



Northamptonshire Archaeology

Archaeological geophysical survey at Chester Farm, Irchester, Northamptonshire



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PROJECT DETAILS		
Project name	Archaeological Geophysical Survey at Chester Farm, Irchester, Northamptonshire	
Short description	The purpose of the geophysical survey was to provide an enhanced understanding of the nature and extent of archaeological remains associated with Irchester Roman town in order to inform the future management of the site. Magnetometer survey of the walled town revealed a large square ditched enclosure, possibly of Iron Age date and pre-dating the town. Of the town itself, the enclosing wall was located along with the internal road arrangement. The major new contribution is that the survey has provided sufficient detail of the internal stone buildings to enable the likely function of several major building complexes to be determined. An area to the east of the Roman town, not previously surveyed, produced evidence of enclosures, a driveway, features relating to Chester-on-the-Water deserted village, two further Roman roads and a tramway leading to the easternmost field, which has been mostly quarried for ironstone.	
Project type	Geophysical survey	
Site status	SAM NN83	
Previous work	Excavation, Geophysical Survey, DBA (RCHME 1979, Meadows 2006)	
Current land use	Mixed arable and pasture	
Future work	Uncertain	
Monument type/ period	Iron Age settlement, Roman town, medieval village, modern quarry	
Significant finds	None	
PROJECT LOCATION		
County	Northamptonshire	
Site address	Chester Farm, Irchester	
Study area	20.55ha	
OS Easting & Northing	SP 919 668	
Height OD	c 65-42m aOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Northamptonshire County Council	
Project Design originator	NA	
Director/Supervisor	Ian Fisher	
Project Manager	Adrian Butler	
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PROJECT DATE		
Start date	November 2009	
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ARCHAEOLOGICAL GEOPHYSICAL SURVEY
AT CHESTER FARM, IRCHESTER, NORTHAMPTONSHIRE
DECEMBER 2009

ABSTRACT

Northamptonshire County Council commissioned Northamptonshire Archaeology to conduct a geophysical survey on land around Chester Farm, Irchester, Northamptonshire. The purpose of the survey was to provide an enhanced understanding of the nature and extent of archaeological remains associated with Irchester Roman town in order to inform the future management of the site. Magnetometer survey of the walled town revealed a large square ditched enclosure, possibly of Iron Age date and pre-dating the town, which adds to the known Iron Age landscape of the area. Of the town itself, the enclosing wall was located along with the internal road arrangement and a gateway to the west and, possibly, the south. The major new contribution is that the survey has provided sufficient detail of the internal stone buildings to enable the likely function of several major building complexes to be determined; thus beginning the process of understanding the details of urban life within the town. An area to the east of the Roman town, not previously surveyed, produced evidence of enclosures, a droveway, features relating to Chester-on-the-Water deserted village, two further Roman roads and a tramway leading to the easternmost field, which has been mostly quarried for ironstone.

1 INTRODUCTION

Northamptonshire County Council (NCC) commissioned Northamptonshire Archaeology to conduct a geophysical survey on land at Chester Farm, Irchester, Northamptonshire (SP 919 668; Fig 1). This new phase of work was in recognition that the site, which is nearly entirely in the ownership of NCC, had previously been subject to piecemeal geophysical prospection and excavation. This work was often in response to specific development proposals, but there were significant areas, including the walled Roman town itself, that were largely unexplored by geophysical survey, with existing interpretations based largely on earthwork and cropmark evidence. The new survey, combined with the results of previous survey and excavation, has provided reliable and comprehensive information which will inform the future management of the site, as well as enhancing the archaeological understanding of the Iron Age background and the organisation of the Roman town and its environs.

The new survey area comprised two blocks of land. To the east of Chester Farm there were several fields, bounded to the north by the River Nene, to the south by the A45 and to the east by the railway line from Wellingborough to Bedford (Fig 1, Areas 2-6). Some small fields in this area were not surveyed because high vegetation or steep slopes made survey impractical. To the west of Chester Farm there was a single area taking in the interior of the walled Roman town itself (Fig 1, Area 1). A total area of 20.55ha was surveyed, and the fieldwork was conducted between November 2009 and early January 2010.

Completing the geophysical survey of the site makes Irchester one of the few Roman towns in the country that has been fully surveyed, and the only one in the county. The other Northamptonshire Roman towns have been either largely built over, as at Towcester and Kettering, or damaged through extractive processes, as at Titchmarsh, or road and housing schemes, as at Ashton.

The site of Irchester Roman town is protected as a Scheduled Ancient Monument (SAM No. NN83), and the survey work was carried out under an English Heritage 'Section 42' Licence (Case No: SL00000511).

2 BACKGROUND

2.1 Previous archaeological investigation

Previous archaeological work on the site has been summarised in two modules of a study produced for Northamptonshire County Council in 2005 (Meadows 2005, Yates and Butler 2005).

The first recorded information was provided by the local antiquarian Bridges, in the 18th century. He recorded the substantial nature of the defences and some of the finds, including fragments of tessellated pavement, brought up by the plough (Bridges 1791). A more concerted investigation took place over a number of years in the 19th century, by Rev Baker. He recovered the plans of several buildings within the walled area by excavation carried out in advance of the removal of cartloads of stone to facilitate ploughing (Baker 1875).

In more recent years, excavation has concentrated on the extramural area, generally in response to developments such as the improvements to the A45 in the 1960s and 1980s (Hall and Nickerson 1967; Windell 1984) and the recent construction of Victoria Park Distribution Centre to the west of the Roman town (Morris 2007) (see Fig 10).

Previous geophysical surveys have also been linked largely to development proposals (Dix and Masters 1992; Butler 2004; Butler and Yates 2006). The areas surveyed included large parts of the fields to the west of the walled area. Here there is an area of extramural occupation comprising a curved track/road alongside a series of small enclosures, some of which have been found to contain buildings fronting onto the road (Fig 2, A). This area now lies within the Victoria Park Distribution Centre. Construction work was accompanied by an extensive watching brief and the excavation of all exposed remains, with the remainder preserved below parking areas (Morris 2007).

A large field south of the A45 and south-east of the walled area was also surveyed. Within this field an area of extramural occupation is defined by a rectilinear ditch system, which lies to the east of a road running nearly north to south and which also has sharply defined limits both to the east and south (Fig 2, B).

As part of the work associated with the compilation of the 2005 management documents, magnetometer survey was carried out on the floodplain island to the north of the walled town (Fig 2, C). This area should have been crossed by a major north to south route linking the known route that runs along the east side of the town with a causeway identified in gravel workings to the north in the 1990s (Keevil *et al* 1995). There was no evidence for the presence of such a route, and the strongest anomalies were produced by meandering river palaeochannels, running generally west to east. This suggests either that physical evidence of the route has been lost to river channel activity or other similar processes, or that in this part of the floodplain no defined or causewayed route had ever existed. This latter hypothesis is perhaps the more likely as the 1990 excavations found the causeway to be intermittent, and absent in areas occupied by river channels, where the water was presumably forded or bridged.

In addition to the floodplain, areas to the immediate west and south of Chester Farm were surveyed (Fig 2, D). Here there are elements of the defensive ditch system that

flanked the eastern side of the town walls, an adjacent major road route and at least two extramural ditched enclosures. There is also extensive evidence for medieval ridge and furrow cultivation, in the form of a regular pattern of closely-spaced linear anomalies running nearly north-south, parallel to the modern field boundaries.

The garden of Chester Farm and the uneven earthworks to the east of the farm, identified as the deserted medieval village of Chester-on-the-Water, were surveyed using resistivity (Fig 2, E). In the garden little could be discerned, while to the east the geophysical anomalies generally followed the visible form of the upstanding earthworks.

As part of the survey work carried out in 2005, a sample area within the walled town, measuring 80m by 80m, was surveyed to test the susceptibility of the interior to geoprospection. This produced outstanding results, in which individual buildings could be identified along with some internal details (Butler and Yates 2006, fig 11).

2.2 Irchester Roman town

Irchester is a walled Roman town located on the south side of the Nene valley. The origins of settlement are difficult to disentangle, but there are several known Iron Age sites in the immediate vicinity of the Roman town. They might have contributed to its development, or it may simply be that they shared the same natural location.

The presence of a road network and a river crossing may have been more significant contributing factors to the development of the town. It has been shown from excavations at Grendon and Wollaston that at least one Roman road leading to the town had its origins as an Iron Age pit alignment and later a ditched droveway, perhaps suggesting that there was a pre-Roman focus at Irchester (Ian Meadows pers comm). The town is located at a suggested nodal point in the Roman road network, with routes crossing the river; however, the courses of many of the routes have not been fully verified by excavation.

The Roman town covers an area of about 18ha. It has produced clear evidence of occupation in the 1st century AD and was probably well established by the 2nd century. During the later 2nd century the defensive circuit was imposed over the central part of the existing settlement. Construction of the town disregarded the pre-existing street pattern, truncating many of the road lines.

The town was positioned largely on a saddle of land, with some evidence for enclosures extending down onto the floodplain, but with the enclosed land parcels giving way to open meadow, presumably reflecting land that may have been more prone to seasonal inundation (Meadows 2006). The morphology of the whole town, whilst at first glance appearing somewhat irregular, probably reflects efforts to minimise the problems of ground water and surface water drainage. The core of the town on the higher ground has roads that flare out over the saddle, perhaps thereby assisting drainage in that area, while the curving form of the western suburb was probably dictated by the desire to avoid the adjacent slade or shallow valley, which would have concentrated and conducted surface water. The enclosures appear to narrow at the point where any water draining down the slade would have crossed the suburb.

Known structures comprise both strip buildings and possible workshops (Morris 2007) along with structures of some quality, as is shown by the past recovery of a column capital, a statue and a fragment of a monumental tomb of a Strator. The inscription on this tomb fragment has been used by some authors to suggest the area around Irchester may have been used for horse breeding, since a strator was in charge of the

horses of the Governor (Collingwood *et al* 1965, 75-6). There is little evidence of any industrial activity associated with the town, other than a single pottery kiln (Monument number NN 35797). So the role of the town was probably largely as a local market and administrative centre.

