



Paved with Living Colour; Community Archaeological Investigations of the Godwin Tiles Factory

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October 2013*

*This report was commissioned by Herefordshire Archive and Records
Centre and funded by the Heritage Lottery Fund*

**Paved with Living Colour;
Community Archaeological
Investigations
of the Godwin Tiles Factory,
Lugwardine Herefordshire**

Community Heritage and Archaeology Consultancy

Report No. CHAC2013/02

HER No: EHE2182

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December 2013

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Summary

This report and investigation was commissioned by Herefordshire Council's Archive Service (HCAS) as part of the Paved with Living Colour Project a Heritage Lottery funded project. The archaeological investigation described was led and report compiled by Christopher Atkinson, Community Heritage and Archaeology Consultant.

The primary aim of the archaeological investigation was to assess the extent to which the remains of the Godwin Tile Factory survive below the current ground surface with particular focus on the identification of buried tile kiln locations.

This was achieved by consulting the available historic documentation including mapping evidence, the results of which were subsequently enhanced by means of a geophysical survey and trial excavation.

1.0 Introduction

The Council's Archive Service is celebrating success in obtaining a grant from the Heritage Lottery Fund for an outreach programme called Paved with Living Colour. This will consist of a series of events and activities focusing on the work of William Godwin and Son, the decorative floor tile manufacturers based at Lugwardine and Withington.

The firm operated from 1860 - 1912 and produced tiles for use in churches, secular public buildings and homes in Herefordshire and across the United Kingdom. The aim of the programme is to explore the local impact of this key industry and the riches it produced. It will include talks, guided walks, education sessions, arts workshops and research.

As part of the investigations an archaeological investigation of the tile factory site within the village of Lugwardine was made in order to enhance the understanding of the now largely lost factory site. The investigation was carried out in three phases:

- 1) Investigation of the historic documentation which included historic mapping in order to gauge the extent of the factory site and land change/use over time.
- 2) A geophysical survey of areas highlighted as a results of the investigation into the documentary record. The aim was to identify any buried features, particularly kiln sites that may remain preserved beneath the current ground surface.
- 3) Trial excavation of up to two locations identified as a results of both the geophysical and documentary analysis aimed to uncover features directly relating to the workings of the Godwin Tiles Factory site. It was hoped that the excavations would also provide evidence for the short lived encaustic tile production at the site.

2.0 Location and geology

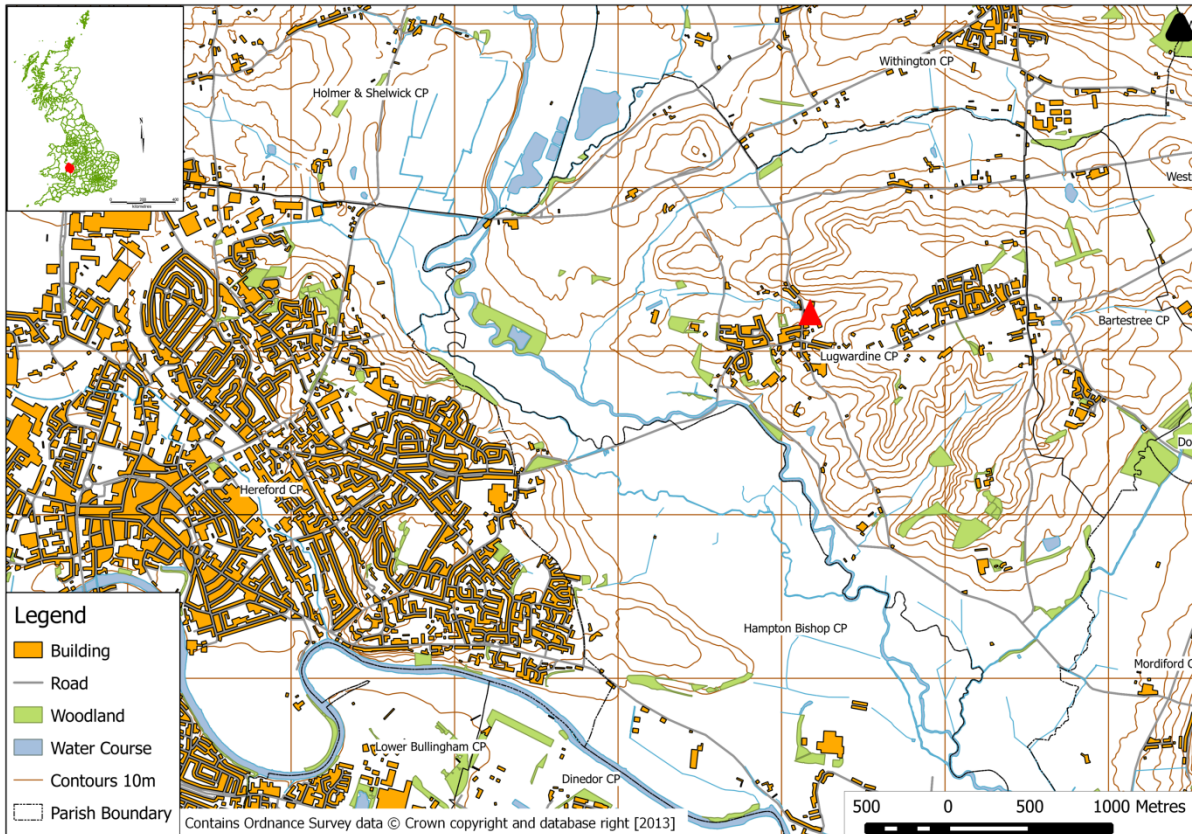


Figure 1: Location of Godwin Tiles, Lugwardine (site location indicated by red triangle). Contains Ordnance Survey data © Crown copyright and database right [2013]

The site of the Godwin Tile and Brick Factory for which this investigation is concerned is located within the north of the village of Lugwardine, 178m north-northeast of St Peter's Church on the east side of Lumber Lane within the grounds of Monks Orchard (SO 55193 41221), Herefordshire. ~~cheduled monument (HE224) is located to the south of Dinedor village within the parish of Dinedor, Herefordshire (SO 53345 36586).~~ The site investigated as part of this investigation covers an area of 0.6 hectare; however the original scale of the Godwin Tiles Factory covered approximately 1.6 hectares. field in which the scheduled monument is enclosed measures 2.0 hectares and is situated upon the gentle east-facing slopes (falls from 71.5m OD in the west to 64.9m OD to the east) at the foot of a prominent ridgeline known as Dinedor Hill which lies on a northeast-southwest alignment

†

~~The scheduled monument (HE224~~ The site utilises the foot of a) is located at the northern extent of a steep sided hanging-valley orientated roughly east-west; at the foot of the valley flows a stream to the west. The underlying geology consists of Downtonian red marl of the Upper Silurian series (BGS, 2000). It is due to the

underlying red clays that the site at Lugwardine was deemed suitable for brick and tile production.

~~basin where the solid geology is dominated by the Raglan Mudstone Formation. The high ground that forms the northern, western and southern extent of the basin consists of the St Maughans Formation of interbedded argillaceous rocks and sandstone. To the east the basin is marked by superficial river terrace deposits of sand and gravel beyond which the topography drops sharply to form the current course of the south-flowing River Wye. The modern centre of Dinedor is located upon these deposits whereas the historic core surrounding St Andrews Church was established over superficial colluvial deposits of clay, silt, sand and gravel to the west.~~

~~At the centre of the valley basin are the alluvial deposits attributed to the course of the now managed Tar's Brook which enters the valley basin from the southwest and flows to the northeast where it flows into the River Wye. The original course of Tar's Brook was far more sinuous than it is today; the original course of the brook is visible, preserved within the current parish boundary between Dinedor and Holme Lacy. During its course through the valley basin Tar's Brook is fed by at least six watercourses issuing from springs to the north and west. The most substantial water course flows through the centre of Dinedor Village where it is managed to the flow south along the eastern edge of the scheduled monument (HE224).~~

3.0 Historical and archaeological background

At the time of this investigation no archival record for the Godwin Tile Factory site in Lugwardine existed within the County's Historic Environment Record maintained by Herefordshire Council as well as the National Heritage List of England maintained by English Heritage.

Information concerning the brick and tile works was obtained from the historic mapping resource and published articles.

During the 1840's brick making was established at the site by C. A. Mason. By January 1849 William Godwin became tenant at the brickworks after learning his trade in Gloucestershire and becoming manager of brickworks in Ledbury. The factory site in Lugwardine was used originally for the production of bricks, quarry tiles and drain-pipes (Greene: 1981).

In order to compete with the market, and once joined by William's brother Henry in 1852 the factory began to produce encaustic tiles that were to imitate or replace medieval ones used for the renovation of churches and cathedrals. In 1857 the Godwin encaustic tiles were used in the restoration of Hereford Cathedral. An increase in prosperity as a result led the Godwin's to enlarge their enterprise to include a site at Tupsley used for the production of bricks whereas the site at Lugwardine concentrated purely on the production of tiles (Greene: 1981).

By 1861 the business needed more space and purchased a site adjacent to the Hereford to Ledbury railway line at Withington which also had good connections to

the Hereford to Gloucester canal network. It was at this new site that the production of encaustic tiles and plain geometrical tiles moved to whereas Lugwardine was retained for the production of drainage tiles, border tiles and roof tiles.

