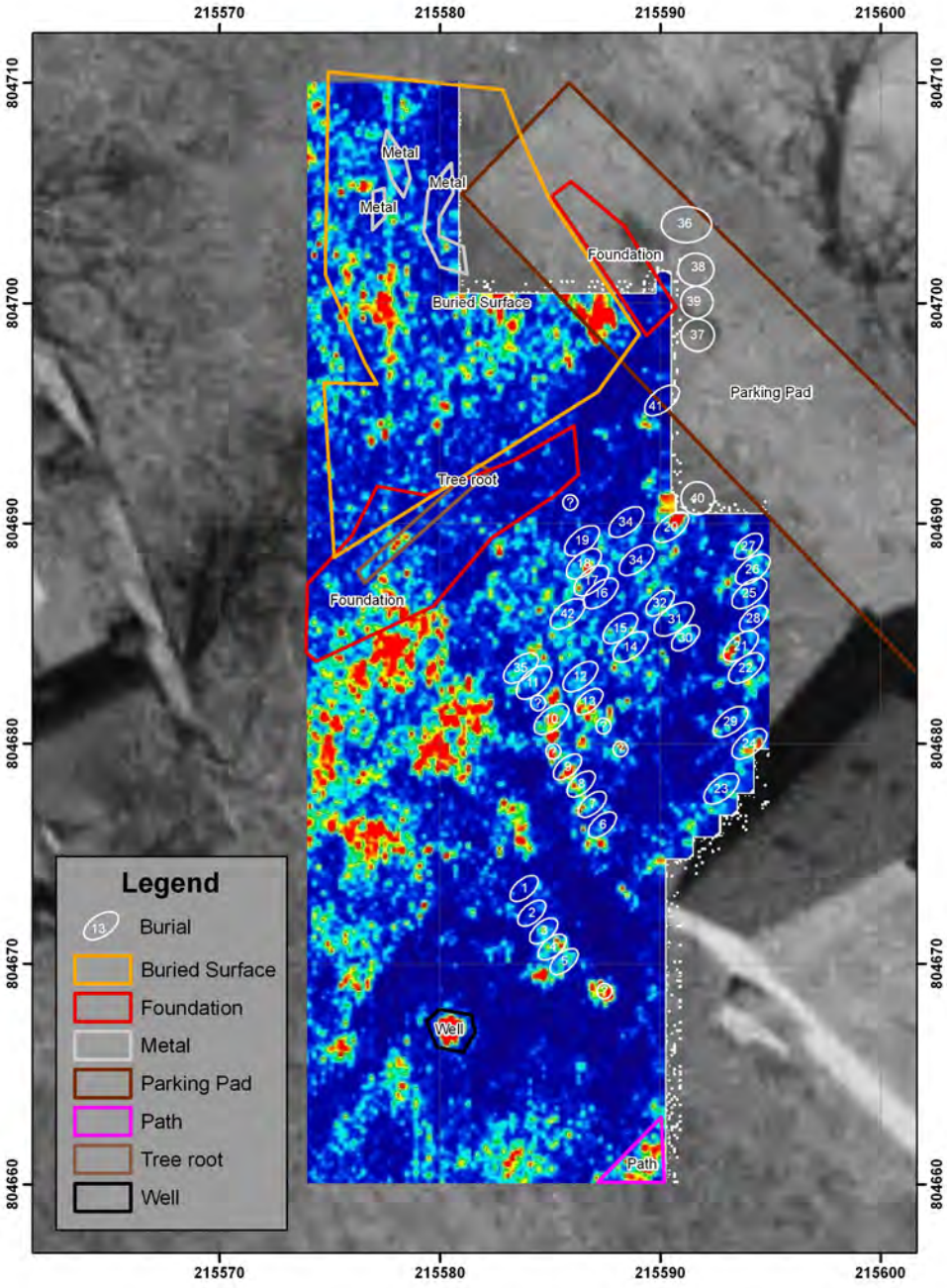

Figure 57. GPR slice 15 of the 800 MHz data at 66-73 cm bgs. Strong reflectors are in red Suggested features are outlined.

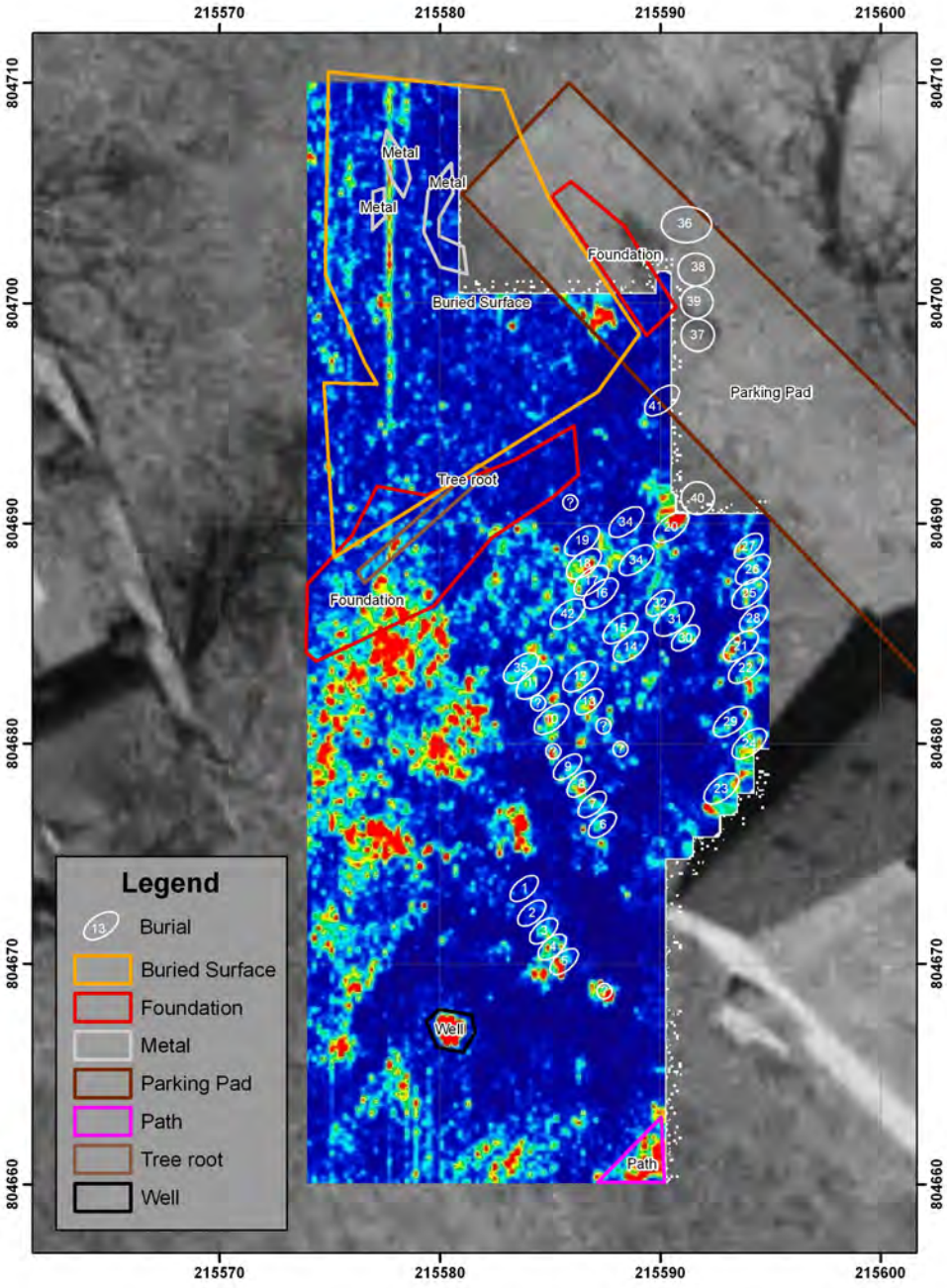

Figure 58. GPR slice 16 of the 800 MHz data at 71-77 cm bgs. Strong reflectors are in red Suggested features are outlined.

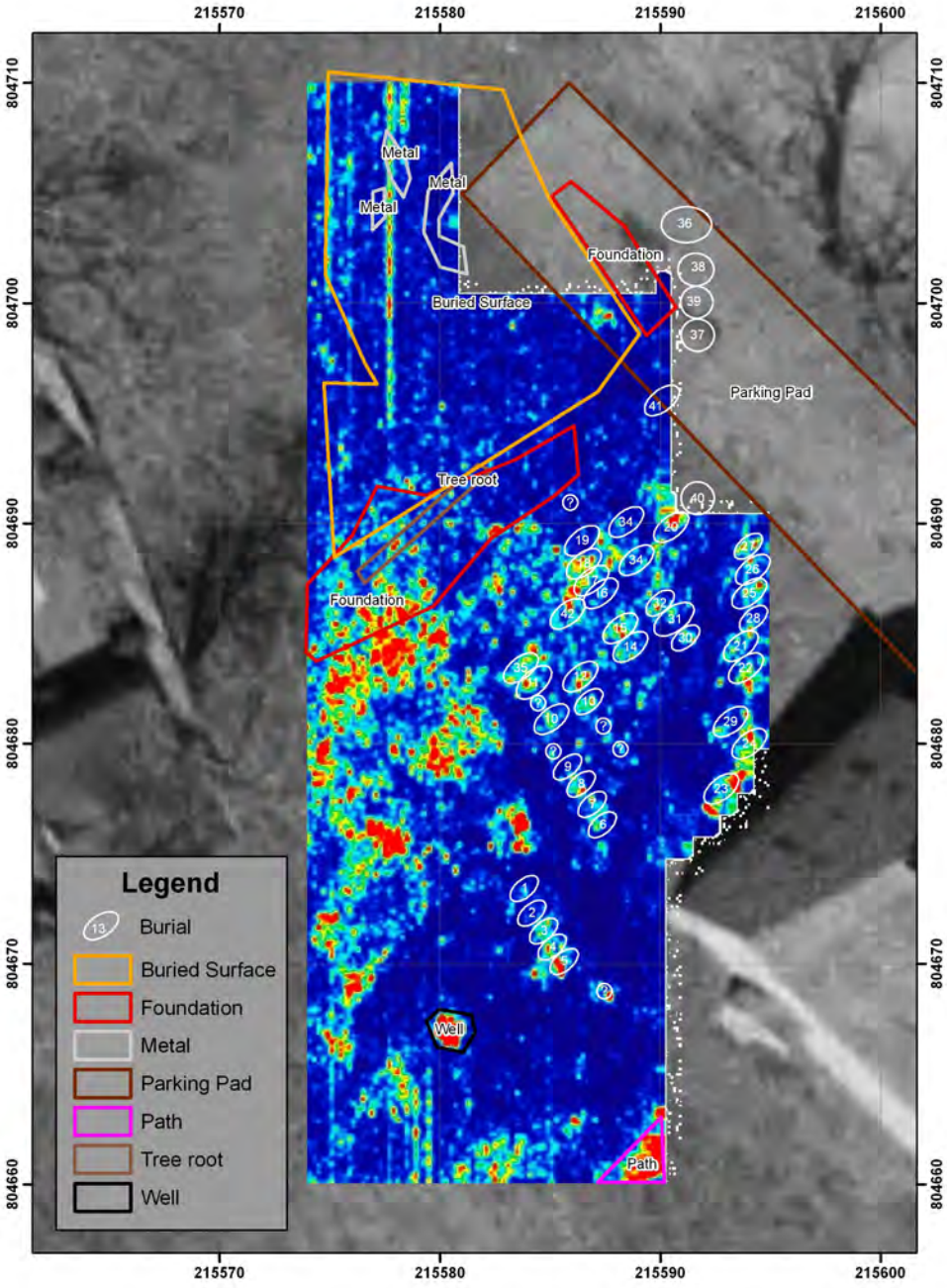

Figure 59. GPR slice 17 of the 800 MHz data at 75-81 cm bgs. Strong reflectors are in red Suggested features are outlined.

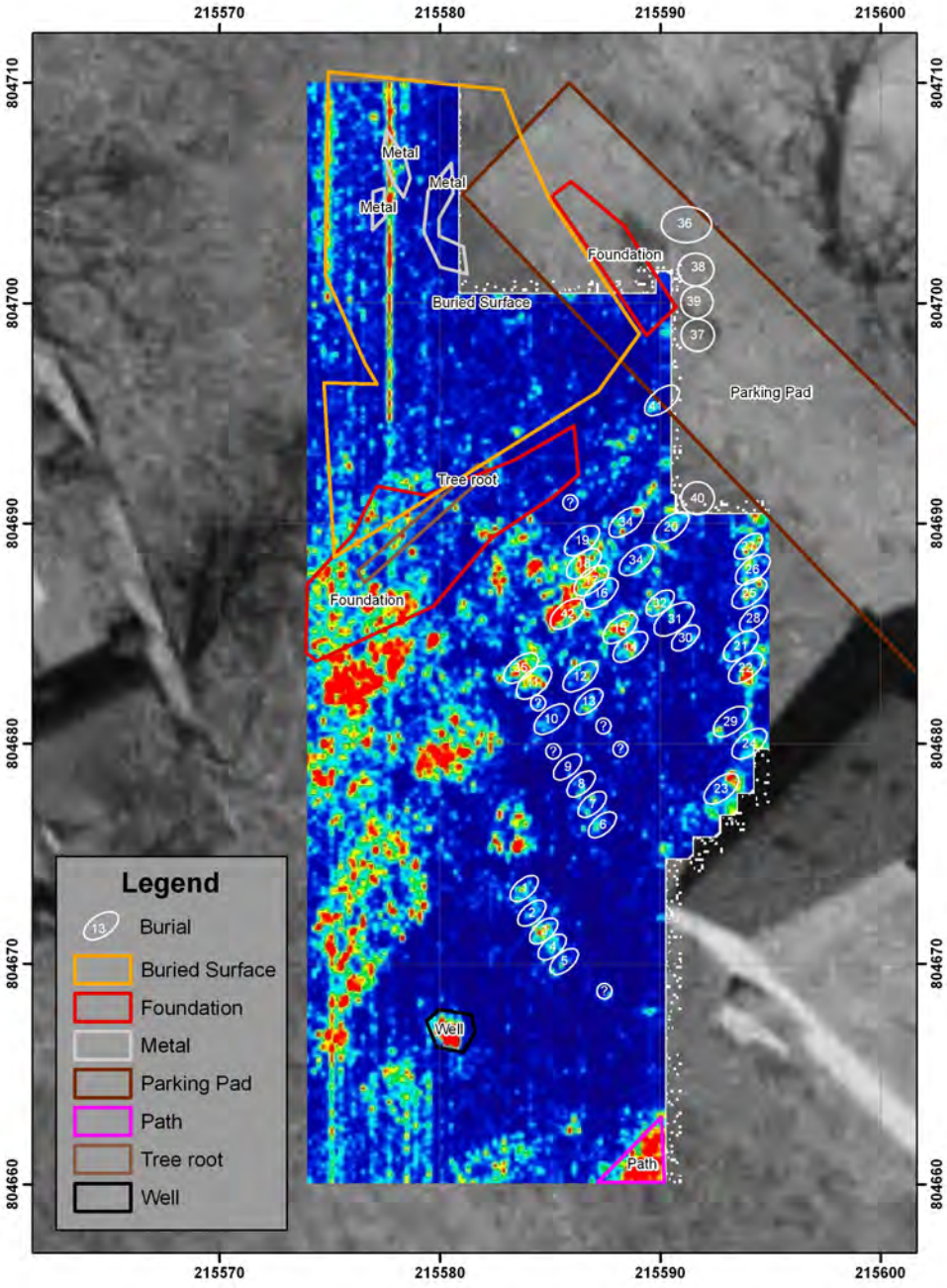

Figure 60. GPR slice 19 of the 800 MHz data at 84-90 cm bgs. Strong reflectors are in red Suggested features are outlined. At this bottom slice, there is substantial north-south line noise.

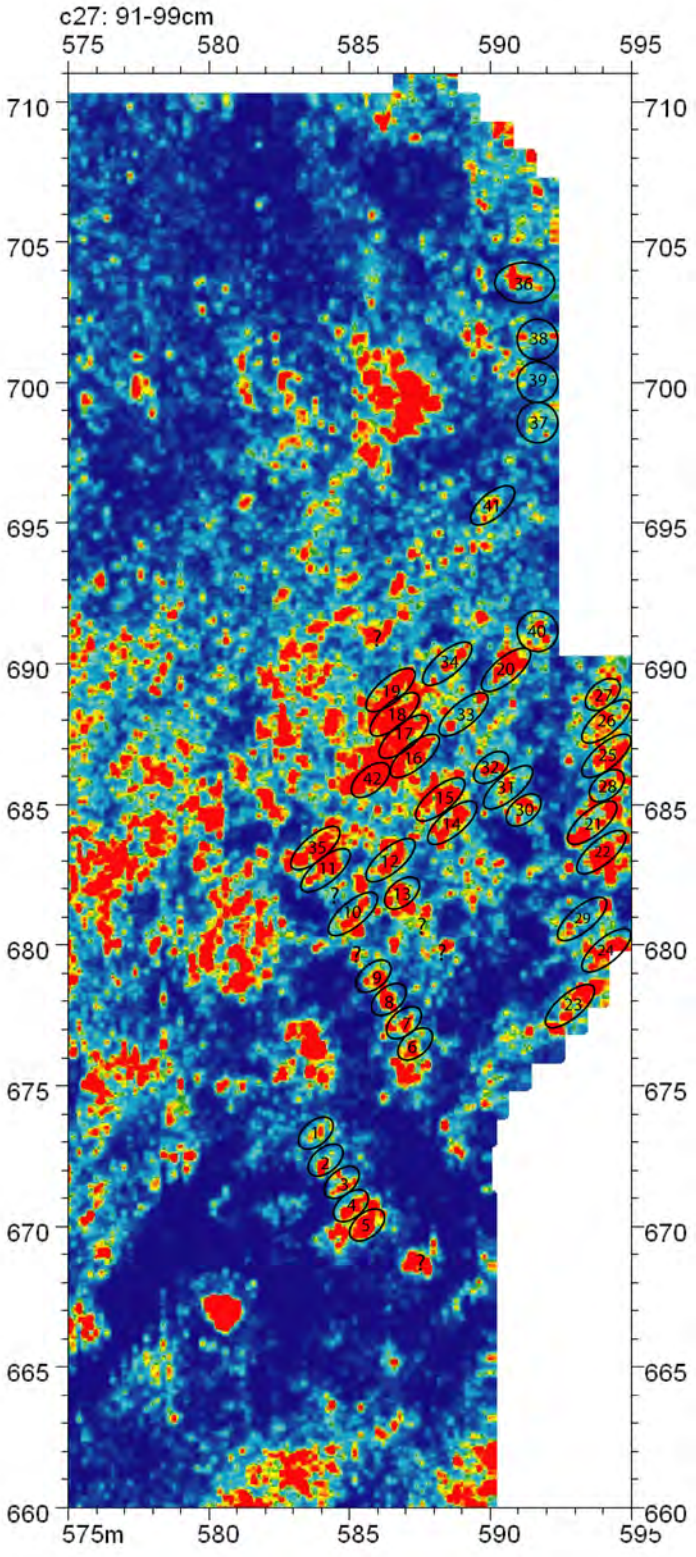

Figure 61. Overlay of the hardest reflectors (in red) from 63 to 99 cm bgs.

