

Church Street, Wales, South Yorkshire

**Report on an Analytical Earthwork Survey
and Archaeological Trial Trenching**



View of cobbled surface (4007)

ARS Ltd Report 2012/37
OASIS ref: archaeol5-128924
May 2012

Compiled By:

Kate Mapplethorpe and Paul Flintoft
Archaeological Research Services Ltd
Angel House,
Portland Square,
Bakewell,
Derbyshire,
DE45 1HB

Checked By:

Dr Gareth Davies
Tel: 01629 814540
Fax: 01629 814657
admin@archaeologicalresearchservices.com
www.archaeologicalresearchservices.com



Church Street, Wales, South Yorkshire

Report on an Analytical Earthwork Survey and Archaeological Trial Trenching

ARS Ltd Report 2012/37

July 2012

Archaeological Research Services Ltd

Contents

List of Figures.....	1
Executive Summary.....	2
1. Introduction and location.....	3
2. Geological and Historical Background.....	3
3. Aim of the Project.....	4
4. Methodology.....	4
5. Earthwork Description.....	5
6. Evaluation Trenches.....	9
7. Discussion and conclusion.....	16
8. Publicity Confidentiality and Copyright.....	17
9. Statement of Indemnity.....	17
10. Acknowledgements.....	17
11. References.....	18
Appendix I: WSI.....	22
Appendix II: Specialist Slag Report.....	28

List of Figures

Fig. No.	Figure	Page
1	Location of site.....	3
2	West facing photograph of ridge and furrow	6
3	Hachured plan.....	7
4	Interpreted plan.....	8
5	Photograph of Trench 1.....	9
6	Photograph of Trench 2.....	10
7	South facing profile of [3004].....	11
8	Photograph of Trench 3.....	12
9	Cobbled surface (4007) in Trench 4.....	13
10	Feature [4011].....	14
11	Feature [4012].....	15
12	Plans of trenches 3 and 4.....	19
13	Section drawings of [3004], [4011] and [4012].....	20
14	Overall plan of trenches.....	21

EXECUTIVE SUMMARY

This report outlines the results of an analytical earthwork survey and archaeological evaluation undertaken at Church Street, Wales, South Yorkshire (NGR : SK 47693 82731). The aim of the project was to gather sufficient information to establish the presence or absence, character and extent of any archaeological deposits that may be impacted upon by a proposed housing development. An accurate measured drawn survey of the surviving earthworks will provide a permanent record and assist in a better understanding of the archaeological features in their current setting and context.

A total of eight extant ridges clearly visible to the north of the survey area were identified and are consistent with local examples of ridge and furrow, commonly associated with medieval and post medieval agricultural practice. An irregular square mound interpreted as a combined demolition mound/ building platform was also recorded.

The site presently contains the remnants of agricultural buildings which were in use during the early 20th century, as well as established trees and woody plants. The presence of these extant structures did not allow any trenches to be placed towards the centre of the building platform, which may have elucidated the date and purpose of the platform. A noticeable ridge on an east to west alignment extended from the north eastern corner of the platform. This suggests that the designated entrance/ approach to the platform was along this ridge in line with the modern entrance to the field.

The four evaluation trenches provided very little subsurface evidence by which to further understand the visible earthworks. There were, however, several interesting sub-surface features in Trench 3 and Trench 4. The features include a north to south aligned ditch in Trench 3 which appears to predate the extant ridge and furrow and which may have acted as a possible settlement boundary ditch for the medieval phase of the village Wales. Trench 4 yielded enigmatic evidence of post medieval occupation and potential industrial activities. The majority of the features which were investigated are of approximate post medieval date but, as they were only partially observed, their function and relationship with the wider environs and local industry remain uncertain.

1. INTRODUCTION AND LOCATION

1.1 This report outlines the results of an analytical earthwork survey and archaeological evaluation undertaken in May 2012 by Archaeological Research Services Ltd (ARS Ltd) on land owned by Richard Jennison at Wales, South Yorkshire (NGR : SK 47693 82731). The survey area is located on the west side of Church Street, west of Wales Grange Farm (Fig 1). The earthwork survey has provided an accurate 1:200 measured record of the field containing the proposed development site, including all extant archaeological features.

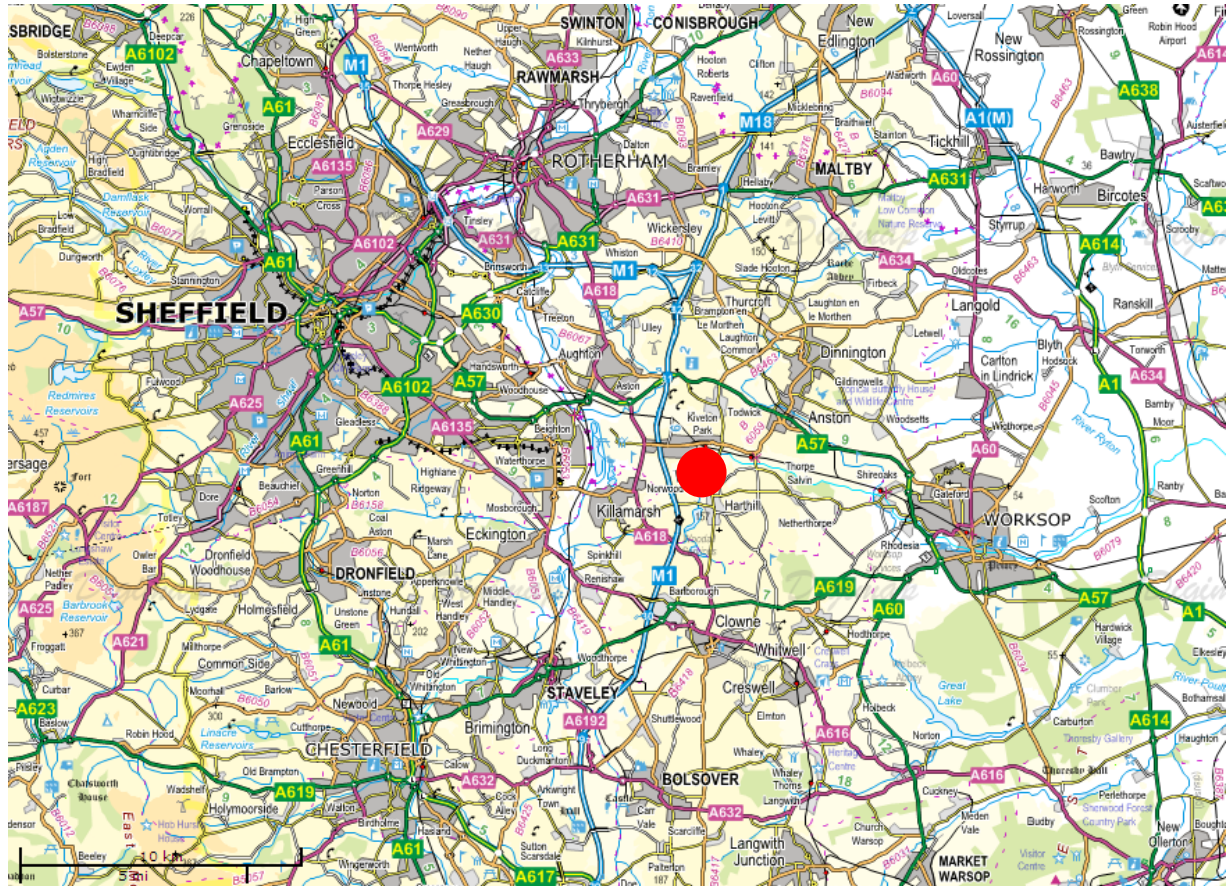


Fig. 1 Location of the proposed development site at Church Street, Wales. (Ordnance Survey data Copyright OS, reproduced by permission, Licence No. 100045420)

2. GEOLOGY AND HISTORICAL BACKGROUND

2.1 Geology

Wales lies on Upper Coal Measures, but is close to the boundary with Middle Coal Measures (Merrony, 1990, 1). The dominant component of the underlying geological deposits is shale with thin bands of sandstone, siltstone and, of course, coal (www.bgs.ac.uk/geologyviewer/). The solid geology is overlain by superficial soil deposits of generally heavy and poorly-draining slightly acid clay (www.landis.org.uk/soilscapes).