Following the death of William Godwin in 1883 the company went into a gradual decline until in 1906 it was sold to G. H. Lloyd and Thomas Pulling. It is at this point that the factory site in Lugwardine was closed, with the majority of works concentrated at Withington where glazed fireplace tiles were the order of the day (Davey & Roseff: 2007). The company was sold again in 1912 to T. E. Davies who continued to trade as William Godwin and Son, Lugwardine Tile Works Ltd. By 1958 the factory had been sold on to Mr David who, trading under Hereford Tiles Ltd concentrated on the manufacture of white and coloured tiles before closing down on 5th July 1980 (Greene: 1981).

The earliest and only illustrated representation of the Godwin Tiles Factory site in Lugwardine appears on the First County Series Survey map of 1888 (figure 2). The survey indicates the location of four centrally located kilns with out-buildings and offices to the north, west and south.

Figure 2: 1888 First County Series Survey indicating the extent of the Godwin Tiles factory site © Crown Copyright Digimap/Edina supplied service (2013)

investigation as a means to better understand the extent, form, character and survivability of the Godwin Tiles factory site in Lugwardine.

The aims of this evaluation were to:

1. Guide and fully involve HCAS members and volunteers through the process of archaeological field survey to a Level 3 standard (Bowden 1999).
2. To describe the visible features identified across the factory site area this would include their form as well as condition.
3. To perform a geophysical investigation in order to determine the presence of any below ground archaeological features.
4. To carry out a trial excavation of two locations identified as a result of the geophysical and historic documentary investigation in order to retrieve evidence for the past industrial use of the site.

5.0 Methodology

A Level 3 survey (Bowden 1999) of the Godwin's Tiles factory site was carried out between the 16th and 21st September 2013. The investigation was achieved in four stages:

1. Desk-based Assessment

Prior to the field investigation a desk-based assessment of the current historical and archaeological archive of the site was made. This was achieved by accessing English Heritage's *National Heritage List for England* as well as Herefordshire Council's online *Historic Environment Record* resource. Historic mapping resources as well as published work concerning the Godwin's Tiles factory site were also assessed in order to identify and determine the past layout of the site settlement and land use patterns. The results of the desk-based assessment provided a background understanding of the site and a context in which to frame these investigations.

4.2. Geophysical Analysis

A geophysical survey of the Godwin's Tiles factory site, Lugwardine, Herefordshire was carried out on 16th September 2013. The survey was concentrated within two areas (figure 3); Grid 1 lay to the west of a north-south orientated lane (Lumber Lane) that runs through the centre of the site whereas Grid 2 lay to the east of the lane.

Earth resistance survey was favoured over the use of a magnetometer due to the volume of surrounding metals within fences and overhead cabling that would truncate any magnetometer results. The earth resistance survey would avoid this and help identify any areas for buried masonry and building foundations (Jones, 2008).

The geophysical evaluation consisted of a resistivity survey employing the use of a Geoscan RM15 Resistance Meter in a twin electrode configuration with the remote probes spaced 50cm apart in order to obtain resistance measurements to a depth of 75cm. In total four 20mx20m square grids were evaluated (figure 3). Both Grid 1 and Grid 2 covered areas of 20m x 40m square that were oriented north-south.

The geophysical evaluation was performed within each measured grid commencing from within the northwest corner and extending east on the first traverse to return west in order to continue a zig-zag pattern. Meter readings were obtained at 1m intervals.

The resulting data was downloaded and manipulated using Geoplot 3.0 before being transferred and geo-rectified using Quantum GIS 2.0.1 onto both the modern and historic mapping resources.

The grid and accurate mapping of any visible features at the site was achieved by volunteers using a Leica Builder509 Total Station. Readings obtained using the Total Station were saved to the data-logger and later downloaded into Quantum GIS 2.0.1 in order to produce an accurate measured plan of the site.

~~The walkover survey consisted of a rapid investigation of extent of features associated to the scheduled monument. The form and condition of each feature was recorded using a paper record and its location in relation to the British National Grid was noted using a Garmin GPSmap 60CSx. A photographic record was also maintained (Appendix 4).~~

~~7. The results of the survey were compiled into a Microsoft EXCEL spreadsheet (Appendix 1), the data for which was imported using MapInfo Professional 10.5 and saved as a MapInfo table so as to spatially locate each feature onto both the modern and historic map resource (Appendix 3).~~

~~8.—~~

9-3. Trial Excavation

Excavation of two locations was determined by the data obtained from both the desk-based assessment and the geophysical analysis. The trenches were excavated by hand with the turfs cut into squares and stacked and the spoil stored away from the trench upon plastic tarpaulins.

Soil horizons were excavated by hand using a mixture of mattock, spade and trowel. Each soil horizon and feature encountered was recorded on site using a paper

record and depths above sea level were recorded using a theodolite. The sites temporary benchmark (66m) was calculated using a bench mark located along Lumber Lane.

Trenches were planned (including section plans) to a scale of 1:20; these were subsequently redrawn to publication standard (Appendix 4) over the course of October/November 2013 utilising drawing film and Staedtler black ink Fineliner pens. Labelling of the plans was achieved using Microsoft Office Publisher.

Artefacts obtained as a result of the excavation were recorded in relation to the context in which they were found and labelled accordingly; this included the labelling of each finds bag with the site code "GT13", the trench number and context number.

Following on from the excavation, artefacts were cleaned and in some instances photographed. The finds were re-packaged and labelled accordingly. Artefacts will be sent to a specialist for further interpretation.

10.4. Reporting

This involves the collation of each dataset produced as a result of this investigation. The results are produced in this report and the potential for further evaluation are listed in the conclusion.

6.0 Results

6.1 Geophysical Analysis

A resistance survey was carried out within two areas across the site. Grid 1 (figure 3) was located to the west of the north-south orientated lane that intersects the site whereas Grid 2 (figure 3) was surveyed to the east of the lane. Both areas covered an area measuring 20m wide and 40m long.



Figure 3: Location of Grid 1 and Grid 2 within Monks Orchard, Lugwardine. Contains Ordnance Survey data © Crown copyright and database right [2013]

Grid 1

The site of Grid 1 was determined by the results of the historic map regression that indicated a number of structures to the rear of the cottages fronting the lane to the west.

It is apparent from the results of the survey that following the closure of the factory in Lugwardine at around 1906 a substantial amount of demolition and landscaping work took place as highlighted by the multiple anomalies of high and low resistance across the north of the surveyed area (as represented by a concentration darker anomalies in figure 4). At the time of the survey the dense concentration of both nettles and thistles within the north of the survey area supports the idea of past ground disturbance.

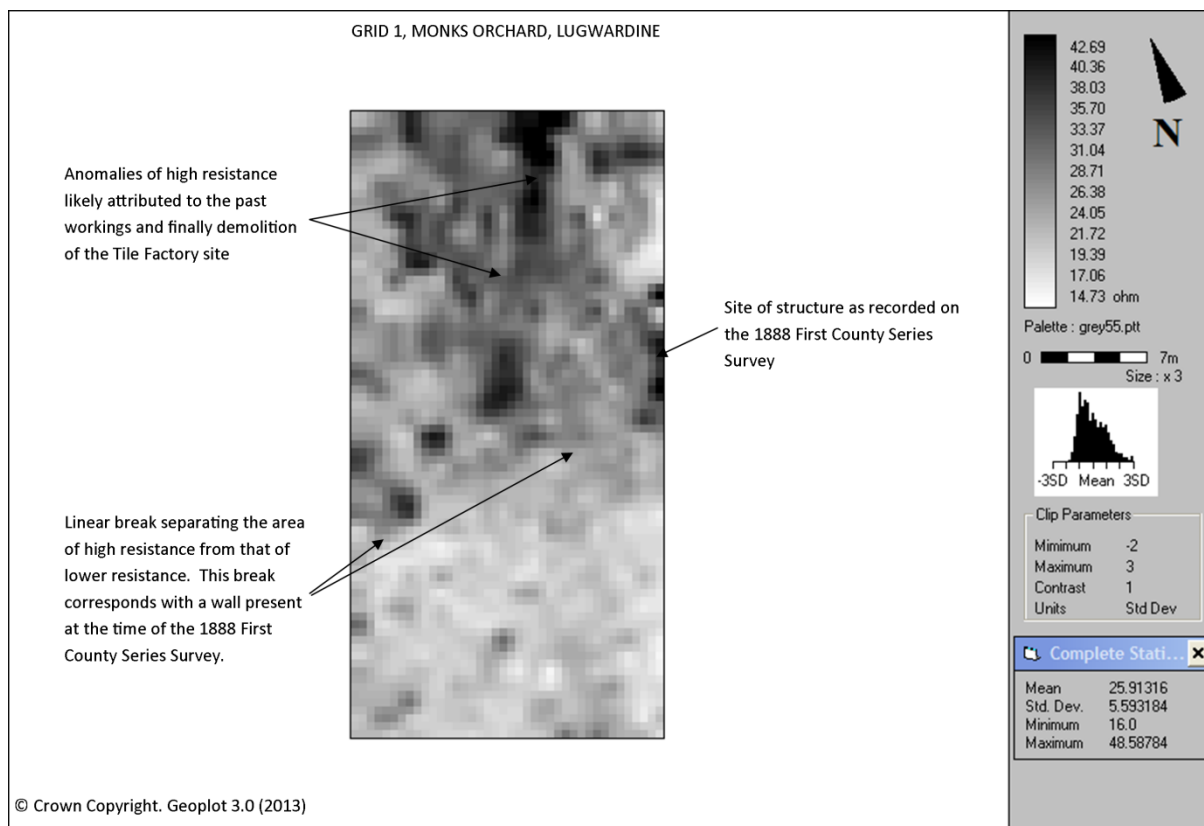


Figure 4: Results of the resistance survey in Grid 1. © Crown Copyright. Geoplot 3.0 (2013)

Within the southern half of the survey area there is apparently less evidence for past ground disturbance (represented by the lighter coloured, uniform pattern). When these results are matched with the 1888 First County Series Survey (figure 2) it is clear that the lighter area of less resistance laid outside of the tile factory complex and within an orchard. The division between the two areas was marked by a wall, which although now removed its original position is marked by the break between the areas of high resistance in the north of Grid 1 and the areas of lower resistance to the south (figure 4).