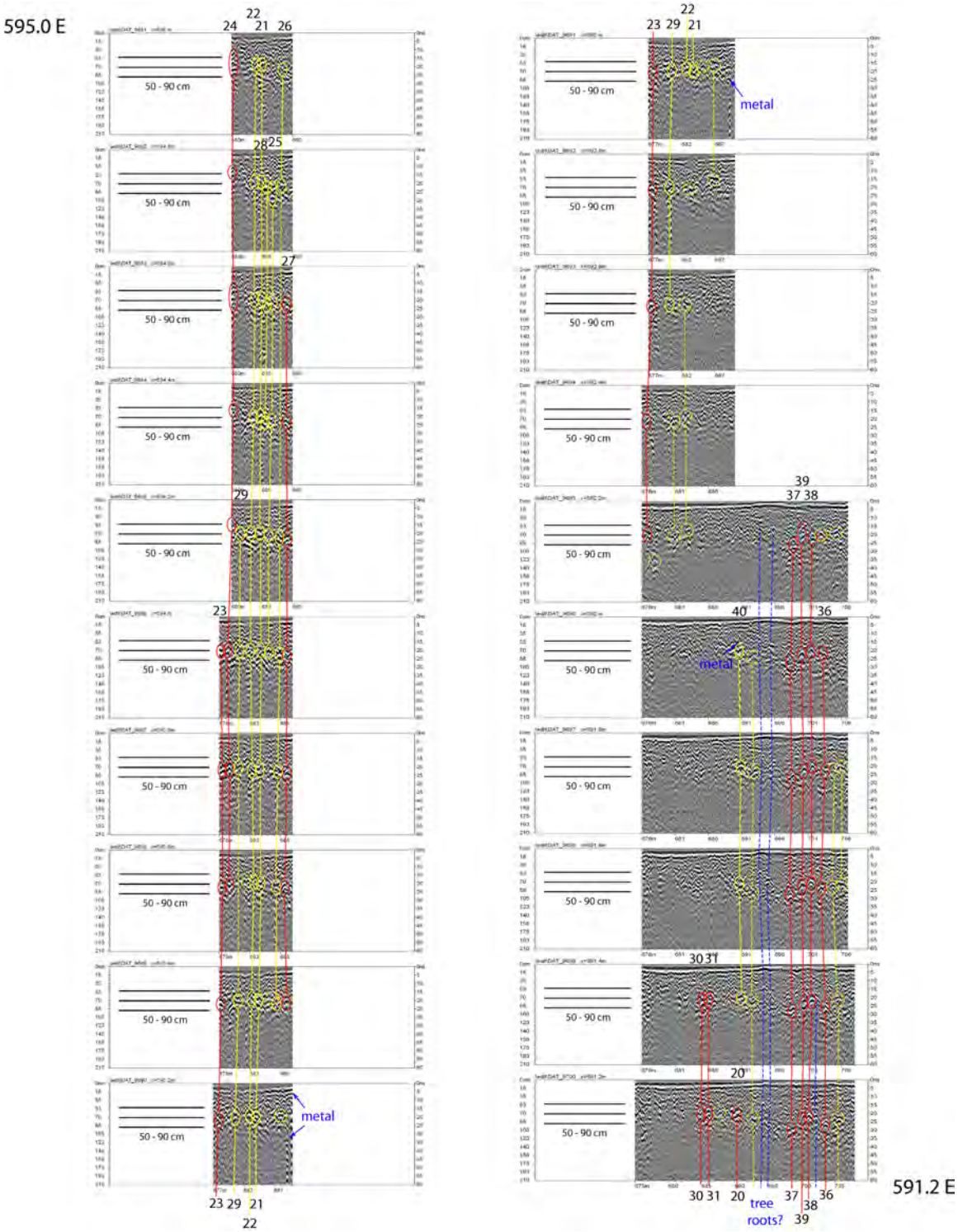

Figure 62. Radargrams E595 to 591.2.

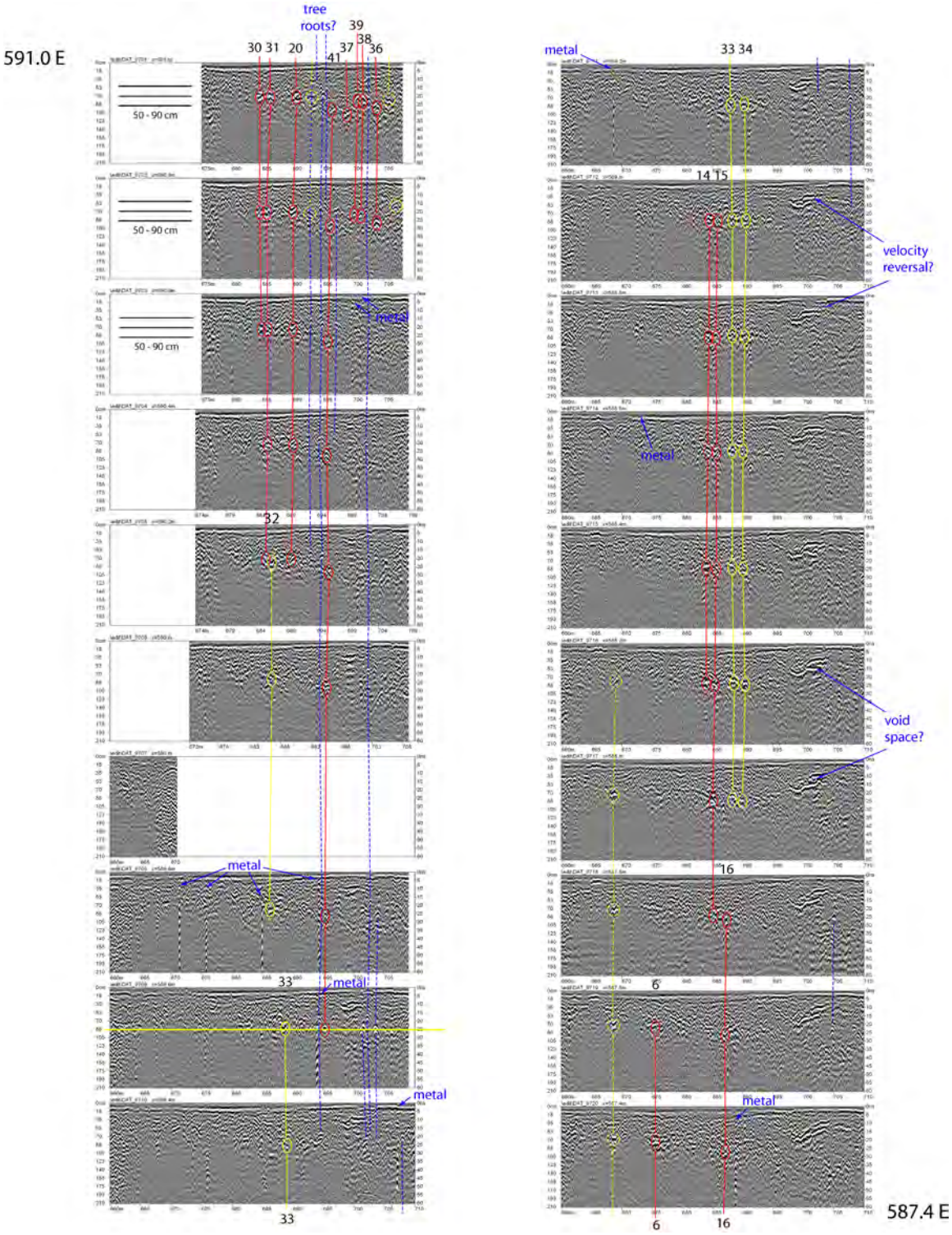

Figure 63. Radargrams E591 to 587.4

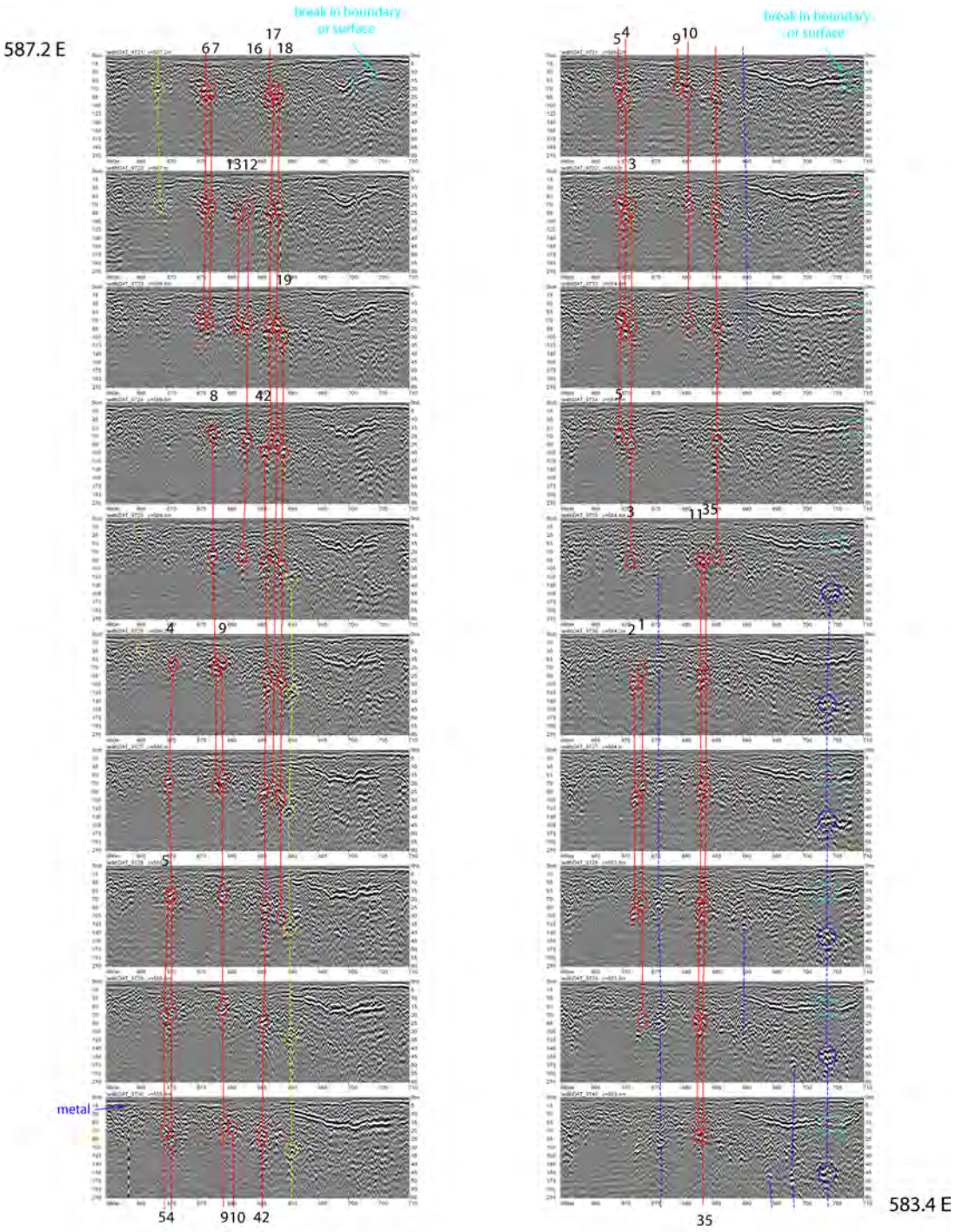

Figure 64. Radargrams E587.2 to 583.4.

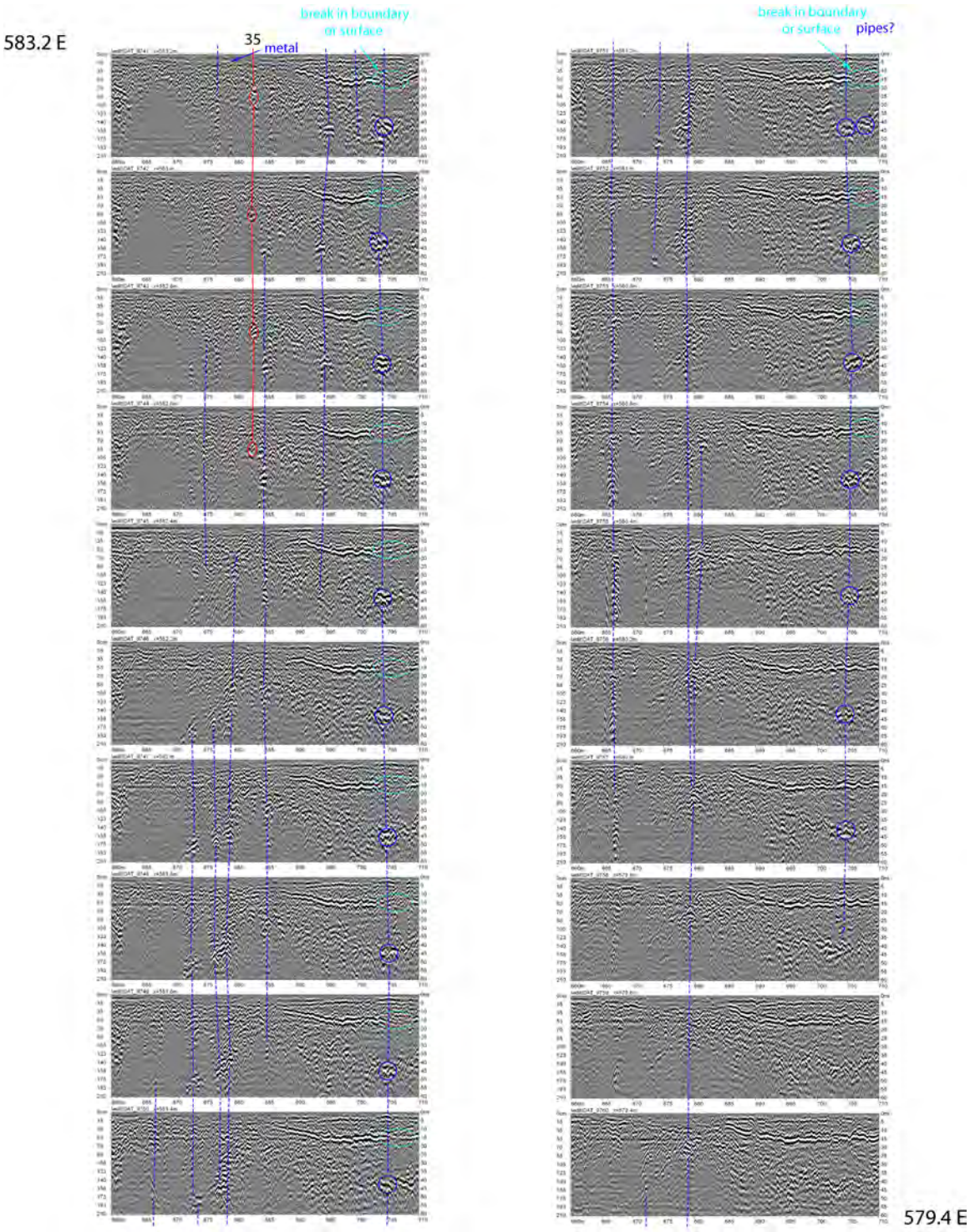

Figure 65. Radargrams E583.2 to 579.4

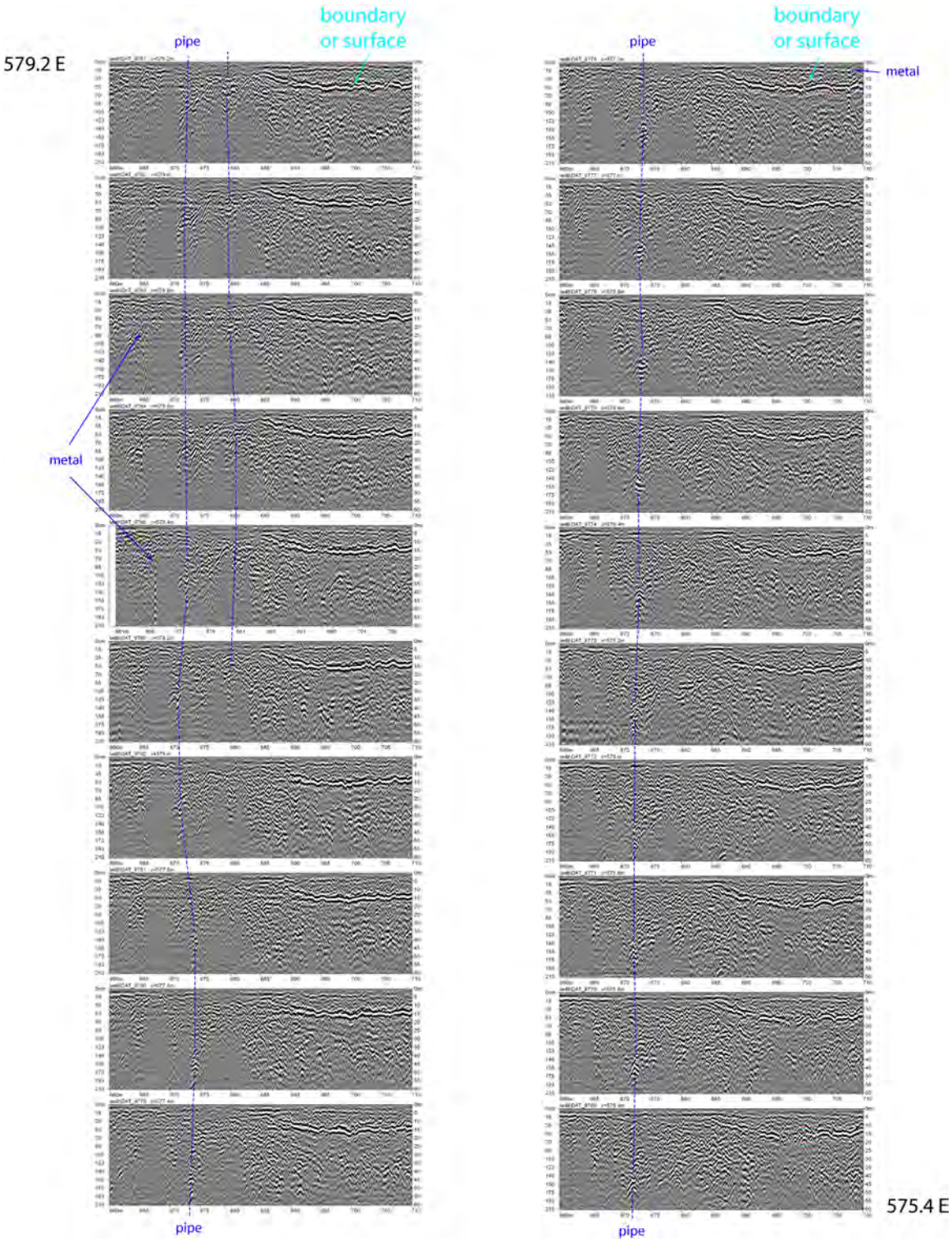

Figure 66. Radargrams E579.2 to 575.4.