2.2 Historical Background

A previous Desk-based Assessment undertaken by Archaeological Research Services Ltd identified Historic Environment Records detailing possible medieval house platforms, a ridge and furrow field system and a sunken road within the site area. However, aerial photograph analysis of the site was not able to confirm the presence of house platforms although it did re-identify the ridge and furrow

(Davies 2011, 11). Church Street represents the old main street through the medieval village prior to the construction of the nearby colliery and Kiveton Park (Merrony, 1990, 1). It is possible that the ridge and furrow observed within the present site represents a continuation of the medieval features, including evidence for medieval to post medieval iron bloomery (SMR MSY4706) discovered during an archaeological evaluation immediately to the northeast of the site, undertaken in 1990.

Although not located within the proposed site, the Church of St John the Baptist is only c.40m east of the eastern extent of the access route to the proposed site. The Church includes Norman remains in the form of the West Tower/ Lady Chapel (former nave/chancel) and an arch (Wright UD; Pevsner 1967, 535), which suggests a significant presence of medieval activities around the site and the wider environs.

3. AIM OF THE PROJECT

3.1 The aim of the project was to gather sufficient information to establish the presence or absence, character and extent of any archaeological deposits that may be impacted upon by the proposed development. An accurate measured drawn survey of the surviving earthworks would provide a permanent record and better understanding of the archaeological features in their current setting and context.

4. METHODOLOGY

4.1 A hachured plan (Fig 3) of all recorded earthworks was compiled at a scale of 1:200. This noted relationships between features and included annotations to aid their interpretation.

4.2 The evaluative scheme was designed to cause the minimum amount of damage to areas of archaeological significance. The evaluation comprised 4 trenches (2m x 10m), the location of which can be seen on Figure 14.

4.3 The objective of the archaeological evaluation was to provide sufficient information for informed decisions to be made regarding:

- i) the presence or absence of archaeological features
- ii) an assessment of their significance and importance in line with the National Planning Policy Framework (CLG 2010)
- iii) the likely impact of the development upon any such features
- iv) the appropriate mitigation of the development's impact upon those remains.

4.4 All archaeological fieldwork, recording of archaeological features and deposits and post-excavation analysis were carried out to acceptable standards as set out in the Institute for Archaeologists' *Code of Practice* (2000) and *Standard and Guidance for Archaeological Evaluation* (2008).

4.5 Each trench was cleaned by hand sufficiently to allow the identification and planning of archaeological features. Where archaeological features were absent, sufficient work was done to demonstrate this. Each intervention was planned at an appropriate scale; 1:20 where complex deposits are present or 1:50 in areas of lesser complexity. Sections and profiles of features were

drawn at 1:10 or 1:20, depending on the size of the feature. Spot levels relative to ordnance datum in metres were taken as appropriate.

4.6 The site archive included plans and sections at an appropriate scale, a photographic record, and full stratigraphic records on recording forms/context sheets. Each context was recorded on pro-forma records which included the following: character and contextual relationships; detailed description (dimensions and shape; soil components, colour, texture and consistency); associated finds; interpretation and phasing as well as cross-references to the drawn, photographic and finds registers.

4.7 A photographic record was maintained including photographs of all significant features and overall photographs of each area or trench. The main photographic archive will comprise of colour digital and black and white print.

5. EARTHWORK DESCRIPTION

5.1 The survey examined all extant earthworks within the field containing the proposed development site. All features described in the following section are labelled on Figure 4 using an alpha-numeric identifier.

Ridge and furrow

5.2 Running broadly north to south, the eight extant ridges clearly visible to the north of the survey area are consistent with local examples of ‘ridge and furrow’, commonly associated with medieval and post medieval agricultural practice (Fig 2). The ridge and furrow is in reasonable condition with the more prominent examples R&F1, R&F2, R&F3 and R&F4 are located towards the west. Subtleties in the easternmost features, R&F5, R&F6, R&F7, and R&F8 are due to a slight depression in the topography and subsequent erosion of the ridges since abandonment which has partially filled the hollow. All of the ridge and furrow appears to terminate within the footprint of the development suggesting the southern limit of the agricultural plot or field was indeed located here. The fact that the northern bank of Platform 1 is respected by the ridge and furrow suggests that the boundary of the field extended as far south as this and presumably post dates Platform 1.

Platform 1

5.3 Platform 1 is a clearly raised parcel of land which is present in the majority of the survey area. The irregular square mound currently contains the extant remnants of agricultural buildings which were active in the early 20th century as well as established trees and woody plants. The presence of these extant structures did not allow any trenches to be placed towards the centre of the building platform, which may have elucidated the date and purpose of the platform. A noticeable ridge, running on an east to west alignment, extends from the north eastern corner of Platform 1. This suggests that the designated entrance/approach to the platform was along this ridge in line with the modern entrance to the field. The current entrance and in-use north to south portion of hedge line may have been contemporary with Platform 1.

Earthen mounds

5.4 The enigmatic earthen mounds EM1, EM2 and EM3 towards the west of the surveyed area do not appear to have any obvious form or function. They may represent the remains of a largely degraded north to south bank which progresses in line with the hill to the west. Alternatively, the

small mounds may be spoil heaps which were created during the construction of the agricultural buildings sited on Platform 1. A trench was placed across EM1 in an attempt to ascertain what the function of the mounds may have been.

