Archaeological evaluation at land at SO 8125 4252, Picken End, Hanley Swan Worcestershire

Geophysical survey: WSM 41738
Evaluation: WSM 41739

Martin Cook BA MIFA

30th September 2009

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Archaeological evaluation at land at SO 8125 4252, Picken End, Hanley Swan, Worcestershire

Introduction

An archaeological evaluation at land at SO 8125 4252, Picken End, Hanley Swan, Worcestershire (WSM 39899; SO 8125 4252; Fig 1) at the request of Mr J Furey, according to a brief provided by Worcestershire County Archaeology Service (planning ref MH/09/0564). This was undertaken in advance of the granting of planning permission for a residential development. It comprised two principal components: geophysical survey (WSM 41738) and evaluation trenching (WSM 41739).

Brief background to the site

The proposed development lies within the medieval ceramic production centre of Hanley Swan. Huge quantities of pottery were manufactured on a local yet industrial scale producing much of the ceramic, including roof tiles, pots, jar and cooking wares for the region, and was in existence from the 14th to the 16th (or early 17th) centuries. Some individual sites have been found, largely on the basis of surface collections, but only a few have been excavated or adequately recorded. It is a high priority to discover more of the pattern of this industry in its context. Key features that would contribute to knowledge of the industry are:

- Settlements - where and how were potters living?
- Clay pits and sandpits - from where did they get their raw material?
- Kiln sites - how was the pottery produced?
- Waster dumps - how was kiln waste disposed of?
- Communications - how were materials moved in, around and out of the core area of the industry?
- Negative evidence - where do we know there was no medieval ceramic production activity?

Documentary research took place on 24th August 2009 at Worcestershire County Record Office and the Worcestershire Historic Environment Record.

The map evidence

The inclosure map of 1797 (Fig 2.1) shows the site to be positioned in the corner of an 'L' shaped field, at the junction of two roads. The 1st edition Ordnance Survey map of 1886 (Fig 2.2) shows that the areas to the east of the site have been developed for domestic accommodation and for a small market gardening complex with scatters of trees, probably small orchards. Little has changed by the time of the Ordnance Survey map of 1927. The 'market gardening' site is identified as a nursery and further residential development has taken place to the north.

Information from Worcestershire Historic Environment Record

The existence of a medieval pottery industry in the vicinity of Hanley Swan has attracted much study (Vince 1984). The remains of its products, characterised as Malvernian, are repeatedly found. One of the more encouraging examples of such an occurrence was a collection of unstratified finds from Western Lodge Hanley Swan (WSM 05400) comprising about 150 sherds of Malvernian 'cooking pot', including an almost complete one with sooting on the outside. The majority of the collection was 14th-16th/17th century, oxidised glazed Malvernain ware, in total about 2500 sherds. There were also some wasters. The absence of saggers suggested that this was more likely to be a dump of production waste at some distance from a kiln.

An evaluation in 1995 at land adjacent to The Walnuts, Hanley Swan (Hurst 1995; WSM 21598) located a variety of features including, a pit, which was thought may have been used for the extraction of clay for local pottery making. Unstratified finds of pottery from the vicinity are

common, including a collection of material from 1 Winnington Gardens, Hanley Swan (WSM 11631) and a similar collection from a field to the east of Picken End (WSM 22930). Darch (2003) identified another collection from Holly Cottage, Picken End (WSM 32758).

Unfortunately, the physical means of production, principally the kilns, have proved elusive.

Analysis

The geophysical survey

The geophysical survey, bt the Bartlett-Clark Consultancy, took place on the 25th August 2009. The plot (fig 3) was made available in advance of the final report (Appendix 1) to enable discussion for the positions of trenches to be undertaken with the staff of Worcestershire Historic Environment Record. The preliminary interpretation of the geophysics survey was as follows

The survey detected a number of strong magnetic anomalies scattered through the survey area, which by their characteristic narrow response probably indicated ferrous objects. These were no more prevalent than would usually be expected from a site in the vicinity of a present-day settlement. Individual fragments of industrial debris, such as scattered pieces of burnt clay from a kiln, could perhaps give rise to similar magnetic anomalies, but debris of this kind would usually be present in greater concentrations than are seen here.

There were additional strong magnetic anomalies at the edges of the survey (as marked by blue cross hatching). These clearly represented disturbance from two metal posts along the southern boundary of the survey and a gate on the northern boundary.

Additional findings included the faint linear anomalies crossing the site parallel to the western boundary, as marked in green on the interpretation plan. These may be traces of cultivation, or possibly land drains.

It is possible, given the presence of river deposits underlying the soil, that the small discrete magnetic anomalies which are outlined in red may have been caused by magnetic stones in the underlying gravel. Small pit–like features, however, might give a similar response.

The magnetic susceptibility survey (figure 4), shows a relatively uniform magnetic background, with just a few slightly raised values near to the roadside boundaries. These results do not suggest that there is any significant area of magnetically enhanced soil within the site.

Conclusions

The survey did not detect any magnetic disturbances that would indicate a pottery making industry within the area investigated. This conclusion was supported by the magnetic susceptibility survey, which showed a uniform distribution rather than areas of strongly enhanced soil that would be expected near to industrial features. Some individual strong magnetometer readings may have been caused by scattered items of waste from such activity, but their sparse distribution suggests they are perhaps more likely to be of recent origin.

A possibility remains that the presence of small pit-like magnetic anomalies could be consistent with the survival of limited traces of former occupation activity within the site, but we are told that the initial trenching findings indicate this is very unlikely. The trenching also did not find land drains, or evidence for ridge and furrow cultivation. This leaves open the possibility that the linear markings in the survey could be of relatively recent origin.

The trial trenching

Approximately 100m of trench, 2m wide were located over what anomalies could be identified (Figs 4, 7 and 8). Trenching took place on the 2nd and 3rd September 2009.