An linear anomaly of high resistance within the east of the surveyed area marks the location of a structure present on the site at the time of the 1888 First County Series Survey (figure 2).

Grid 2

Grid 2 to the east of the lane was centred to identify the existence of features associated to the kiln and structure recognisable on the 1888 First County Series Survey (figure 2). The possible kiln site was represented by an area of high resistance on the northern fringe of the surveyed area. The identified anomaly measured approximately 5m diameter.

Within the south of the survey area the site of a structure (figure 2) is represented a number of subtle anomalies of high resistance that appear to mark the course of walls outlining a number of rooms. The subtleness of the anomaly may suggest the feature's foundations have been substantial removed.

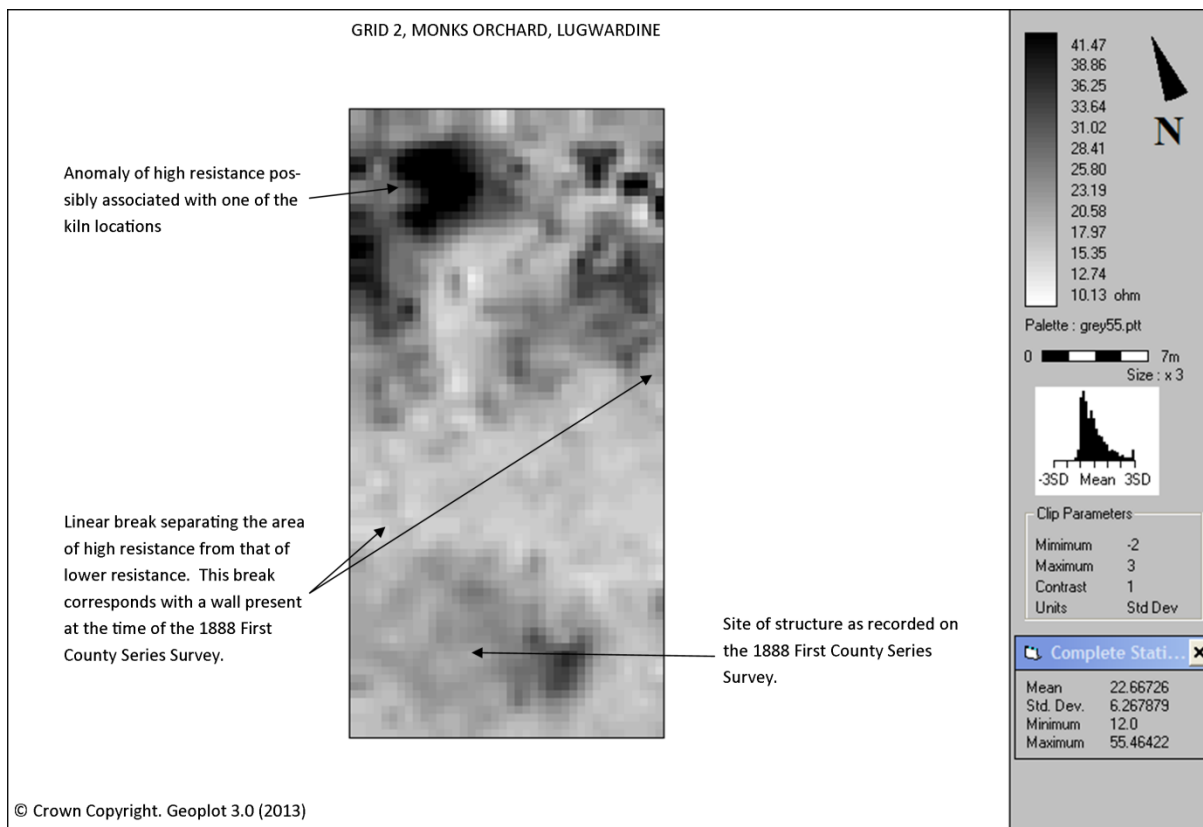


Figure 5: Results of the resistance survey in Grid 2. © Crown Copyright. Geoplot 3.0 (2013)

As with the survey in Grid 1 the course of the original boundary separating the factory from an orchard associated with Porch Farm to the south (figure 2) is evident from the distinct linear break in the values of soil resistance. The concentrations of higher resistances are clearly linked to ground disturbance associated to the activity of the tile factory.

6.2 Trial Excavation

Combining the results of the desk-based assessment and those of the geophysical analysis, it was determined to investigate two areas within Grid 2 (figure 6); both of which appeared to have supported structures at the time of the 1888 County Series Survey (figure 2).

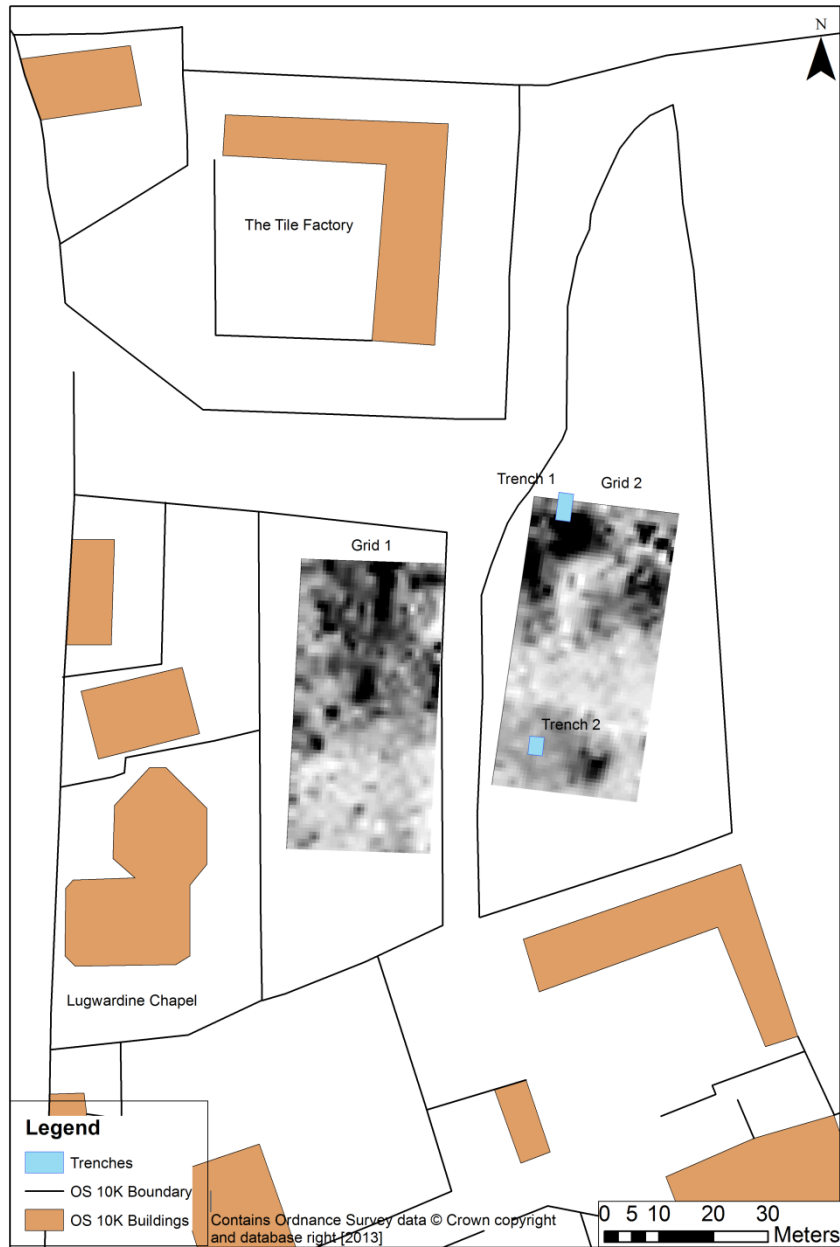


Figure 6: Location of Trench 1 and Trench 2 within the area of Grid 2. Contains Ordnance Survey data © Crown copyright and database right [2013]

Trench 1

Trench 1 was located upon the southern half of a kiln site identified as a result of the combined desk-based and geophysical analysis of the factory site (figure 6). The trench was orientated north-northeast to south-southwest and measured 3m long by 1.5m wide with the intention of identifying the buried remains of one of the four kilns identified at the site (figure 2) by means of historic mapping.