2.3 Topography and geology

Irchester Roman town lies immediately south of the River Nene, on a north-facing slope overlooking the floodplain. To the east and west of the town the slope is dissected by shallow valleys or slades, and to the north there is a short but abrupt step or scarp down to the river itself. The maximum height of the site is c 65m aOD, the minimum c 42m aOD.

The valley of the River Nene cuts down through a sequence of Jurassic strata. Within the survey area there are three different units present, the Lower Estuarine Limestone in the south, the Northamptonshire Sand and Ironstone across the centre and Upper Lias to the north. The only significant drift occurs at the extreme north of the site, where there is recent alluvium above the Lias.

The Northamptonshire Sand and Ironstone was extensively quarried between 1874 and 1969, and there are several large backfilled pits in the area (Meadows 2006, 13-14). One very large pit occupies the greater part of Field 6, at the extreme eastern end of the survey area, adjacent to the railway line. A narrow band of disturbed ground, coinciding with the line of a former quarry tramway, runs westward from Field 6, terminating in the vicinity of Chester Farm.

3 METHODOLOGY

3.1 General considerations

Although parts of the site have, over the years, produced excellent cropmark data, the problem of such evidence is that it is dependent upon an appropriate crop regime and much of the area has been pasture, which only rarely produces good information. In addition, it can be difficult to transcribe accurately oblique photographs onto an Ordnance Survey base map. In the case of Irchester, the density of cropmarks makes it difficult to distinguish archaeological remains from those caused by agriculture or the underlying geology. Geophysical survey was therefore considered the best way to explore the entire site as the techniques are non-destructive and the remains could be accurately located.

Two methods of survey, magnetometry and earth resistance, were used in this project, both requiring the collection of data at fixed intervals within regular survey grids. These grids were established manually, using a tape measure and optical square to set out temporary markers. The positions of these were tied into the Ordnance Survey National Grid using a Leica System 1200 dGPS. A separate grid orientation was used for each field, according to its shape and topography.

The survey and subsequent data handling was planned and carried out in accordance with the guidelines issued by English Heritage and by the Institute for Archaeologists (EH 2008; Gaffney, Gater and Ovendon 2002).

The majority of the survey has been by means of magnetometry, which was found to be generally the better technique, with resistance survey used only within the area of the Roman walled town.

3.2 Magnetometer survey

The magnetic survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003). These magnetometers are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanotesla (nT).

The basic unit of survey was a 30m grid square. The gradiometers were carried at a steady pace through each one, along regularly-spaced traverses. Measurements were automatically triggered every 0.25m along the traverses. The standard data resolution, used in Fields 2-6, was 1m x 0.25m, or 3600 measurements per 30m grid square. Inside the Roman town (Field 1), where the archaeology was expected to be most dense and complex, a higher resolution of 0.5m x 0.25m (7200 measurements per 30m grid square) was chosen.

Data from the instruments was downloaded via Grad601 software before being imported into Geoplot 3.00u for processing.

Where 'walking errors' were found in the data sets, the following processing steps were taken to correct them: Striping, caused by slight mismatches in sensor balance was removed, where possible, by use of the 'Zero Mean Traverse' function. In some cases it was necessary to employ an alternative destriping technique, developed in-house, which prevented the removal of genuine feature anomalies oriented along the traverse direction. Where the data was found to be offset between adjacent traverses, 'Destaggering' of the data was performed as necessary.

3.3 Earth resistance survey

The earth resistance survey was undertaken in Field 1 in November and early December 2009. The weather was quite unsettled during these months and the ground conditions were generally wet. This will have resulted in a lower overall soil resistivity level than might otherwise have been the case.

The survey data was collected with a Geoscan Research RM15 resistance meter, which is a standard instrument for such work. It was deployed in twin probe configuration with mobile probe spacing of 0.5m and the remote probes spaced a similar distance apart. Data, to a precision of 0.1 Ohms (Ω), was collected within 20m grid units at a spatial resolution of 1m x 1m. Thus each complete survey grid contained 400 data points.

The survey data was downloaded, gridded, processed and displayed using Geoplot 3.00u software. Although great effort was made in the field to maintain a consistent background level between grids, this was not always possible. Where irregularities occurred between data grids, 'edge-matching' was carried out. Gradients in resistance across grids were rectified with the 'de-slope' process, where necessary.

3.4 Data display

The processed data is presented in this report in the form of a greyscale plot, where white is the lowest value through shades of grey to black as the highest value. The magnetic scale was -10nT to +10nT, resistance scale 50 Ω to 250 Ω . This has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Figs 2, 3, 5, 6 and 8) and separate illustrations with interpretative overlays are also presented (Figs 4, 5, 7 and 9).

4 GEOPHYSICAL SURVEY RESULTS: THE WALLED ROMAN TOWN

Magnetometer survey within the walled town revealed a dense concentration of anomalies (Fig 3). Broadly speaking, the detected anomalies fall into two major categories: negative magnetic anomalies (depicted in white) which are likely to represent stone wall footings, and positive anomalies (in black) representing ditches, pits and quarries, which occur both within the walled town and beyond. Two further categories are notable: within the walled town broad, sinuous bands of bland and slightly negative readings (white to grey tones) are believed to represent roads, and particularly intense positive readings (areas of black tone) may indicate thermoremanent, highly-heated, features, such as kilns or hearths, ceramic tile and brick. Taking this into account, the following results sections present a more interpretative and functional approach than the standard anomaly descriptive method.

4.1 A possible Iron Age enclosure

In the south-western quarter of the town there is a large square ditched enclosure, measuring c 35m x 37m, with rounded corners and a possible narrow entrance near the south-east corner (Fig 4, E1). The Roman street bends slightly southwards, as if to avoid the enclosure, suggesting it was an earlier feature but still in evidence when the road was established. In the eastern half of the enclosure a curving ditch may connect with others outside the enclosure, suggesting that the enclosure itself may have replaced earlier occupation. The circular ring ditches of two possible roundhouses lie on the western side of the interior, along with scattered pits and a row of at least five small pits or postholes, less than 1m in diameter, which were detected by the high resolution of the survey. The presence of the roundhouse ring ditches suggest that the enclosure probably had an origin in the Iron Age, although it does appear to have been retained into the early life of the Roman town.

A rectangular Roman stone building appears to overlie the ditch forming the southern arm of the enclosure.

4.2 The origins of the walled town

A pair of parallel ditches in the northern part of the walled area run north to south with a rounded corner to the south and a eastward continuation, defining an L-shape (Fig 4, D1). This plan form is suggestive of the 'playing card'-shaped corners of Roman military forts. To the east, the remainder of the ditch system may be obscured by later buildings and the road. The angle of the corner is slightly obtuse, but this is not unusual as the form of some smaller Roman forts was often influenced by their location, for example Cae Gaer and Carno, Montgomeryshire (Nash-Williams 1969, 135 & 139).

To the south-west the survey area was extended across a plough-flattened length of the defences. Here, the location of the town wall is indicated by a strong linear negative anomaly, and similarly so along the southern edge of the town, at the southern limit of the survey area.

A broad break in the western wall (Fig 4, G1) lies at about the position suggested by Baker (1882) as the location of the town's western gate, and this coincides with the location of a westward running road, see below.

At its eastern end, the southern town wall appears to be abutted awkwardly by a small rectilinear structure. It may be that this is an early stone building, demolished when the town defences were superimposed onto an earlier layout (Fig 4, B9).

There is an apparent, but narrow break in the wall along the southern side of the town, coinciding with the position of the main town street, which might be the location of a gateway (Fig 4, G2). The resistance survey indicates the probable presence of a mass of stone on the eastern side of the possible gateway (Fig 5). However, no trace of a continuation of the main street has ever been observed to the south of the wall.

A circular stone structure in the south-western corner of the town is probably the summer house or vantage portrayed on the 1756 estate map (Fig 4, B8).

Along the south-western length of the town defences, three broad parallel positive anomalies lie outside the town wall, indicating the presence of three defensive ditches (Fig 4, D2-4), spaced approximately 7m apart.

4.3 The roads

Features within the town are mostly arranged around the dendritic network of streets. These are indicated either by broad bands of 'blank' data, weak and diffuse negative anomalies, possibly derived from the presence of stone metalling, or between parallel positive anomalies suggesting the presence of roadside ditches. The present survey has confirmed the cropmark evidence for the roads within the town, and has added a few additional minor routes, along with some nuances to the character of some of the major routes. A central street runs from south to north, almost along the central axis of the town. Side roads branch off to the east and west, and at the northern end the main street forks to the north-east and north-west. At around 90m north of the southern defences, there is a major intersection, where five roads converge, and the space widens out to the east to form what could be construed as a public open space (Fig 4, P).

The roads within the walled area probably reflect two distinct periods of development: the first being elements of the road network that existed prior to the construction of the enclosing circuit of walls and the second being modifications and additions which might have occurred following the construction of the town walls. There are twelve routes that head directly for the wall circuit but it is unlikely that all were served by a gate. So it is possible that some were pre-existing roads that were truncated when the walls were constructed, whilst others may reflect later infilling to reach inaccessible areas of the walled interior. One way of exploring this option is to consider which routes can be traced beyond the circuit and which terminate within it.

Of the five routes that head towards the western wall, the course of the most northern pair can be seen beyond the walls, but it is unlikely that they had the provision of gateways. Unfortunately, this could not be ascertained as this part of the defensive circuit could not be explored owing to vegetation cover, but gateways were seldom located close to the corners of town defences. It is perhaps more likely the wall truncated them, as the later use of the parcels of ground associated with the more northerly road was for burial (Mason 2006), an often marginal activity. The course of the next two roads cannot be traced to a point where they intercept the wall circuit and they may have always stopped some distance short of the wall, perhaps suggesting they were created after the wall circuit was erected to provide internal access. The southernmost road that runs west flanks the southern side of an Iron Age enclosure and coincides with an apparent broad interruption in the wall circuit (Fig 4, G1) at about the position suggested by Baker (1882) as the location of the town's western gate.