Only brief descriptions of the deposits are given here. Full descriptions of the contexts are given in Appendix 2. The typical soil profile comprised a very thin topsoil (contexts 001, 003 and 007; Fig 6, sections 1, 2 and 3) overlying a subsoil (contexts 002, 004 and 008). This in turn overlay the natural subsoil (context 009). The only feature identified was a very shallow cut (context 006; Figs 6 and 10, section 2), cut from below the subsoil.

The finds

Results of analysis

The assemblage retrieved from the site consisted of nine sherds of pottery and three fragments of flat roof tile. The material came from three trenches and one stratified context (Appendix 3; Table 1). The material was of a domestic nature, dating between the late 15th and late 19th centuries.

The level of preservation was poor with significant levels of surface abrasion in evidence. All the sherds were grouped and quantified according to fabric (Appendix 3, Table 2). A number of diagnostic sherds were present and could be dated accordingly. All the remaining sherds were datable by fabric type to the general period or production span.

Discussion

The discussion below is a summary of the artefacts by period. Where possible, dates have been allocated and the importance of individual finds commented upon as necessary.

As would be expected for a site in this area, the majority of sherds within the assemblage were of Malvernian production. The fabrics and forms of this industry have been discussed at length by Bryant (2004) within the medieval pottery report for Deansway, Worcester and all form types discussed below have been referenced according to the typology outlined within this report.

Late medieval-early post medieval

Five sherds of pottery could be dated to the late medieval and early post-medieval periods, all of oxidised glazed Malvernian ware (fabric 69).

Three sherds were diagnostic and from flared bowls dating between the late 15th and early 17th century (Trenches 1, 2 and 3 unstratified; Deansway type 69.12). One of these was decorated with an impressed pattern unique to vessels of Malvernian production and which was made by use of a cow toe bone.

Unfortunately the only stratified sherd of this fabric type (context 005), was undiagnostic and could only be dated to the general production span of the ware. However, the glaze and general appearance of the fabric would suggest it to be of similar date to the bowl sherds discussed above.

Three fragments of flat roof tile could also be dated to this period and were all of Malvernian fabric.

Post- medieval

The material of post-medieval date consisted of two sherds of black glazed red sandy ware (fabric 78). The first was a handle sherd of 17th century date and the second a pancheon rim dating to the 18th century. Both were unstratified within trench 1.

Modern

The other stratified sherd within this assemblage was of an indistinct oxidised earthernware, most likely from a flowerpot type of vessel and datable from the 18th century onwards (fabric 101; context 005).

The remaining sherd was the base of a stoneware bottle dating to the late 19th century (fabric 81.4; Trench 2 unstratified).

Significance

This assemblage is particularly notable for the pottery of medieval/early post-medieval date due to Hanley area being well-documented as a pottery and tile production centre during the late 15th-early 17th centuries.

The condition of the pottery and distinct absence of misfired or waster sherds would indicate that production was not being carried out on this specific site but the medieval potting and tiling industry of this area is well-documented and therefore the material will almost certainly have been produced in the very close vicinity.

Discussion

The single feature, a shallow cut (Figs 6 and 10; context 006), was too slight to permit of any definitive interpretation although it is thought to be a former field boundary. Pottery from this feature (context 005) was datable from the 18th century onwards.

With respect to the remainder of the pottery, its condition and the notable absence of misfired or waster sherds indicate that production was not being carried out on this site but was almost certainly produced in the very close vicinity.

Only one of the objectives could be fulfilled: Negative evidence. It is clear that there was no medieval ceramic production activity in the area of the field surveyed.

Summary

Geophysical survey and evaluation trenching were carried out at SO 8125 4252, Picken End, Hanley Swan, Worcestershire. Apart from strong, very localised anomalies, interpreted as isolated metal items, the geophysical survey identified faint linear anomalies crossing the site parallel to the western boundary. Although no trace of these was found in the trenching it is still believed that these may be traces of cultivation, or possibly land drains.

During the trenching only one feature was recorded: a very shallow cut, possibly a former field boundary, whose interpretation must remain equivocal. The only stratified finds of 18th century or later date were from this feature.

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Acknowledgements

The author would particularly like to thank Mr J Furey, Pete Cottrell of the Bartlett-Clark Consultancy and Emma Hancox and Mike Glyde, both of Worcestershire County Council, for their kind cooperation.

Archive

The archive consists of:

1 Annotated scale drawing
1 CD-ROM

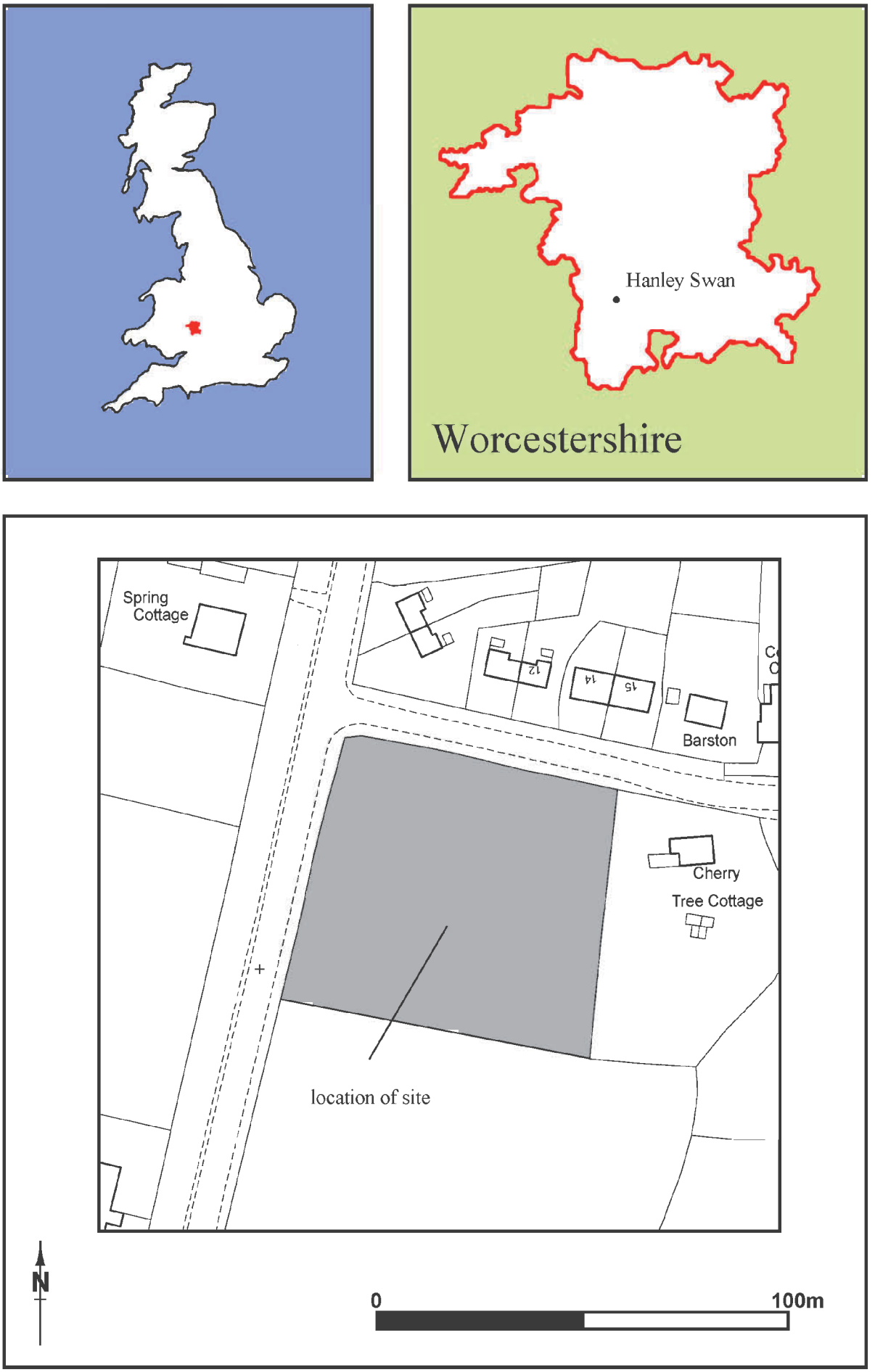
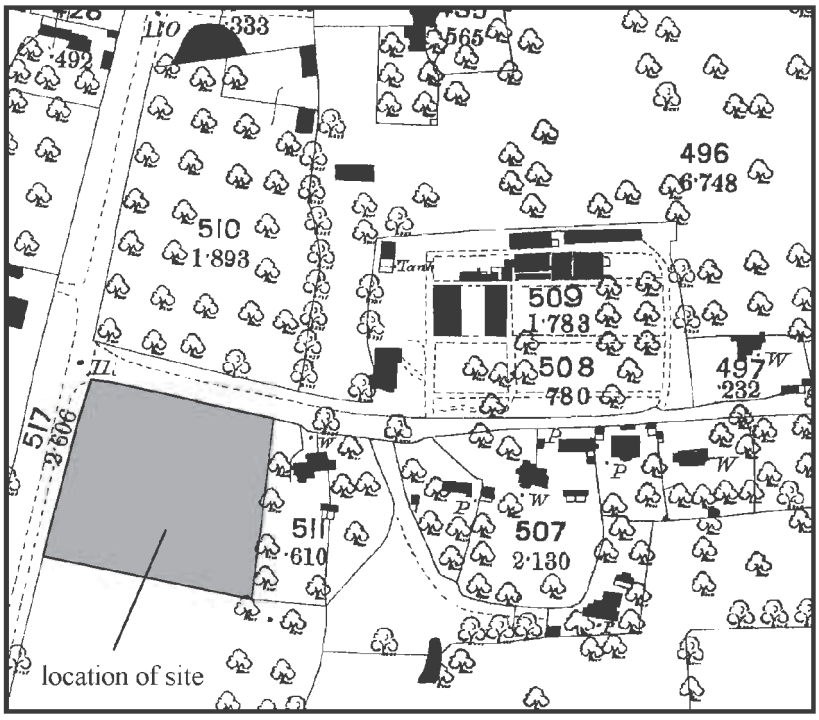


Fig 1: Location of site

Fig 2.1: Inclosure map of 1797

1886



1927

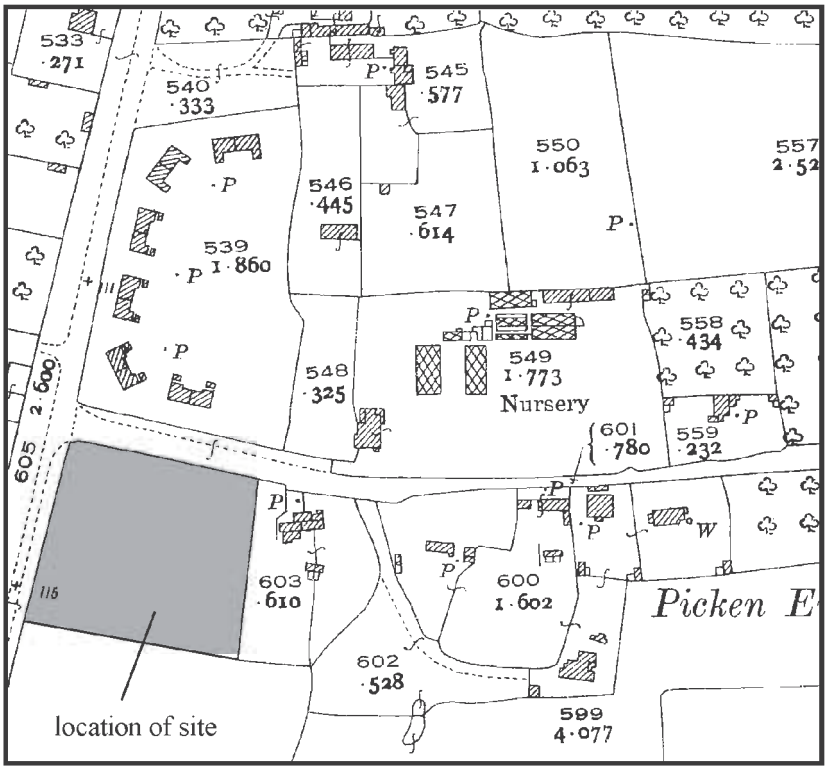
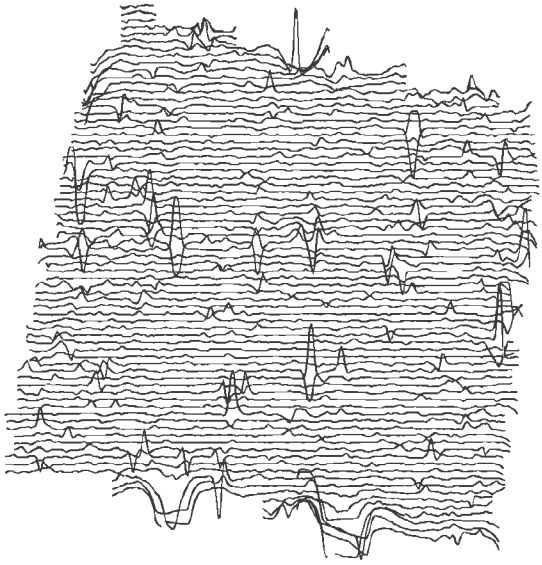