Spoil heap

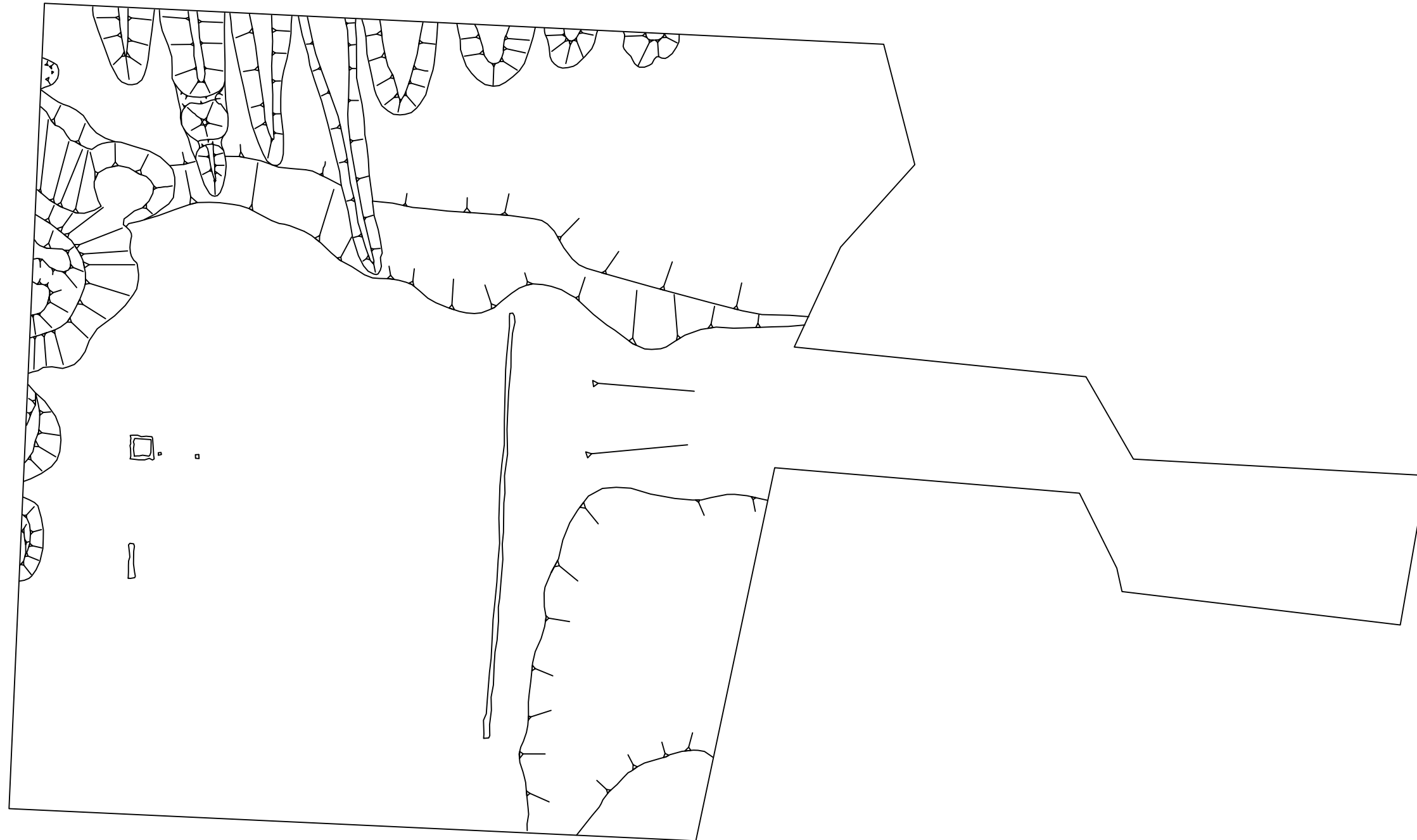
5.5 A small raised area of ground in the south-eastern corner of the survey area, SH1, appears to be a modern spoil heap. This interpretation is based on the position of the mound, in the corner of relatively modern plot of land, and the presence of modern ceramic building materials which are embedded within the mound.



Fig. 2 West facing photograph of ridge and furrow.

Archaeological Research Services Ltd
Angel House
Portland Square
Bakewell
Derbyshire
DE45 1HB

Site Code: CSW12
Drawing Ref: Fig 3
Date: 18 July 2012
Drawn: PF



0 20 metres

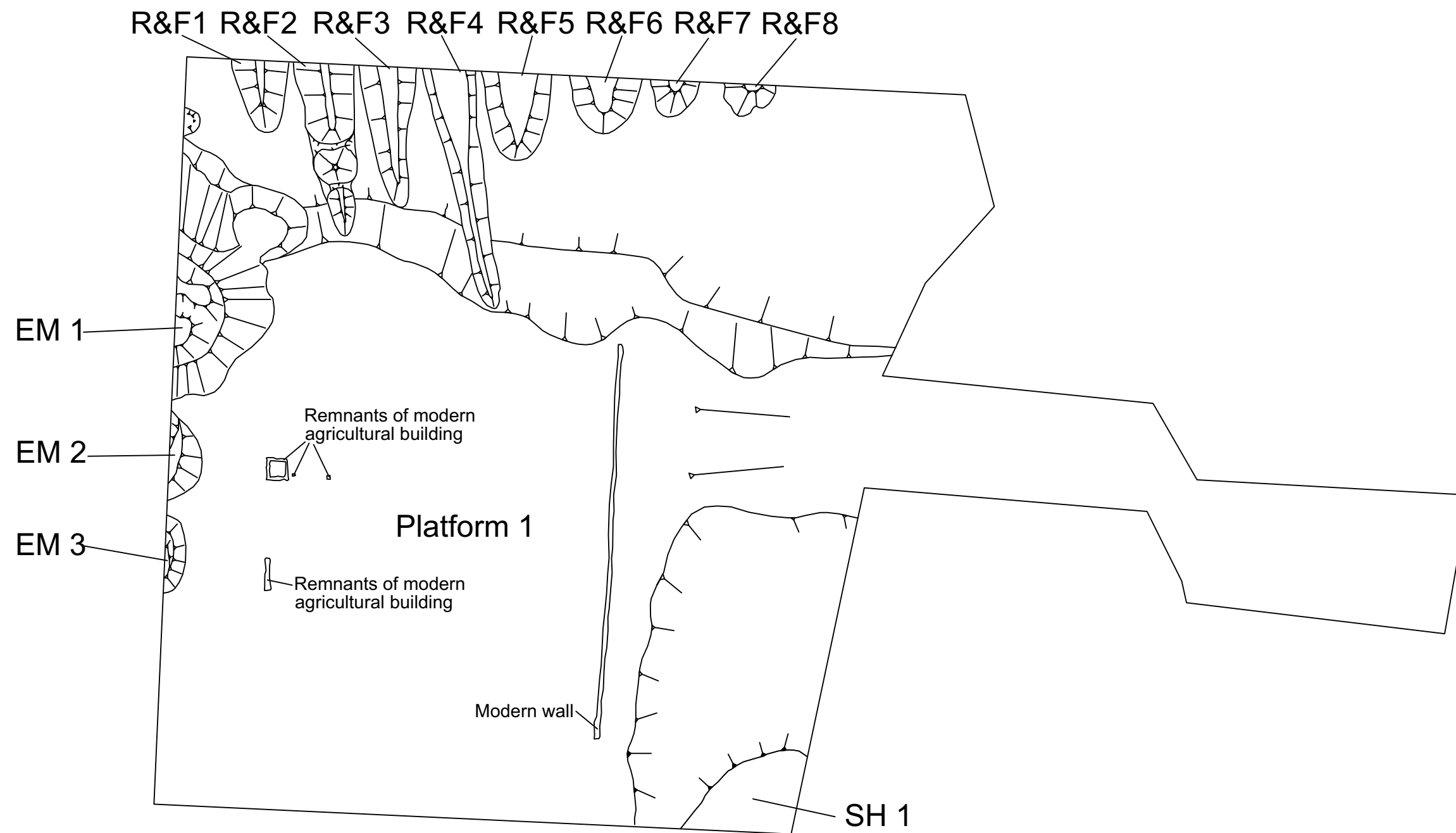
Copyright/Licencing
This drawing
© A.R.S. Ltd

Ordnance Survey data if applicable
© Crown Copyright, all rights reserved reproduced with permission. Licence No. 100045420



Archaeological Research Services Ltd
Angel House
Portland Square
Bakewell
Derbyshire
DE45 1HB

Site Code: CSW 12
Drawing Ref: 4
Date: 17th July 2012
Drawn: PF



Copyright/Licencing
This drawing
© A.R.S. Ltd

Ordnance Survey data if applicable
© Crown Copyright, all rights
reserved reproduced with
permission. Licence No. 100045420

6. EVALUATION TRENCHES

Four evaluation trenches were excavated, positioned so as to cover a variety of earthworks in order to maximise the chances of exposing archaeological features. The results of the trenching are discussed below.

6.1 Trench 1

Topsoil (1001) was present across the entirety of the trench, and measured a maximum of 0.39m in depth. It consisted of a medium textured, compact clayey silt which was dark brown in colour. There were occasional inclusions of angular stones within the deposit.

Directly beneath the topsoil and covering the extent of the trench was the subsoil (1002). This consisted of a firm yet fine mid brown clay, containing occasional angular stone inclusions.

Trench 1 contained two different superficial geological deposits. The southernmost (1003) consisted of a coarse, yellowish white limestone and clay mixture compared to (1004) which consisted of a medium textured, yellow, white and orange sandy clay. The two natural deposits were patchy, with band of each running across the trench.