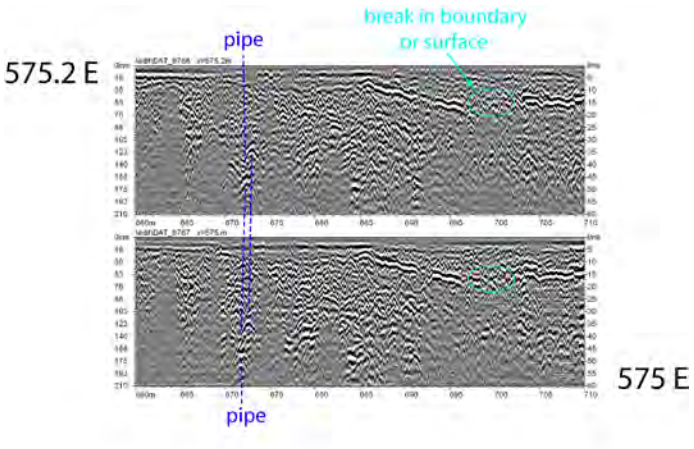

Figure 67. Radargrams E575.2 to 575.

Tables

Table 1. GPS points.

Point		East	North	Ele	Readings	Avg East by Readings	Avg North by Readings	Avg Ele by readings
park-1		215620.143	804692.129	7.248	264	56923717.7520	212438722.1	1913.472
park-2		215620.278	804692.302	7.629	202	43555296.1560	162547845	1541.058
park-3		215619.887	804692.213	7.940	215	46358275.7050	173008825.8	1707.1
	Avg Park	215620.103	804692.215	7.606	681	**215620.1022**	**804692.2068**	**7.5795**
	SD Park	0.199	0.087	0.347				
fairwell-1		215551.465	804650.833	6.175	251	54103417.7150	201967359.1	1549.925
fairwell-2		215551.549	804650.737	6.127	257	55396748.0930	206795239.4	1574.639
fairview-3		215551.559	804650.673	5.997	199	42894760.2410	160125483.9	1193.403
	Avg Farwell	215551.524	804650.748	6.100	707	**215551.5220**	**804650.7531**	**6.1074**
	SD Farwell	0.052	0.081	0.092				
marbr-1		215606.912	804599.186	5.203	203	43768203.1360	163333634.8	1056.209
marb-2		215606.973	804599.233	5.131	200	43121394.6000	160919846.6	1026.2
marb-3		215607.001	804599.148	5.169	215	46355505.2150	172988816.8	1111.335
	Avg Marb	215606.962	804599.189	5.168	618	**215606.9627**	**804599.1880**	**5.1679**
	SD Marb	0.046	0.043	0.036				

Table 2. Possible Grave Listing.

Grave #	Profiles	Easting	Northing	Depth (cm)	Notes
1	9736-9739	584.2-583.6	673.8-673	70-90	Strong & Shallow
2	9736-9738	584.2-583.6	672.4-671.8	90-115	Strong & Shallow
3	9732-9735	585.0-584.4	672.0-671.0	60-90	Strong & Shallow
4	9727-9733	586.2-584.8	671.3-670.3	50-100	Strong & Shallow
5	9728-9734	585.8-584.6	670.0-669.0	55-85	Strong & Shallow
6	9719-9723	587.6-586.4	676.4-675.5	60-80	
7	9721-9723	587.2-586.8	677.4-676.8	65-90	
8	9724-9727	586.6-586.0	677.0-678.4	65-85	
9	9726-9729	586.2-585.2	678.7-679.6	50-75	
10	9730-9733	585.4-584.8	680.4-681.6	65-85	
11	9735-9740	584.4-583.4	683.2-682.4	70-100	
12	9722-9725	587.0-586.4	683.8-682.1	65-90	
13	9722-9723	587.0-586.8	682.1-681.2	65-90	
14	9712-9716	589.0-588.2	685.2-683.6	70-100	
15	9712-9718	589.0-587.8	686.2-685.0	70-100	
16	9718-9721	587.8-587.2	687.3-686.5	80-105	
17	9721-9724	587.2-586.6	688.0-686.8	65-90	
18	9721-9727	587.2-586.0	688.8-687.2	70-90	
19	9723-9728	586.8-585.8	688.6-689.3	90-120	
20	9700-9705	591.2-590.2	691.0-689.4	55-85	
21	9681-9691	595.0-593.0	685.3-683.8	50-85	Less likely
22	9681-9691	595.0-593.0	684.4-682.4	55-85	Less likely
23	9686-9695	594.0-592.2	678.8-676.8	55-85	
24	9681-9688	595.0-593.6	680.2-678.2	35-60	
25	9682-9686	594.8-594.0	687.0-685.8	65-90	Less likely
26	9681-9689	595.0-593.4	688.8-687.2	65-90	Less likely
27	9683-9689	594.6-593.4	689.2-688.7	70-90	
28	9682-9684	594.8-594.4	685.9-685.0	70-90	

Grave #	Profiles	Easting	Northing	Depth (cm)	Notes
29	9685-9693	594.2-592.6	681.8-680.0	55-85	
30	9699-9703	591.4-590.6	685.3-684.7	70-90	
31	9699-9705	591.4-590.2	686.3-685.6	60-85	
32	9705-9708	590.2-589.8	686.8-686.0	70-90	Less likely
33	9706-9717	589.6-588.0	689.0-687.8	75-100	Less likely
34	9711-9717	589.2-588.0	690.3-689.5	75-95	Less likely
35	9735-9743	584.4-582.8	684.2-682.9	75-100	
36	9696-9702	592.0-590.8	704.2-703.2	75-105	possible tree roots?
37	9695-9701	592.2-591.0	699.3-698.3	90-110	possible tree roots?
38	9695-9702	592.2-590.8	700.2-700.8	70-90	possible tree roots?
39	9695-9702	592.2-590.8	700.2-699.7	70-90	possible tree roots?
40	9696-9699	592.0-591.4	691.0-690.7	65-85	Less likely
41	9701-9709	591.0-589.6	696.5-695.0	85-110	
42	9724-9735	586.6-584.4	686.0-685.0	70-90	

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Appendix 1 – Georeferenced air photos

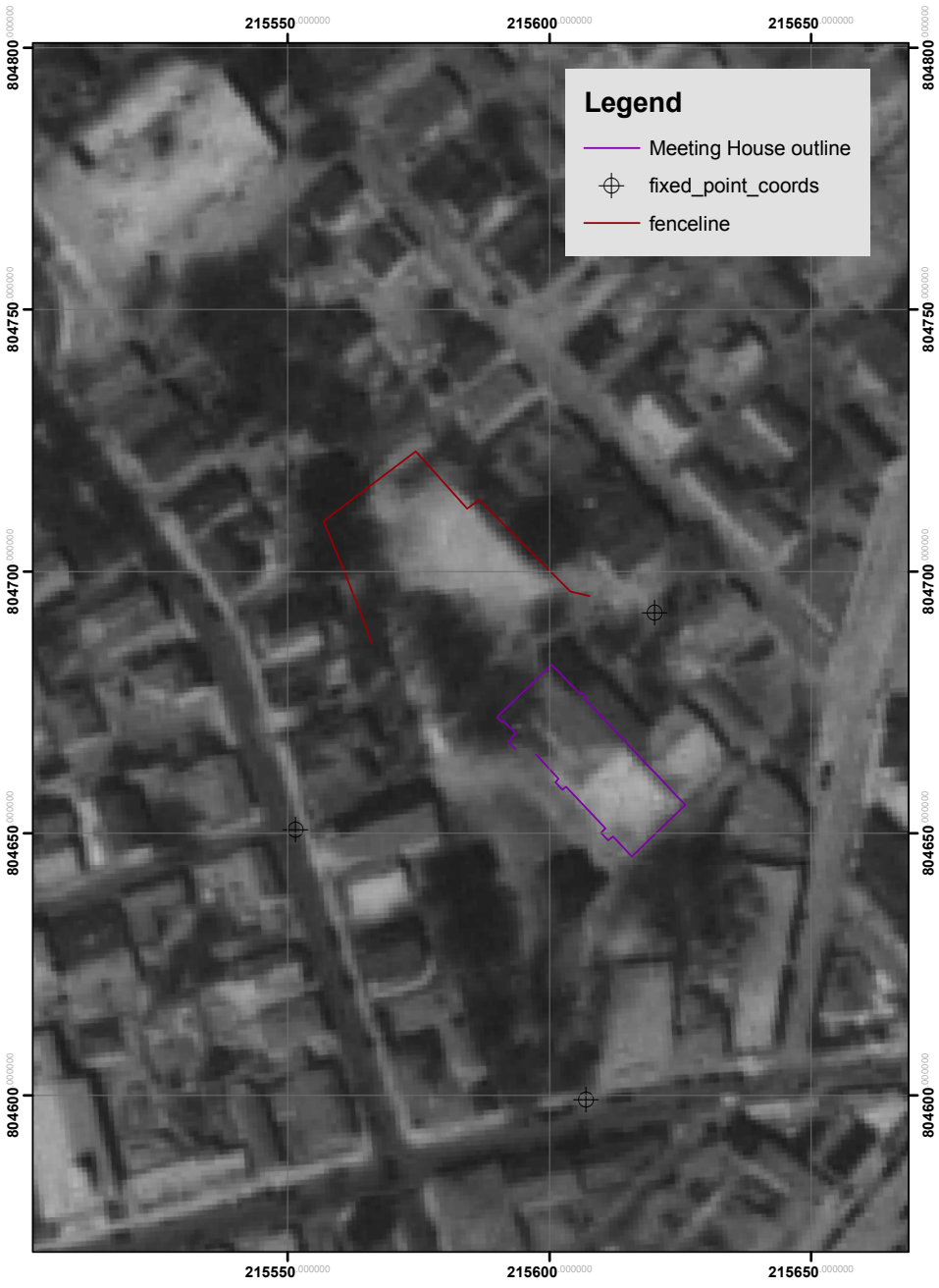

Figure 68. 1939 georeferened air photo.

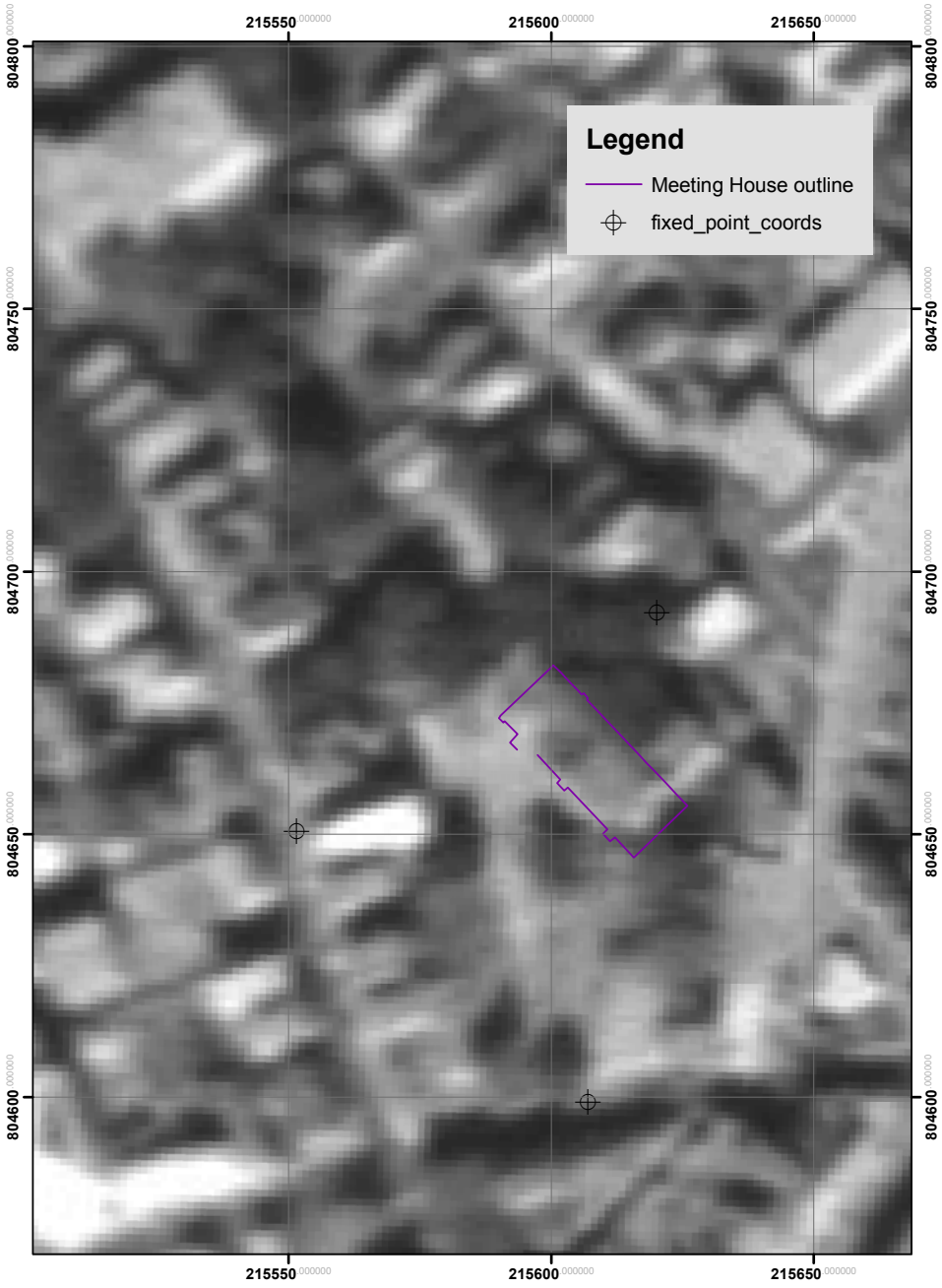

Figure 69. 1951 georeferenced air photo.

Figure 70. 1962 georeferenced air photo.

Figure 71. 1972 georeferenced air photo.

Figure 72. 1981 georeferenced air photo.

Figure 73. 2004 georefrenced color air photo.

Appendix 2 – Survey Points

Table 3. Survey points taken from total station.