Fig 2.2: Ordnance Survey maps of 1886 and 1927

X-Y plot



Greyscale plot

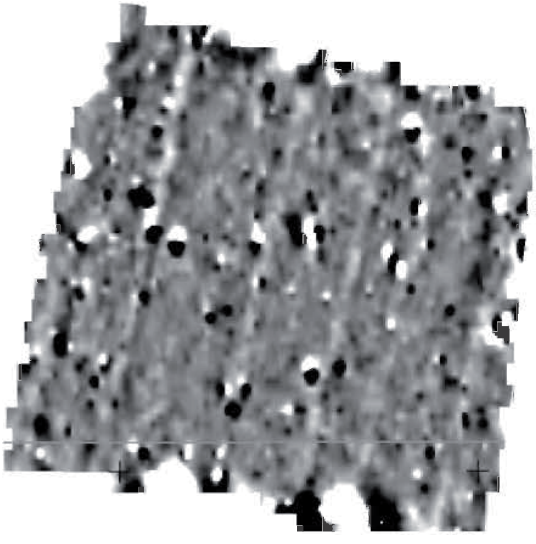
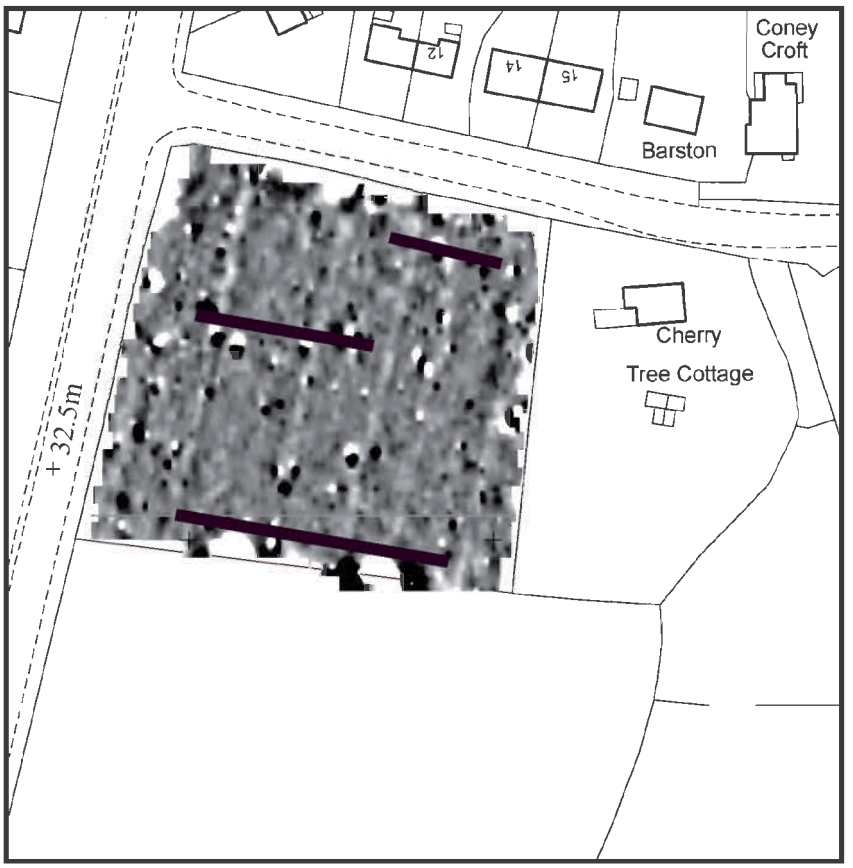