Two roads can be traced running to the southern wall of the town. One visually dominates the plot, as the central main street, and the other, apparently a minor route, heads for the south-eastern corner of the town. The course of the minor route appears

to be respected by a structure, B9, partially overlain by the defensive circuit, and also by structures identified outside the town during works on the A45 (Hall and Nickerson 1967). The course of the straighter more defined route, the main street, has never been identified outside the walled circuit and, although it has been suggested that this route passes through a previously unrecognised south gate, G2, no roadside structures, which might be anticipated, have been identified in previous work.

On the basis of this evidence, it is possible that the apparently minor route was a pre-wall route flanked by structures both within and beyond the subsequent defences. The apparently more defined route could represent a post-enclosure creation that, at its northern end, linked with the earlier route.

A total of four routes head towards the eastern wall of the town, and three of them can be seen extending as far as the defences. The junction of the fourth lies in the gardens of a private house. Of these routes, the most northern can be traced beyond the walls, but as it is crossed by the north-eastern corner of the defences it is unlikely that it was ever provided with a gated access. Perhaps significantly, a road on a similar course lies some distance to the east of the recent farm complex (see below and Fig 7, D8-D9). None of the other routes could be positively identified beyond the defences.

Although at least two routes head towards the northern wall, they are unlikely to have ever extended beyond the wall line as the ground drops away in a severe scarp to the river or its floodplain. So these are most likely to have been established to provide access within the walled town.

The road system comprises mainly sinuous roads, at least partly as a result of the presence of a pre-existing road network. However, to the immediate north-west of the public open space, P, two linear minor roads define the northern and western sides of a rectangular plot, c55m long by c35m wide, which sits in the angle of the roads leading to the putative western and southern gateways. This plot is therefore likely to be a creation within the plan of the walled town, and it appears to contain a row of five or six stone buildings.

4.4 The ditch systems

Within the walled circuit of the town the complexity of the numerous minor ditch lines is such that it is impossible at present to identify coherent overall ditched enclosure systems, although certain elements do stand out. It is probable that the area had an initial phase of ditched enclosures that pre-dated the wall circuit and probably defined small land parcels and property allotments. The construction of the wall circuit may have focussed significant activities, such as administration, within the circuit, requiring a redesign of the ditched boundary system to define new properties, and perhaps also to provide surface drainage.

Several of the internal ditch systems can be suggested as following the edges of elements of the internal road network, presumably serving to direct surface water drainage away from buildings. Simple quantitative observation shows there are more ditch anomalies to the west of the main street, perhaps suggesting that area had a greater number of phases of land allotment modifications. In contrast, the area to the east of the axial street had fewer ditch-type anomalies and those that were present seemed generally slighter, perhaps indicating that these property boundaries were more stable.

Immediately inside the northern wall there is a series of sub-rectangular ditched enclosures (Fig 4, E2), which presumably ran up to the top of the steep scarp slope.

There is a kink in the central spur of road heading to the northern defences, so that the northern part of the road runs along the western side of one of the largest of these enclosures, either reflecting continuity of boundary line or the contemporary existence of the enclosure with the internal road network.

One ditch line was notable by its absence in the present survey. In the Royal Commission survey (RCHME 1979, 92-3) a major ditch was recorded running west-east across the interior of the town, apparently pre-dating the north-south road. This feature was the subject of detailed consideration as perhaps forming part of an earlier fort, but its non-appearance in the current survey might suggest it was a soil mark perhaps associated with the ironstone tramway, whose course would have passed to its south.

4.5 The buildings

For most of its length, the main street is flanked on both sides by rectangular stone buildings, with these continuing alongside the road running into the north-east corner of the town. There are further stone buildings in the western part of the town and the south-eastern corner. Alongside the main street the buildings are mostly aligned with their narrow gable ends fronting onto the street. Some appear to be simple, single-celled stone structures, although internal divisions within these smaller strip buildings were probably provided by wooden partitions, which would not be susceptible to detection by this type of survey. Others show the presence of one or two internal stone partition walls forming two or three-roomed strip buildings. The strip buildings range in size from 8m by 4m to 16m by 6m, and may have served a combination of functions including workshops, shops and domestic accommodation.

The walls of a building lying on the western side of the main street in the northern part of the town exhibit a particularly intense positive magnetic signature (Fig 4, B1). It is probable that this represents a building which burnt down, with the scorching of its stone walls producing the particularly strong magnetic enhancement. A few other walls, including a small rectangular structure in a row of buildings to the west of the main street and two longer lengths of boundary wall in the northern part of the town, appear to have similar magnetic enhancement (Fig 4, fired/burnt).

In addition, several of the more complex structures in the centre of the town contain positive anomalies out of proportion to the negative signatures from the walls. This can be interpreted as evidence for possible hypocaust-heated floors in at least one of the two or three rooms (Fig 4, B2-B4).

A building to the north of the possible public open space comprises two concentric square walls, and is surrounded by further buildings, including a small circular building to the south-west and a larger circular building to the north-east (Fig 4, TC1). The form of this building is normally characteristic of a temple/shrine comprising a square room, *cella*, surrounded by a walkway, *ambulatory*. In the Irchester example, the *cella* is 5m square and the *ambulatory* 11m square, slightly larger than an excavated example at Sheepen, Essex (Hull 1958).

The circular structure attached to the north-east end of the building contains four negative anomalies, c1m diameter, which may be column bases. This type of building can also be interpreted as a possible shrine-type structure, although in Northamptonshire there is also a local tradition of erecting circular domestic structures with low stone walls, as seen at Bozeat and Stanwick, and the square arrangement of possible column bases is paralleled by large post-pads in the circular domestic structure at Bozeat (Meadows 1992). These structures at Irchester were partially

explored by Baker in the 19th century, but he made no reference to recovering finds such as might be anticipated at a shrine. However, this may reflect either a real absence of such material or simply the quality of excavation and reporting at that time, which was more concerned with the recovery of a plan.

Another example, comprising a square building with a circular structure immediately to the north-east, lies in the north-western quarter of the town (Fig 4, TC2). This shrine is also about 11m square and although a square *cella* is not clearly defined, short lengths of anomaly suggestive of masonry could represent elements of a partially robbed inner wall. The outer wall of the putative *ambulatory* was also uneven and this may represent either collapsed masonry or the presence of external buttresses. The association of the square shrine buildings with circular structures that may also have functioned as shrines is striking, and it is possible that each pair represent discrete religious foci, although in neither case was an enclosing *temenos* boundary recognised.

Thirty metres to the north of the southern temple, TC1, a set of negative and positive anomalies suggest the presence of a large building complex comprising numerous small rooms set around a courtyard (Fig 4, B5) none of which show indications to suggest the presence of a hypocaust. A second multi-roomed structure (Fig 4, B6), lies to the west of the main street fronting onto a minor road south of the shrine/temple TC2. Along the northern side of the courtyard, fronting onto the road, there is a range of four small rooms, three of which possibly had heated floors, linked by a corridor to the rear and with a further longer room, also with a heated floor, at the western end of the range.

Whilst these two building complexes, B5 and B6, were perhaps just the houses of rich urban dwellers, it is possible that one may have been a *mansio*, the accommodation maintained by the central government for the use of officials and those on official business whilst travelling. About 50m to the south of the western house complex, B6, there is a possible small bath house (Fig 4, B7), containing at least three heated rooms, and such a structure would be a necessity in association with a *mansio*. In addition to a *mansio* and bathhouse, it would be reasonable to also expect evidence for stabling (Smith 1987) although such buildings have seldom been identified in the archaeological record.

The evident stone buildings take up only a small proportion of the interior of the walled area. However, it is worth noting that many Roman towns were predominantly occupied by timber buildings. Sites such as the Wallbrook in London contained timber and earth-walled buildings (Perring *et al* 1991, 71-5), Castle Street, Carlisle had timber buildings (McCarthy 1991) and Wanborough had timber buildings that had no earth-fast elements (Wacher 1975).

4.6 Earth resistance

The earth resistance survey work was carried out to complement the results of the magnetometer survey on the area of the walled town. Of particular interest was the identification of the town wall (Fig 5). The eastern half of the southern wall was successfully located as a linear high-resistance anomaly, and a more massive high-resistance anomaly disrupted the wall line to the west, at the point where the north-south road meets the defences. However, this anomaly might be interpreted as the disruption caused by early excavations searching for a gateway, rather than the survival of a gate itself. The western wall was detected as a single high-resistance anomaly, with no break suggestive of a gateway. The eastern wall was not identified as it almost certainly lies underneath the hedge line that forms the eastern boundary of the field.

The earth resistance survey also reinforced the identification of the road network and the more substantial buildings, particularly the possible temple site (Fig 4, TC1). However, the major rectangular ditched enclosure (Fig 4, E1) in the south-western part of the town was only a weak low-resistance anomaly when compared to the roads, which were identified as high-resistance.

5 GEOPHYSICAL SURVEY RESULTS: FIELDS 2-7

5.1 Field 2 (Figs 6 & 7)

The previously surveyed field lying to the west of the modern drive leading to Chester Farm (Fig 2, D), is notable for containing rectilinear enclosures orientated south-west to north-east (Butler and Yates 2005). The current survey has identified a linear ditch orientated north-west to south-east, lying to the immediate east of the drive (Fig 7, D5), which could be the eastern side of the enclosures previously identified. If those enclosures do terminate here, the occurrence of burials aligned on an approximately parallel axis, as found in trial trenching alongside the modern drive (Upson-Smith 2006), might indicate backyard-type burials, such as those encountered in other Roman towns, including Ashton, Northamptonshire.

A further ditched enclosure (Fig 7, E3) appears to extend north-eastward from ditch D5, but an eastern side was not recorded. An amorphous anomaly may represent a pair of large pits or small quarries (Fig 7, P1).

Towards the northern field boundary, the hollow-way marking a route to Chester-on-the-Water survives in earthwork (NA 2005). Within this, a ferrous pipeline leading to the modern reservoir produced a chain of intense positive and negative anomalies which have obscured any earlier features in the area (Fig 7).