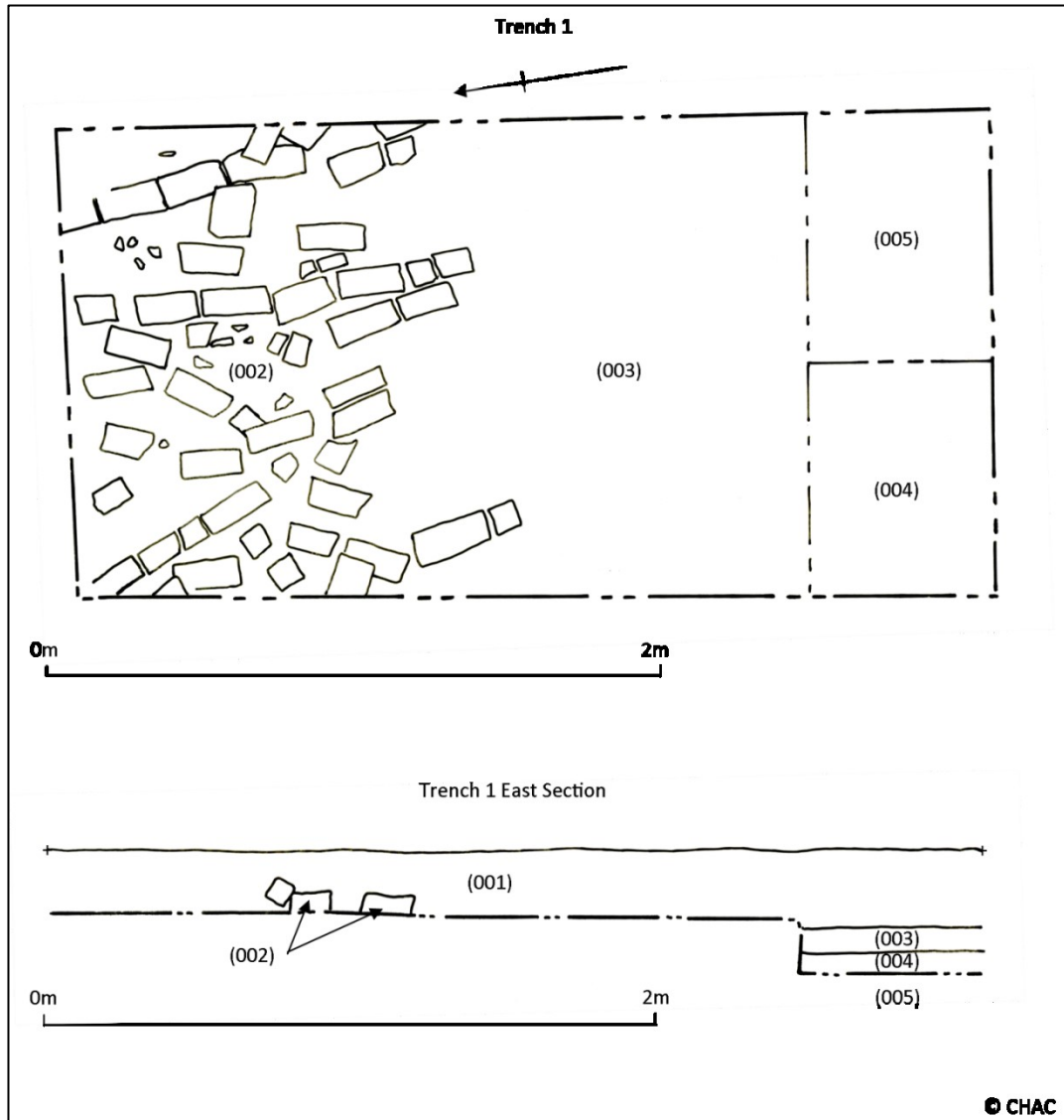


Figure 7: Plan and Section Plan of Trench 1 detailing the location of the brick surface (002). © CHAC

The topsoil (001) consisted of a nutrient-rich organic dark brown loam of silty clay that ranged from 20cm thick to the north and increased to a thickness of 25cm in the south of the trench. Included within the topsoil were artefacts of tile fragments, glass and occasional iron nails.

Directly beneath the topsoil was a laid brick surface consisting of vitrified engineer bricks; each of which measured 9.5cm wide x 21.5cm long x 7.2cm thick. The bricks lay side on (north-south orientation) and packed tightly with no evidence of

mortar having been used to bond them (figure 8). The partially revealed surface that extends beyond the trench to the north, east and west was truncated at three locations. Each truncation was spaced equidistant and orientated roughly north-south consisting of a void where the bricks had been upturned and dislodged. It is likely this was caused as a result of the attempted ploughing of the site (this was



confirmed by Mr. Shimmin).

Figure 8: Trench 1 viewed from the north highlighting the extent of the laid brick surface (002). The clay subsoil (005) can be seen in the top left corner of the trench. © CHAC

Underlying the brick surface (002) was a horizon of firmly compacted, 10cm thick reddish brown silty clay (003) with inclusions of brick and tile fragments, charcoal flecking and some very fine roots. The horizon appears to represent a deposit of landscaping material used to create a level foundation for the construction of the brick surface.

The horizon (004) was very similar to (003) with the exception that the horizon contained no root inclusions. The horizon measured 8cm thick and may represent a similar function to (003). Immediately beneath (004) lay a clean, very compact horizon of red clay with occasional marlstone inclusions. It is thought that due to the

plasticity of the clay soil that it likely represents the underlying subsoil's extracted for the purpose of brick and tile production. The horizon marked the limit of the excavation.

Trench 2

Trench 2 was located within the south of Grid 2 (figure 5) upon an anomaly identified as a result of the geophysical survey which is supported by the historic mapping as representing a structure of indeterminate use. The trench was aligned roughly north-south and measures 2m long by 1.5m wide.



Figure 9: Trench 2 viewed from the north indicating the mixed clay/silt debris filled deposits (004 and 005). © CHAC

The topsoil (001) consisted of nutrient-rich organic dark brown loam of silty clay that lay 10cm thick. Underlying (001) was a deposit of reddish brown, compacted clay (002) measuring 14cm thick with occasional pebble and tile/brick fragment inclusions. The horizon is likely to represent a period of landscaping across the site in order to seal and prevent the dislocation of the underlying horizons.

The horizon (003) measured between 12cm (north) and 18cm thick (south) and contained a high density of stone rubble within a silty matrix. The horizon appears to represent the later phase in a period of demolition/dumping on the site which also includes the underlying horizons (004) and (005).

Both horizon (004) and (005) were difficult to distinguish apart due to the similarities in artefacts present as well as similarly loose compaction of the dark brown silt matrix that supported the artefacts. The horizon (004) measured between 8cm thick (south) and 18cm (north). Definition between the two horizons was determined by

the presence of voids within horizon (005) as well as the appearance of wooden beams measuring 4cm thick and 15cm wide (the full length of the beams was not determined due to time constraints).

The volume of tile and crucible fragment retrieved from the small area would suggest the layers represent either the demolition of a structure or the dumping of waste material onto the site following the removal of the building identified on the 1888 First County Series Survey (figure 2).