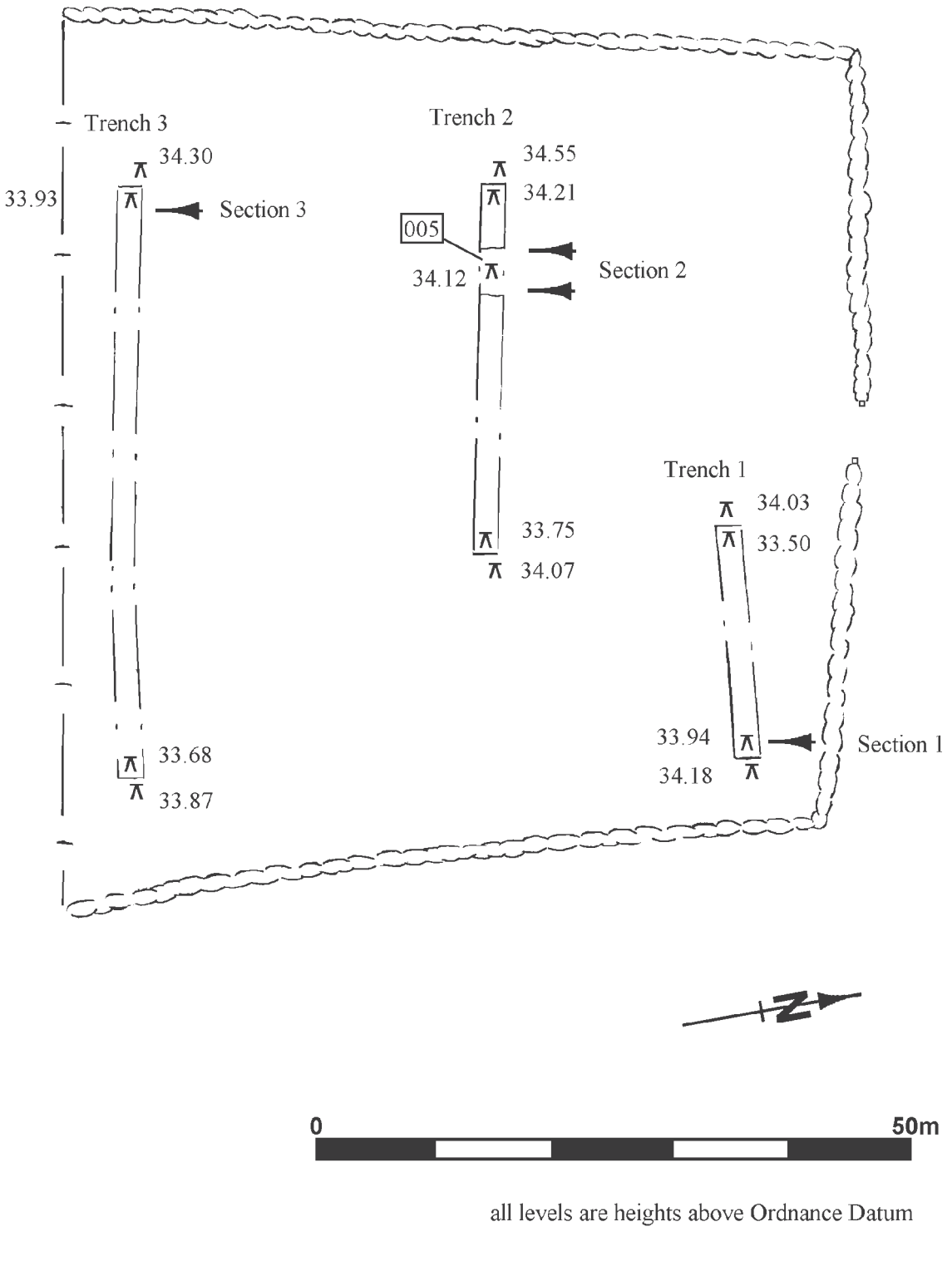
Fig 3: Geophysics plots



0 100m

position of trench

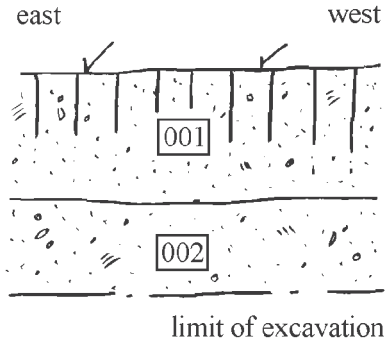
Fig 4: Location of trenches



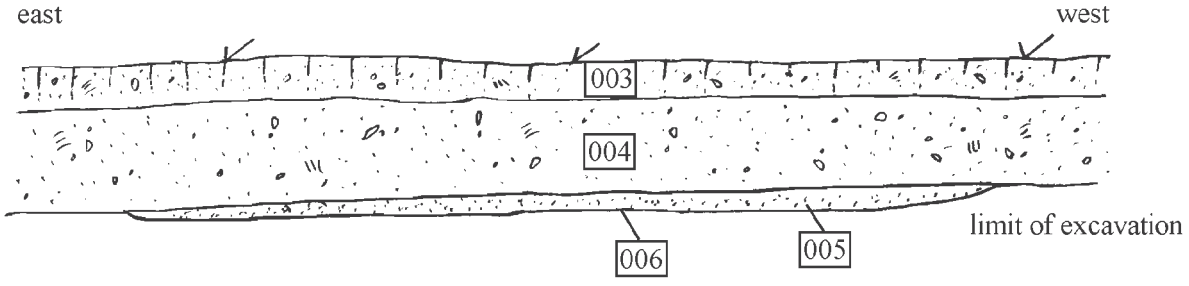
all levels are heights above Ordnance Datum

Fig 5: Trench plan, levels and location of sections

Section 1



Section 2



Section 3

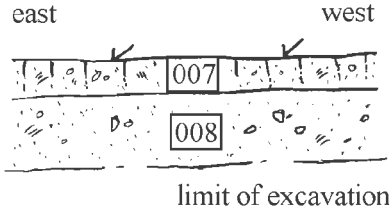


Fig 6: Sections

Fig 7: Trench 1

Fig 8: Trench 2

Fig 9: Section 1

Fig 10: Section 2

Fig 11: Section 3

Appendix 1: The geophysical survey

LAND AT PICKEN END
HANLEY SWAN
WORCESTERSHIRE

Report on Archaeogeophysical Survey
2009

P. Cottrell

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for

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LAND AT PICKEN END, HANLEY SWAN, WORCESTERSHIRE

Report on Archaeogeophysical Survey

Introduction

This geophysical survey was commissioned by Martin Cook, Archaeological Consultant, on behalf of Oakland Developments as part of an archaeological investigation of a plot of land subject to a planning application. The survey covered an area of some 70 x 75m in the village of Hanley Swan, as indicated on the location plan (figure 1). Fieldwork for the survey was done on 27th August 2009.

Initial plans of the survey results were supplied to the client on completion of the fieldwork, and are now included for the record in this report. The site has since been investigated further by means of trial trenching, with findings as noted in the conclusions below.

The Site

The site is located just to the south of the centre of the village. The survey area (at SO 81254253) covers the northern part of a pasture field. The proposed development area was cordoned off from the rest of the field at the time of the survey.