5.2 Field 3 (Figs 6 & 7)

Two parallel linear ditches on a south-west to north-east alignment, may represent a droveway or road (Fig 7, D6). It extends southward into Field 2 and northward into Field 5. In Field 5 it runs past a probable Iron Age enclosure (Fig 7, E5), which may suggest that its origin was as an Iron Age droveway.

In the north-western part of Field 3, a sub-rectangular arrangement of ditches enclosing a slight platform (Fig 7, E4) may relate to the Chester-on-the-Water deserted medieval village. To the east, these remains appear to have been truncated by two broad negative linear magnetic anomalies, probably representing the former ironstone tramway, which is orientated south-west to north-east and extends into Field 5 to the east (Fig 7, tramway).

In the southern part of the field, the regular parallel anomalies derive from the furrows of the medieval and later ridge and furrow open field system, aligned north-west to south-east, and parallel to the modern field boundaries (Fig 7, R & F). On the south-western boundary of the field, there are two large pits or small quarries (Fig 7, P2), perhaps similar to those in Field 2 to the south.

5.3 Field 4 (Figs 6 & 7)

A pair of ditch-type anomalies (Fig 7, D8), may define a Roman road that continues a road alignment seen within the walled town to the west. It is aligned south-west to north-east across the southern part of the field, ending in a magnetically noisy area,

possibly representing ironstone rubble or ferrous and ceramic debris. Anomalies relating to the road continue in Field 5 to the east (Fig 7, D9).

Field 4 includes the slight earthwork remains of Chester-on-the-Water deserted medieval village. Three, parallel ditches, aligned north-west to south-east, lie towards the north-western end of the field (Fig 7, D7). The interior of Field 4 is a confusion of small features of unknown provenance.

5.4 Field 5 (Figs 6 & 7)

The possible Roman road detected in Field 4, D8, continues into Field 5 (Fig 7, D9). The road is evident for a distance of c74m, but could not be traced beyond the point where the probable ironstone tramway crosses its course. A probable area of quarrying lies adjacent to the south-eastern side of the tramway, and may relate to access into the main quarry area or the construction of the tramway itself.

To the north of the road a series of linear ditches form several rectangular plots or enclosures. It is uncertain whether these are related to the Iron Age and Roman landscape or to the deserted medieval village or even a combination of the two (Fig 7, D10).

A prominent sub-rectangular enclosure lies in the southern corner of Field 5 (Fig 7, E5), adjacent to a continuation of the possible driveway, D6. The enclosure has several internal features, including ditches and pits, and seems most likely to date to the Iron Age. Ditches extending from the enclosure to the north-east and forming a T-shape (Fig 7, D11), could be part of further smaller enclosures. Several large pits or quarries were also detected within this area of the field (Fig 7, P3).

5.5 Field 6 (Figs 8 & 9)

The most easterly field of the survey had previously been identified as containing an extensive late Roman cemetery (RCHME 1979, 95), which was disturbed by ironstone quarrying in the 19th century. The magnetic data retrieved from Field 6 has a bland quality not encountered over the rest of the survey area. The central and eastern parts of Field 6 contain broad negative magnetic anomalies, aligned generally north-west to south-east. These may indicate the remnants of windrows of waste material created parallel to the working face by the 'plank and barrow' method of ironstone extraction along narrow successive strips as employed in the 19th century (Fig 9). Intense positive anomalies detected around the quarrying area are likely to represent buried ferrous items, possibly connected with extractive industrial processes.

A single positive linear anomaly lies against the south-western boundary of the field. (Fig 9, D12). It is aligned south-west to north-east and appears to be a continuation of part of the rectilinear ditch system, D10, seen in Field 5.

Broad sinuous features along the western margin of Field 6 are probably minor palaeochannels of the River Nene (Fig 9).

5.6 Field 7 (Fig 2)

This small field lay outside the north-east corner of the walled town, to the west of Chester Farm. The survey here was intended to further define the Roman road previously identified immediately outside the eastern town defences. No significant anomalies were found, possibly due to the presence of a modern trackway at this point.

6 DISCUSSION

The completion of the survey of the land at Chester Farm has provided not only the complete layout of the town but also evidence for Iron Age farms preceding the Roman town and for the subsequent medieval hamlet and post-medieval ironstone extraction. The comprehensive nature of the survey has identified the full surviving extent of the nucleated elements of the Roman town, and the associated road system (Fig 10). To facilitate the clarity of description an overview of the road network will be presented first, followed by area-by-area description of the results.

6.1 The pre-Roman landscape

Very little of the pre-Roman landscape can be identified with certainty from the geophysical survey, but the characteristic shape of middle to late Iron Age enclosed farmsteads is the exception. Within the area of the geophysical survey two examples may be present, one underlying the later Roman town (Fig 10, E1) and a second some 500-600m to the east (Fig 10, E5). Both comprise the characteristic sub-square enclosure within which it is possible to identify elements of circular structures (roundhouses) and animal pens. About 500m to the west of the walled area, the partial remains of a similar farm was recorded during archaeological recording in advance of development of the Victoria Park Distribution Centre, and a fourth example another 500m west from that (Fig 10, E6 & E7).

This regularity of spacing has been recognised previously in the valley floor at Wollaston, where a wide floodplain existed and the farmsteads were positioned at the limit of seasonal flooding (Ian Meadows pers comm). At Irchester, no such wide floodplain existed and therefore a position on the valley side would ensure freedom from flooding, whilst enabling access to exploit the floodplain as well as the other areas. With regard to the spacing between the farms, it would suggest that here, as at Wollaston, the individual holdings may have extended about 250m to either side of the farm, although it is not possible to identify how extensive each holding was from the river up onto the drier land.

This spatial density of the Iron Age farms accords well with Caesar's description of the pre-Roman landscape being densely studded with farms, and the degree of regularity seen locally might even suggest some degree of central control or planning. In some parts of Africa similarly dispersed farmsteads see themselves as a community or group and will often describe themselves as a village, even though they lack the agglomeration normally associated with medieval English villages. If a similar perspective was applied here, the linear arrangement of Iron Age farms along the valley side might be part of a more extensive rural community, which constituted a pre-Roman 'settlement' that preceded Irchester.

6.2 The Roman landscape

The road network

Prior to this survey, the known elements of the road network comprised a north-south route that flanked the eastern defences; an arcing route defining the limit of occupation to the west of the town and the pattern of routes within the walled area (Fig 10).

The main north-south route had been traced by magnetometry for a distance of over 500m to the south of the A45 (Area B), and also to the immediate east of the walled town, where it sits within a shallow valley or slade (Area D). Its course has also been seen to the north of the floodplain and the river as a causeway, identified during

quarrying (Keevil *et al* 1995). This route is likely to have been the main road in proximity to the Roman town and may extend further south, perhaps forming the county boundary between Northamptonshire and Bedfordshire for about 6km (RCHM 1979, 188, 191).

The roads within the wall circuit probably represent at least two phases of development, one pre-wall and a second following the construction of the wall (see Fig 4). Without excavation, it is difficult to identify the sequence of development as there are at least 13 routes heading towards the enclosing circuit. It is likely that some of these represent later infilling with roads that stopped before reaching the town wall, and some of the pre-existing roads will have been truncated by the circuit, as it is hard to imagine there being gates through the town walls at more than perhaps three locations. Even large towns, such as St Albans, would only have between three to five gateways. On the balance of the evidence seen so far, it is likely that Irchester only ever had two main gates, one on its west side and one on its east. The north side probably did not have one because of the topographic problems mentioned above. The south side may not have had a gateway, as the original road route passed too close to the south-east corner, although there is an anomaly at the point where the main street meets the town wall that may indicate the presence of a gateway, see below.

To the east of the main route on the eastern side of the defences, it is not possible to identify much of a contemporary road network owing to the presence of the recent farm buildings and ironstone quarrying. To the north, a road recorded for a distance of 150m, lies immediately to the east of the farm buildings (Fields 4 & 5), and may have joined the north-south road near the north-eastern corner of the walled town. A parallel road to the south (Fields 3 & 5), which may have had an origin in the Iron Age, might have also have survived into the Roman period.

The defences

The town defences are visible in the simplest terms as a bank enclosing the town. This circuit has, however, been only intermittently, and generally not very effectively, examined by excavation, which means there are references to the existence of gates but little or no recorded evidence for them. This survey gave an opportunity to explore issues such as the presence and disposition of gateways, and also the possible occurrence of either internal or external defensive embellishments such as towers or buttresses. Unfortunately, at no point was a complete survey of any of the corners possible, so comparisons cannot be made with the results of the excavated evidence from the south-west corner of the town.

The eastern defensive line comprised a triple ditch within which lay a wall probably fronting an earthen rampart. In the present survey no convincing evidence for any portals was identified on this side and at the two points where minor roads could be seen heading to the wall there was no break in the detected line of either the wall or the enclosing defensive ditch circuit.

The southern length of the defences comprised a wall that presumably fronted an internal earthen rampart. Towards its eastern end, the wall appears to cut across a building that had a different alignment to the defences. The building fronted onto a minor road running south-eastwards which does not seem to continue through the wall line (Fig 4, B9).

At the point where the main street reaches the wall there may be a narrow opening along with a quantity of masonry, which might denote the presence of a southern gate partly blocked and obscured by collapsed masonry (Fig 4, G2).

The short length of the western side that was available for survey also comprised a triple ditch sequence beyond the wall and rampart. The ditches did not have any breaks in their line suggestive of the location of a point of access. The wall line again appeared to be fairly continuous, although an irregularity to the south of the Iron Age enclosure might denote the presence of an internal feature perhaps related to a gateway (Fig 4, G1). To the north of the Iron Age enclosure the wall appears to change course slightly for 30m before its line is lost. The reason for this change in the wall alignment is unknown, but it may relate to topographic changes.

The northern defences could not be surveyed owing to both topographic issues and recent land use resulting in the effective masking of the remains from this type of survey by the construction of a metalled track.