No archaeological features were present in Trench 1.



Figure 5 Trench 1
Scales = 1m and 2m

6.2 Trench 2

Topsoil (2001) was present across the entire trench and was indistinguishable from the topsoil in Trench 1 (1001).

The subsoil of Trench 2 (2002), was very similar to that in Trench 1 (1002). It consisted of a firm, fine mid brown clay deposit with occasional inclusions of angular stones. It was situated directly beneath the topsoil (2001), and covered the entire trench.

As with Trench 1, there were two distinct natural deposits visible within the trench. These were again present in bands and patches across the extent of the trench base. Natural A (2003) was a coarse, yellowish white limestone and clay mix with minimal inclusions. This was interspersed with Natural B (2004); a medium textured, yellow, white and orange sandy clay.

There were no archaeological features present in Trench 2.



Figure 6 Trench 2
Scales = 1m and 2m

6.3 Trench 3

Topsoil (3001) was present across the entirety of the trench, measuring a maximum of 0.3m in depth. The deposit was of a medium texture and was well compacted. It was dark brown in colour and consisted of a clayish silt with occasional inclusions of angular stones.

Subsoil (3002) was present directly beneath the topsoil across the trench. As with the subsoil deposits of trenches 1 and 2, it consisted of a firm, fine clay deposit, mid brown in colour with occasional inclusions of angular stones. No finds were recovered from this layer.

Cut into the natural substratum (3005) (discussed below) was linear feature [3004], interpreted as a boundary ditch. The feature ran north-south across the trench and the profile was of curving sides and a rounded base, with the feature being 0.56m in depth and 1.1m in width. The feature was parallel to the modern field boundary. There were two deposits visible within the trench: the primary fill (3006) and the secondary fill (3003). The primary fill (3006) consisted of a firm, sticky clay that was mid brownish blue in colour and was likely to be re-deposited natural. This deposit extended 0.18m from the base of the ditch in height. The remaining portion of the ditch was filled by (3003), a firm, sticky blueish brown clay which had accumulated over time. No finds were recovered from either context, however it can be seen that the ditch pre-dates the medieval ridge and furrow system still faintly visible in the field.



Figure 7 Section of feature [3004]
Scale = 1m

The natural substratum of Trench 3 (3005) was very similar to the natural substrata of both Trench 1 and Trench 2. It consisted of medium to coarse, yellowish orange sandy clay which was well compacted.



Figure 8 Trench 3
Scales = 1m and 2m

6.4 Trench 4

Topsoil (4001) was present across the entire trench to a maximum depth of 0.2m. The deposit was almost identical to the topsoil in the previous three trenches, being coarse sandy silt, dark grey in colour. The maximum depth was 0.2m, varying slightly over the length of the trench. The deposit contained frequent inclusions of modern demolition rubble, particularly at the south-eastern end of the trench.

Directly below the topsoil layer was layer (4002) comprised of a very high percentage of modern destruction rubble within a dark grey silty matrix (likely to be topsoil that has percolated into the spaces between the rubble). The layer had a maximum depth of 0.22m and the rubble consisted of a mixture of crushed brick, glass, cinders and pottery fragments, particularly white-glazed modern tableware. It was probably created during the demolition of a nearby agricultural building.

Situated directly beneath layer (4002) was a lens of coarse pale orangey pink sand (4003). This was present only in the south-eastern area of the trench, extending approximately 5m to the north. The

lens was thin, at a maximum of 0.05m in depth. It was probably related to the demolition layer directly above, however no dating evidence was recovered.

Situated in the south-west corner of Trench 4 was situated an area approximately 2m in width and 0.08m in depth comprised of pale blueish grey sandy silt mixed with a high proportion of ash and some cinders (4004). This deposit appears to be coal fire waste, and sits upon an layer of crushed modern brick (4005), therefore the deposit can be no earlier than approximately 1900AD.

Deposit (4005), mentioned above, is a thin layer no more than 0.1m in depth consisting almost entirely of crushed modern red brick. It is likely to be related to the demolition layers above.

Situated directly below (4005) in the south-eastern corner of the trench was a layer of bright yellow sandy material, clean and of medium texture. The deposit is a maximum of 0.09m in depth and contains chips of sandstone of the same colour. The deposit was probably a levelling deposit laid down prior to the destruction of the farm building that created the above layers.

Directly below (4006) was a layer of sandy clay that had a maximum depth of 0.06m and was mid brown in colour. It appeared to have accumulated naturally over a period of time and was largely consistent throughout in both colour and texture. Late post-medieval pottery and an iron nail were recovered from this layer.

Sealed by (4006) was (4007), a cobbled surface composed of large rounded pebbles packed close together in a dark grey clay matrix which had a maximum depth of 0.12m and extending approximately 1.5m north from the edge of the trench (Fig 9). The cobbles appear organised and well compacted, posing the possibility that this was some sort of thoroughfare surface. Alternatively, the cobbles may have been a way of surfacing the in-filled pit/ditch [4011] which was uncovered below it.



Figure9 Cobbled surface (4007) in Trench 4
Scale = 1m

The cobbled surface (4007) was situated directly above (4013), the fill of pit/ditch [4011]. The cut of the pit/ditch appeared to be linear, with sharp edges and a flat base, however this cannot be confirmed as the full profile was obscured by the trench edge. There was no return seen on the profile which may suggest a wide ditch or, more likely, a pit. A conversation with the county archaeologist also presented the possibility of a corn-drying kiln. The fill (4013) of the feature consisted of a mid blueish grey silty clay with infrequent inclusions of limestone chunks. Also within the deposit were inclusions of 1.084kg of slag, along with a post-medieval clay pipe stem. The deposit appears to have been the result of a purposeful backfill of material, rather than a natural accumulation.



Figure 10 Feature [4011] fully excavated
Scale = 1m

Adjacent to feature [4011] was feature [4012]. This was a linear feature running north west to south east through the trench. At its widest point the feature was 0.12m in depth by 0.88m in width, however the feature appeared to be terminating. The profile of the feature was a shallow U shape with widely sloping sides. It was filled by (4009), a firm blue clay containing 7.062kg of slag. The feature was sealed by (4006), as was the case with adjacent feature [4011].



Figure 11 Feature [4012] in Trench 4

There were two different natural substrata within Trench 4: (4008) and (4010). (4008) was situated at the south-eastern end, below feature [4011]. This consisted of patchy pale blue and yellow clayish sand, fine in texture, with minimal stone inclusions and patches of natural crushed slate. (4010) was situated further towards the centre of the trench and was coarse sand mid yellow in colour with a high percentage of limestone chips and chunks. This deposit appears to be a natural layer of brash overlying the clay deposit (4008), and is a maximum of 0.05m in depth.

Specialist summary of slag from Trench 4

A sub sample of the slag from Trench 4 was forwarded to Dr Gerry McDonnell for specialist assessment. Of the 1.084kg of material assessed from context (4009) 518g proved to be diagnostic flowed 'tap slag' and the remaining 566g may be tap slag but demonstrates far less diagnostic characteristics. The material examined from (4013) included a fragment of possible hearth lining which may be fired clay, a lump of thin vitrified material and a small piece of fuel clinker.

The more diagnostic flowed slags may have been formed as the result of once been in a liquid state indicating that they are either the product of tapped smelting or puddling. In order to ascertain the industrial process from which the slags have derived, an analysis by hand-held x-ray fluorescence was conducted which demonstrated a high level of pentoxide and iron oxide and a notably low level of manganese oxide. These chemical signatures in conjunction with the clinker fragment are indicative of puddling and therefore hint at a late 18th or 19th century date for the in-filling of the features in Trench 4 (McDonnell 2012 1-5; see Appendix II).