Archaeological background

It is noted in the planning brief [1] that the site is of potential archaeological concern because Hanley Swan was a centre of medieval ceramic production. There was a substantial industry in the village between the 14th and 16th centuries, but few relevant sites have been excavated. The purpose of the survey was therefore to test for evidence of any archaeological features or remains that might be associated either with the ceramic industry, or with any associated settlement.

Geology

The site is located in an area of river terrace deposits on a New Red Sandstone bedrock. Sites on this bedrock do not always appear to be strongly responsive to a magnetometer survey, but in this case the presence of the river terrace deposits will also affect the strength of the magnetic response. Magnetic susceptibility readings taken during the course of the survey were relatively high (with a mean value of 25 x 10^{-5} SI, and standard deviation = 5), which suggests that conditions at the site should be favourable for a survey of this kind. It is also probable that industrial structures (kilns, etc) and any associated debris will contain magnetically enhanced burnt material, and should be readily detectable.

Survey Procedure

The methods used for this investigation were recorded magnetometer surveying, supplemented by background magnetic susceptibility testing.

The magnetometer readings were collected along transects 1m apart using Bartington 1m fluxgate gradiometers, and are plotted at 25cm intervals along each transect. The results of the survey are presented as a grey scale plot (figure 2), and as a graphical (x-y trace) plot in figure 3. An interpretation of the findings is shown superimposed on figure 3, and is reproduced separately to provide a summary of the findings (figure 4).

The survey plots show the magnetometer readings after standard treatments which include adjustment for irregularities in line spacing caused by variations in the instrument zero setting, and slight linear smoothing. Additional 2D low pass filtering has been applied to the grey scale plot to reduce background noise levels.

Colour coding has been used in the interpretation to try and distinguish different effects. A number of relatively weak magnetic anomalies, some of which are characterized by rounded profiles, are outlined in red. These could represent silted pits or other small archaeological features or, alternatively, they could be caused either by naturally magnetic stones in the soil, or by scattered pieces of non-archaeological debris (bricks, etc). Magnetic anomalies which are indicated by narrow spikes in the graphical plot (figure 3) represent ferrous objects in the topsoil, and are outlined in light blue. Possible cultivation effects are in green.

The magnetometer survey was supplemented by a background magnetic susceptibility survey with readings taken at 12.5m intervals using a Bartington MS2 meter and field sensor loop. The results are presented as a plot of shaded squares of density proportional to the readings (as inset in figure 4).

Susceptibility surveying can provide a useful complement to a magnetometer survey, and indicates the strength of response which is likely to be obtained. It can also be used to provide a broad indication of previously occupied or disturbed areas in which burning associated with past human occupation has enhanced the magnetic susceptibility of the topsoil, although the readings may be affected by non-archaeological factors, including geology and land use.

The magnetometer responds to cut features such as ditches and pits when they are silted with topsoil, which usually has a higher magnetic susceptibility than the underlying natural subsoil. It also detects the thermoremanent magnetism of fired materials, notably baked clay structures such as kilns or hearths, and so responds preferentially to the presence of ancient settlement or industrial remains. It is also strongly affected by ferrous and other debris of recent origin.

The survey grid was set out and tied to the OS grid using a differential GPS system. OS co-ordinates of map locations can be read from the AutoCAD version of the plans which can be supplied with this report.

Results

The survey has detected a number of strong magnetic anomalies scattered through the survey area, which by their characteristic narrow response probably indicate ferrous objects. These are no more prevalent than would usually be expected from a site in the vicinity of a present-day settlement. Individual fragments of industrial debris, such as scattered pieces of burnt clay from a kiln, could perhaps give rise to similar magnetic anomalies, but debris of this kind would usually be present in greater concentrations than are seen here.

There are additional strong magnetic anomalies at the edges of the survey (as marked by blue cross hatching). These clearly represent disturbance from two metal posts along the southern boundary of the survey and a gate on the northern boundary.

Additional findings include the faint linear anomalies crossing the site parallel to the western boundary, as marked in green on the interpretation plan. These may represent cultivation, or possibly drains.

It is possible, given the presence of river deposits underlying the soil, that the small discrete magnetic anomalies which are outlined in red could be caused by magnetic stones in the underlying gravel. Small pit –like features, however, might give a similar response.

The magnetic susceptibility survey (figure 4), shows a relatively uniform magnetic background, with just a few slightly raised values near to the roadside boundaries. These results do not suggest that there is any significant area of magnetically enhanced soil within the site.

Conclusions

The survey has not detected any magnetic disturbances that would indicate a pottery making industry within the area investigated. This conclusion is supported by the magnetic susceptibility survey, which shows a uniform distribution rather than areas of strongly enhanced soil that would be expected near to industrial features. Some individual strong magnetometer readings may be caused by scattered items of waste from such activity, but their sparse distribution suggests they are perhaps more likely to be of recent origin.

A possibility remains that the presence of small pit-like magnetic anomalies could be consistent with the survival of limited traces of former occupation activity within the

site, but we are told that the initial trenching findings indicate this is very unlikely. The trenching also did not find land drains, or evidence for ridge and furrow cultivation. This leaves open the possibility that the linear markings in the survey could be of relatively recent origin.