Overall, the absence of breaks in the enclosing ditch sequence was surprising and must suggest that they were crossed at certain points by timber bridging which has left no detectable traces. The apparent continuous nature of the wall circuit may reflect the nature of its construction, with continuous foundation courses serving both as the base for the wall and as thresholds at gateways. In recent excavation, it was seen that the wall in the south-west corner had been robbed down to little more than the foundation courses, and therefore any gaps or irregularities in the surveyed line might denote nothing more than this.

The buildings

What becomes evident from this survey is the number and variety of stone building types that are present within the walled town.

The majority appear to be simple strip buildings, with their gable ends facing the adjacent roads, particularly the central main street, but even a few of these possessed a heated floor or *hypocaust*, and so aspired to a higher status than rooms heated by simple open braziers.

In addition, there are a number of more complex building groups, including two arrangements of buildings set within courtyards, one of which might be a *mansion*; government accommodation for the use of officials whilst travelling. If there was a *mansio* within Irchester it would suggest the town was on the *cursus publicus* route and may explain why the town was invested with walls, when similar settlements at Ashton and Titchmarsh were not. This notional status may further be supported by the coincidental evidence of the Strator stone, which might suggest some level of Imperial presence at Irchester, along with the recovery of elements of ornamental stone suggesting structure(s) with architectural pretension within the settlement, something missing at the other two towns (Meadows 2006).

The identification of structures that may have burnt down within the town highlights the risk of fire within any nucleated settlement in the past. The individual structures could have been destroyed at any time and as there is no particular pattern to the distribution of the burnt structures it should be seen as individual isolated events, rather than a major conflagration. The survival of the burnt material *in situ* indicates that they were never fully demolished or rebuilt.

Beyond the walled circuit, stone-founded buildings have been recovered in the area to the west (Fig 10, Area A; Morris 2007) but otherwise there is little positive evidence for stone-founded structures in the survey to the south or east, perhaps indicating these areas were more reliant on timber building styles.

Pits

Many pits were identified during the survey, but from the survey alone their character and original purpose cannot be identified. Most pits will have originally served as small-scale local quarries to extract materials for building or metalling surfaces, and others may have been wells. It is likely that each building within the town would have had access to a regular water supply and in most urban contexts this would come from wells dug into the aquifer. It has not been possible to identify wells within the walled area but many of the small pit-type anomalies could be wells.

6.3 Conclusions

This survey has enabled the creation of a complete surveyed picture of the occupation around Chester Farm. It has identified the extent and quality of the Roman occupation in particular and has perhaps given evidence to suggest why Irchester was walled when many of the towns along the Nene valley were not. Although the survey has been total, it must be remembered that not all evidence is susceptible to being identified in this type of survey, and within the walled area the complexity of the archaeological levels mean that many aspects of the interpretation can only be tested by further investigation.

It is also of significance that the survey results for the remains of Chester-on-the-Water show a confusion of small features and an absence of stone building remains, possibly denoting either the poor quality or an absence of structures, and certainly an absence of stone structures, on the site.

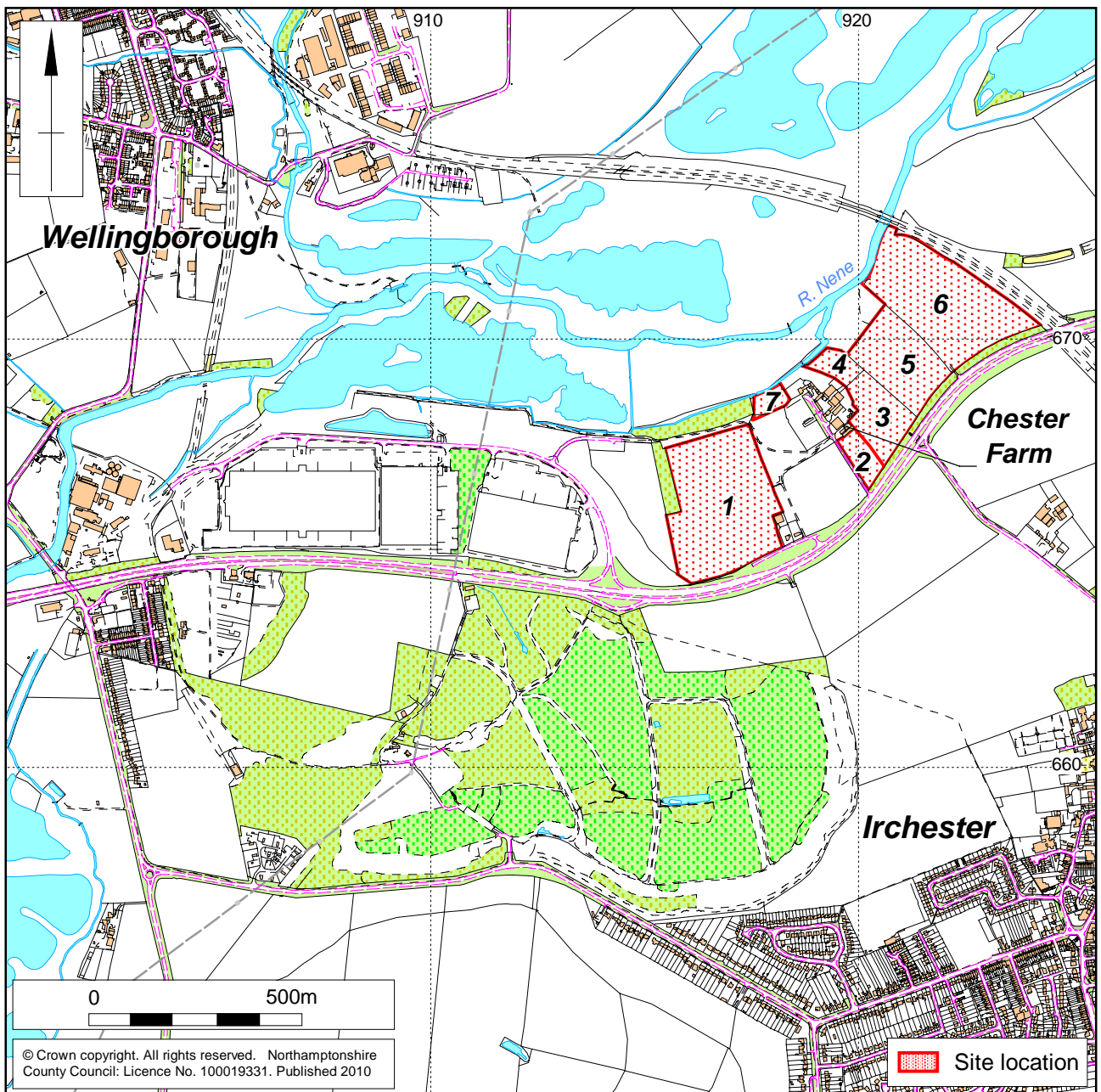
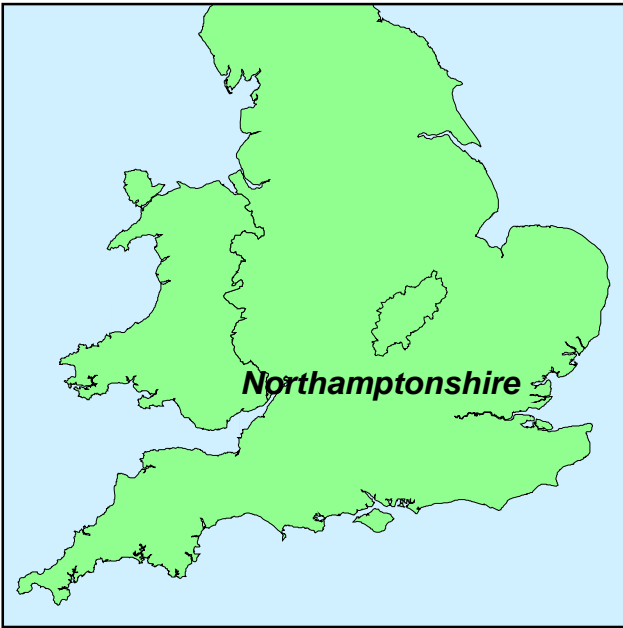
It is equally of note that the floodplain area (Fields 7 and 4) adjacent to the 'Chester River', where a watermill was anticipated, did not produce any evidence. However, such structures can be entirely of timber, as was seen in the early phases of the excavated example from Tamworth, Staffordshire and at the nearby late Saxon and medieval watermills at West Cotton, Raunds (Rhatz and Meeson 1992; Chapman 2010).

The extent of the ironstone workings of the 19th century can be seen, but precise edges could not be identified as the backfill material was very similar to the background. The tramway, however, is clearly defined in the eastern part of the survey area (Fields 4 & 5), though where it crossed the interior of the walled town there is no obvious trace. It was presumably cleared in advance of the return to agricultural ploughing of that area whilst the fields to the east were not ploughed.