7. DISCUSSION AND CONCLUSION

7.1 The conclusions discussed in the following section are based upon the interpretations illustrated on Figure 6 above and the results of the evaluation trenching.

7.2 The majority of the earthworks appear to be consistent with medieval or post-medieval settlement activities. There are two distinct feature clusters shown by the earthwork survey, along with a modern spoil heap in the south-eastern corner of the field.

7.3 The ridge and furrow present at the northern side of the field is irregular, with R&F4 in particular extending further towards the development area than the other ridges. The width of the ridges also vary, however the distance between the midpoints is relatively even. The ridges extend towards the development area and are visible on the northern slope of Platform 1. This means that the ridge and furrow post-dates the creation of the platform. Ridge and furrow is primarily a medieval feature, therefore the house platform is likely to date from the medieval period or earlier (Rippon 2004).

7.4 The house platform itself, although originally dating probably from the medieval period, has been subsequently used for 20th century agricultural buildings that have since been demolished. Several concrete and brick walls remain standing, along with a concrete building base. The modern spoil heap (dated from projections of modern rubble from the turf cover) at the south-eastern corner of the site (SH1) is likely to be related to the destruction of these buildings, as is the rubble found in Trench 4. It can be seen that the approach to the platform runs in line with the current field entrance, suggesting that the current Wales Grange Farm buildings respect the original thoroughfare to the site, and therefore this entrance may be contemporary with the current field boundary locations.

7.5 The earthen mounds at the west of the development area (EM1, EM2 and EM3) do not have any clear function, and may be further spoil heaps. Trench 1 was positioned in order to obtain a section through EM1, however there was no extra information gained through this as the section showed only topsoil. It is possible that the mounds may be the degraded remains of a north-south bank related to the field system, however this cannot be proven without further excavations out of the area of the development.

7.6 Trenches 1 and 2, situated at the west and north respectively, did not reveal any archaeological features. Trench 3 however showed a north-south linear feature running parallel to the modern field boundary which is likely to be part of an earlier field system. It pre-dates the ridge and furrow; however its relationship to platform 1 is undetermined. No finds were recovered from the fill of the ditch so it is not possible to determine a more precise date.

7.7 Trench 4 contained several archaeological features at its south-eastern end although the north-western end contained no features. Several layers of modern demolition debris could be seen in section overlying cobbled surface (4007). The cobbles surface in turn overlay a feature of an unknown nature due to the location of the trench edges ([4011]). It has been suggested by South Yorkshire Archaeology Service (pers. comm. Jim McNeil 18/05/2012) that the feature may be the remains of a corn-drying kiln similar to those seen in various locations across the English countryside. However, was no evidence of a stone lining which would have given a clearer picture of the feature if in fact it was a kiln. A piece of clay pipe stem found within the trench dated the filling of the feature to the post-medieval period. Adjacent to this feature was [4012]; a terminating linear feature filled with slag and re-deposited clay. It is likely that the two features are related, possibly [4012] being a drainage gully or similar that was then backfilled with waste. The presence of the slag

may represent waste material which has been introduced into the partially backfilled features from a near by midden. Reverberatory furnaces, which are required for the puddling process, are known to have been constructed in the Rotherham area during the 1850s (Warren 1998 20; Hayman 2005 46). This apparent increase in puddled iron is believed to have been a result of the need for heavy plate armour for floating batteries during the Crimean war (Warren 1998 20).

Conclusions

7.8 The raised platform which accounts for the majority of the planned development remains to be quite poorly understood. Any future development which threatens to compromise the integrity of the platform requires close monitoring to learn more about when the mound was constructed and what purpose it served.

7.9 The north to south aligned ditch in Trench 3 which appears to predate the ridge and furrow may have acted as a possible settlement boundary ditch for the medieval village. The presence of this feature suggests that there is a possibility that there are further features located outside the limits of the evaluation trenches. Identifying other potential features which are contemporary with the ditch may contribute to a greater understanding of the medieval landscape and the relationship between the core and the periphery of medieval Wales.

7.10 Trench 4 yielded enigmatic evidence of post medieval activities. The majority of the features which were investigated are tantalisingly close to the trench and although there is an approximate post medieval date for the features, the function and their relationship with local iron working industries unfortunately remains uncertain. Future monitoring of any ground disturbance around Trench 4 may reveal further remains which will assist in a more robust interpretation of these features.

8. PUBLICITY, CONFIDENTIALITY AND COPYRIGHT

8.1 Any publicity will be handled by the client.

8.2 Archaeological Research Services Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

9. STATEMENT OF INDEMNITY

9.1 All statements and opinions contained within this report arising from the works undertaken were offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

10. ACKNOWLEDGEMENTS

10.1 Archaeological Research Services Ltd would like to thank all those who contributed to the outcome of this project. Thanks are extended to the Jennison family for there hospitality and commissioning of this piece of work, and also to Jim McNeil at the SYAS who undertook the monitoring of the site.

11. References

Davis, G. 2011. *Church Street, Wales Rotherham. An Archaeological Desk-Based Assessment in Advance of the Proposed Construction of Two Detached Dwellings on the land to the rear of Wales Grange Farm*. Archaeological Research Services Ltd. Unpublished report.

Department for Communities and Local Government (CLG). 2010. *Planning Policy Statement 5: Planning for the Historic Environment*. London, The Stationery Office.

Hayman, R 2005. *Ironmaking: The History and Archaeology of the Iron Industry*. Tempus. Gloucestershire.

McDonnell, G 2012. *Assessment of the Slags Recovered From Church Street, Wales, Rotherham, South Yorkshire*. Unpublished.

Merrony, C. J. N. 1990. *Wales Grange Farm, Wales, South Yorkshire Site Evaluation*, South Yorkshire Archaeological Unit.

Pevsner, N. 1967. *The Buildings of England. Yorkshire: The West Riding*, William Clowes and Son, London.

Rippon, S 2004. *Historic Landscape Analysis*. Council for British Archaeology, York.

Warren, K 1998. *Steel, Ships and Men: Cammell Laird, 1824-1993*. Liverpool University Press. Liverpool.

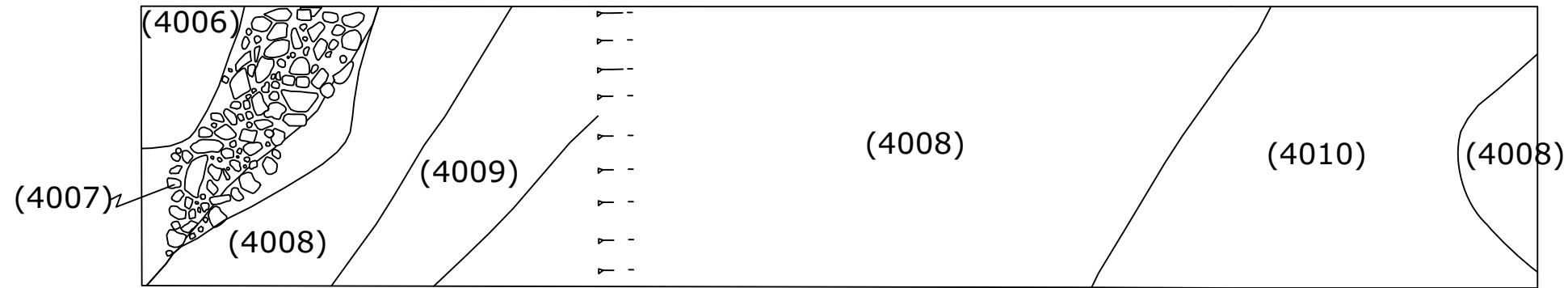
Wright, W. UD. *St. John the Baptist Church, Wales and Kiveton Park*, Parish of Wales and Kiveton Park.