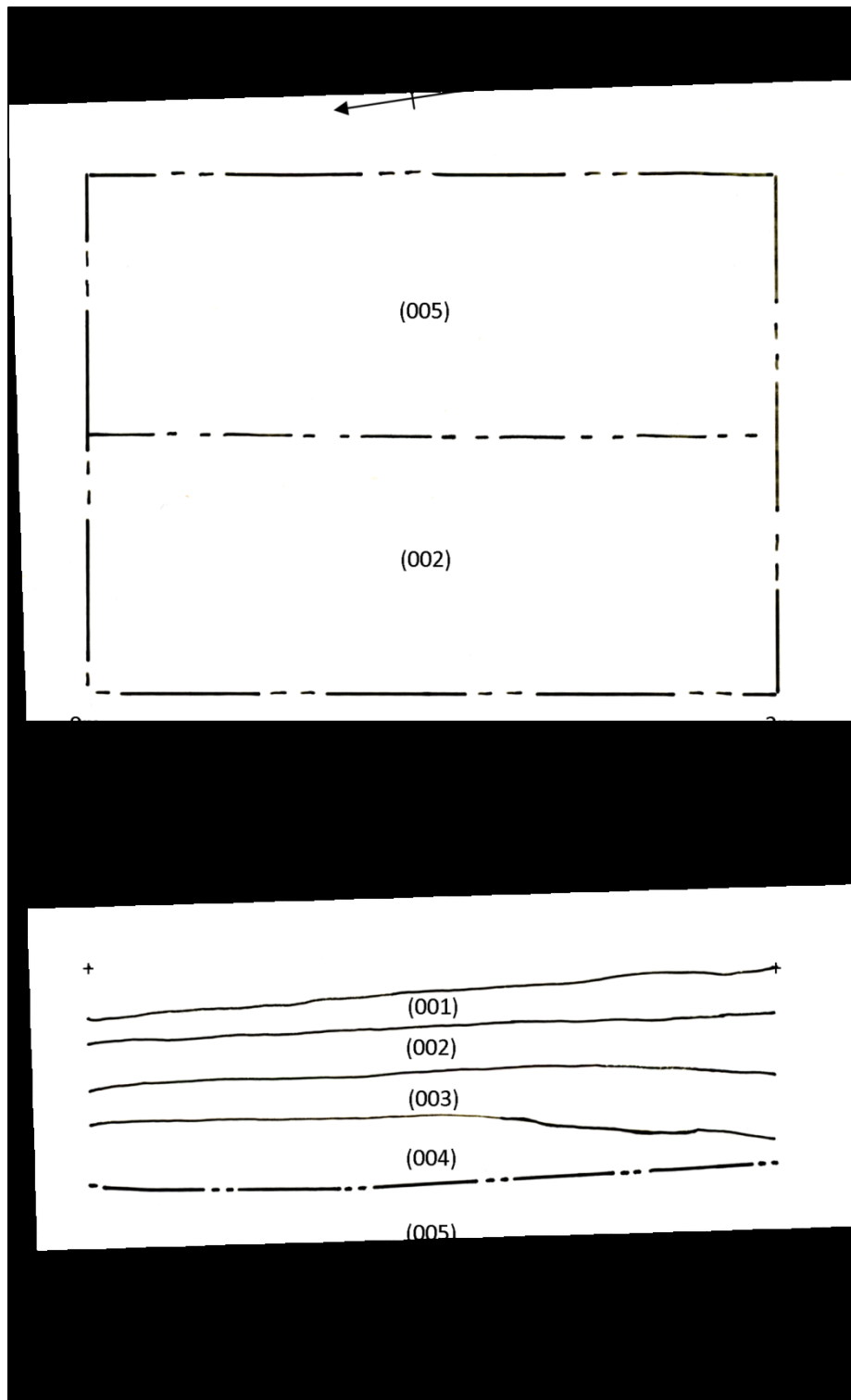


Figure 10: Plan and Section Plan of Trench 2. © CHAC

6.3 Sample of Artefacts

During the course of the investigation no encaustic tiles were identified, although the neighbouring Chapel provided a fantastic example of some of the designs produced (figure 11).



Figure 11: Encaustic tiles used to decorate the floor of the local Chapel in Lugwardine. © CHAC

Encaustic tiles were initially made by impressing a shallow pattern into the unfired clay using a carved wooden mould. The impressed pattern was subsequently filled with liquid clay, in the case of the Godwin Tiles this was imported white clay from Dorset. A lead-based glaze was applied to each tile before the tile was fired to about 1000°C. By the 1860's the Godwin's employed a mechanical system of encaustic tile production known as dust-pressing, which allowed for the production of tiles with up to 8 colours (Blanchett, 2014).

The majority of tiles encountered during the course of the excavation came from Trench 2. They consisted primarily of white clay border tiles and colourful floor and wall tiles of green, red and blue (figure 12).

Associated with the tiles fragments within Trench 2 were multiple fragments of crucible. On two of the fragments the manufacturing stamp of The Morgan Crucible Company, Battersea, England survive (figure 13). Initially founded by the Morgan Brothers in 1856 to sell American-built crucibles, they quickly evolved to begin producing their own crucibles that served the needs not only of the Godwin Tiles but also the Royal Mint of England, India, France and Germany. Today the company continues to manufacture crucibles under trading name Morgan Advanced Materials (Morgan Advanced Material plc, 2014). The crucibles would have been essential as part of the lead-based glaze production method.



Figure 12: Example of some of the tiles encountered during the excavation of Trench 2. © CHAC



Figure 13: Example of the Morgan Crucible Company crucibles uncovered during the excavation. © CHAC

From the excavations within Trench 1 a surface of engineering bricks was identified. These likely represent the recycled bricks used in the construction of the kiln. Due to the impervious nature and overall strength of these bricks they were ideal as part of

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the kiln superstructure. Many of the bricks displayed characteristics of being vitrified causing them to have a bowed shaped appearance (figure 14).



Figure 14: Example of a vitrified engineering brick recovered from Trench 1. © CHAC

7.0 Discussion

Despite the closure of Godwin Tiles in Lugwardine at around 1906 (Davey & Roseff, 2007) and the subsequent demolition of the factory site works (with the exception of the offices that are now under private ownership). The archaeological investigations carried out by volunteers of Herefordshire Council's Archive Service have shown that there is a good potential for the survival of below ground archaeology attributed to the factory site.

Both the historic mapping and the geophysical survey are complementary with anomalies of high resistance identified within Grid 1 and Grid 2 being closely related to the site of structures located at the site in 1888 (figure2).

Within Grid 2 two areas were identified for further investigation by means of a trial excavation. Trench 1 was located upon the site of a kiln that stood at the site in 1888. The aim of the investigation was to determine the extent of the remains and to gauge information on the form of the structure. The results of the investigation indicated that after use, the kiln was dismantled and the engineering bricks reused in the construction of a brick surface, perhaps to create a solid surface yard within the grounds of the brickyard. The site was subsequently ploughed at a later date resulting in the parallel linear truncations along the brick surface.

Trench 2 was located upon the site of a building within the south of Grid 2, a site that in 1888 lay outside of the main area of kiln activity and within an orchard associated to Torch Farm. The results of the excavation however indicated that a substantial amount of landscaping had taken place, as indicated by the loosely compacted silty clay with considerable tile and crucible debris inclusions. At the limit of the excavation the discovery of voids within the soil as well as timber may indicate the remains of the structure for which this excavation was seeking.

8.0 Acknowledgments

A special thank you is due to Herefordshire Council's Archive Service for commissioning Community Heritage and Archaeology Consultancy to investigate and enhance the understanding of the Godwin Tiles Factory site.

Thank you to Mr. R Shimmin for granting access to his land in order to carry out the field evaluation.

I would like to personally thank all of the volunteers from across Herefordshire and beyond who expressed an interest and participated in the field investigations.

Thank you to:

Colin Archer,
Derek Barnes,
Gary Harding
Isobel Griffith,
Paul Thornley,
Stephen Rexworthy,
William Godwin



9.0 Bibliography

Software:

QGIS 2.0.1 Dufour an open source Geographical Information System

<http://www.qgis.org/en/site/>

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10.0 List of illustrations

Figures

Figure 1: Location of Godwin Tiles, Lugwardine (site location indicated by red triangle). Contains Ordnance Survey data © Crown copyright and database right [2013]

Figure 2: 1888 First County Series Survey indicating the extent of the Godwin Tiles factory site © Crown Copyright Digimap/Edina supplied service (2013)

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Figure 4: Results of the resistance survey in Grid 1. © Crown Copyright. Geoplot 3.0 (2013)

Figure 5: Results of the resistance survey in Grid 2. © Crown Copyright. Geoplot 3.0 (2013)

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Figure 10: Plan and Section Plan of Trench 2. © CHAC

Figure 11: Encaustic tiles used to decorate the floor of the local Chapel in Lugwardine. © CHAC

Figure 12: Example of some of the tiles encountered during the excavation of Trench 2. © CHAC

Figure 14: Example of a vitrified engineering brick recovered from Trench 1. © CHAC