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
1	PARK	804692.215	215620.103	7.606	GPS	
2	FAREWELL	804650.748	215551.524	6.100	GPS	
3	MARLBOROUGH	804599.189	215606.962	5.168	GPS	
4	BASE1	804695.553	215583.901	9.063	TS	
5	FAIRV	804650.744	215551.523	6.101	BENGH	
6	MARB	804599.196	215606.953	5.167	BENGH	
7	TS2	804695.550	215583.897	9.065	TS	
8	TIE	804682.450	215602.027	7.564	BENGH	
9	PARK1	804692.420	215620.156	7.287	BENGH	
10	DOOR	804671.727	215590.403	7.269	BENGH	
11	GRID1	804680.000	215590.000	0.000	IDEAL	
12	GRID1_stk	804680.005	215590.000	7.166	GRID	GRID1
13	GRID2	804680.000	215580.000	0.000	IDEAL	
14	GRID2_stk	804679.996	215580.008	7.224	GRID	GRID2
15	GRID3	804670.000	215590.000	0.000	IDEAL	
16	GRID3_stk	804670.007	215590.000	7.308	GRID	GRID3
17	GRID4	804670.000	215580.000	0.000	IDEAL	
18	GRID4_stk	804670.018	215579.998	7.015	GRID	GRID4
19	GRID5	804680.000	215570.000	0.000	IDEAL	
20	GRID6	804670.000	215570.000	0.000	IDEAL	
21	GRID5_stk	804679.996	215570.001	7.709	GRID	GRID5
22	GRID6_stk	804669.997	215570.011	7.120	GRID	GRID6
23	GRID7	804690.000	215570.000	0.000	IDEAL	
24	GRID8	804690.000	215580.000	0.000	IDEAL	
25	GRID9	804690.000	215590.000	0.000	IDEAL	
26	GRID7_stk	804690.001	215569.991	7.491	GRID	GRID7
27	GRID8_stk	804690.001	215580.001	7.534	GRID	GRID8
28	GRID9_stk	804690.008	215589.999	7.428	GRID	GRID9
29	GRID10	804700.000	215590.000	0.000	IDEAL	
30	GRID11	804700.000	215580.000	0.000	IDEAL	
31	GRID12	804700.000	215570.000	0.000	IDEAL	
32	GRID10_stk	804699.985	215590.000	7.733	GRID	GRID10
33	GRID11_stk	804700.013	215579.998	7.631	GRID	GRID11
34	GRID12_stk	804699.996	215569.991	7.696	GRID	GRID12
35	GRID13	804710.000	215580.000	0.000	IDEAL	
36	GRID14	804710.000	215570.000	0.000	IDEAL	
37	GRID13_stk	804710.011	215580.007	7.735	GRID	GRID13
38	GRID14_stk	804710.008	215569.997	7.773	GRID	GRID14
39	TS3	804695.563	215583.895	9.065	TS	
40	GRID15	804660.000	215590.000	0.000	IDEAL	
41	GRID15_stk	804659.995	215589.993	7.180	GRID	GRID15
42	GRID16	804660.000	215580.000	0.000	IDEAL	
43	GRID17	804660.000	215570.000	0.000	IDEAL	
44	GRID16_stk	804660.005	215579.997	7.116	GRID	GRID16
45	GRID17_stk	804660.003	215569.997	6.934	GRID	GRID17
46	TOPO1	804710.008	215580.013	7.777	TOPO	
47	TOPO2	804709.980	215584.914	7.830	TOPO	
48	TOPO3	804714.384	215580.351	7.837	TOPO	
49	TOPO4	804715.324	215574.947	7.821	TOPO	
50	TOPO5	804715.495	215569.950	7.788	TOPO	
51	TOPO6	804710.011	215569.950	7.825	TOPO	
52	TOPO7	804710.086	215564.972	7.768	TOPO	
53	TOPO8	804709.966	215574.962	7.770	TOPO	
54	TOPO9	804705.212	215584.917	7.803	TOPO	
55	TOPO10	804705.351	215579.996	7.752	TOPO	
56	TOPO11	804705.772	215574.712	7.745	TOPO	
57	TOPO12	804706.265	215569.742	7.790	TOPO	
58	TOPO13	804706.511	215564.975	7.790	TOPO	
59	TOPO14	804699.938	215564.094	7.672	TOPO	
60	TOPO15	804700.099	215569.993	7.730	TOPO	
61	TOPO16	804700.059	215575.003	7.692	TOPO	
62	TOPO17	804700.051	215579.999	7.664	TOPO	
63	TOPO18	804700.036	215584.974	7.714	TOPO	
64	TOPO19	804700.058	215589.981	7.757	TOPO	
65	TOPO20	804694.888	215590.079	7.631	TOPO	
66	TOPO21	804694.543	215595.486	7.679	TOPO	
67	TOPO22	804694.445	215579.721	7.651	TOPO	
68	TOPO23	804695.357	215574.704	7.657	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
69	TOPO24	804695.293	215569.382	7.661	TOPO	
70	TOPO25	804695.920	215564.027	7.696	TOPO	
71	TOPO26	804689.711	215565.120	7.738	TOPO	
72	TOPO27	804689.988	215569.980	7.543	TOPO	
73	TOPO28	804690.003	215574.967	7.567	TOPO	
74	TOPO29	804689.982	215579.989	7.559	TOPO	
75	TOPO30	804690.080	215584.956	7.472	TOPO	
76	TOPO31	804690.061	215589.999	7.451	TOPO	
77	TOPO32	804690.060	215595.697	7.514	TOPO	
78	TOPO33	804685.253	215597.519	7.355	TOPO	
79	TOPO34	804685.702	215584.750	7.358	TOPO	
80	TOPO35	804685.396	215579.824	7.433	TOPO	
81	TOPO36	804685.432	215574.709	7.462	TOPO	
82	TOPO37	804686.250	215569.757	7.515	TOPO	
83	TOPO38	804686.863	215566.027	7.728	TOPO	
84	TOPO39	804680.019	215570.005	7.736	TOPO	
85	TOPO40	804680.034	215575.005	7.302	TOPO	
86	TOPO41	804680.040	215580.003	7.257	TOPO	
87	TOPO42	804679.973	215584.998	7.266	TOPO	
88	TOPO43	804679.993	215590.010	7.197	TOPO	
89	TOPO44	804680.130	215595.216	7.242	TOPO	
90	TOPO45	804674.839	215589.870	7.216	TOPO	
91	TOPO46	804675.308	215584.798	7.198	TOPO	
92	TOPO47	804675.966	215579.671	7.193	TOPO	
93	TOPO48	804676.034	215579.618	7.191	TOPO	
94	TOPO49	804675.964	215579.637	7.191	TOPO	
95	TOPO50	804675.972	215579.656	7.192	TOPO	
96	TOPO51	804674.788	215574.806	7.238	TOPO	
97	TOPO52	804675.382	215569.998	7.690	TOPO	
98	TOPO53	804670.032	215569.965	7.147	TOPO	
99	TOPO54	804670.623	215566.021	7.473	TOPO	
100	TOPO55	804670.048	215574.962	7.030	TOPO	
101	TOPO56	804670.045	215579.982	7.050	TOPO	
102	TOPO57	804669.980	215584.989	7.194	TOPO	
103	TOPO58	804670.019	215589.962	7.335	TOPO	
104	TOPO59	804664.260	215589.992	7.254	TOPO	
105	TOPO60	804664.292	215592.381	7.254	TOPO	
106	TOPO61	804664.940	215584.863	7.138	TOPO	
107	TOPO62	804665.436	215579.826	7.033	TOPO	
108	TOPO63	804665.417	215574.574	7.011	TOPO	
109	TOPO64	804665.176	215569.480	6.929	TOPO	
110	TOPO65	804665.758	215564.021	6.981	TOPO	
111	TOPO66	804659.781	215563.084	6.744	TOPO	
112	TOPO67	804660.046	215569.995	6.981	TOPO	
113	TOPO68	804660.052	215574.968	7.072	TOPO	
114	TOPO69	804659.981	215579.997	7.166	TOPO	
115	TOPO70	804659.978	215584.962	7.129	TOPO	
116	TOPO71	804659.963	215590.003	7.227	TOPO	
117	TOPO72	804659.834	215593.855	7.242	TOPO	
118	TOPO73	804654.718	215590.045	7.208	TOPO	
119	TOPO74	804653.282	215584.754	7.194	TOPO	
120	TOPO75	804651.649	215579.682	7.097	TOPO	
121	TOPO76	804653.566	215575.076	7.079	TOPO	
122	TOPO77	804654.644	215569.480	6.925	TOPO	
123	TOPO78	804673.501	215569.313	7.583	TOPO	
124	TOPO79	804674.665	215571.555	7.468	TOPO	
125	TOPO80	804676.026	215571.571	7.564	TOPO	
126	TOPO81	804677.594	215572.018	7.519	TOPO	
127	TOPO82	804679.479	215572.451	7.467	TOPO	
128	TOPO83	804681.132	215571.292	7.535	TOPO	
129	TOPO84	804682.108	215570.050	7.628	TOPO	
130	TOPO85	804681.988	215568.805	7.795	TOPO	
131	TOPO86	804681.816	215567.988	7.971	TOPO	
132	TOPO87	804679.949	215568.734	7.933	TOPO	
133	TOPO88	804678.317	215569.230	7.953	TOPO	
134	TOPO89	804678.514	215570.150	7.796	TOPO	
135	TOPO90	804676.829	215569.813	7.853	TOPO	
136	TOPO91	804675.982	215569.000	7.922	TOPO	
137	TOPO92	804674.858	215569.237	7.756	TOPO	
138	TOPO93	804674.500	215567.839	7.860	TOPO	
139	TOPO94	804672.406	215568.216	7.550	TOPO	
140	TOPO95	804672.651	215570.272	7.392	TOPO	
141	TOPO96	804672.087	215571.465	7.211	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
142	TOPO97	804672.075	215571.446	7.212	TOPO	
143	TS4	804715.689	215572.937	9.164	TS	
144	GRID18	804680.000	215595.000	0.000	IDEAL	
145	GRID18_stk	804679.990	215595.007	7.212	GRID	GRID18
146	GRID19	804690.000	215595.000	0.000	IDEAL	
147	GRID19_stk	804689.999	215594.990	7.457	GRID	GRID19
148	GRID1_stk1	804679.982	215589.976	7.162	GRID	GRID1
149	TOPO98	804709.565	215576.448	7.779	TOPO	
150	TOPO99	804688.992	215595.085	7.439	TOPO	
151	TOPO100	804688.924	215593.996	7.430	TOPO	
152	TOPO101	804689.984	215593.968	7.468	TOPO	
153	TOPO102	804690.894	215594.024	7.514	TOPO	
154	TOPO103	804690.020	215595.000	7.476	TOPO	
155	TOPO104	804690.035	215595.845	7.515	TOPO	
156	TOPO105	804688.994	215595.868	7.462	TOPO	
157	TOPO106	804688.020	215595.896	7.403	TOPO	
158	TOPO107	804687.042	215595.901	7.383	TOPO	
159	TOPO108	804685.992	215595.877	7.332	TOPO	
160	TOPO109	804685.048	215595.819	7.302	TOPO	
161	TOPO110	804684.039	215595.840	7.273	TOPO	
162	TOPO111	804683.047	215595.795	7.279	TOPO	
163	TOPO112	804682.009	215595.849	7.202	TOPO	
164	TOPO113	804680.987	215595.954	7.239	TOPO	
165	TOPO114	804680.009	215595.887	7.251	TOPO	
166	TOPO115	804679.966	215595.018	7.243	TOPO	
167	TOPO116	804678.998	215595.018	7.256	TOPO	
168	TOPO117	804677.991	215595.038	7.314	TOPO	
169	TOPO118	804677.735	215594.150	7.251	TOPO	
170	TOPO119	804678.785	215594.016	7.216	TOPO	
171	TOPO120	804679.952	215593.944	7.239	TOPO	
172	TOPO121	804679.962	215592.977	7.227	TOPO	
173	TOPO122	804678.965	215592.930	7.216	TOPO	
174	TOPO123	804678.106	215592.906	7.217	TOPO	
175	TOPO124	804677.029	215592.897	7.218	TOPO	
176	TOPO125	804676.008	215592.976	7.261	TOPO	
177	TOPO126	804675.860	215591.916	7.216	TOPO	
178	TOPO127	804676.973	215591.928	7.199	TOPO	
179	TOPO128	804678.012	215591.942	7.212	TOPO	
180	TOPO129	804679.000	215591.944	7.218	TOPO	
181	TOPO130	804680.035	215591.953	7.216	TOPO	
182	TOPO131	804679.984	215590.950	7.227	TOPO	
183	TOPO132	804678.950	215590.979	7.205	TOPO	
184	TOPO133	804678.032	215590.982	7.196	TOPO	
185	TOPO134	804677.066	215591.039	7.192	TOPO	
186	TOPO135	804676.033	215591.090	7.193	TOPO	
187	TOPO136	804674.886	215590.910	7.216	TOPO	
188	TOPO137	804673.924	215590.844	7.246	TOPO	
189	TOPO138	804673.977	215589.786	7.205	TOPO	
190	TOPO139	804672.991	215589.779	7.252	TOPO	
191	TOPO140	804675.104	215589.780	7.203	TOPO	
192	TOPO141	804676.172	215589.815	7.191	TOPO	
193	TOPO142	804677.150	215589.857	7.202	TOPO	
194	TOPO143	804678.241	215589.897	7.182	TOPO	
195	TOPO144	804679.198	215589.950	7.179	TOPO	
196	TOPO145	804681.111	215589.992	7.226	TOPO	
197	TOPO146	804682.123	215589.995	7.244	TOPO	
198	TOPO147	804683.147	215589.996	7.272	TOPO	
199	TOPO148	804684.179	215589.988	7.287	TOPO	
200	TOPO149	804685.189	215590.006	7.315	TOPO	
201	TOPO150	804686.197	215589.993	7.316	TOPO	
202	TOPO151	804687.189	215590.052	7.352	TOPO	
203	TOPO152	804688.141	215590.003	7.383	TOPO	
204	TOPO153	804689.313	215590.012	7.423	TOPO	
205	TOPO154	804691.099	215589.945	7.497	TOPO	
206	TOPO155	804690.928	215591.084	7.508	TOPO	
207	TOPO156	804690.027	215590.958	7.474	TOPO	
208	TOPO157	804689.087	215591.073	7.433	TOPO	
209	TOPO158	804688.088	215591.212	7.377	TOPO	
210	TOPO159	804687.118	215591.374	7.351	TOPO	
211	TOPO160	804686.032	215591.256	7.323	TOPO	
212	TOPO161	804685.040	215591.123	7.279	TOPO	
213	TOPO162	804684.154	215591.133	7.277	TOPO	
214	TOPO163	804683.045	215591.102	7.241	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
215	TOPO164	804681.973	215591.021	7.233	TOPO	
216	TOPO165	804681.060	215590.961	7.230	TOPO	
217	TOPO166	804680.877	215591.989	7.231	TOPO	
218	TOPO167	804681.955	215592.073	7.229	TOPO	
219	TOPO168	804683.151	215592.063	7.221	TOPO	
220	TOPO169	804684.182	215592.086	7.248	TOPO	
221	TOPO170	804685.214	215592.110	7.270	TOPO	
222	TOPO171	804686.233	215592.166	7.297	TOPO	
223	TOPO172	804687.388	215592.182	7.356	TOPO	
224	TOPO173	804688.370	215592.046	7.381	TOPO	
225	TOPO174	804689.148	215591.950	7.429	TOPO	
226	TOPO175	804690.026	215591.939	7.471	TOPO	
227	TOPO176	804691.122	215592.037	7.504	TOPO	
228	TOPO177	804690.847	215593.073	7.510	TOPO	
229	TOPO178	804690.004	215592.971	7.460	TOPO	
230	TOPO179	804688.983	215592.881	7.415	TOPO	
231	TOPO180	804686.923	215592.744	7.334	TOPO	
232	TOPO181	804685.864	215592.715	7.284	TOPO	
233	TOPO182	804684.714	215592.591	7.251	TOPO	
234	TOPO183	804683.550	215592.677	7.227	TOPO	
235	TOPO184	804682.520	215592.771	7.231	TOPO	
236	TOPO185	804681.469	215592.865	7.219	TOPO	
237	TOPO186	804680.696	215592.934	7.212	TOPO	
238	TOPO187	804680.951	215593.971	7.249	TOPO	
239	TOPO188	804682.101	215594.093	7.249	TOPO	
240	TOPO189	804683.217	215594.077	7.235	TOPO	
241	TOPO190	804684.234	215594.028	7.240	TOPO	
242	TOPO191	804684.238	215594.023	7.240	TOPO	
243	TOPO192	804685.101	215594.050	7.278	TOPO	
244	TOPO193	804686.011	215594.060	7.306	TOPO	
245	TOPO194	804686.995	215594.105	7.341	TOPO	
246	TOPO195	804688.060	215594.119	7.384	TOPO	
247	TOPO196	804689.125	215594.120	7.438	TOPO	
248	TOPO197	804687.977	215592.898	7.377	TOPO	
249	TOPO198	804687.975	215592.909	7.379	TOPO	
250	TOPO199	804688.976	215595.080	7.441	TOPO	
251	TOPO200	804688.023	215595.030	7.393	TOPO	
252	TOPO201	804687.007	215595.069	7.368	TOPO	
253	TOPO202	804686.017	215595.060	7.325	TOPO	
254	TOPO203	804685.014	215595.056	7.285	TOPO	
255	TOPO204	804684.006	215595.058	7.266	TOPO	
256	TOPO205	804683.017	215595.056	7.242	TOPO	
257	TOPO206	804682.011	215595.047	7.248	TOPO	
258	TOPO207	804681.026	215595.032	7.215	TOPO	
259	TOPO208	804659.045	215591.104	7.213	TOPO	
260	TOPO209	804660.089	215590.959	7.233	TOPO	
261	TOPO210	804661.074	215590.990	7.257	TOPO	
262	TOPO211	804662.139	215591.055	7.249	TOPO	
263	TOPO212	804663.212	215591.089	7.249	TOPO	
264	TOPO213	804664.215	215591.214	7.240	TOPO	
265	TOPO214	804665.148	215591.189	7.258	TOPO	
266	TOPO215	804666.059	215591.241	7.272	TOPO	
267	TOPO216	804667.107	215591.293	7.297	TOPO	
268	TOPO217	804668.179	215591.266	7.325	TOPO	
269	TOPO218	804669.167	215591.130	7.337	TOPO	
270	TOPO219	804670.095	215590.969	7.332	TOPO	
271	TOPO220	804671.191	215590.773	7.313	TOPO	
272	HOUSE1	804672.619	215590.307	7.320	HOUSE	
273	HOUSE2	804673.699	215591.463	7.298	HOUSE	
274	HOUSE3	804674.724	215592.527	7.306	HOUSE	
275	HOUSE4	804675.678	215593.530	7.305	HOUSE	
276	HOUSE5	804676.854	215594.760	7.314	HOUSE	
277	HOUSE6	804677.970	215595.891	7.319	HOUSE	
278	HOUSE7	804678.750	215596.747	7.333	HOUSE	
279	HOUSE8	804679.112	215597.125	7.333	HOUSE	
280	HOUSE9	804679.930	215597.987	7.311	HOUSE	
281	HOUSE10	804681.017	215599.131	7.318	HOUSE	
282	HOUSE11	804682.203	215600.365	7.297	HOUSE	
283	HOUSE12	804680.828	215601.781	7.219	HOUSE	
284	HOUSE13	804679.917	215602.673	7.222	HOUSE	
285	HOUSE14	804678.618	215603.931	7.204	HOUSE	
286	HOUSE15	804677.506	215605.001	7.212	HOUSE	
287	HOUSE16	804676.672	215605.791	7.224	HOUSE	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
288	HOUSE17	804676.897	215606.188	7.228	HOUSE	
289	HOUSE18	804675.991	215607.000	7.224	HOUSE	
290	HOUSE19	804675.636	215606.795	7.229	HOUSE	
291	HOUSE20	804673.225	215609.084	7.215	HOUSE	
292	HOUSE21	804671.872	215610.378	7.185	HOUSE	
293	HOUSE22	804670.066	215612.119	7.160	HOUSE	
294	HOUSE23	804666.962	215615.023	7.077	HOUSE	
295	HOUSE24	804665.391	215616.520	6.992	HOUSE	
296	HOUSE25	804663.635	215618.162	6.947	HOUSE	
297	HOUSE26	804662.076	215619.630	6.902	HOUSE	
298	HOUSE27	804659.834	215621.755	6.817	HOUSE	
299	HOUSE28	804657.780	215623.714	6.782	HOUSE	
300	HOUSE29	804655.441	215625.940	6.794	HOUSE	
301	HOUSE30	804655.494	215625.922	6.788	HOUSELINE	
302	HOUSE31	804682.197	215600.370	7.293	HOUSELINE	
303	HOUSE32	804672.577	215590.286	7.321	HOUSELINE	
304	TOPO221	804659.026	215585.019	7.185	TOPO	
305	TOPO222	804660.016	215584.995	7.133	TOPO	
306	TOPO223	804661.030	215585.015	7.152	TOPO	
307	TOPO224	804662.004	215585.012	7.140	TOPO	
308	TOPO225	804663.006	215585.033	7.138	TOPO	
309	TOPO226	804664.032	215584.994	7.130	TOPO	
310	TOPO227	804664.924	215585.017	7.134	TOPO	
311	TOPO228	804666.035	215585.015	7.141	TOPO	
312	TOPO229	804667.016	215585.023	7.157	TOPO	
313	TOPO230	804668.027	215584.996	7.177	TOPO	
314	TOPO231	804669.009	215585.030	7.189	TOPO	
315	TOPO232	804670.038	215585.030	7.189	TOPO	
316	TOPO233	804671.049	215585.035	7.159	TOPO	
317	TOPO234	804672.077	215585.009	7.145	TOPO	
318	TOPO235	804673.048	215585.020	7.151	TOPO	
319	TOPO236	804674.039	215585.033	7.160	TOPO	
320	TOPO237	804675.054	215585.021	7.196	TOPO	
321	TOPO238	804676.020	215585.054	7.199	TOPO	
322	TOPO239	804677.027	215585.029	7.185	TOPO	
323	TOPO240	804678.031	215585.028	7.185	TOPO	
324	TOPO241	804679.034	215585.046	7.214	TOPO	
325	TOPO242	804680.049	215585.010	7.269	TOPO	
326	TOPO243	804681.032	215585.050	7.290	TOPO	
327	TOPO244	804682.015	215585.020	7.292	TOPO	
328	TOPO245	804683.032	215585.021	7.304	TOPO	
329	TOPO246	804684.027	215585.018	7.320	TOPO	
330	TOPO247	804685.062	215585.012	7.343	TOPO	
331	TOPO248	804686.019	215585.002	7.362	TOPO	
332	TOPO249	804687.026	215585.006	7.386	TOPO	
333	TOPO250	804688.063	215584.966	7.408	TOPO	
334	TOPO251	804689.038	215584.980	7.454	TOPO	
335	TOPO252	804690.004	215584.971	7.469	TOPO	
336	TOPO253	804691.019	215584.970	7.499	TOPO	
337	TOPO254	804692.017	215584.983	7.508	TOPO	
338	TOPO255	804693.019	215584.980	7.539	TOPO	
339	TOPO256	804693.962	215585.000	7.580	TOPO	
340	TOPO257	804695.055	215584.943	7.601	TOPO	
341	TOPO258	804696.009	215584.977	7.626	TOPO	
342	TOPO259	804697.006	215584.983	7.644	TOPO	
343	TOPO260	804698.040	215584.994	7.664	TOPO	
344	TOPO261	804699.009	215584.982	7.670	TOPO	
345	TOPO262	804700.038	215584.963	7.713	TOPO	
346	TOPO263	804701.031	215585.003	7.751	TOPO	
347	TOPO264	804700.884	215584.072	7.710	TOPO	
348	TOPO265	804699.984	215583.957	7.664	TOPO	
349	TOPO266	804698.965	215583.896	7.689	TOPO	
350	TOPO267	804697.972	215583.880	7.683	TOPO	