Internet sources

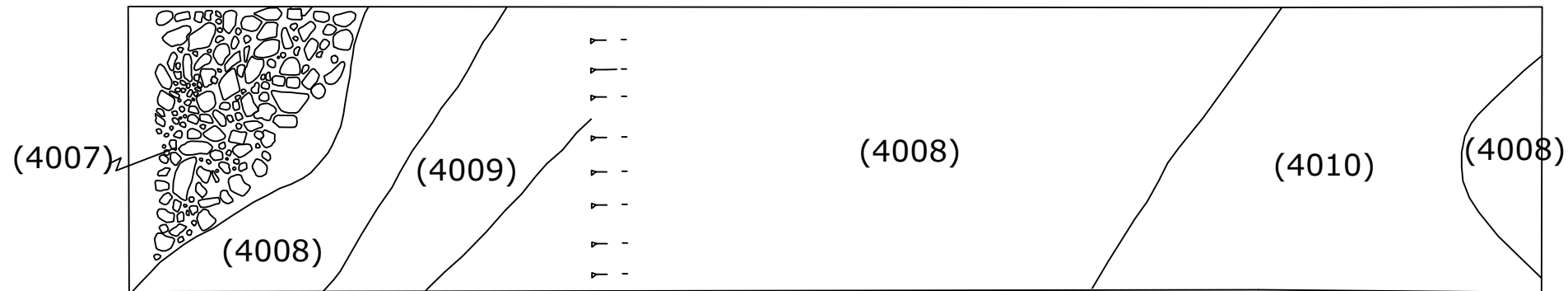
www.bgs.ac.uk/geologyviewer

www.landis.org.uk/soilscapes

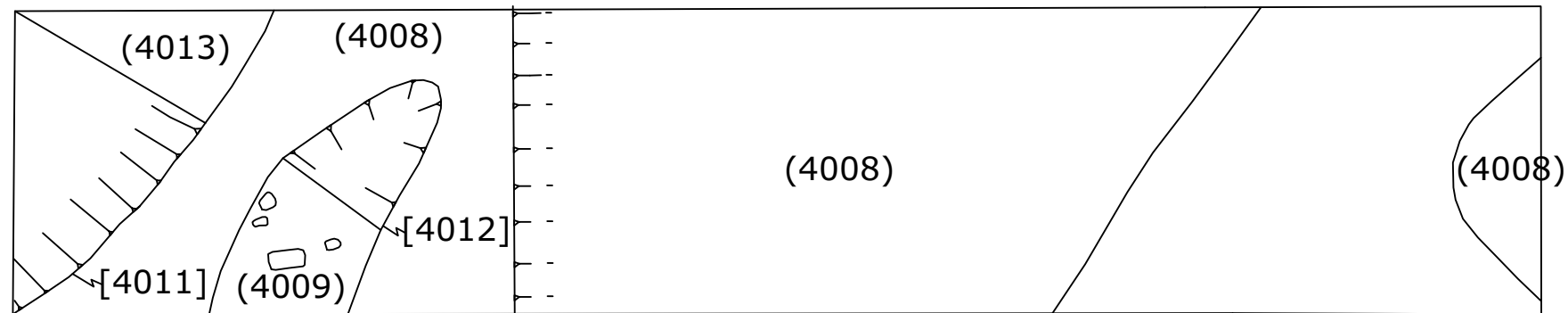
Trench 4 Pre-excitation



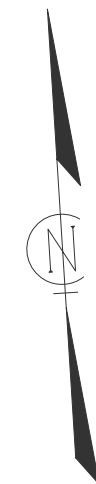
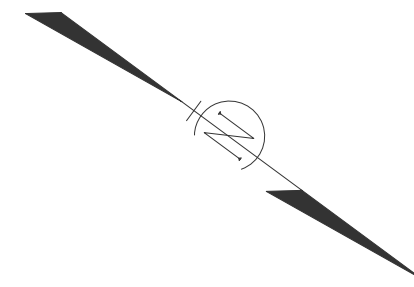
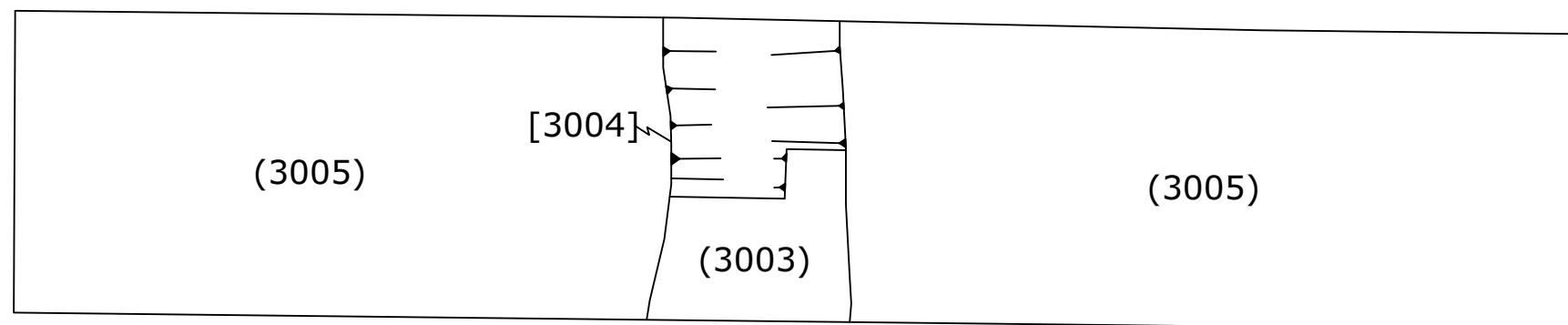
Trench 4 Mid-excitation

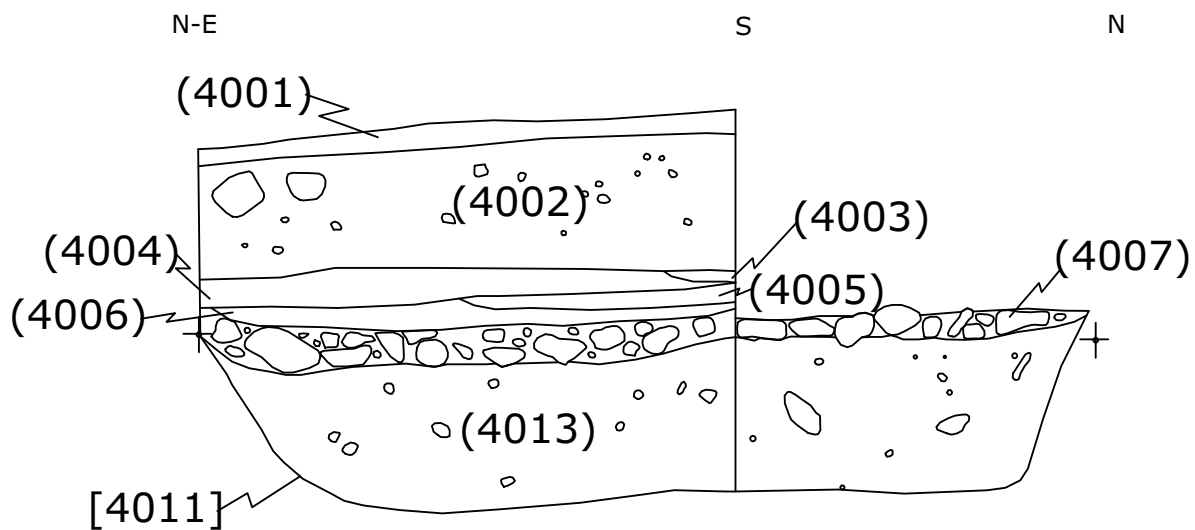
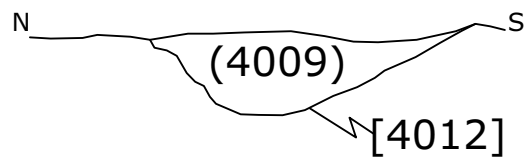
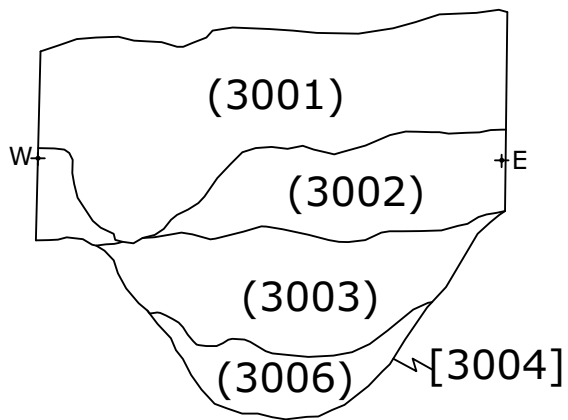