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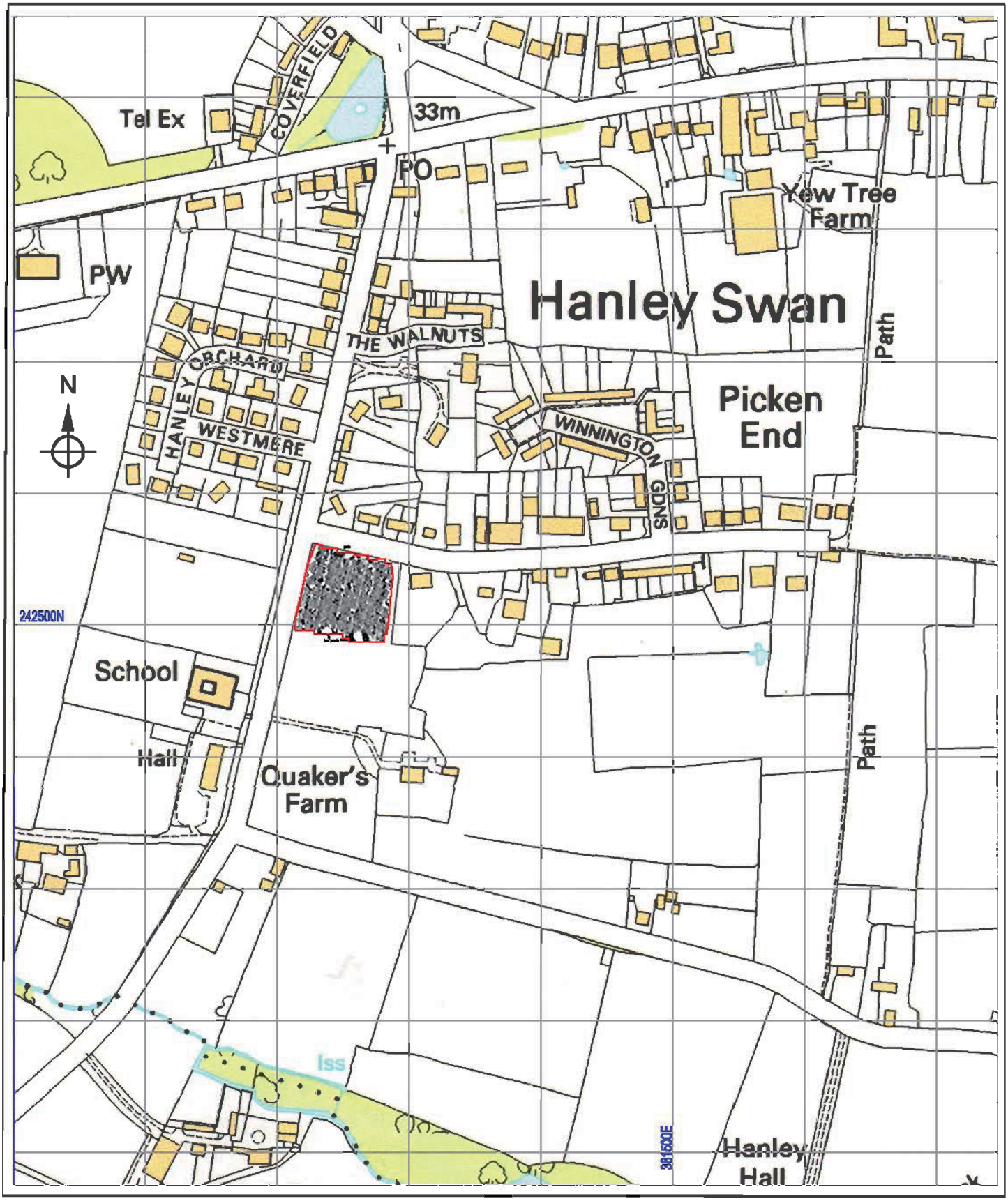
01865 200864 12 September 2009

Fieldwork and data processing for this project was done by F. Prince.

Reference

[1] Requirements for an Archaeological Evaluation at Land (OS 8125 4252), at Picken End, Hanley Swan, Worcestershire. June 5th 2009: Worcestershire Historic Environment and Archaeology Service Planning Reference MH/0



Magnetometer survey area

Surveyed by: Bartlett-Clark Consultancy 01865 200864
for: Martin Cook

HANLEY SWAN, WORCESTERSHIRE
Geophysical Survey 2009
Figure 1: Location Plan

1:4000

0 200m

HANLEY SWAN, WORCESTERSHIRE
Geophysical Survey 2009
Figure 2: Magnetometer survey (grey scale)

1:1000

0 50m

Surveyed by: Bartlett-Clark Consultancy 01865 200864
for: Martin Cook

magnetic anomalies
natural / archaeological?

magnetic anomalies
ferrous / modern

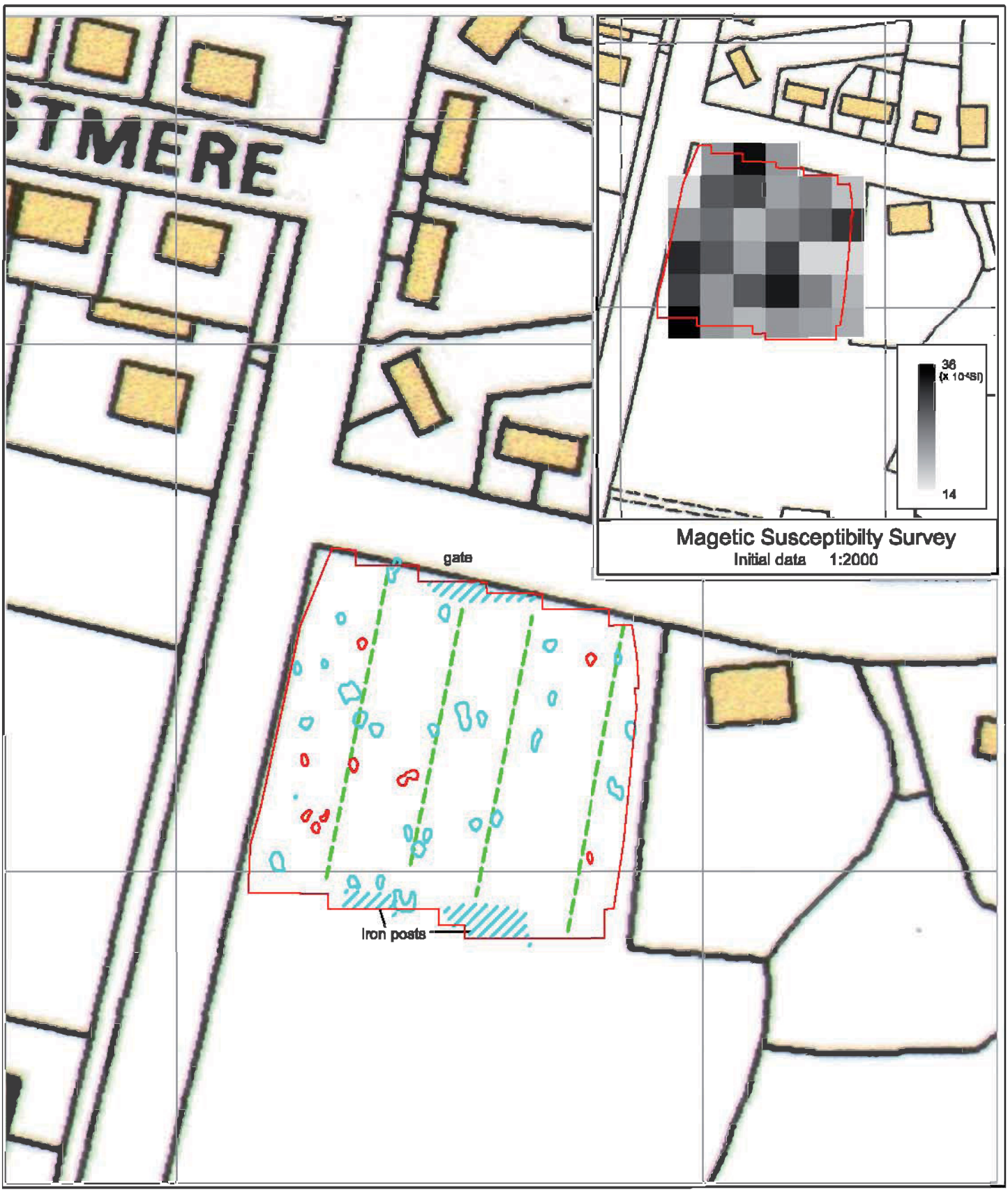
linear anomalies / cultivation?