351	TOPO268	804696.937	215583.888	7.673	TOPO	
352	TOPO269	804696.010	215583.819	7.641	TOPO	
353	TOPO270	804695.004	215583.791	7.612	TOPO	
354	TOPO271	804694.001	215583.841	7.580	TOPO	
355	TOPO272	804692.986	215583.831	7.561	TOPO	
356	TOPO273	804691.955	215583.832	7.523	TOPO	
357	TOPO274	804690.950	215583.862	7.516	TOPO	
358	TOPO275	804689.976	215583.928	7.508	TOPO	
359	TOPO276	804688.973	215583.862	7.484	TOPO	
360	TOPO277	804687.914	215583.904	7.433	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
361	TOPO278	804687.004	215583.830	7.405	TOPO	
362	TOPO279	804685.980	215583.886	7.382	TOPO	
363	TOPO280	804684.952	215583.870	7.362	TOPO	
364	TOPO281	804684.076	215583.838	7.337	TOPO	
365	TOPO282	804682.952	215583.851	7.318	TOPO	
366	TOPO283	804681.958	215583.901	7.296	TOPO	
367	TOPO284	804680.932	215584.004	7.293	TOPO	
368	TOPO285	804680.064	215584.059	7.246	TOPO	
369	TOPO286	804679.004	215584.067	7.215	TOPO	
370	TOPO287	804677.929	215584.036	7.207	TOPO	
371	TOPO288	804676.956	215583.969	7.204	TOPO	
372	TOPO289	804675.981	215583.936	7.204	TOPO	
373	TOPO290	804674.962	215583.955	7.190	TOPO	
374	TOPO291	804673.978	215583.956	7.188	TOPO	
375	TOPO292	804673.006	215583.935	7.147	TOPO	
376	TOPO293	804671.953	215583.933	7.131	TOPO	
377	TOPO294	804670.948	215583.946	7.123	TOPO	
378	TOPO295	804669.966	215583.957	7.143	TOPO	
379	TOPO296	804668.994	215583.969	7.162	TOPO	
380	TOPO297	804668.013	215583.943	7.151	TOPO	
381	TOPO298	804666.969	215583.960	7.143	TOPO	
382	TOPO299	804665.995	215583.943	7.121	TOPO	
383	TOPO300	804665.000	215584.051	7.117	TOPO	
384	TOPO301	804663.996	215584.003	7.108	TOPO	
385	TOPO302	804662.975	215583.983	7.106	TOPO	
386	TOPO303	804662.015	215584.029	7.124	TOPO	
387	TOPO304	804660.980	215584.019	7.161	TOPO	
388	TOPO305	804660.027	215584.001	7.182	TOPO	
389	TOPO306	804659.033	215583.968	7.193	TOPO	
390	TOPO307	804659.008	215583.007	7.180	TOPO	
391	TOPO308	804660.029	215582.975	7.172	TOPO	
392	TOPO309	804661.004	215582.980	7.143	TOPO	
393	TOPO310	804662.010	215582.997	7.108	TOPO	
394	TOPO311	804663.009	215583.000	7.102	TOPO	
395	TOPO312	804664.024	215583.000	7.091	TOPO	
396	TOPO313	804665.001	215583.006	7.096	TOPO	
397	TOPO314	804666.012	215582.992	7.104	TOPO	
398	TOPO315	804667.017	215583.009	7.115	TOPO	
399	TOPO316	804667.861	215583.016	7.128	TOPO	
400	TOPO317	804668.918	215583.004	7.133	TOPO	
401	TOPO318	804669.978	215582.987	7.128	TOPO	
402	TOPO319	804670.990	215583.014	7.106	TOPO	
403	TOPO320	804672.005	215582.997	7.122	TOPO	
404	TOPO321	804673.022	215582.998	7.164	TOPO	
405	TOPO322	804673.978	215582.988	7.188	TOPO	
406	TOPO323	804675.094	215582.957	7.190	TOPO	
407	TOPO324	804675.993	215582.984	7.209	TOPO	
408	TOPO325	804676.996	215583.014	7.212	TOPO	
409	TOPO326	804677.997	215583.042	7.214	TOPO	
410	TOPO327	804678.997	215583.004	7.231	TOPO	
411	TOPO328	804679.998	215583.036	7.258	TOPO	
412	TOPO329	804680.971	215583.058	7.273	TOPO	
413	TOPO330	804681.979	215583.019	7.313	TOPO	
414	TOPO331	804682.978	215583.066	7.322	TOPO	
415	TOPO332	804683.986	215582.897	7.350	TOPO	
416	TOPO333	804684.980	215582.903	7.390	TOPO	
417	TOPO334	804685.980	215582.906	7.408	TOPO	
418	TOPO335	804687.008	215582.866	7.446	TOPO	
419	TOPO336	804688.000	215582.949	7.463	TOPO	
420	TOPO337	804689.004	215582.951	7.495	TOPO	
421	TOPO338	804689.991	215582.911	7.509	TOPO	
422	TOPO339	804690.996	215582.879	7.532	TOPO	
423	TOPO340	804691.947	215582.928	7.554	TOPO	
424	TOPO341	804693.040	215583.001	7.582	TOPO	
425	TOPO342	804694.006	215582.916	7.608	TOPO	
426	TOPO343	804695.065	215582.950	7.633	TOPO	
427	TOPO344	804696.050	215582.932	7.652	TOPO	
428	TOPO345	804697.005	215582.915	7.679	TOPO	
429	TOPO346	804698.011	215582.914	7.677	TOPO	
430	TOPO347	804699.024	215582.867	7.695	TOPO	
431	TOPO348	804699.013	215582.881	7.695	TOPO	
432	TOPO349	804699.989	215582.952	7.700	TOPO	
433	TOPO350	804700.970	215582.957	7.710	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
434	TOPO351	804701.139	215582.052	7.714	TOPO	
435	TOPO352	804699.999	215582.019	7.698	TOPO	
436	TOPO353	804698.956	215582.024	7.695	TOPO	
437	TOPO354	804697.986	215582.046	7.671	TOPO	
438	TOPO355	804697.009	215582.043	7.681	TOPO	
439	TOPO356	804695.983	215582.076	7.663	TOPO	
440	TOPO357	804694.996	215582.088	7.641	TOPO	
441	TOPO358	804693.967	215582.093	7.631	TOPO	
442	TOPO359	804692.971	215582.106	7.595	TOPO	
443	TOPO360	804691.969	215582.100	7.578	TOPO	
444	TOPO361	804691.036	215582.055	7.543	TOPO	
445	TOPO362	804690.103	215582.091	7.525	TOPO	
446	TOPO363	804689.026	215582.049	7.508	TOPO	
447	TOPO364	804688.119	215582.027	7.488	TOPO	
448	TOPO365	804687.099	215581.985	7.471	TOPO	
449	TOPO366	804686.082	215581.917	7.429	TOPO	
450	TOPO367	804685.132	215581.908	7.404	TOPO	
451	TOPO368	804684.102	215581.900	7.364	TOPO	
452	TOPO369	804683.084	215581.893	7.340	TOPO	
453	TOPO370	804682.057	215581.899	7.307	TOPO	
454	TOPO371	804681.084	215581.899	7.289	TOPO	
455	TOPO372	804680.044	215582.038	7.271	TOPO	
456	TOPO373	804679.063	215582.033	7.249	TOPO	
457	TOPO374	804678.041	215581.997	7.229	TOPO	
458	TOPO375	804677.108	215581.995	7.215	TOPO	
459	TOPO376	804676.081	215581.959	7.218	TOPO	
460	TOPO377	804675.107	215581.909	7.200	TOPO	
461	TOPO378	804675.082	215581.922	7.199	TOPO	
462	TOPO379	804674.088	215581.949	7.190	TOPO	
463	TOPO380	804673.131	215581.950	7.170	TOPO	
464	TOPO381	804672.095	215581.866	7.154	TOPO	
465	TOPO382	804671.065	215581.906	7.104	TOPO	
466	TOPO383	804670.054	215581.963	7.122	TOPO	
467	TOPO384	804669.088	215581.899	7.090	TOPO	
468	TOPO385	804668.086	215581.919	7.102	TOPO	
469	TOPO386	804667.100	215581.979	7.091	TOPO	
470	TOPO387	804666.107	215581.986	7.072	TOPO	
471	TOPO388	804665.114	215581.970	7.073	TOPO	
472	TOPO389	804664.068	215581.971	7.073	TOPO	
473	TOPO390	804662.930	215582.038	7.078	TOPO	
474	TOPO391	804662.073	215582.059	7.097	TOPO	
475	TOPO392	804661.009	215582.075	7.128	TOPO	
476	TOPO393	804660.056	215582.041	7.161	TOPO	
477	TOPO394	804659.014	215582.046	7.163	TOPO	
478	TOPO395	804700.968	215581.043	7.692	TOPO	
479	TOPO396	804700.059	215581.009	7.700	TOPO	
480	TOPO397	804699.046	215581.027	7.700	TOPO	
481	TOPO398	804698.025	215581.012	7.666	TOPO	
482	TOPO399	804697.055	215581.047	7.685	TOPO	
483	TP5	804675.544	215569.601	9.154	BENGH	
484	TS5	804675.553	215569.607	9.153	TS	
485	HOUSE33	804645.685	215615.738	6.788	HOUSE	
486	HOUSE34	804647.477	215614.036	6.931	HOUSE	
487	HOUSE35	804649.491	215612.119	6.995	HOUSE	
488	HOUSE36	804648.680	215611.266	7.031	HOUSE	
489	HOUSE37	804650.133	215609.848	7.069	HOUSE	
490	HOUSE38	804650.994	215610.690	7.058	HOUSE	
491	HOUSE39	804654.168	215607.679	7.097	HOUSE	
492	HOUSE40	804658.857	215603.290	7.097	HOUSE	
493	HOUSE41	804658.396	215602.534	7.137	HOUSE	
494	HOUSE42	804659.835	215601.156	7.232	HOUSE	
495	HOUSE43	804660.489	215601.771	7.167	HOUSE	
496	HOUSE44	804663.170	215599.278	7.244	HOUSE	
497	HOUSE45	804665.544	215596.952	7.245	HOUSE	
498	HOUSE46	804666.553	215594.079	7.314	HOUSE	
499	HOUSE47	804666.613	215593.979	7.310	HOUSE	
500	HOUSE48	804666.191	215593.503	7.325	HOUSE	
501	HOUSE49	804667.510	215592.212	7.333	HOUSE	
502	HOUSE50	804667.976	215592.646	7.333	HOUSE	
503	HOUSE51	804668.060	215592.599	7.334	HOUSE	
504	HOUSE52	804669.092	215593.597	7.163	HOUSE	
505	HOUSE53	804671.596	215591.164	7.208	HOUSE	
506	HOUSE54	804671.347	215590.899	7.272	HOUSE	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
507	HOUSE55	804672.149	215590.098	7.319	HOUSE	
508	HOUSE56	804672.470	215590.340	7.317	HOUSE	
509	HOUSE57	804672.475	215590.333	7.317	HOUSE	
510	HOUSE58	804672.579	215590.280	7.315	HOUSE	
511	TOPO400	804709.096	215589.944	7.932	TOPO	
512	TOPO401	804708.104	215589.830	7.909	TOPO	
513	TOPO402	804707.133	215589.823	7.879	TOPO	
514	TOPO403	804706.098	215589.813	7.836	TOPO	
515	TOPO404	804705.165	215589.824	7.838	TOPO	
516	TOPO405	804704.118	215589.822	7.829	TOPO	
517	TOPO406	804703.108	215589.884	7.782	TOPO	
518	TOPO407	804702.141	215589.836	7.760	TOPO	
519	TOPO408	804701.134	215589.902	7.763	TOPO	
520	TOPO409	804699.093	215590.038	7.740	TOPO	
521	TOPO410	804698.157	215590.055	7.734	TOPO	
522	TOPO411	804697.101	215590.002	7.733	TOPO	
523	TOPO412	804696.097	215589.922	7.698	TOPO	
524	TOPO413	804695.114	215589.902	7.637	TOPO	
525	TOPO414	804694.143	215589.935	7.595	TOPO	
526	TOPO415	804693.095	215589.939	7.570	TOPO	
527	TOPO416	804692.129	215589.978	7.547	TOPO	
528	TOPO417	804691.051	215589.941	7.490	TOPO	
529	TOPO418	804690.987	215590.787	7.505	TOPO	
530	TOPO419	804692.015	215590.721	7.547	TOPO	
531	TOPO420	804692.997	215590.671	7.567	TOPO	
532	TOPO421	804694.111	215590.771	7.599	TOPO	
533	TOPO422	804695.202	215590.800	7.670	TOPO	
534	TOPO423	804696.161	215590.819	7.703	TOPO	
535	TOPO424	804697.108	215590.830	7.711	TOPO	
536	TOPO425	804698.188	215590.757	7.724	TOPO	
537	TOPO426	804699.179	215590.766	7.732	TOPO	
538	TOPO427	804699.965	215590.856	7.744	TOPO	
539	TOPO428	804701.030	215590.890	7.761	TOPO	
540	TOPO429	804702.069	215590.907	7.792	TOPO	
541	TOPO430	804703.040	215591.038	7.821	TOPO	
542	TOPO431	804704.036	215591.111	7.841	TOPO	
543	TOPO432	804705.127	215590.893	7.839	TOPO	
544	TOPO433	804706.189	215590.819	7.826	TOPO	
545	TOPO434	804707.204	215590.651	7.863	TOPO	
546	TOPO435	804708.307	215591.222	7.907	TOPO	
547	TOPO436	804709.076	215589.015	7.922	TOPO	
548	TOPO437	804708.057	215589.014	7.899	TOPO	
549	TOPO438	804711.881	215587.996	7.880	TOPO	
550	TOPO439	804711.888	215587.347	7.910	TOPO	
551	TOPO440	804710.995	215587.322	7.889	TOPO	
552	TOPO441	804710.942	215587.976	7.897	TOPO	
553	TOPO442	804709.999	215587.284	7.900	TOPO	
554	TOPO443	804709.983	215588.090	7.913	TOPO	
555	TOPO444	804708.973	215588.108	7.923	TOPO	
556	TOPO445	804708.986	215587.207	7.898	TOPO	
557	TOPO446	804707.989	215587.210	7.868	TOPO	
558	TOPO447	804707.875	215588.032	7.886	TOPO	
559	TOPO448	804708.055	215589.008	7.900	TOPO	
560	TOPO449	804707.096	215589.035	7.871	TOPO	
561	TOPO450	804706.939	215588.101	7.861	TOPO	
562	TOPO451	804707.021	215587.232	7.856	TOPO	
563	TOPO452	804706.013	215587.206	7.823	TOPO	
564	TOPO453	804705.963	215588.056	7.836	TOPO	
565	TOPO454	804706.072	215589.015	7.844	TOPO	
566	TOPO455	804705.075	215589.058	7.835	TOPO	
567	TOPO456	804704.952	215588.077	7.821	TOPO	
568	TOPO457	804704.992	215587.263	7.798	TOPO	
569	TOPO458	804703.990	215587.243	7.786	TOPO	
570	TOPO459	804703.956	215588.013	7.787	TOPO	
571	TOPO460	804704.079	215589.018	7.792	TOPO	
572	TOPO461	804703.076	215589.021	7.762	TOPO	
573	TOPO462	804702.936	215588.045	7.770	TOPO	
574	TOPO463	804702.990	215587.219	7.775	TOPO	
575	TOPO464	804702.006	215587.226	7.758	TOPO	
576	TOPO465	804701.978	215587.994	7.766	TOPO	
577	TOPO466	804702.065	215589.046	7.764	TOPO	
578	TOPO467	804701.062	215589.037	7.750	TOPO	
579	TOPO468	804700.952	215588.050	7.755	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
580	TOPO469	804700.988	215587.191	7.740	TOPO	
581	TOPO470	804700.024	215587.159	7.749	TOPO	
582	TOPO471	804700.028	215589.011	7.742	TOPO	
583	TOPO472	804700.006	215587.994	7.757	TOPO	
584	TOPO473	804698.993	215587.169	7.742	TOPO	
585	TOPO474	804698.959	215588.032	7.764	TOPO	
586	TOPO475	804699.080	215588.991	7.746	TOPO	
587	TOPO476	804698.081	215588.999	7.757	TOPO	
588	TOPO477	804697.943	215588.051	7.738	TOPO	
589	TOPO478	804697.992	215587.150	7.704	TOPO	
590	TOPO479	804696.997	215587.151	7.682	TOPO	
591	TOPO480	804696.954	215588.057	7.687	TOPO	
592	TOPO481	804697.075	215589.016	7.720	TOPO	
593	TOPO482	804696.076	215589.024	7.661	TOPO	
594	TOPO483	804695.956	215588.038	7.635	TOPO	
595	TOPO484	804695.060	215589.006	7.620	TOPO	
596	TOPO485	804694.962	215588.053	7.600	TOPO	
597	TOPO486	804695.970	215587.136	7.637	TOPO	
598	TOPO487	804694.991	215587.129	7.597	TOPO	
599	TOPO488	804694.017	215587.118	7.560	TOPO	
600	TOPO489	804693.959	215588.042	7.575	TOPO	
601	TOPO490	804694.076	215589.036	7.579	TOPO	
602	TOPO491	804693.049	215589.047	7.563	TOPO	
603	TOPO492	804693.011	215588.008	7.534	TOPO	
604	TOPO493	804693.011	215587.135	7.523	TOPO	
605	TOPO494	804692.007	215587.135	7.504	TOPO	
606	TOPO495	804692.004	215587.959	7.501	TOPO	
607	TOPO496	804692.061	215589.008	7.508	TOPO	
608	TOPO497	804691.090	215589.016	7.470	TOPO	
609	TOPO498	804690.981	215587.990	7.453	TOPO	
610	TOPO499	804691.014	215587.137	7.467	TOPO	
611	TOPO500	804690.012	215587.110	7.424	TOPO	
612	TOPO501	804689.990	215588.079	7.432	TOPO	
613	TOPO502	804690.080	215589.010	7.438	TOPO	
614	TOPO503	804689.085	215589.006	7.406	TOPO	
615	TOPO504	804689.016	215587.999	7.400	TOPO	
616	TOPO505	804688.999	215587.147	7.401	TOPO	
617	TOPO506	804688.021	215587.127	7.383	TOPO	
618	TOPO507	804687.987	215588.002	7.373	TOPO	
619	TOPO508	804688.094	215588.982	7.371	TOPO	
620	TOPO509	804687.085	215588.999	7.332	TOPO	
621	TOPO510	804687.037	215587.930	7.352	TOPO	
622	TOPO511	804686.006	215588.069	7.332	TOPO	
623	TOPO512	804687.012	215587.104	7.357	TOPO	
624	TOPO513	804686.030	215587.098	7.332	TOPO	
625	TOPO514	804686.075	215588.992	7.311	TOPO	
626	TOPO515	804685.077	215588.995	7.308	TOPO	
627	TOPO516	804684.987	215588.106	7.303	TOPO	
628	TOPO517	804685.019	215587.107	7.316	TOPO	
629	TOPO518	804684.007	215587.122	7.303	TOPO	
630	TOPO519	804684.062	215588.072	7.298	TOPO	
631	TOPO520	804684.102	215588.985	7.292	TOPO	
632	TOPO521	804683.075	215588.997	7.266	TOPO	
633	TOPO522	804683.055	215588.062	7.284	TOPO	
634	TOPO523	804683.039	215587.121	7.292	TOPO	
635	TOPO524	804682.027	215587.112	7.278	TOPO	
636	TOPO525	804682.052	215588.019	7.257	TOPO	
637	TOPO526	804682.077	215588.970	7.260	TOPO	
638	TOPO527	804681.075	215588.985	7.226	TOPO	
639	TOPO528	804681.013	215588.064	7.239	TOPO	
640	TOPO529	804681.015	215587.119	7.270	TOPO	
641	TOPO530	804680.080	215587.101	7.241	TOPO	
642	TOPO531	804680.065	215588.093	7.255	TOPO	
643	TOPO532	804680.048	215588.962	7.221	TOPO	
644	TOPO533	804679.085	215588.981	7.189	TOPO	
645	TOPO534	804679.017	215587.938	7.228	TOPO	
646	TOPO535	804678.997	215587.088	7.211	TOPO	
647	TOPO536	804677.983	215587.092	7.197	TOPO	
648	TOPO537	804677.999	215588.056	7.183	TOPO	
649	TOPO538	804678.071	215588.949	7.165	TOPO	
650	TOPO539	804677.076	215588.965	7.179	TOPO	
651	TOPO540	804677.094	215587.976	7.181	TOPO	
652	TOPO541	804677.002	215587.101	7.198	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
653	TOPO542	804676.024	215587.094	7.204	TOPO	
654	TOPO543	804676.047	215587.967	7.199	TOPO	
655	TOPO544	804676.095	215588.947	7.183	TOPO	
656	TOPO545	804676.092	215588.949	7.183	TOPO	
657	TOPO546	804675.095	215588.956	7.180	TOPO	
658	TOPO547	804675.014	215588.010	7.183	TOPO	
659	TOPO548	804675.009	215587.102	7.182	TOPO	
660	TOPO549	804674.007	215587.102	7.160	TOPO	
661	TOPO550	804674.019	215588.018	7.170	TOPO	
662	TOPO551	804674.092	215588.959	7.198	TOPO	
663	TOPO552	804673.075	215588.960	7.224	TOPO	
664	TOPO553	804673.090	215587.929	7.178	TOPO	
665	TOPO554	804673.087	215587.012	7.157	TOPO	
666	TOPO555	804672.029	215586.930	7.172	TOPO	
667	TOPO556	804671.992	215587.850	7.200	TOPO	
668	TOPO557	804672.078	215588.957	7.257	TOPO	
669	TOPO558	804671.098	215588.966	7.286	TOPO	
670	TOPO559	804671.086	215588.051	7.238	TOPO	
671	TOPO560	804671.021	215586.898	7.198	TOPO	
672	TOPO561	804670.057	215586.839	7.201	TOPO	
673	TOPO562	804670.073	215587.928	7.260	TOPO	
674	TOPO563	804670.087	215588.976	7.303	TOPO	
675	TOPO564	804669.098	215588.985	7.299	TOPO	
676	TOPO565	804669.093	215587.876	7.254	TOPO	
677	TOPO566	804669.050	215586.865	7.221	TOPO	
678	TOPO567	804668.025	215586.788	7.224	TOPO	
679	TOPO568	804668.031	215587.914	7.261	TOPO	
680	TOPO569	804668.069	215588.982	7.304	TOPO	
681	TOPO570	804667.086	215588.993	7.272	TOPO	
682	TOPO571	804667.030	215587.947	7.264	TOPO	
683	TOPO572	804667.063	215586.823	7.206	TOPO	
684	TOPO573	804666.093	215588.023	7.254	TOPO	
685	TOPO574	804664.963	215588.074	7.235	TOPO	
686	TOPO575	804665.026	215586.915	7.173	TOPO	
687	TOPO576	804663.970	215586.847	7.164	TOPO	
688	TOPO577	804664.036	215588.066	7.227	TOPO	
689	TOPO578	804664.104	215589.015	7.238	TOPO	
690	TOPO579	804663.081	215589.042	7.246	TOPO	
691	TOPO580	804663.088	215587.998	7.215	TOPO	
692	TOPO581	804663.019	215586.910	7.188	TOPO	
693	TOPO582	804662.054	215586.882	7.166	TOPO	
694	TOPO583	804662.052	215587.987	7.220	TOPO	
695	TOPO584	804662.087	215589.025	7.209	TOPO	
696	TOPO585	804661.088	215589.043	7.226	TOPO	
697	TOPO586	804661.076	215588.013	7.207	TOPO	
698	TOPO587	804661.045	215586.976	7.188	TOPO	
699	TOPO588	804660.014	215587.007	7.182	TOPO	