Trench 4 Post-excitation



Trench 3 Post-excitation

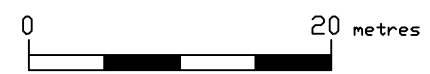






Archaeological Research Services Ltd
Angel House
Portland Square
Bakewell
Derbyshire
DE45 1HB

Site Code: CSW12
Drawing Ref: Fig 14
Date: 18th July 2012
Drawn: PF



Copyright/Licencing:
This drawing
© A.R.S. Ltd

Ordnance Survey data if applicable
© Crown Copyright, all rights
reserved reproduced with
permission. Licence No. 100045420

Appendix I

Archaeological Evaluation and Topographic Survey at Church Street, Wales, Rotherham, South Yorkshire. Written Scheme of Investigation

1.0 Introduction

1.1 A planning proposal for the construction of two detached buildings at Church Street, Wales, Rotherham has been submitted to the Rotherham Metropolitan Council Planning Department. The proposed development (SK 47659 82725) is located to the east of Church Street and just to the west of Grange Farm (Fig. 1). Extant medieval or post medieval ridge and furrow as well as possible house platforms are present within the confines of the proposed development. A scheme including four evaluation trenches and a topographic survey has therefore been proposed ahead of the development.

1.2 As part of the planning process, South Yorkshire Archaeological Service (SYAS) have been consulted. As there are known remains within the boundaries of the development area, the potential for disturbing archaeological remains and deposits during the development is likely. An archaeological desk based assessment was requested to fully consider the impact of the development on the historic environment.

2.0 Background

2.1 An archaeological desk based assessment which focused on the site of the development and the surrounding 500m identified various non-designated heritage assets, mainly pertaining to the medieval and post medieval periods (Davies, 2011). Based on the results of the desk based assessment, the South Yorkshire Archaeological Service has concluded that the development will require a programme of trench evaluation and a topographic survey. The trenching is expected to assess the amount and condition of archaeological features, artefacts or deposits. The topographic survey will record the extant earthworks prior to them being compromised or destroyed during the development. These measures are in line with government guidance which is outlined in Planning Policy Statement 5, Planning for the Historic Environment (CLG, 2010).

2.2 The non designated heritage assets within the development area includes ridge and furrow and possible medieval house platforms. Further evidence for medieval or post medieval activities was discovered in 1990 when an evaluative scheme to the north east of the development identified evidence for a medieval or post-medieval bloomery (Merrony, 1990). With the exception of a single Roman coin found in the allotment gardens to the south of Wales Road, no prehistoric or Roman remains or artefacts have been discovered.



Figure 1: Location of development.

3.0 Evaluation Aims and Methods

3.1 The evaluative scheme has been designed to cause the minimum amount of damage to areas of archaeological significance and will comply with all health and safety regulations. The evaluation will comprise 4 trenches (2m x 10m). The location of the trenches can be seen on Figure 2. Final confirmation of the trench locations is yet to be concluded (see 4.3 below). This will require further consultation with the South Yorkshire Archaeological Service.

3.2 The objective of the archaeological evaluation is to provide sufficient information for informed decisions to be made regarding:

- v) the presence or absence of archaeological features
- vi) an assessment of their significance and importance in line with PPS5 (Planning for the Historical Environment) (CLG 2010) and Scheduled Monument Consent.
- vii) the likely impact of the development upon any such features
- viii) the appropriate mitigation of the development's impact upon those remains

3.3 The research aims for any further work required following the field observation will be developed in an additional WSI.

3.4 If significant archaeological remains are identified during the field observations that require further examination, a site meeting will be arranged with the client, ARS Ltd, and South Yorkshire Archaeological Service in order to agree the requirement and timetable for further work.

3.5 Any changes to the agreed WSI will be discussed with, and agreed with, the South Yorkshire Archaeological Service before implementation.

3.6 All archaeological fieldwork, recording of archaeological features and deposits and post-excavation analysis will be carried out to acceptable standards as set out in the Institute for Archaeologists' *Code of Practice* (2000) and *Standard and Guidance for Archaeological Evaluation* (2008).

3.7 Each trench will be cleaned by hand sufficiently to allow the identification and planning of archaeological features. Where archaeological features appear to be absent, sufficient work will be done to demonstrate this. Each intervention will be planned at an appropriate scale; 1:20 where complex deposits are present or 1:50 in areas of lesser complexity. One section of each intervention will be produced, at an appropriate scale. Sections and profiles of features will be drawn at 1:10 or 1:20, depending on the size of the feature. Spot levels relative to ordnance datum in metres will be taken as appropriate.

3.8 Identified archaeological features will be sufficiently sampled by manual excavation to allow their date, nature and degree of survival to be ascertained. All features thus investigated will be recorded in plan and section and all finds recovered retained for analysis.

3.9 For stone structures, the record will include details of stone dimensions and type (handmade/machine-made, plain/frogged), mortar (colour, composition, hardness) and the extent of structures (number of courses, thickness in skins).

3.10 Each trench will be accurately fixed using a Magellan DGPS. This may also be used to survey in planning baselines.

3.11 The site archive will include plans and sections at an appropriate scale, a photographic record, and full stratigraphic records on recording forms/context sheets. Each context will be recorded on pro-forma records which will include the following: character and contextual relationships; detailed description (dimensions and shape; soil components, colour, texture and consistency); associated finds; interpretation and phasing as well as cross-references to the drawn, photographic and finds registers. Each context will be recorded on an individual record.

3.12 A photographic record will be maintained including photographs of all significant features and overall photographs of each area or trench. All images will be taken in digital format, and will contain a graduated photographic scale. The main photographic archive will comprise of colour digital and black and white print.

3.13 All stratified finds will be collected by context or, where appropriate, individually recorded in 3 dimensions. Unstratified finds will only be collected where they contribute significantly to the project objectives or are of particular intrinsic interest. All pottery of early post-medieval date or earlier will be retained, whether stratified or un-stratified.

3.14 Deposits that have the potential for providing environmental or dating evidence will be assessed while the work is in progress.

3.15 Samples will be assessed by a suitable specialist with provision for further analysis as required. Specialist advice on the collection of industrial residues will be sought and their strategies implemented. The advice of the English Heritage Scientific Adviser will be followed in relation to the collection of palaeoenvironmental evidence.

3.16 All retained finds and palaeoenvironmental samples will be treated in accordance with the English Heritage guidance document *A Strategy for care and investigation of finds (1995)* and the UKIC's document *Guidelines for the preparation of excavation archives for long term storage*.

3.17 Provision will be made for additional specialist advice, e.g. for finds analysis and conservation.

3.18 Finds of “treasure” will be reported to the Coroner in accordance with the Treasure Act procedures.

3.19 If grave cuts are discovered on site, then they will be sampled through hand excavation to determine the presence/absence, depth and preservation of the uppermost burials, before being initially left in situ. Where excavation of human remains is necessary, a license will be obtained from the Ministry of Justice and work will be carried out under appropriate environmental health regulations and, if appropriate, in compliance with the Disused Burial Grounds (Amendments) Act 1981.