BIBLIOGRAPHY

- Baker, R S, 1875 Roman discoveries at Irchester, *Associated Architectural Societies reports and papers*, **13**, part 1, 88-118
- Baker, R S, 1882 Irchester, *Proceedings of the Society of Antiquaries of London, Second series*, **9**, 85-9
- Bartington, G, and Chapman, C, 2003 A high-stability fluxgate magnetic gradiometer for shallow geophysical survey applications, *Archaeological Prospection*, **11**, 19-34
- Bridges, J, 1791 *History of Northamptonshire*, ii, 181-2
- Butler, A, 2004 *A Geophysical Survey of Land South of the A45, Irchester Roman Town, Northamptonshire*, Northamptonshire Archaeology report
- Butler, A, and Yates, A, 2006 *Archaeological Survey (Module 5) at Chester Farm, Irchester, Northamptonshire*, Northamptonshire Archaeology report, **06/019**
- Chapman, A, 2010 *West Cotton, Raunds: a study of medieval settlement dynamics, AD 450-1450: Excavation of a deserted medieval hamlet in Northamptonshire, 1985-89*, Oxbow Books
- Dix, B, and Masters, P, 1992 *Geophysical Survey at Irchester Roman Town, April-May 1992*, Northamptonshire Archaeology report
- EH 2008 *Geophysical Survey in Archaeological Field Evaluation*, English Heritage
- Finch Smith, R, 1987 *Roadside Settlements in Lowland Roman Britain; a gazetteer and study of their origins, growth and decline, property boundaries and cemeteries*, British Archaeological Report, **157**
- Gaffney, C, Gater, J, and Ovendon, S, 2002 *The Use of Geophysical Techniques in Archaeological Evaluations*, Institute of Field Archaeologists Technical Paper, **6**
- Hall, D, and Nickerson, N, 1967 Excavations at Irchester 1962-63, *Archaeological Journal*, **124**, 65-99
- Hull, M R, 1958 *Roman Colchester*, Society of Antiquaries Research Report, **20**
- Keevil, G D, and Williams, R J, 1995 The excavation of a Roman road and a medieval causeway at Ditchford Pit, Wellingborough, Northamptonshire, *Northamptonshire Archaeology*, **26**, 47-78
- Knight, J M, 1967 Excavations at the Roman town of Irchester, 1962-3, *Archaeological Journal*, **124**, 65-99
- Mason, P, 2006 *An archaeological watching brief and excavation north-west of Irchester Roman Town*, Northamptonshire Archaeology report, **06/158**
- McCarthy, M R, 1991 Roman waterlogged remains and later features at Castle Street, Carlisle, *Cumberland and Westmorland Antiquarian and Archaeological Society research series*, **5**

- Meadows, I D, 1992 Three Roman sites in Northamptonshire: Excavations by E Greenfield at Bozeat, Higham Ferrers, and Great Oakley between 1961 and 1966, *Northamptonshire Archaeology*, **24**, 77-94
- Meadows, I D, 2006 *Archaeological Desk-based Assessment of Land around Chester Farm, Irchester (Module 2)*, Northamptonshire Archaeology report, **05/65**
- Morris, S, 2007 *Iron Age and Roman Landscape at Victoria Park, Irchester, Northamptonshire, Updated Project Design, Assessment Report, September 2004 to May 2005*, Northamptonshire Archaeology report, **07/199**
- Nash-Williams, V E, 1969 *The Roman frontier in Wales*, University of Wales, Cardiff
- Perring, D, Roskams, S, and Allen, P, 1991 *Early development of Roman London west of the Walbrook, The archaeology of Roman London, Volume 2*, CBA research report, **70**
- RCHME 1979 *An Inventory of the Historical Monuments in the County of Northampton, Vol II: Central*, Royal Commission on Historic Monuments in England
- Rhartz, P, and Meeson, R, 1992 *An Anglo-Saxon watermill at Tamworth*, CBA research report, **83**
- Upson-Smith, T, 2006 *Archaeological evaluation of Main Access at Chester House Farm (Module 6), Irchester, Northamptonshire*, Northamptonshire Archaeology report, **05/58**
- Wacher, J, 1975 Wanborough, in Rodwell, W, and Rowley, T, (eds) *Small towns of Roman Britain*, British Archaeological Report, **15**
- Windell, D, 1984 Irchester Roman town: excavations 1981-82, *Northamptonshire Archaeology*, **19**, 31-52



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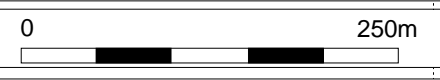
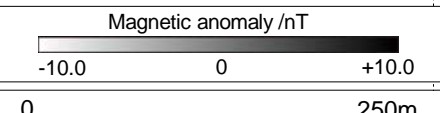
Site Location Fig 1



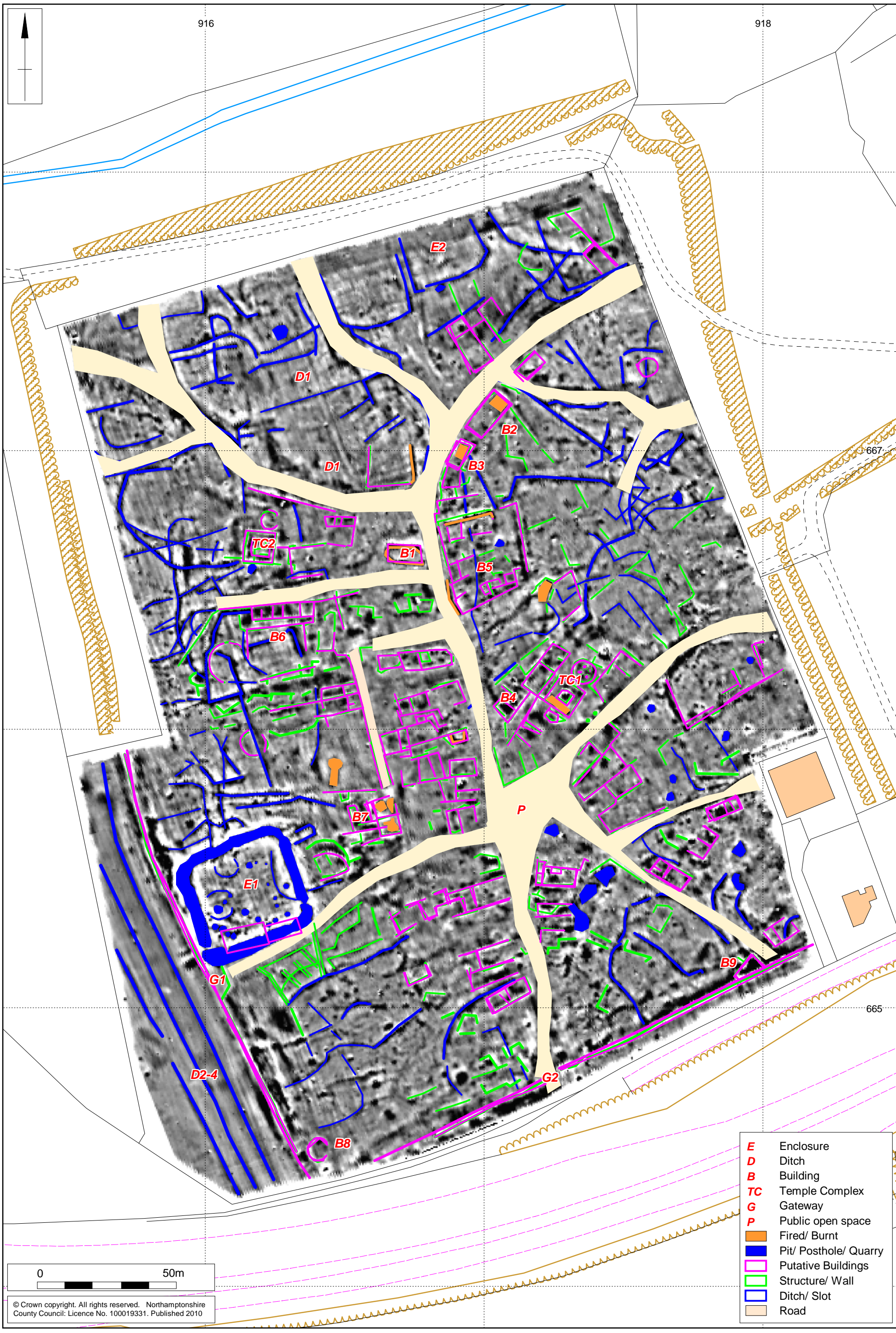
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Magnetometer Survey Results, Field 1: the walled town Fig 3



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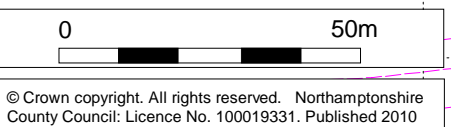


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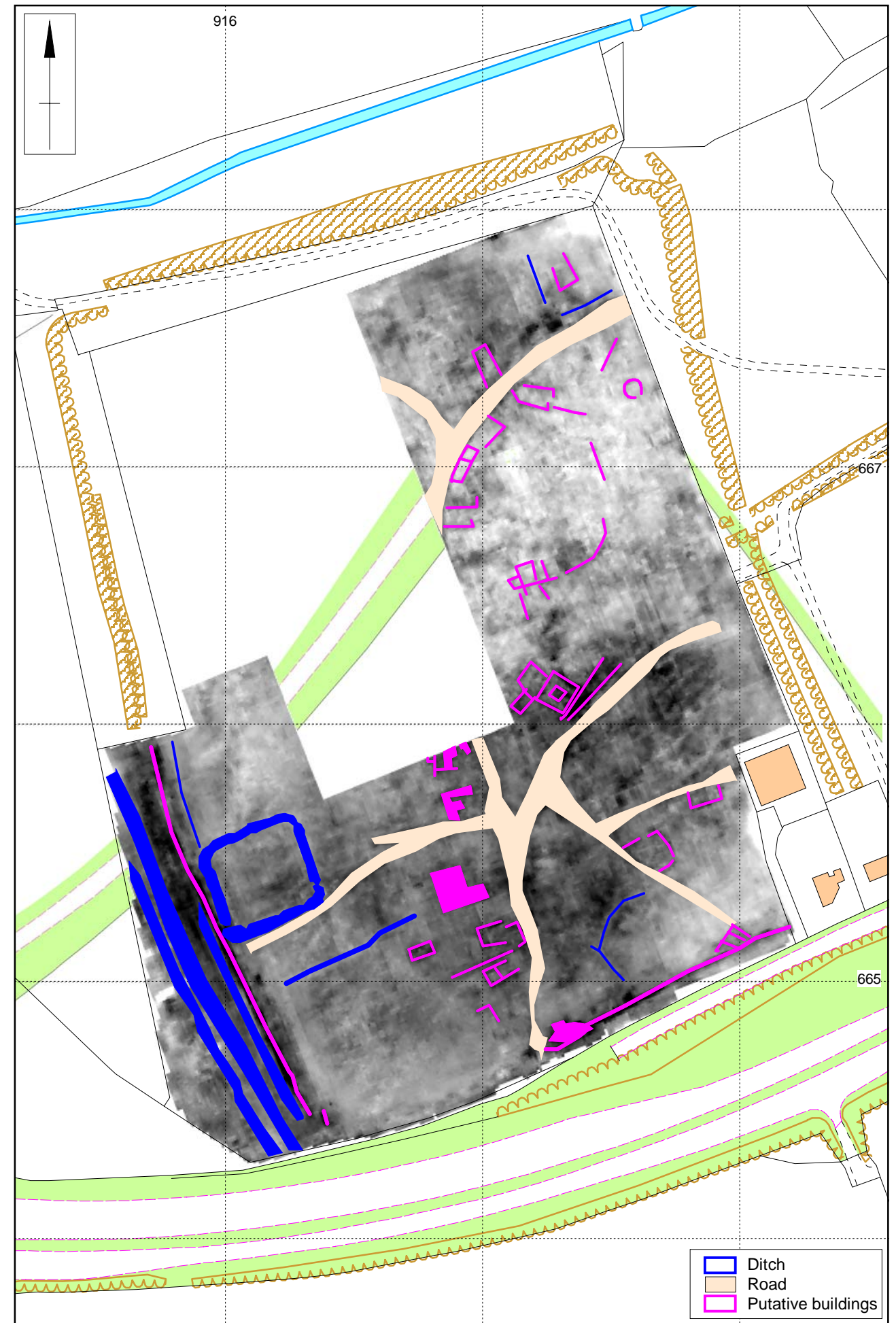