700	TOPO589	804659.991	215587.997	7.213	TOPO	
701	TOPO590	804660.004	215588.997	7.213	TOPO	
702	TOPO591	804659.100	215589.044	7.211	TOPO	
703	TOPO592	804659.064	215588.008	7.213	TOPO	
704	TOPO593	804659.096	215587.000	7.197	TOPO	
705	TOPO594	804659.139	215585.961	7.171	TOPO	
706	TOPO595	804660.011	215585.978	7.168	TOPO	
707	TOPO596	804661.130	215586.011	7.177	TOPO	
708	TOPO597	804662.070	215586.014	7.160	TOPO	
709	TOPO598	804663.057	215586.049	7.159	TOPO	
710	TOPO599	804664.052	215586.030	7.144	TOPO	
711	TOPO600	804665.058	215585.970	7.130	TOPO	
712	TOPO601	804666.086	215585.944	7.154	TOPO	
713	TOPO602	804667.037	215585.870	7.158	TOPO	
714	TOPO603	804668.011	215585.853	7.181	TOPO	
715	TOPO604	804669.107	215585.823	7.196	TOPO	
716	TOPO605	804670.085	215585.909	7.185	TOPO	
717	TOPO606	804671.066	215585.888	7.164	TOPO	
718	TOPO607	804672.016	215585.824	7.161	TOPO	
719	TOPO608	804673.092	215585.900	7.153	TOPO	
720	TOPO609	804674.062	215585.895	7.150	TOPO	
721	TOPO610	804675.021	215585.875	7.153	TOPO	
722	TOPO611	804676.104	215585.984	7.189	TOPO	
723	TOPO612	804677.029	215585.982	7.197	TOPO	
724	TOPO613	804678.063	215586.033	7.194	TOPO	
725	TOPO614	804679.024	215586.038	7.213	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
726	TOPO615	804680.011	215586.087	7.227	TOPO	
727	TOPO616	804681.052	215586.013	7.263	TOPO	
728	TOPO617	804682.022	215585.990	7.288	TOPO	
729	TOPO618	804683.070	215585.957	7.300	TOPO	
730	TOPO619	804684.022	215585.963	7.314	TOPO	
731	TOPO620	804685.039	215586.010	7.327	TOPO	
732	TOPO621	804686.037	215585.945	7.347	TOPO	
733	TOPO622	804687.120	215585.883	7.376	TOPO	
734	TOPO623	804688.062	215585.847	7.392	TOPO	
735	TOPO624	804689.056	215585.793	7.428	TOPO	
736	TOPO625	804690.029	215585.815	7.452	TOPO	
737	TOPO626	804691.038	215585.828	7.469	TOPO	
738	TOPO627	804692.036	215585.824	7.505	TOPO	
739	TOPO628	804693.046	215585.942	7.523	TOPO	
740	TOPO629	804694.033	215585.999	7.566	TOPO	
741	TOPO630	804695.106	215585.972	7.595	TOPO	
742	TOPO631	804696.056	215585.947	7.629	TOPO	
743	TOPO632	804697.028	215585.964	7.661	TOPO	
744	TOPO633	804698.007	215585.896	7.672	TOPO	
745	TOPO634	804699.013	215585.842	7.671	TOPO	
746	TOPO635	804700.009	215585.848	7.732	TOPO	
747	TOPO636	804700.012	215585.846	7.732	TOPO	
748	TOPO637	804701.009	215585.866	7.749	TOPO	
749	TOPO638	804702.030	215585.948	7.736	TOPO	
750	TOPO639	804703.035	215585.986	7.769	TOPO	
751	TOPO640	804704.036	215585.997	7.793	TOPO	
752	TOPO641	804705.015	215585.966	7.799	TOPO	
753	TOPO642	804705.976	215585.916	7.810	TOPO	
754	TOPO643	804707.026	215585.971	7.829	TOPO	
755	TOPO644	804708.009	215585.994	7.839	TOPO	
756	TOPO645	804708.967	215586.038	7.865	TOPO	
757	TOPO646	804709.994	215586.041	7.876	TOPO	
758	TOPO647	804711.015	215586.026	7.893	TOPO	
759	TOPO648	804712.061	215586.029	7.907	TOPO	
760	TOPO649	804713.074	215583.017	7.873	TOPO	
761	TOPO650	804711.993	215583.110	7.847	TOPO	
762	TOPO651	804711.079	215583.091	7.816	TOPO	
763	TOPO652	804709.997	215583.103	7.804	TOPO	
764	TOPO653	804709.044	215583.171	7.778	TOPO	
765	TOPO654	804708.040	215583.181	7.786	TOPO	
766	TOPO655	804707.025	215583.174	7.807	TOPO	
767	TOPO656	804706.003	215583.154	7.789	TOPO	
768	TOPO657	804705.030	215583.149	7.776	TOPO	
769	TOPO658	804704.013	215583.058	7.754	TOPO	
770	TOPO659	804703.014	215582.992	7.748	TOPO	
771	TOPO660	804702.022	215583.000	7.710	TOPO	
772	TOPO661	804700.988	215583.020	7.703	TOPO	
773	TOPO662	804702.111	215582.026	7.715	TOPO	
774	TOPO663	804703.095	215582.105	7.736	TOPO	
775	TOPO664	804704.152	215582.129	7.746	TOPO	
776	TOPO665	804705.080	215582.021	7.762	TOPO	
777	TOPO666	804706.029	215581.894	7.786	TOPO	
778	TOPO667	804707.041	215581.822	7.782	TOPO	
779	TOPO668	804708.096	215581.961	7.786	TOPO	
780	TOPO669	804709.095	215582.015	7.784	TOPO	
781	TOPO670	804710.166	215581.936	7.790	TOPO	
782	TOPO671	804711.167	215581.835	7.805	TOPO	
783	TOPO672	804712.246	215581.725	7.826	TOPO	
784	TOPO673	804713.183	215581.739	7.852	TOPO	
785	TOPO674	804714.102	215581.698	7.901	TOPO	
786	TOPO675	804714.110	215580.879	7.848	TOPO	
787	TOPO676	804714.805	215580.898	7.858	TOPO	
788	TOPO677	804712.917	215580.722	7.834	TOPO	
789	TOPO678	804711.950	215580.772	7.805	TOPO	
790	TOPO679	804710.928	215580.945	7.788	TOPO	
791	TOPO680	804710.008	215580.808	7.790	TOPO	
792	TOPO681	804709.159	215580.967	7.776	TOPO	
793	TOPO682	804708.197	215581.017	7.774	TOPO	
794	TOPO683	804708.238	215581.016	7.775	TOPO	
795	TOPO684	804707.035	215581.012	7.782	TOPO	
796	TOPO685	804706.039	215580.928	7.755	TOPO	
797	TOPO686	804704.924	215580.880	7.746	TOPO	
798	TOPO687	804703.775	215580.899	7.720	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
799	TOPO688	804702.699	215580.914	7.698	TOPO	
800	TOPO689	804701.774	215581.014	7.694	TOPO	
801	TOPO690	804700.846	215581.036	7.683	TOPO	
802	TOPO691	804702.048	215583.996	7.737	TOPO	
803	TOPO692	804702.018	215584.953	7.745	TOPO	
804	TOPO693	804703.000	215584.966	7.752	TOPO	
805	TOPO694	804703.018	215584.050	7.731	TOPO	
806	TOPO695	804704.019	215584.045	7.751	TOPO	
807	TOPO696	804704.012	215584.990	7.767	TOPO	
808	TOPO697	804705.007	215585.011	7.800	TOPO	
809	TOPO698	804705.021	215584.060	7.787	TOPO	
810	TOPO699	804706.040	215584.066	7.808	TOPO	
811	TOPO700	804706.003	215585.048	7.804	TOPO	
812	TOPO701	804707.007	215585.052	7.813	TOPO	
813	TOPO702	804707.019	215584.062	7.805	TOPO	
814	TOPO703	804708.031	215584.092	7.816	TOPO	
815	TOPO704	804708.003	215585.058	7.823	TOPO	
816	TOPO705	804709.004	215585.086	7.834	TOPO	
817	TOPO706	804709.035	215584.080	7.805	TOPO	
818	TOPO707	804710.033	215584.106	7.818	TOPO	
819	TOPO708	804710.020	215585.120	7.836	TOPO	
820	TOPO709	804710.999	215585.126	7.871	TOPO	
821	TOPO710	804711.019	215584.131	7.851	TOPO	
822	TOPO711	804711.826	215584.193	7.848	TOPO	
823	TOPO712	804711.015	215585.113	7.871	TOPO	
824	TOPO713	804712.011	215585.123	7.882	TOPO	
825	TS6	804677.141	215570.106	9.174	TS	
826	HOUSE59	804645.696	215615.670	6.789	HOUSELINE	
827	HOUSE60	804649.470	215612.108	6.996	HOUSELINE	
828	HOUSE61	804648.661	215611.238	7.032	HOUSELINE	
829	HOUSE62	804650.116	215609.827	7.071	HOUSELINE	
830	HOUSE63	804650.975	215610.668	7.058	HOUSELINE	
831	HOUSE64	804658.974	215603.146	7.140	HOUSELINE	
832	HOUSE65	804658.389	215602.515	7.139	HOUSELINE	
833	HOUSE66	804659.823	215601.135	7.235	HOUSELINE	
834	HOUSE67	804660.460	215601.752	7.172	HOUSELINE	
835	HOUSE68	804665.104	215597.370	7.243	HOUSELINE	
836	HOUSE69	804666.174	215593.505	7.332	HOUSELINE	
837	HOUSE70	804667.520	215592.197	7.335	HOUSELINE	
838	HOUSE71	804669.065	215593.580	7.173	HOUSELINE	
839	HOUSE72	804671.573	215591.161	7.209	HOUSELINE	
840	HOUSE73	804671.336	215590.895	7.274	HOUSELINE	
841	HOUSE74	804672.159	215590.082	7.322	HOUSELINE	
842	HOUSE75	804672.444	215590.336	7.319	HOUSELINE	
843	HOUSE76	804672.529	215590.282	7.319	HOUSELINE	
844	HOUSE77	804682.167	215600.358	7.289	HOUSELINE	
845	TOPO714	804696.947	215581.134	7.673	TOPO	
846	TOPO715	804695.984	215581.245	7.659	TOPO	
847	TOPO716	804695.004	215581.305	7.649	TOPO	
848	TOPO717	804693.941	215581.243	7.643	TOPO	
849	TOPO718	804692.970	215581.215	7.604	TOPO	
850	TOPO719	804692.971	215581.150	7.600	TOPO	
851	TOPO720	804691.989	215581.239	7.576	TOPO	
852	TOPO721	804690.959	215581.195	7.554	TOPO	
853	TOPO722	804689.971	215581.238	7.532	TOPO	
854	TOPO723	804688.964	215581.239	7.522	TOPO	
855	TOPO724	804687.966	215581.231	7.491	TOPO	
856	TOPO725	804686.968	215581.228	7.467	TOPO	
857	TOPO726	804685.958	215581.189	7.422	TOPO	
858	TOPO727	804684.977	215581.232	7.397	TOPO	
859	TOPO728	804683.993	215581.205	7.365	TOPO	
860	TOPO729	804682.946	215581.168	7.343	TOPO	
861	TOPO730	804681.996	215581.039	7.310	TOPO	
862	TOPO731	804681.083	215581.031	7.292	TOPO	
863	TOPO732	804680.046	215581.041	7.267	TOPO	
864	TOPO733	804679.084	215581.014	7.231	TOPO	
865	TOPO734	804678.085	215581.012	7.227	TOPO	
866	TOPO735	804677.087	215581.003	7.211	TOPO	
867	TOPO736	804675.084	215581.006	7.189	TOPO	
868	TOPO737	804674.070	215580.990	7.190	TOPO	
869	TOPO738	804673.083	215580.982	7.155	TOPO	
870	TOPO739	804672.065	215580.990	7.126	TOPO	
871	TOPO740	804671.083	215580.982	7.067	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
872	TOPO741	804670.086	215580.985	7.073	TOPO	
873	TOPO742	804669.085	215581.001	7.067	TOPO	
874	TOPO743	804668.088	215580.988	7.077	TOPO	
875	TOPO744	804667.104	215580.968	7.053	TOPO	
876	TOPO745	804666.091	215580.986	7.062	TOPO	
877	TOPO746	804665.085	215580.989	7.053	TOPO	
878	TOPO747	804664.074	215580.994	7.051	TOPO	
879	TOPO748	804663.101	215580.982	7.074	TOPO	
880	TOPO749	804662.091	215580.990	7.091	TOPO	
881	TOPO750	804661.089	215580.977	7.127	TOPO	
882	TOPO751	804660.074	215580.958	7.154	TOPO	
883	TOPO752	804659.061	215580.962	7.159	TOPO	
884	TOPO753	804659.131	215580.030	7.145	TOPO	
885	TOPO754	804660.036	215579.962	7.164	TOPO	
886	TOPO755	804661.059	215579.956	7.144	TOPO	
887	TOPO756	804662.043	215580.098	7.110	TOPO	
888	TOPO757	804663.041	215579.919	7.086	TOPO	
889	TOPO758	804664.049	215579.948	7.048	TOPO	
890	TOPO759	804665.067	215579.948	7.025	TOPO	
891	TOPO760	804666.053	215579.943	7.052	TOPO	
892	TOPO761	804667.062	215579.932	7.049	TOPO	
893	TOPO762	804668.055	215579.946	7.058	TOPO	
894	TOPO763	804669.051	215579.927	7.043	TOPO	
895	TOPO764	804670.049	215579.935	7.047	TOPO	
896	TOPO765	804671.028	215579.940	7.075	TOPO	
897	TOPO766	804672.065	215579.934	7.120	TOPO	
898	TOPO767	804673.064	215579.936	7.143	TOPO	
899	TOPO768	804674.049	215579.938	7.176	TOPO	
900	TOPO769	804675.043	215579.934	7.186	TOPO	
901	TOPO770	804676.059	215579.956	7.186	TOPO	
902	TOPO771	804677.040	215579.965	7.195	TOPO	
903	TOPO772	804678.046	215579.966	7.219	TOPO	
904	TOPO773	804679.043	215579.968	7.235	TOPO	
905	TOPO774	804680.043	215579.969	7.252	TOPO	
906	TOPO775	804681.051	215579.973	7.262	TOPO	
907	TOPO776	804682.045	215579.948	7.304	TOPO	
908	TOPO777	804683.049	215579.940	7.347	TOPO	
909	TOPO778	804684.022	215579.958	7.380	TOPO	
910	TOPO779	804685.040	215579.965	7.417	TOPO	
911	TOPO780	804686.045	215579.948	7.456	TOPO	
912	TOPO781	804687.030	215579.960	7.493	TOPO	
913	TOPO782	804688.023	215579.962	7.532	TOPO	
914	TOPO783	804689.034	215579.962	7.560	TOPO	
915	TOPO784	804690.031	215579.971	7.555	TOPO	
916	TOPO785	804691.029	215579.982	7.584	TOPO	
917	TOPO786	804692.053	215579.959	7.603	TOPO	
918	TOPO787	804693.035	215579.966	7.601	TOPO	
919	TOPO788	804694.021	215579.985	7.636	TOPO	
920	TOPO789	804695.044	215579.962	7.671	TOPO	
921	TOPO790	804696.047	215579.979	7.672	TOPO	
922	TOPO791	804697.046	215579.969	7.679	TOPO	
923	TOPO792	804698.043	215579.960	7.679	TOPO	
924	TOPO793	804699.043	215579.967	7.689	TOPO	
925	TOPO794	804700.025	215579.973	7.664	TOPO	
926	TOPO795	804701.041	215579.979	7.675	TOPO	
927	TOPO796	804702.042	215579.966	7.703	TOPO	
928	TOPO797	804703.013	215579.981	7.688	TOPO	
929	TOPO798	804704.022	215579.985	7.700	TOPO	
930	TOPO799	804705.030	215579.975	7.731	TOPO	
931	TOPO800	804706.020	215579.990	7.766	TOPO	
932	TOPO801	804707.002	215579.984	7.763	TOPO	
933	TOPO802	804708.025	215579.978	7.772	TOPO	
934	TOPO803	804709.010	215579.990	7.771	TOPO	
935	TOPO804	804710.026	215579.993	7.777	TOPO	
936	TOPO805	804711.027	215580.014	7.794	TOPO	
937	TOPO806	804711.006	215579.006	7.797	TOPO	
938	TOPO807	804710.033	215578.992	7.771	TOPO	
939	TOPO808	804709.015	215578.993	7.747	TOPO	
940	TOPO809	804708.014	215578.986	7.753	TOPO	
941	TOPO810	804707.020	215578.991	7.733	TOPO	
942	TOPO811	804706.031	215578.971	7.716	TOPO	
943	TOPO812	804705.042	215578.987	7.722	TOPO	
944	TOPO813	804704.038	215578.999	7.727	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
945	TOPO814	804703.046	215579.019	7.705	TOPO	
946	TOPO815	804702.029	215579.001	7.674	TOPO	
947	TOPO816	804701.031	215579.008	7.689	TOPO	
948	TOPO817	804700.024	215579.027	7.697	TOPO	
949	TOPO818	804699.015	215579.034	7.699	TOPO	
950	TOPO819	804698.027	215579.019	7.696	TOPO	
951	TOPO820	804696.992	215579.016	7.688	TOPO	
952	TOPO821	804696.001	215579.018	7.680	TOPO	
953	TOPO822	804695.029	215579.030	7.663	TOPO	
954	TOPO823	804694.008	215579.041	7.637	TOPO	
955	TOPO824	804693.011	215579.047	7.620	TOPO	
956	TOPO825	804692.012	215579.040	7.607	TOPO	
957	TOPO826	804691.006	215579.050	7.611	TOPO	
958	TOPO827	804690.020	215579.046	7.574	TOPO	
959	TOPO828	804689.010	215579.051	7.564	TOPO	
960	TOPO829	804688.028	215579.043	7.530	TOPO	
961	TOPO830	804687.034	215579.027	7.487	TOPO	
962	TOPO831	804686.014	215579.030	7.463	TOPO	
963	TOPO832	804685.032	215579.019	7.431	TOPO	
964	TOPO833	804684.015	215579.029	7.377	TOPO	
965	TOPO834	804683.036	215579.037	7.348	TOPO	
966	TOPO835	804682.022	215579.012	7.308	TOPO	
967	TOPO836	804681.020	215579.019	7.238	TOPO	
968	TOPO837	804680.031	215579.040	7.248	TOPO	
969	TOPO838	804679.021	215578.999	7.243	TOPO	
970	TOPO839	804678.028	215579.008	7.225	TOPO	
971	TOPO840	804676.027	215579.023	7.213	TOPO	
972	TOPO841	804677.020	215579.003	7.210	TOPO	
973	TOPO842	804676.010	215578.998	7.214	TOPO	
974	TOPO843	804675.005	215579.012	7.213	TOPO	
975	TOPO844	804673.994	215579.006	7.186	TOPO	
976	TOPO845	804673.016	215579.013	7.160	TOPO	
977	TOPO846	804672.005	215578.995	7.114	TOPO	
978	TOPO847	804670.994	215579.016	7.089	TOPO	
979	TOPO848	804670.016	215578.997	7.042	TOPO	
980	TOPO849	804669.020	215578.983	7.020	TOPO	
981	TOPO850	804668.019	215579.001	7.032	TOPO	
982	TOPO851	804667.029	215579.012	7.039	TOPO	
983	TOPO852	804666.012	215579.013	7.019	TOPO	
984	TOPO853	804665.037	215579.019	7.030	TOPO	
985	TOPO854	804664.152	215578.946	7.059	TOPO	
986	TOPO855	804663.167	215578.872	7.085	TOPO	
987	TOPO856	804662.112	215578.841	7.122	TOPO	
988	TOPO857	804661.116	215578.816	7.143	TOPO	
989	TOPO858	804659.968	215578.977	7.159	TOPO	
990	TOPO859	804659.179	215578.966	7.154	TOPO	
991	TOPO860	804659.051	215577.975	7.152	TOPO	
992	TOPO861	804660.029	215578.005	7.150	TOPO	
993	TOPO862	804661.079	215577.998	7.141	TOPO	
994	TOPO863	804662.081	215578.015	7.107	TOPO	
995	TOPO864	804663.105	215577.993	7.076	TOPO	
996	TOPO865	804664.068	215578.011	7.050	TOPO	
997	TOPO866	804665.050	215578.031	7.035	TOPO	
998	TOPO867	804666.075	215578.019	7.019	TOPO	
999	TOPO868	804667.080	215578.020	7.000	TOPO	
1000	TOPO869	804668.080	215578.021	6.987	TOPO	
1001	TOPO870	804669.057	215578.036	7.002	TOPO	
1002	TOPO871	804670.067	215578.065	7.047	TOPO	
1003	TOPO872	804711.012	215575.976	7.790	TOPO	
1004	TOPO873	804709.999	215575.982	7.774	TOPO	
1005	TOPO874	804709.006	215575.977	7.767	TOPO	
1006	TOPO875	804708.001	215575.972	7.742	TOPO	
1007	TOPO876	804707.009	215575.967	7.731	TOPO	
1008	TOPO877	804706.022	215575.974	7.740	TOPO	
1009	TOPO878	804705.011	215575.966	7.744	TOPO	
1010	TOPO879	804703.998	215575.978	7.739	TOPO	
1011	TOPO880	804703.021	215575.995	7.742	TOPO	
1012	TOPO881	804702.017	215575.988	7.717	TOPO	
1013	TOPO882	804701.036	215575.997	7.686	TOPO	
1014	TOPO883	804700.036	215576.003	7.714	TOPO	
1015	TOPO884	804699.029	215576.008	7.698	TOPO	
1016	TOPO885	804698.043	215576.002	7.688	TOPO	
1017	TOPO886	804697.020	215576.005	7.682	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
1018	TOPO887	804696.024	215576.019	7.677	TOPO	
1019	TOPO888	804695.030	215576.007	7.671	TOPO	
1020	TOPO889	804694.028	215576.024	7.641	TOPO	
1021	TOPO890	804693.010	215576.017	7.613	TOPO	
1022	TOPO891	804692.055	215576.020	7.604	TOPO	
1023	TOPO892	804691.042	215576.002	7.582	TOPO	
1024	TOPO893	804690.018	215576.038	7.579	TOPO	
1025	TOPO894	804688.997	215576.006	7.540	TOPO	
1026	TOPO895	804688.030	215576.014	7.543	TOPO	
1027	TOPO896	804687.044	215576.021	7.524	TOPO	
1028	TOPO897	804686.050	215576.017	7.477	TOPO	
1029	TOPO898	804685.023	215576.008	7.435	TOPO	
1030	TOPO899	804684.040	215576.013	7.399	TOPO	
1031	TOPO900	804683.018	215575.998	7.356	TOPO	
1032	TOPO901	804682.033	215575.986	7.308	TOPO	
1033	TOPO902	804681.043	215576.009	7.286	TOPO	
1034	TOPO903	804680.040	215576.024	7.290	TOPO	
1035	TOPO904	804679.034	215576.001	7.298	TOPO	
1036	TOPO905	804678.053	215575.998	7.269	TOPO	
1037	TOPO906	804677.053	215575.983	7.248	TOPO	
1038	TOPO907	804676.056	215575.988	7.228	TOPO	
1039	TOPO908	804675.044	215575.997	7.224	TOPO	
1040	TOPO909	804674.026	215576.007	7.192	TOPO	
1041	TOPO910	804673.056	215576.029	7.175	TOPO	
1042	TOPO911	804672.061	215575.998	7.125	TOPO	
1043	TOPO912	804671.066	215576.006	7.066	TOPO	
1044	TOPO913	804670.061	215576.006	7.021	TOPO	
1045	TOPO914	804669.036	215576.004	7.007	TOPO	