Tables

Appendix 5: Context/Unit Database

Appendix 1: Site Location

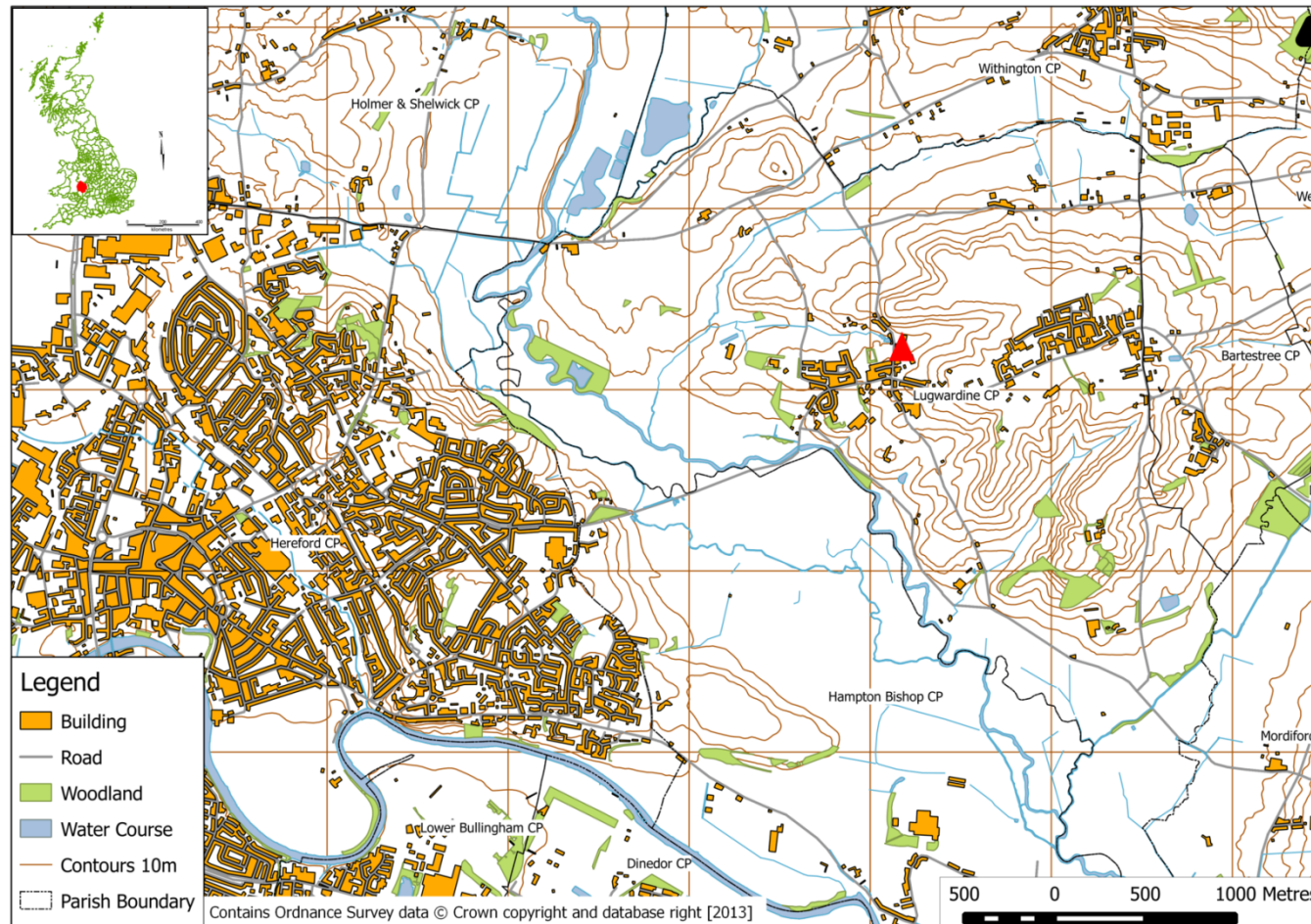


Figure 1: Location of Godwin Tiles, Lugwardine (site location indicated by red triangle). Contains Ordnance Survey data © Crown copyright and database right [2013]

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Appendix 2: Historic Mapping

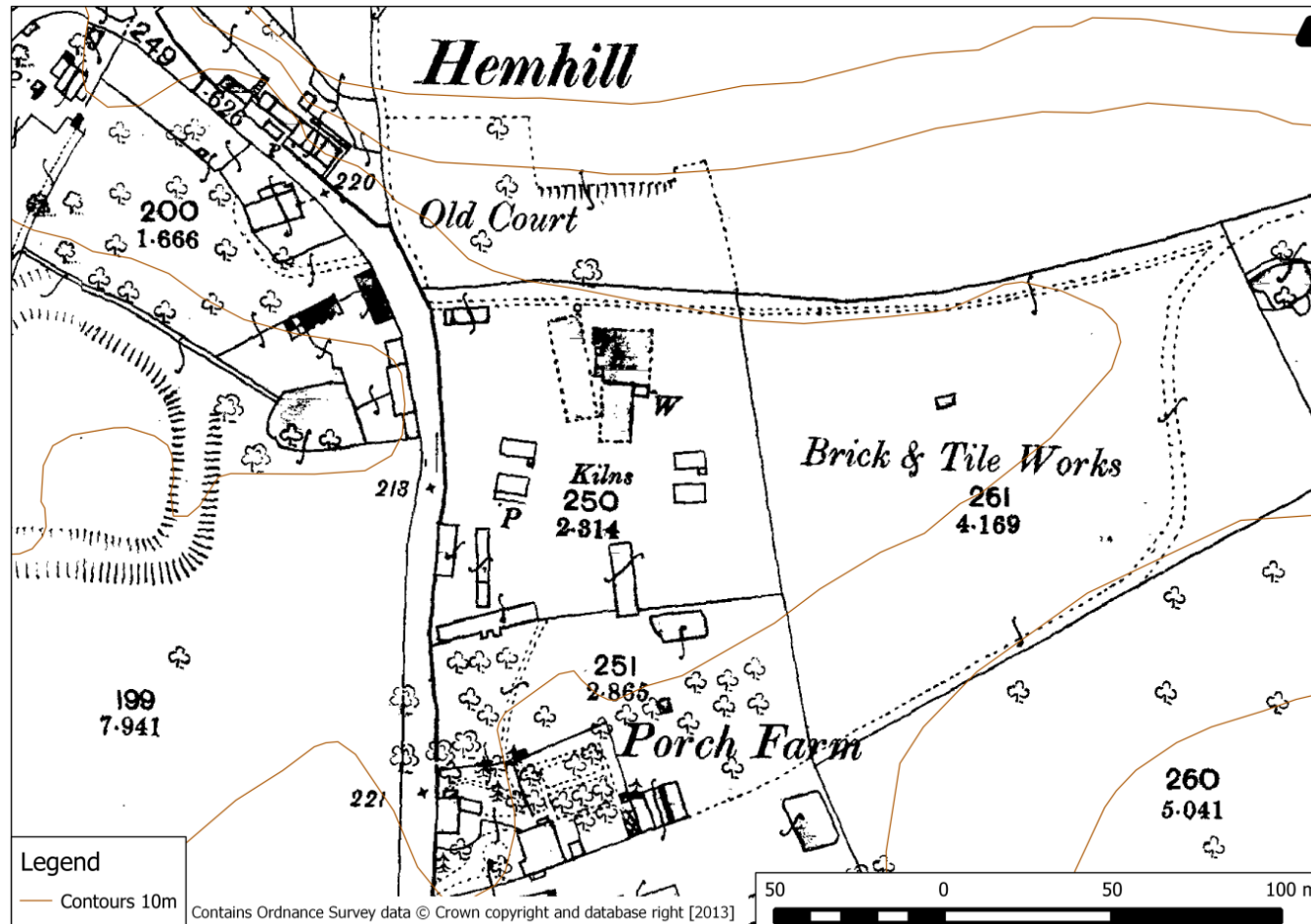


Figure 2: 1888 First County Series Survey indicating the extent of the Godwin Tiles factory site © Crown Copyright Digimap/Edina supplied service (2013)

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Appendix 3: Geophysical Analysis

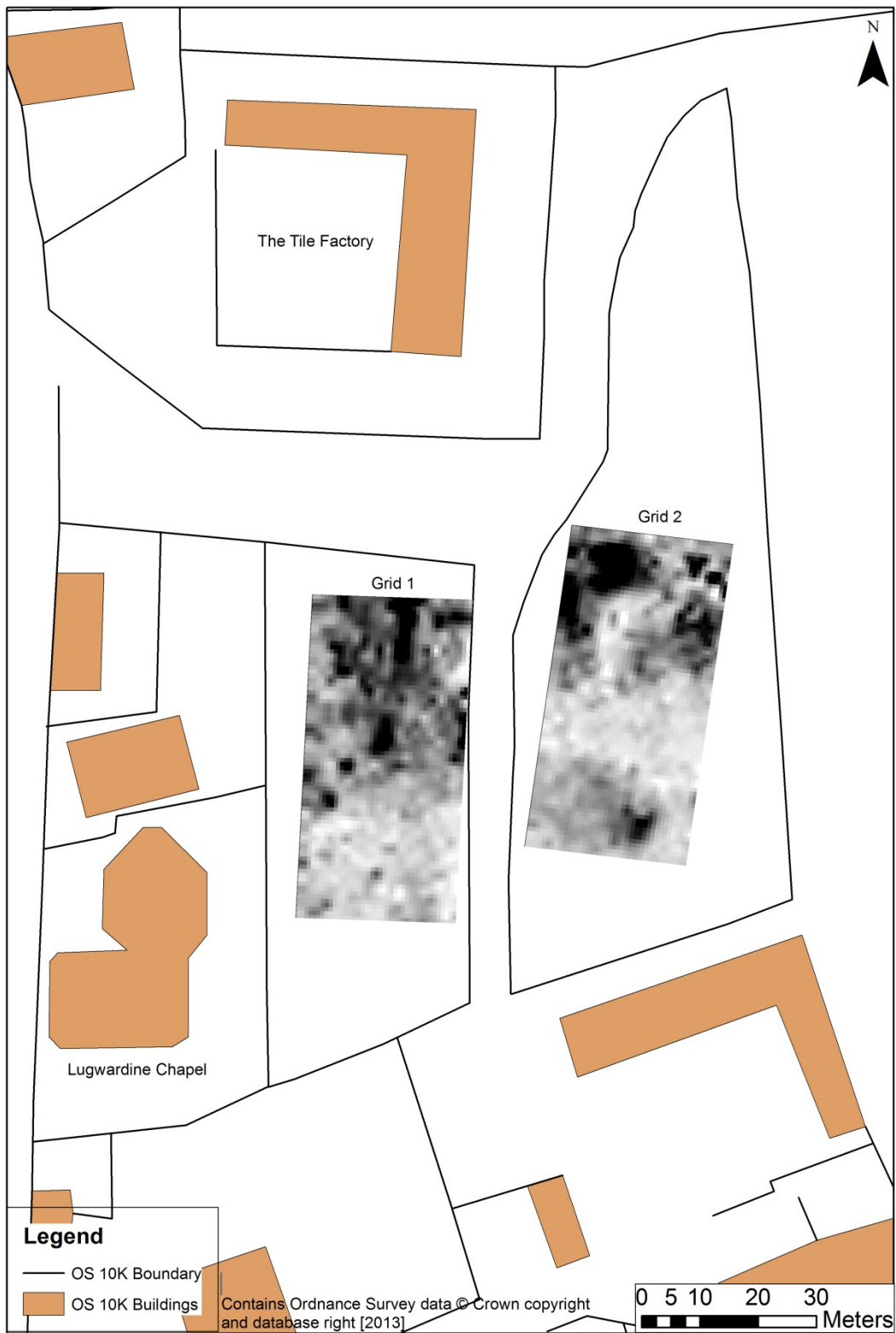


Figure 3: Location of Grid 1 and Grid 2 within Monks Orchard, Lugwardine. Contains Ordnance Survey data © Crown copyright and database right [2013]