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- E** Enclosure
- D** Ditch
- B** Building
- TC** Temple Complex
- G** Gateway
- P** Public open space
- Fired/ Burnt
- Pit/ Posthole/ Quarry
- Putative Buildings
- Structure/ Wall
- Ditch/ Slot
- Road



Scale 1:2000



Scale 1:2000

Earth Resistance Survey Results and Interpretation, Field 1 Fig 5

Scale 1:1250



Magnetometer Survey Results, Fields 2-5 Fig 6

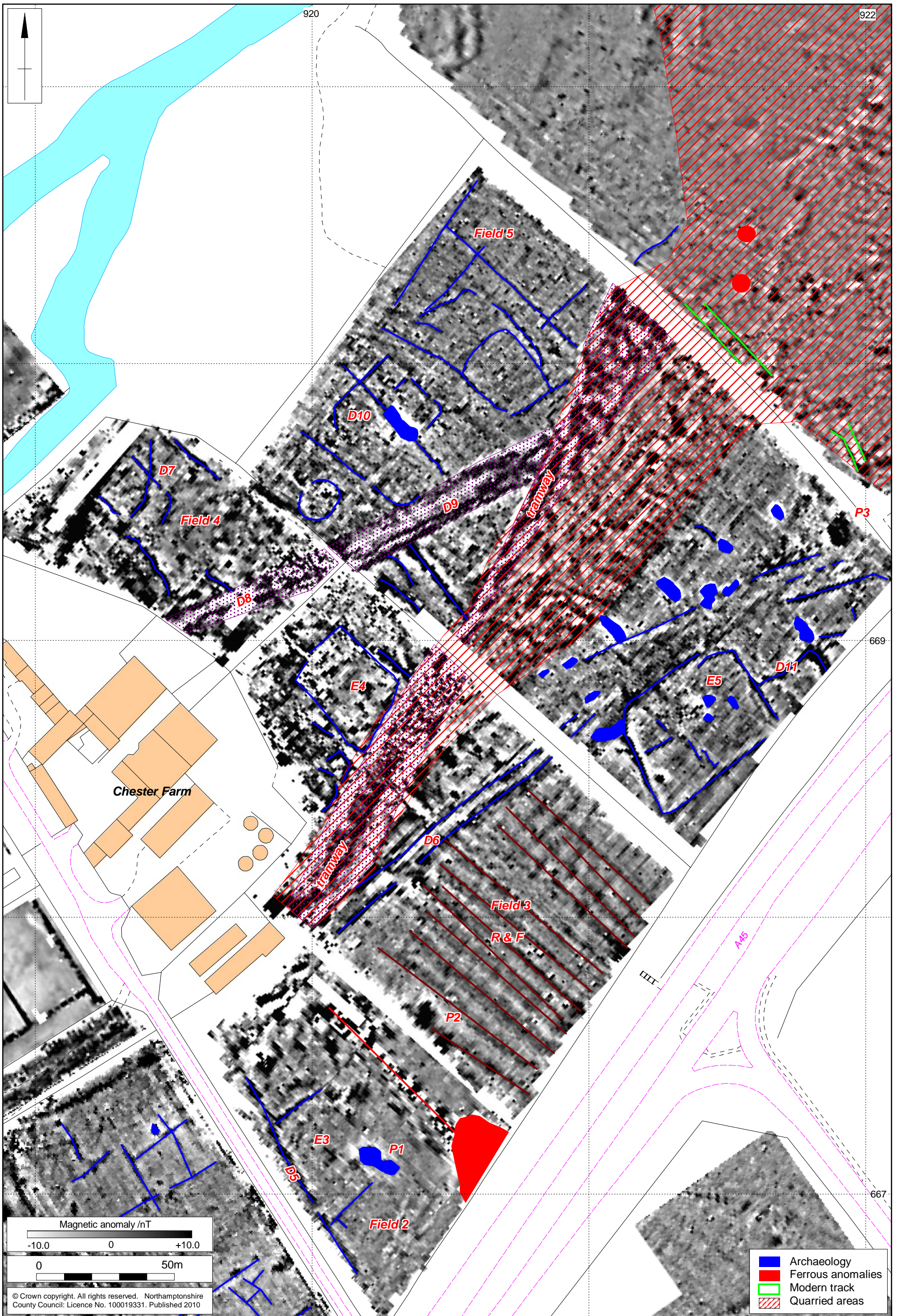
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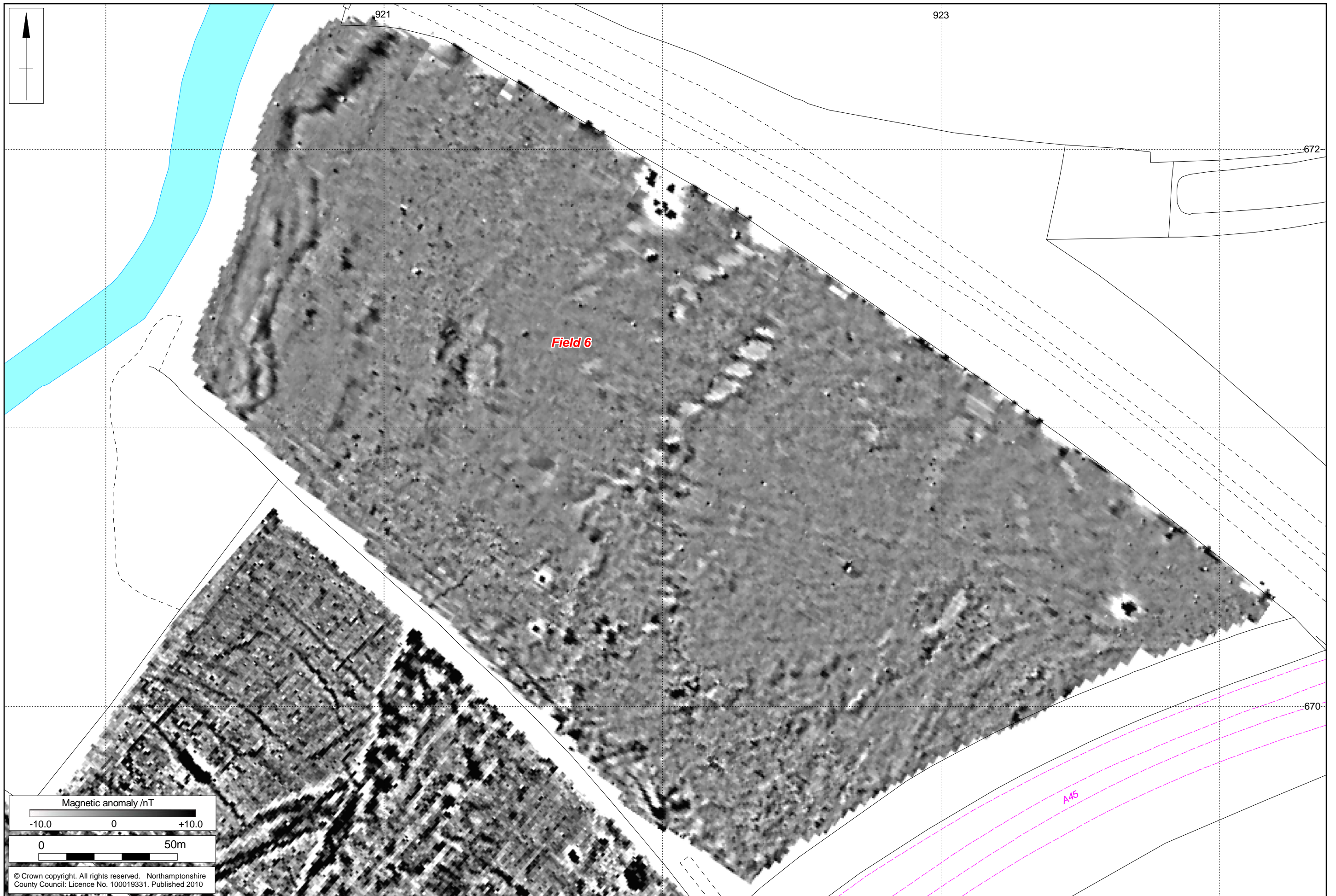
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Magnetometer Survey Interpretation, Fields 2-5 Fig 7