1046	TOPO915	804668.059	215576.009	6.986	TOPO	
1047	TOPO916	804667.062	215576.003	6.999	TOPO	
1048	TOPO917	804666.058	215575.995	7.020	TOPO	
1049	TOPO918	804665.083	215575.983	7.024	TOPO	
1050	TOPO919	804664.052	215576.003	7.036	TOPO	
1051	TOPO920	804663.032	215575.988	7.040	TOPO	
1052	TOPO921	804662.067	215576.000	7.059	TOPO	
1053	TOPO922	804661.052	215575.986	7.093	TOPO	
1054	TOPO923	804660.096	215576.000	7.098	TOPO	
1055	TOPO924	804659.158	215575.973	7.124	TOPO	
1056	TOPO925	804659.079	215576.976	7.135	TOPO	
1057	TOPO926	804660.059	215577.008	7.141	TOPO	
1058	TOPO927	804661.090	215577.013	7.116	TOPO	
1059	TOPO928	804662.114	215577.002	7.089	TOPO	
1060	TOPO929	804663.111	215577.014	7.063	TOPO	
1061	TOPO930	804664.087	215577.017	7.038	TOPO	
1062	TOPO931	804665.111	215577.002	7.026	TOPO	
1063	TOPO932	804666.115	215577.005	7.013	TOPO	
1064	TOPO933	804667.123	215577.008	6.998	TOPO	
1065	TOPO934	804668.109	215577.002	6.988	TOPO	
1066	TOPO935	804669.089	215577.016	7.013	TOPO	
1067	TOPO936	804670.101	215577.001	7.034	TOPO	
1068	TOPO937	804671.135	215576.994	7.066	TOPO	
1069	TOPO938	804672.091	215577.024	7.111	TOPO	
1070	TOPO939	804673.104	215577.007	7.157	TOPO	
1071	TOPO940	804674.087	215577.018	7.196	TOPO	
1072	TOPO941	804675.113	215577.004	7.214	TOPO	
1073	TOPO942	804676.120	215576.938	7.208	TOPO	
1074	TOPO943	804677.110	215577.007	7.232	TOPO	
1075	TOPO944	804678.089	215577.001	7.239	TOPO	
1076	TOPO945	804679.085	215577.001	7.255	TOPO	
1077	TOPO946	804680.076	215577.006	7.264	TOPO	
1078	TOPO947	804681.089	215576.982	7.274	TOPO	
1079	TOPO948	804682.102	215577.004	7.311	TOPO	
1080	TOPO949	804683.114	215577.004	7.343	TOPO	
1081	TOPO950	804684.081	215577.010	7.399	TOPO	
1082	TOPO951	804685.097	215576.996	7.433	TOPO	
1083	TOPO952	804686.031	215576.945	7.478	TOPO	
1084	TOPO953	804687.117	215577.004	7.524	TOPO	
1085	TOPO954	804688.116	215576.996	7.523	TOPO	
1086	TOPO955	804689.113	215577.017	7.581	TOPO	
1087	TOPO956	804690.100	215576.996	7.575	TOPO	
1088	TOPO957	804691.111	215577.007	7.583	TOPO	
1089	TOPO958	804692.099	215577.005	7.606	TOPO	
1090	TOPO959	804693.112	215576.986	7.618	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
1091	TOPO960	804694.104	215576.996	7.651	TOPO	
1092	TOPO961	804695.096	215576.989	7.682	TOPO	
1093	TOPO962	804696.105	215576.989	7.686	TOPO	
1094	TOPO963	804697.110	215577.004	7.689	TOPO	
1095	TOPO964	804698.092	215576.999	7.700	TOPO	
1096	TOPO965	804698.101	215577.000	7.699	TOPO	
1097	TOPO966	804699.090	215576.986	7.705	TOPO	
1098	TOPO967	804700.087	215577.005	7.719	TOPO	
1099	TOPO968	804701.108	215577.016	7.713	TOPO	
1100	TOPO969	804702.107	215577.019	7.717	TOPO	
1101	TOPO970	804703.091	215577.028	7.739	TOPO	
1102	TOPO971	804704.082	215577.030	7.731	TOPO	
1103	TOPO972	804705.090	215577.024	7.743	TOPO	
1104	TOPO973	804706.087	215577.020	7.733	TOPO	
1105	TOPO974	804707.076	215577.009	7.746	TOPO	
1106	TOPO975	804708.093	215576.992	7.745	TOPO	
1107	TOPO976	804709.109	215576.988	7.761	TOPO	
1108	TOPO977	804710.112	215576.984	7.771	TOPO	
1109	TOPO978	804711.076	215576.979	7.782	TOPO	
1110	TOPO979	804712.089	215576.988	7.795	TOPO	
1111	TOPO980	804711.841	215577.974	7.803	TOPO	
1112	TOPO981	804711.086	215577.963	7.777	TOPO	
1113	TOPO982	804710.066	215577.988	7.785	TOPO	
1114	TOPO983	804709.080	215577.974	7.765	TOPO	
1115	TOPO984	804708.072	215577.979	7.737	TOPO	
1116	TOPO985	804707.054	215577.971	7.694	TOPO	
1117	TOPO986	804706.074	215577.976	7.737	TOPO	
1118	TOPO987	804705.080	215577.975	7.711	TOPO	
1119	TOPO988	804704.079	215577.988	7.727	TOPO	
1120	TOPO989	804703.101	215577.990	7.721	TOPO	
1121	TOPO990	804702.074	215577.970	7.698	TOPO	
1122	TOPO991	804701.074	215577.965	7.714	TOPO	
1123	TOPO992	804700.049	215577.962	7.698	TOPO	
1124	TOPO993	804699.060	215577.971	7.710	TOPO	
1125	TOPO994	804698.085	215577.966	7.710	TOPO	
1126	TOPO995	804697.079	215577.971	7.703	TOPO	
1127	TOPO996	804696.064	215577.963	7.689	TOPO	
1128	TOPO997	804695.097	215577.976	7.666	TOPO	
1129	TOPO998	804694.093	215577.983	7.675	TOPO	
1130	TOPO999	804693.088	215577.986	7.633	TOPO	
1131	TOPO1000	804692.092	215577.985	7.601	TOPO	
1132	TOPO1001	804691.098	215578.022	7.571	TOPO	
1133	TOPO1002	804690.069	215577.993	7.569	TOPO	
1134	TOPO1003	804689.087	215578.025	7.533	TOPO	
1135	TOPO1004	804688.077	215578.031	7.537	TOPO	
1136	TOPO1005	804687.080	215578.041	7.507	TOPO	
1137	TOPO1006	804686.063	215578.023	7.466	TOPO	
1138	TOPO1007	804685.178	215577.933	7.413	TOPO	
1139	TOPO1008	804684.286	215577.975	7.392	TOPO	
1140	TOPO1009	804683.390	215577.984	7.360	TOPO	
1141	TOPO1010	804682.092	215578.035	7.312	TOPO	
1142	TOPO1011	804681.070	215578.023	7.271	TOPO	
1143	TOPO1012	804680.074	215578.048	7.251	TOPO	
1144	TOPO1013	804679.196	215578.150	7.240	TOPO	
1145	TOPO1014	804678.164	215578.032	7.233	TOPO	
1146	TOPO1015	804677.274	215578.089	7.225	TOPO	
1147	TOPO1016	804676.360	215578.051	7.218	TOPO	
1148	TOPO1017	804675.489	215578.049	7.206	TOPO	
1149	TOPO1018	804674.548	215578.028	7.203	TOPO	
1150	TOPO1019	804673.642	215578.017	7.183	TOPO	
1151	TOPO1020	804672.648	215578.049	7.145	TOPO	
1152	TOPO1021	804671.659	215578.056	7.084	TOPO	
1153	TOPO1022	804670.970	215578.003	7.063	TOPO	
1154	TOPO1023	804671.107	215589.979	7.319	TOPO	
1155	TOPO1024	804668.931	215589.997	7.326	TOPO	
1156	TOPO1025	804667.848	215590.003	7.300	TOPO	
1157	TOPO1026	804666.903	215590.092	7.287	TOPO	
1158	TOPO1027	804665.799	215590.159	7.264	TOPO	
1159	TOPO1028	804664.810	215590.252	7.244	TOPO	
1160	TOPO1029	804663.909	215590.295	7.243	TOPO	
1161	TOPO1030	804662.855	215590.249	7.246	TOPO	
1162	TOPO1031	804661.945	215590.225	7.254	TOPO	
1163	TOPO1032	804661.017	215590.155	7.242	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
1164	TOPO1033	804658.885	215590.120	7.200	TOPO	
1165	TOPO1034	804665.135	215589.186	7.250	TOPO	
1166	TOPO1035	804666.212	215589.052	7.263	TOPO	
1167	TOPO1036	804666.011	215587.019	7.211	TOPO	
1168	TOPO1037	804692.155	215591.899	7.562	TOPO	
1169	TOPO1038	804693.361	215591.876	7.631	TOPO	
1170	TOPO1039	804694.632	215591.909	7.733	TOPO	
1171	TOPO1040	804695.565	215591.765	7.728	TOPO	
1172	TOPO1041	804696.724	215591.755	7.727	TOPO	
1173	TOPO1042	804697.575	215591.695	7.713	TOPO	
1174	TOPO1043	804698.342	215591.589	7.731	TOPO	
1175	TOPO1044	804699.381	215591.699	7.740	TOPO	
1176	TOPO1045	804700.199	215591.595	7.758	TOPO	
1177	TOPO1046	804701.411	215592.035	7.814	TOPO	
1178	TOPO1047	804702.388	215592.079	7.821	TOPO	
1179	TOPO1048	804703.472	215592.142	7.848	TOPO	
1180	TOPO1049	804704.395	215592.117	7.842	TOPO	
1181	TOPO1050	804705.225	215592.089	7.861	TOPO	
1182	TOPO1051	804706.210	215591.998	7.863	TOPO	
1183	TOPO1052	804707.213	215591.849	7.875	TOPO	
1184	TOPO1053	804707.019	215592.714	7.887	TOPO	
1185	TOPO1054	804705.848	215593.257	7.889	TOPO	
1186	TOPO1055	804704.830	215593.256	7.839	TOPO	
1187	TOPO1056	804703.476	215593.278	7.837	TOPO	
1188	TOPO1057	804702.302	215593.494	7.844	TOPO	
1189	TOPO1058	804701.082	215593.413	7.818	TOPO	
1190	TOPO1059	804699.903	215593.423	7.797	TOPO	
1191	TOPO1060	804700.000	215592.390	7.782	TOPO	
1192	TOPO1061	804699.079	215593.483	7.793	TOPO	
1193	TOPO1062	804698.015	215593.482	7.747	TOPO	
1194	TOPO1063	804697.053	215593.442	7.743	TOPO	
1195	TOPO1064	804696.035	215593.404	7.740	TOPO	
1196	TOPO1065	804695.098	215593.214	7.720	TOPO	
1197	TOPO1066	804694.151	215593.099	7.700	TOPO	
1198	TOPO1067	804693.146	215593.022	7.667	TOPO	
1199	TOPO1068	804691.895	215592.956	7.563	TOPO	
1200	TOPO1069	804691.930	215594.035	7.568	TOPO	
1201	TOPO1070	804693.167	215594.054	7.633	TOPO	
1202	TOPO1071	804694.421	215594.016	7.679	TOPO	
1203	TOPO1072	804695.511	215593.988	7.706	TOPO	
1204	TOPO1073	804696.850	215594.200	7.728	TOPO	
1205	TOPO1074	804698.066	215594.569	7.804	TOPO	
1206	TOPO1075	804699.318	215594.817	7.822	TOPO	
1207	TOPO1076	804700.331	215594.870	7.843	TOPO	
1208	TOPO1077	804701.739	215594.884	7.875	TOPO	
1209	TOPO1078	804703.010	215594.855	7.836	TOPO	
1210	TOPO1079	804704.119	215594.827	7.816	TOPO	
1211	TOPO1080	804703.983	215595.907	7.852	TOPO	
1212	TOPO1081	804702.659	215595.781	7.866	TOPO	
1213	TOPO1082	804701.563	215595.664	7.920	TOPO	
1214	TOPO1083	804699.984	215596.242	7.897	TOPO	
1215	TOPO1084	804698.695	215596.227	7.906	TOPO	
1216	TOPO1085	804697.431	215595.897	7.806	TOPO	
1217	TOPO1086	804696.355	215595.734	7.763	TOPO	
1218	TOPO1087	804695.260	215595.724	7.674	TOPO	
1219	TOPO1088	804694.146	215595.620	7.661	TOPO	
1220	TOPO1089	804692.997	215595.457	7.618	TOPO	
1221	TOPO1090	804691.939	215595.280	7.575	TOPO	
1222	TOPO1091	804690.991	215595.160	7.533	TOPO	
1223	TOPO1092	804691.264	215596.058	7.552	TOPO	
1224	TOPO1093	804695.986	215594.680	7.722	TOPO	
1225	TOPO1094	804695.992	215592.580	7.738	TOPO	
1226	TOPO1095	804698.444	215592.619	7.718	TOPO	
1227	TOPO1096	804710.986	215574.895	7.792	TOPO	
1228	TOPO1097	804712.091	215574.781	7.802	TOPO	
1229	TOPO1098	804712.416	215576.012	7.793	TOPO	
1230	TOPO1099	804712.485	215577.069	7.797	TOPO	
1231	TOPO1100	804712.494	215578.051	7.812	TOPO	
1232	TOPO1101	804712.472	215578.986	7.810	TOPO	
1233	TOPO1102	804711.773	215579.038	7.808	TOPO	
1234	TOPO1103	804711.900	215580.163	7.801	TOPO	
1235	TOPO1104	804713.111	215580.068	7.832	TOPO	
1236	TOPO1105	804708.969	215574.917	7.761	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
1237	TOPO1106	804709.061	215574.040	7.786	TOPO	
1238	TOPO1107	804709.061	215574.041	7.786	TOPO	
1239	TOPO1108	804707.994	215573.910	7.747	TOPO	
1240	TOPO1109	804707.992	215574.916	7.753	TOPO	
1241	TOPO1110	804707.005	215574.921	7.741	TOPO	
1242	TOPO1111	804706.990	215573.796	7.745	TOPO	
1243	TOPO1112	804705.974	215573.649	7.741	TOPO	
1244	TOPO1113	804705.973	215574.905	7.735	TOPO	
1245	TOPO1114	804704.970	215574.921	7.732	TOPO	
1246	TOPO1115	804705.045	215573.843	7.752	TOPO	
1247	TOPO1116	804703.940	215573.695	7.724	TOPO	
1248	TOPO1117	804703.972	215574.904	7.713	TOPO	
1249	TOPO1118	804702.977	215574.901	7.718	TOPO	
1250	TOPO1119	804703.025	215573.833	7.706	TOPO	
1251	TOPO1120	804702.994	215573.816	7.705	TOPO	
1252	TOPO1121	804701.959	215573.728	7.697	TOPO	
1253	TOPO1122	804701.996	215574.892	7.694	TOPO	
1254	TOPO1123	804700.987	215574.902	7.697	TOPO	
1255	TOPO1124	804700.988	215574.904	7.697	TOPO	
1256	TOPO1125	804700.996	215573.861	7.682	TOPO	
1257	TOPO1126	804700.984	215573.854	7.682	TOPO	
1258	TOPO1127	804699.862	215573.751	7.659	TOPO	
1259	TOPO1128	804699.974	215574.901	7.688	TOPO	
1260	TOPO1129	804698.978	215574.917	7.689	TOPO	
1261	TOPO1130	804699.008	215573.822	7.675	TOPO	
1262	TOPO1131	804697.993	215573.797	7.677	TOPO	
1263	TOPO1132	804697.979	215574.914	7.682	TOPO	
1264	TOPO1133	804696.991	215574.949	7.675	TOPO	
1265	TOPO1134	804696.975	215573.947	7.672	TOPO	
1266	TOPO1135	804696.976	215573.941	7.682	TOPO	
1267	TOPO1136	804695.988	215573.891	7.680	TOPO	
1268	TOPO1137	804695.990	215574.908	7.666	TOPO	
1269	TOPO1138	804695.990	215574.913	7.707	TOPO	
1270	TOPO1139	804694.988	215574.915	7.669	TOPO	
1271	TOPO1140	804695.029	215573.901	7.651	TOPO	
1272	TOPO1141	804694.036	215573.833	7.628	TOPO	
1273	TOPO1142	804693.992	215574.918	7.625	TOPO	
1274	TOPO1143	804692.984	215574.941	7.601	TOPO	
1275	TOPO1144	804692.957	215573.998	7.618	TOPO	
1276	TOPO1145	804692.023	215573.851	7.564	TOPO	
1277	TOPO1146	804691.997	215574.958	7.589	TOPO	
1278	TOPO1147	804690.986	215574.946	7.567	TOPO	
1279	TOPO1148	804690.990	215573.952	7.559	TOPO	
1280	TOPO1149	804689.937	215573.901	7.532	TOPO	
1281	TOPO1150	804689.977	215574.963	7.561	TOPO	
1282	TOPO1151	804688.975	215574.952	7.523	TOPO	
1283	TOPO1152	804688.985	215574.023	7.519	TOPO	
1284	TOPO1153	804688.034	215573.972	7.510	TOPO	
1285	TOPO1154	804687.981	215574.976	7.520	TOPO	
1286	TOPO1155	804686.993	215574.952	7.490	TOPO	
1287	TOPO1156	804687.038	215574.000	7.497	TOPO	
1288	TOPO1157	804686.007	215573.898	7.459	TOPO	
1289	TOPO1158	804685.974	215574.962	7.474	TOPO	
1290	TOPO1159	804684.971	215574.949	7.441	TOPO	
1291	TOPO1160	804685.018	215574.055	7.449	TOPO	
1292	TOPO1161	804683.995	215573.999	7.410	TOPO	
1293	TOPO1162	804683.975	215574.973	7.394	TOPO	
1294	TOPO1163	804682.999	215574.980	7.364	TOPO	
1295	TOPO1164	804682.983	215574.129	7.378	TOPO	
1296	TOPO1165	804682.040	215574.052	7.349	TOPO	
1297	TOPO1166	804682.003	215574.982	7.325	TOPO	
1298	TOPO1167	804681.011	215574.976	7.323	TOPO	
1299	TOPO1168	804681.009	215574.077	7.338	TOPO	
1300	TOPO1169	804680.073	215574.034	7.338	TOPO	
1301	TOPO1170	804680.005	215574.982	7.304	TOPO	
1302	TOPO1171	804678.997	215574.970	7.312	TOPO	
1303	TOPO1172	804678.976	215574.125	7.342	TOPO	
1304	TOPO1173	804678.041	215574.085	7.355	TOPO	
1305	TOPO1174	804677.975	215574.993	7.291	TOPO	
1306	TOPO1175	804676.988	215574.986	7.276	TOPO	
1307	TOPO1176	804676.992	215574.153	7.330	TOPO	
1308	TOPO1177	804676.020	215574.057	7.328	TOPO	
1309	TOPO1178	804675.993	215574.998	7.246	TOPO	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
1310	TOPO1179	804674.986	215574.981	7.235	TOPO	
1311	TOPO1180	804675.022	215574.048	7.293	TOPO	
1312	TOPO1181	804674.036	215573.983	7.250	TOPO	
1313	TOPO1182	804673.031	215573.903	7.185	TOPO	
1314	TOPO1183	804673.006	215574.993	7.156	TOPO	
1315	TOPO1184	804672.001	215575.006	7.116	TOPO	
1316	TOPO1185	804672.049	215573.950	7.126	TOPO	
1317	TOPO1186	804671.036	215573.882	7.084	TOPO	
1318	TOPO1187	804670.981	215575.006	7.073	TOPO	
1319	TOPO1188	804669.996	215575.010	7.029	TOPO	
1320	TOPO1189	804669.995	215574.047	7.047	TOPO	
1321	TOPO1190	804669.025	215573.977	6.990	TOPO	
1322	TOPO1191	804668.999	215574.994	6.992	TOPO	
1323	TOPO1192	804667.986	215574.984	6.969	TOPO	
1324	TOPO1193	804668.000	215574.007	6.949	TOPO	
1325	TOPO1194	804667.018	215573.961	7.000	TOPO	
1326	TOPO1195	804667.006	215574.991	6.996	TOPO	
1327	TOPO1196	804665.994	215574.975	7.014	TOPO	
1328	TOPO1197	804665.984	215574.021	6.991	TOPO	
1329	TOPO1198	804664.999	215573.974	6.986	TOPO	
1330	TOPO1199	804665.007	215573.974	6.986	TOPO	
1331	TOPO1200	804664.976	215574.993	7.005	TOPO	
1332	TOPO1201	804663.992	215574.980	7.000	TOPO	
1333	TOPO1202	804663.999	215574.108	6.976	TOPO	
1334	TOPO1203	804662.985	215574.037	7.000	TOPO	
1335	TOPO1204	804662.987	215575.001	7.017	TOPO	
1336	TOPO1205	804661.998	215574.980	7.053	TOPO	
1337	TOPO1206	804661.975	215573.901	7.023	TOPO	
1338	TOPO1207	804660.967	215573.883	7.039	TOPO	
1339	TOPO1208	804660.998	215575.004	7.060	TOPO	
1340	TOPO1209	804660.006	215574.979	7.071	TOPO	
1341	TOPO1210	804660.063	215573.993	7.053	TOPO	
1342	TOPO1211	804659.198	215573.976	7.049	TOPO	
1343	TOPO1212	804659.031	215574.915	7.084	TOPO	
1344	TOPO1213	804659.219	215573.085	7.031	TOPO	
1345	TOPO1214	804660.039	215573.010	7.037	TOPO	
1346	TOPO1215	804661.846	215572.851	7.026	TOPO	
1347	TOPO1216	804663.837	215572.695	6.958	TOPO	
1348	TOPO1217	804666.033	215572.953	6.984	TOPO	
1349	TOPO1218	804667.903	215573.003	6.961	TOPO	
1350	TOPO1219	804669.869	215573.036	7.021	TOPO	
1351	TOPO1220	804672.107	215573.071	7.165	TOPO	
1352	TOPO1221	804674.024	215573.075	7.279	TOPO	
1353	TOPO1222	804675.919	215573.128	7.376	TOPO	
1354	TOPO1223	804677.016	215573.130	7.425	TOPO	
1355	TOPO1224	804677.975	215573.090	7.437	TOPO	
1356	TOPO1225	804678.997	215573.063	7.419	TOPO	
1357	TOPO1226	804679.998	215573.028	7.401	TOPO	
1358	TOPO1227	804681.073	215573.061	7.377	TOPO	
1359	TOPO1228	804682.971	215572.986	7.402	TOPO	
1360	TOPO1229	804684.958	215572.968	7.456	TOPO	
1361	TOPO1230	804687.057	215572.754	7.498	TOPO	
1362	TOPO1231	804688.755	215572.700	7.527	TOPO	
1363	TOPO1232	804690.820	215572.621	7.534	TOPO	
1364	TOPO1233	804692.908	215572.417	7.588	TOPO	
1365	TOPO1234	804694.825	215572.478	7.643	TOPO	
1366	TOPO1235	804696.913	215572.438	7.679	TOPO	
1367	TOPO1236	804698.927	215572.501	7.684	TOPO	
1368	TOPO1237	804700.851	215572.483	7.706	TOPO	
1369	TOPO1238	804702.965	215572.546	7.746	TOPO	
1370	TOPO1239	804704.919	215572.560	7.751	TOPO	
1371	TOPO1240	804707.013	215572.622	7.772	TOPO	
1372	TOPO1241	804709.021	215572.853	7.767	TOPO	
1373	TOPO1242	804709.976	215572.879	7.773	TOPO	
1374	TOPO1243	804710.932	215572.925	7.819	TOPO	
1375	TOPO1244	804710.760	215573.969	7.787	TOPO	
1376	TOPO1245	804710.023	215573.940	7.800	TOPO	
1377	FENCE1	804686.227	215566.070	7.736	FENCELINE	
1378	FENCE2	804689.873	215564.831	7.745	FENCELINE	
1379	FENCE3	804699.292	215561.081	7.661	FENCELINE	
1380	FENCE4	804709.630	215556.872	7.817	FENCELINE	
1381	FENCE5	804722.924	215574.510	8.119	FENCELINE	
1382	FENCE6	804711.972	215584.265	7.874	FENCELINE	