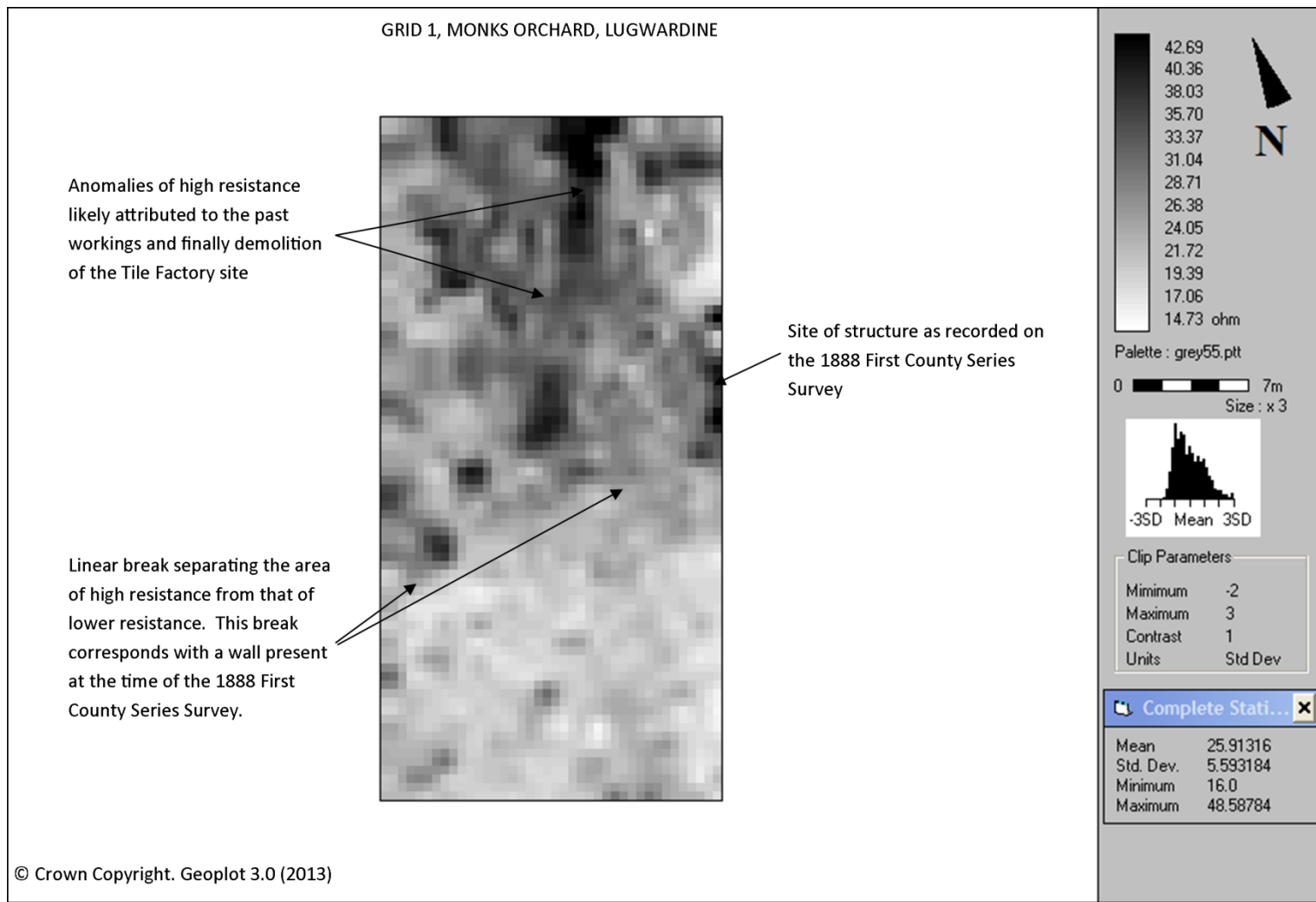


Figure 4: Results of the resistance survey in Grid 1. © Crown Copyright. Geoplot 3.0 (2013)

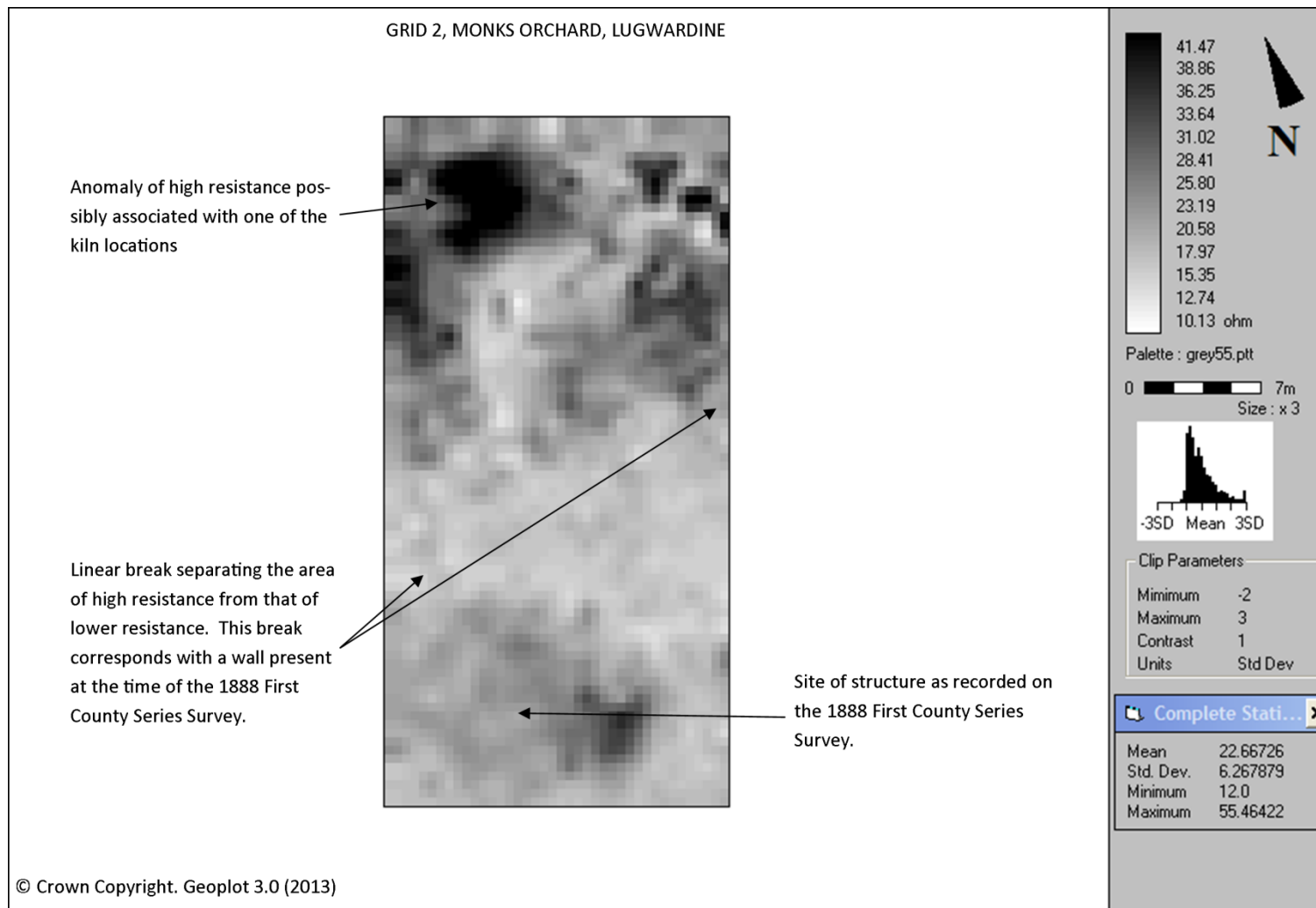


Figure 5: Results of the resistance survey in Grid 2. © Crown Copyright. Geoplot 3.0 (2013)