Surveyed by: Bartlett-Clark Consultancy 01865 200864
for: Martin Cook

HANLEY SWAN, WORCESTERSHIRE
Geophysical Survey 2009
Figure 3: Magnetometer survey (with interpretation)

1:1000

0 50m



magnetic anomalies natural / archaeological?

magnetic anomalies ferrous / industrial?

linear anomlalies / cultivation?

Surveyed by: Bartlett-Clark Consultancy 01865 200864
for: Martin Cook

HANLEY SWAN, WORCESTERSHIRE
Geophysical Survey 2009
Figure 4: Summary of findings

1:1000

0 50m

Appendix 2: List of the contexts

Context number	Description	Interpretation
001	Dark grey brown, slightly clayey sandy loam with occasional small rounded stones	Topsoil
002	Light brown, slightly clayey sand and gravel	Subsoil
003	Dark grey brown, slightly clayey sandy loam with occasional small rounded stones	Topsoil
004	Light brown, slightly clayey sand and gravel	Subsoil
005	Light brown, slightly clayey sand and gravel	Fill of 006
006	Very shallow, ? linear cut	? field boundary
007	Dark grey brown, slightly clayey sandy loam with occasional small rounded stones	Topsoil
008	Light brown, slightly clayey sand and gravel	Subsoil
009	Dark grey brown sandy gravel	Natural subsoil

Appendix 3: The finds by L C Griffin

Artefactual analysis

Aims
The brief required an assessment of the quantity, range and potential of artefacts from the excavation.

The aims of the finds assessment were:

a) to identify, sort, spot date, and quantify all artefacts

b) to describe the range of artefacts present

c) to preliminarily assess the significance of the artefacts

This report covers artefacts of medieval and late post-medieval date.

Method of analysis

All hand-retrieved artefacts were examined and identified, quantified and dated to period. All information was recorded on a Microsoft Access 2000 database. Pottery fabrics are referenced to the fabric reference series maintained by the Worcestershire County Council Archaeological Service (Hurst and Rees 1994).

Results of analysis

The assemblage retrieved from the site was unstratified and consisted of two sherds of pottery and one fragment of locally occurring rock (see Table 1). The medieval sherd was of local production and was datable by fabric and form to the late 15th to 16th century. The remaining sherd was of late post-medieval date and of a generic red fabric type commonly used in the production of flowerpots.

Discussion

The discussion below is a summary of the artefacts and associated context by period. Where possible, dates have been allocated and the importance of individual finds commented upon as necessary.

Medieval
Material of medieval date consisted of a highly abraded base sherd from an oxidised glazed Malvernian ware chafing dish (fabric 69) datable to the late 15th-16th century. The sherd was of interest as it was underfired in appearance and had no glaze on the surfaces. Due to the location of this site, it is likely that this sherd was a waster and discarded prior to glazing.

Late post-medieval
A small fragment of highly fired red pottery could be identified as being of this period (fabric 100). The sherd was abraded and most likely to have come from a flowerpot type of vessel.

Other
Other material consisted of a small piece of locally occurring Malvernian rock, commonly found within the fabric of the vessels produced in this area.

Significance
This assemblage is particularly noteable for the pottery of medieval date due to the Hanley area being well-documented as a pottery production centre during the late 15th-early 17th centuries. There is a wealth of documentary evidence relating to this pottery industry and previous fieldwork carried out within the area has uncovered disused clay pits, sand pits, one kiln and much 'waster' material in the form of vessels, tile and brick (JD Hurst, 1994). Of particular note is the presence of substantial kiln waste dumps at nearby Brickwalls Farm, Gilbert's End which had a similar date range to the sherd from this site (Pearson and Griffin 2001).

The condition of the single sherd of Malvernian pottery within this assemblage may indicate that production was being carried in the close vicinity of the Wychbury site.

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Appendix 3: Tables

Material	Total	Weight (g)
Medieval pottery	**1**	**26**
Post medieval pottery	**1**	**4**
Stone	**1**	**8**

Table 1 : Quantification of the assemblage

Fabric no.	Fabric name	Total sherds	Weight (g)
69	Oxidised glazed Malvernian ware	1	26
100	Miscellaneous post-medieval wares	1	4

Table 2: Quantification of the pottery by fabric