Shot Order	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Note
1383	FENCE7	804713.703	215586.544	7.913	FENCELINE	
1384	FENCE8	804696.179	215604.039	7.914	FENCELINE	
1385	FENCE9	804695.373	215607.614	7.755	FENCELINE	
1386	TOPO1246	804688.259	215599.200	7.446	TOPO	
1387	TOPO1247	804686.040	215598.603	7.367	TOPO	
1388	TOPO1248	804683.984	215597.171	7.334	TOPO	
1389	TOPO1249	804682.954	215596.757	7.250	TOPO	
1390	TOPO1250	804682.040	215596.595	7.202	TOPO	
1391	TOPO1251	804705.907	215571.349	7.776	TOPO	
1392	TOPO1252	804703.129	215571.255	7.735	TOPO	
1393	TOPO1253	804700.130	215571.155	7.709	TOPO	
1394	TOPO1254	804697.846	215571.044	7.687	TOPO	
1395	TOPO1255	804695.798	215571.066	7.664	TOPO	
1396	TOPO1256	804692.752	215570.879	7.589	TOPO	
1397	TOPO1257	804690.034	215570.878	7.549	TOPO	
1398	TOPO1258	804688.266	215570.898	7.530	TOPO	
1399	TOPO1259	804685.013	215571.052	7.474	TOPO	
1400	TOPO1260	804682.069	215571.472	7.491	TOPO	
1401	TOPO1261	804679.363	215571.668	7.550	TOPO	
1402	TOPO1262	804674.976	215572.239	7.429	TOPO	
1403	TOPO1263	804672.357	215571.844	7.216	TOPO	
1404	TOPO1264	804670.050	215571.610	7.078	TOPO	
1405	TOPO1265	804667.504	215571.401	6.969	TOPO	
1406	TOPO1266	804665.167	215571.197	6.951	TOPO	
1407	TOPO1267	804662.786	215571.217	7.001	TOPO	
1408	TOPO1268	804660.028	215571.558	7.017	TOPO	
1409	TOPO1269	804658.026	215570.261	6.953	TOPO	
1410	TOPO1270	804657.936	215571.888	7.008	TOPO	
1411	TOPO1271	804655.861	215572.960	7.044	TOPO	
1412	TOPO1272	804655.361	215575.123	7.079	TOPO	
1413	TOPO1273	804655.385	215576.643	7.120	TOPO	
1414	TOPO1274	804655.285	215578.795	7.145	TOPO	
1415	TOPO1275	804655.473	215580.906	7.153	TOPO	
1416	TOPO1276	804655.524	215582.714	7.190	TOPO	
1417	TOPO1277	804655.745	215585.042	7.213	TOPO	
1418	TOPO1278	804655.673	215586.623	7.231	TOPO	
1419	TOPO1279	804655.528	215588.397	7.216	TOPO	
1420	TOPO1280	804655.691	215590.451	7.210	TOPO	