Appendix 4: Trial Excavation

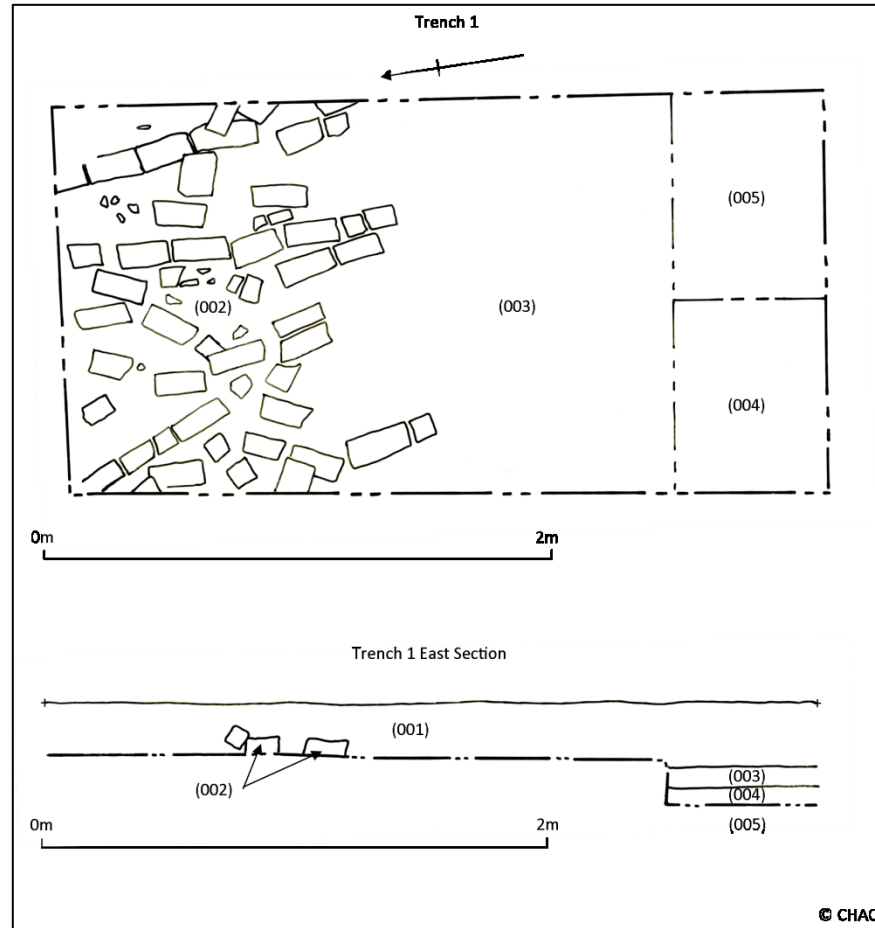


Figure 7: Plan and Section Plan of Trench 1 detailing the location of the brick surface (002). © CHAC

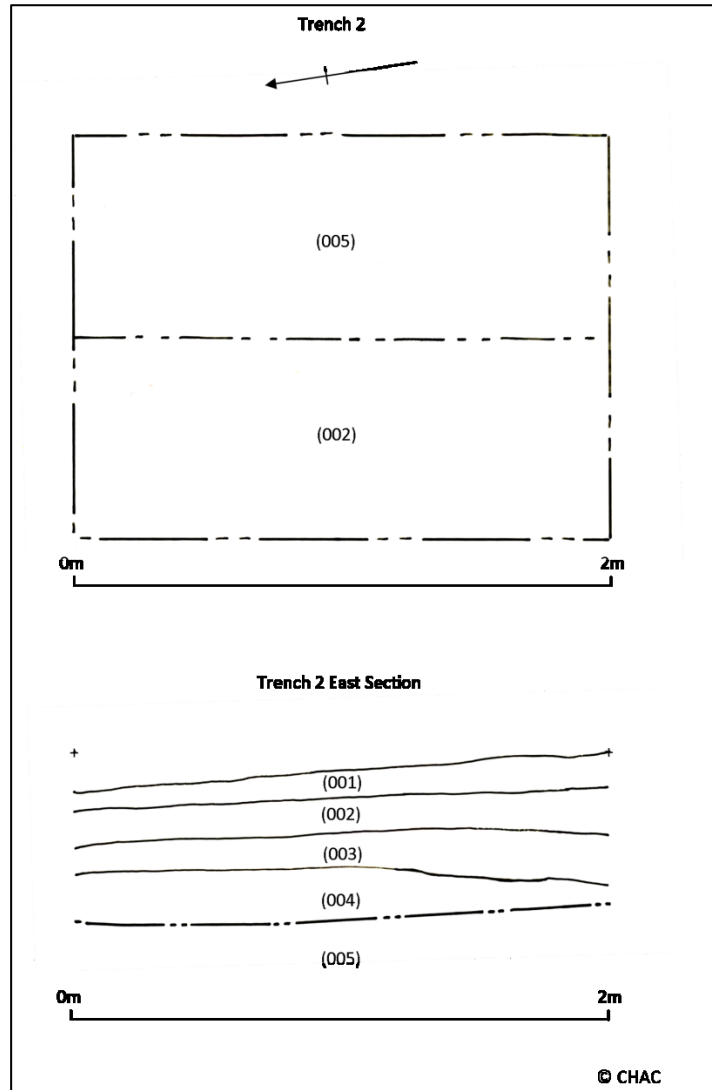


Figure 10: Plan and Section Plan of Trench 2. © CHAC

Appendix 5: Context/Unit Database.

Site Code	Trench No.	Height OD	Context	Type	Colour	Composition	Compaction	Inclusions	Horizon Clarity	Contamination	Methods/Condition	Artefacts	Discussion
GT13	1	66m OD	1	Layer	Dark Brown	Silty-clay loam; 70-80% silt; fine-medium	Firm	fine grass root	Abrupt	Low	Spade, trowel, cool wet	tile, glass, nails	Topsoil
GT13	1		2	Structure	10YR 6/8 Brownish Yellow	Bricks packed within a silty matrix	Firm		Abrupt	Low	Spade, trowel, warm dry	Brick	Brick surface constructed out of vitrified bricks from a kiln structure. The bricks are not bonded by mortar, they are packed closely, lying on edge. The surface has been truncated by later ploughing on a north-south axis.
GT13	1		3	Deposit	2.5 YR 4/4 Reddish Brown	Clay; poorly sorted	v. Firm		Abrupt	Low	Spade, trowel, warm dry	tile, glass, brick	Landscaping deposit created to support the brick surface (003).
GT13	1		4	Deposit	2.5 YR 4/4 Reddish Brown	Clay; fine	v. Firm		Abrupt	Low	Spade, trowel, warm dry	N/A	Compacted clay horizon likely associated to a period of landscaping.

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GT1 3	1		5	Layer	2.5 YR 5/6 Red	Clay; fine	v. Firm		Abrupt	Low	Spade, trowel, warm dry	N/A	Subsoil consisting of compacted clay with marlstone inclusions.
GT1 3	2	71.5 m OD	1	Layer	Dark Brown	Silty-clay loam; 70-80% silt; fine- medium	Firm	fine grass root	Abrupt	Low	Spade, trowel, warm dry	tile, glass, nails	Topsoil
GT1 3	2		2	Deposit	2.5 YR 4/4 Reddish Brown	Silty-clay loam; 70-80% silt; fine- medium	v.Firm	Occasio nal rounded stone (limeston e)	Abrupt	Low	Spade, trowel, warm dry	tile, glass, nails	Clay deposit representing a period of landscaping. The deposit seals and contains underlying silty clay deposits of loose compaction.
GT1 3	2		3	Deposit	Dark Yellowis h Brown	Silty-clay loam; 70-80% silt; fine- medium	Firm	Frequent rounded stone (limeston e) 7cm ³	Abrupt - wavy	Moderate	Spade, trowel, warm dry	tile, glass, nails	Rounded stone deposit within a silt matrix. Appears to represent the later phase in a period of demolition or dumping on the site.
GT1 3	2		4	Deposit	Dark Yellowis h Brown	Silty-clay loam; 70-80% silt; fine- medium	v. Loose/fria ble	Rounded stone (limeston e) 7cm ³	Abrupt - wavy	Moderate	Spade, trowel, warm dry	tile, glass, nails, pottery/cruci ble	Mixed silt clay deposit of loose compaction. The volume of artefacts present would suggest the horizon

													represents a post-tile factory period of demolition/waste dumping.
GT1 3	2		5	Deposit	Dark Yellowish Brown	Silty-clay loam; 70-80% silt; fine-medium	v. Loose/friable	Timber beam (4cm thick, 15cm wide, length unknown), voids (not burrows)	Abrupt - wavy	Moderate	Spade, trowel, warm dry	tile, glass, nails, pottery/crucible	Mixed silt clay deposit of loose compaction. The volume of artefacts present would suggest the horizon represents a post-tile factory period of demolition/waste dumping. The presence of a number of voids and timber within this horizon may represent the presence of the building identifiable on the 1888 First County Series Survey as well as the structure highlighted as a result of the geophysics.