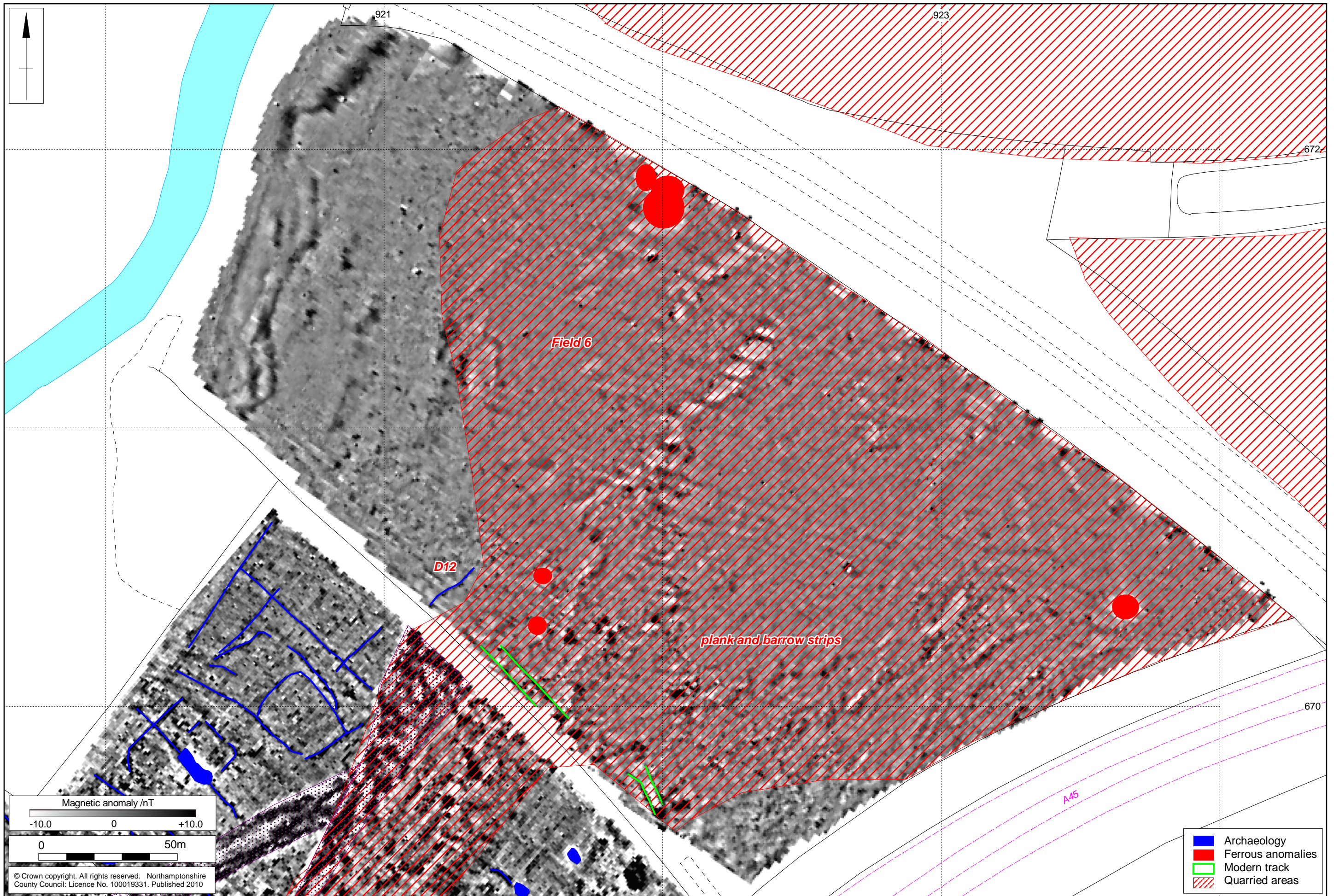
Magnetic anomaly /nT
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- Archaeology
- Ferrous anomalies
- Modern track
- ▨ Quarried areas



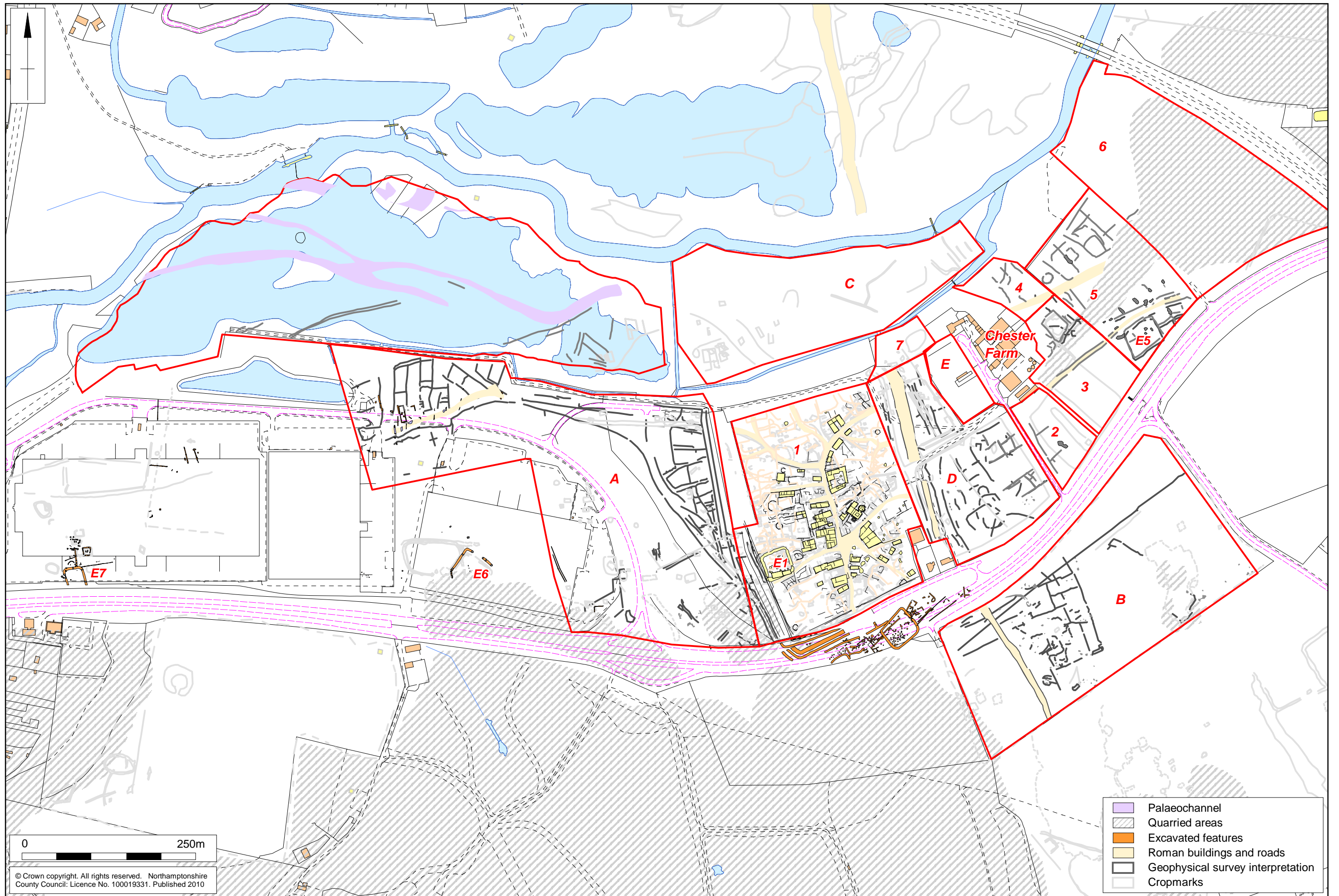
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Magnetometer Survey Results, Field 6 Fig 8



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Magnetometer Survey Interpretation, Field 6 Fig 9



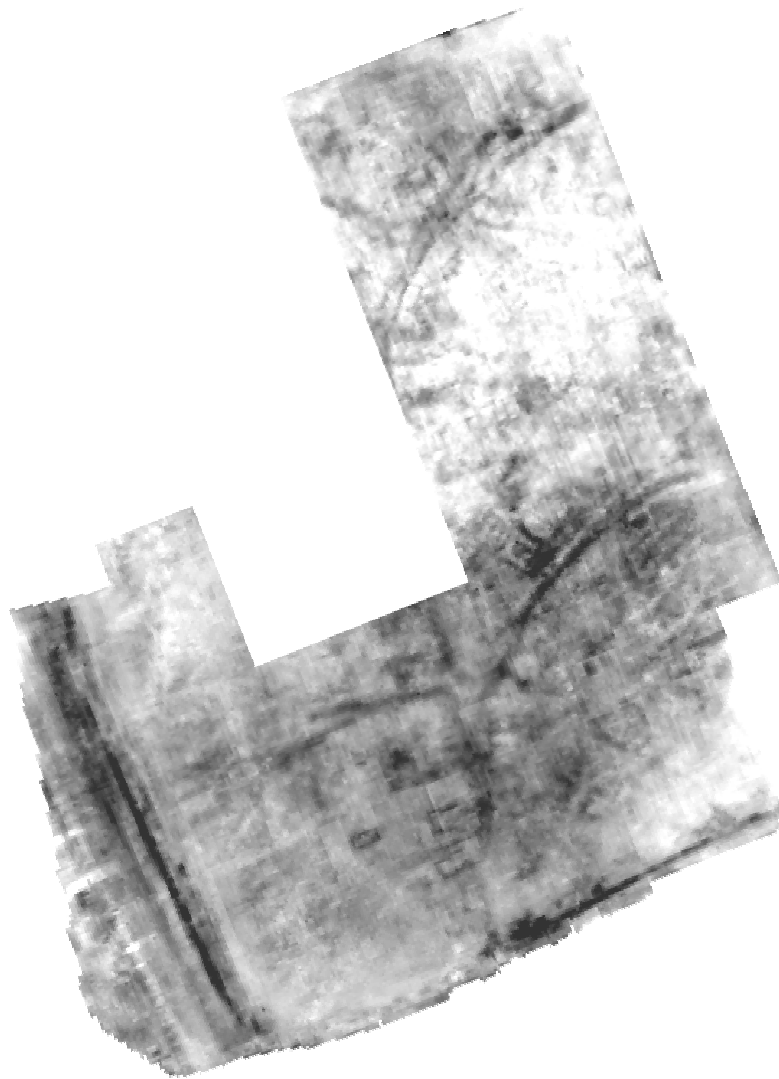
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Chester Farm and its environs, showing cropmarks, excavated features and geophysical survey results Fig 10



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