3.20 Disarticulate human bone will be quantified and characterised prior to re-interment on site.

3.21 The record of the extent and vulnerability of features will be sufficiently detailed to facilitate discussions regarding the need for preservation beneath any future potential development, or any other mitigation measures including further excavation.

3.22 Risk assessment will be undertaken before commencement of the work and health and safety regulations will be adhered to at all times.



Fig. 2 Proposed trench location

4.0 Topographic Survey Aims and Methods

4.1 In advance of the evaluation trenching, a rapid topographic survey would be undertaken with the assistance of a Magellan DGPS. This would be used to locate planning points which are used as fixed stations used to survey the earthworks. The survey produced can then used as the basis for a hachure survey. Detail of the hachure survey was added using further measurements taken by tape measure.

4.1 A hachured plan of all recorded earthworks will be compiled at a scale of 1:100, noting relationships between features, as well as including annotations to aid the interpretation of features.

4.2 If significant features are noted during the topographic survey, then SYAS will be consulted on the possible relocation of the evaluation trenches.

5.0 Site Monitoring

5.1 Notice of the commencement of the survey will be given to the Senior Conservation Archaeologist of the South Yorkshire Archaeological Service.

6.0 Report

6.1 A report will be produced which will include background information, a summary of the works carried out, and a description and interpretation of the findings in the form of a written catalogue. The report will also include:

- Non-technical summary
- Introductory statement
- Aims and purpose of the project
- Methodology
- A location plan showing all excavated areas with respect to nearby fixed structures and roads
- Illustrations of all archaeological features with appropriately scaled hachured plans and sections (illustrating height AOD)
- An objective summary statement of results
- Conclusions
- Supporting data – tabulated or in appendices
- Index to archive and details of archive location
- References
- Statement of intent regarding publication

6.2 Copies of the final report and archive will be deposited with the South Yorkshire Archaeological Service, Sheffield. Reports will be provided in both paper and electronic form.

6.3 The results of the work will be published in the appropriate issue of Archaeology in South Yorkshire, and, if of regional or national significance, within an archaeological journal such as Transactions of the Hunter Society.

6.4 Archaeological Research Services Ltd will complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/> prior to commencement of the project and will complete the relevant forms on completion of the project.

7.0 Deposition of Archive and Finds

7.1 A field archive will be compiled consisting of all primary written documents, plans, sections, photographs and electronic data (in a format to be agreed by the repository museum).

7.2 After agreement with the landowner, the field archive will be deposited with the South Yorkshire Archaeological Service. The archaeological contractor will liaise with the Senior Conservation Archaeologist for the service at the beginning of the project, to arrange this.

8.0 Standards

8.1 All work undertaken by Archaeological research services Ltd will be undertaken in accordance with the Institute of Field Archaeologists *Standard and Guidance for archaeological field evaluation* (revised September 1999).

References

Davis, G. 2011. *Church Street, Wales Rotherham. An Archaeological Desk-Based Assessment in Advance of the Proposed Construction of Two Detached Dwellings on the land to the rear of Wales Grange Farm*. Archaeological Research Services Ltd. Unpublished report.

Department for Communities and Local Government (CLG). 2010. *Planning Policy Statement 5: Planning for the Historic Environment*. London, The Stationery Office.

Institute for Archaeologists. 2008a. *Standard and guidance for archaeological desk-based assessments*. Reading, Institute for Archaeologists.

Merrony, C. J. N. 1990. *Wales Grange Farm, Wales, South Yorkshire Site Evaluation*, South Yorkshire Archaeological Unit.

Appendix II

Assessment of the slags recovered from Church Street, Wales Rotherham, South Yorkshire. Site code CSW12
By Dr Gerry McDonnell

4. Introduction

This assessment report describes a sample of material classified as slag recovered from Church Street, Wales, Rotherham. A brief overview of the material from the site is provided, followed by a detailed description and quantification. The significance of the material is discussed and recommendations made for further work. The assessment report follows the guidelines issued by English Heritage (Jones 2001, 7).

5. Slag Classification

The Church Street slags were visually examined and the classification is based solely on morphology. In general residues are divided into two broad groups. First are the diagnostic ferrous materials which can be attributed to a particular industrial process; these comprise ores and the ironworking slags, i.e. smelting and smithing slags. Secondly, the non-diagnostic slags, could have been generated by a number of different processes but show no diagnostic characteristic that can identify the process. In many cases the non-diagnostic residues, e.g. hearth or furnace lining, may be ascribed to a particular process through archaeological association. The residue classifications are defined below. The number and weight of each slag type present in each context was recorded.

5.1 *Diagnostic Ferrous Slags and Residues*

Tap or Flowed Slag - this smelting slag is characterised by flowed surfaces, the presence of droplets indicating that it had been fully liquid, although not free flowing.

5.2 *Non-Diagnostic Slags and Residues*

Hearth or Furnace Lining - the clay lining of an industrial hearth, furnace or kiln that has a vitrified or slag-attacked face. It is not possible to distinguish between furnace and hearth lining.

Fired Clay – fired clay lacks the vitrified surface of hearth or furnace lining.

Cinder - high silica-content slag that can either be formed as described above or by high temperature reaction between silica and ferruginous material. It can be considered either a non—diagnostic slag or a diagnostic slag depending on its iron content and morphology.

6. Results

6.1 *Overview*

The slag recovered from the site includes examples of a flowed run slag and some non-diagnostic slags, associated with the ironworking process.

6.2 *Description*

Context 4009

7 lumps 518gms of flowed ‘tap slag’

2 lumps 566gms of probable tap slag, but lacking smooth ropey surface, one contains a surface which is probably a burst very large gas bubble.

Context 4013

- 1 lump 83gms, lining material, fired clay?
- 1 piece 43gm thin (4mm thick) sheet vitrified on one surface
- 1 lump 12gm fuel clinker

6.3 Significance

The diagnostic slags are flowed slags, i.e. they have been fully liquid. Without any dating evidence there are two possible explanations. Firstly, that the slags are tapped smelting slags dating from the medieval period or later, or secondly, fragments of puddling slag, derived from the puddling process for the conversion of cast iron to wrought iron. Puddling was developed by Henry Cort in the late 18th Century and was fully established by the early nineteenth centuries including a change from charcoal to coal as the fuel. To try to clarify which process generated the slags a sample was analysed by hand-held x-ray fluorescence (15kV, 30 seconds live time). The results are shown in table 1 and show three significant results, firstly the phosphorous pentoxide level is high, secondly the manganese oxide content is low and thirdly the iron oxide content is high. High phosphorus levels are not expected in smelting slags. The manganese content of the local argillaceous ironstones is c 1-2% hence it should be elevated in the slag as it does not carry through to the metal and partitions to the slag during iron smelting. The high iron oxide content is too high for e.g. a medieval tapped slag (normally 40-60% FeO).

Therefore it is more probable that the slag derives from puddling, which is supported by the non-diagnostic slags, in particular the clinker fragment which is more typical of coal use.

MgO	9.8
Al₂O₃	3.7
SiO₂	11.5
P₂O₅	3.2
S	1
K₂O	0.5
CaO	1.5
TiO₂	0.1
V₂O₅	0.1
Cr₂O₃	n.d.
MnO	0.8
FeO	67.9
CoO	n.d.
NiO	n.d.
CuO	n.d.

Table 1 Hand-held XRF analysis of a sample of slag. (weight %, n.d. – not detected)

7. Recommendations

If the slags are considered a significant part of the site and its assemblage then further study of the remaining assemblage and detailed archaeometallurgical analysis should be undertaken.

References

Jones D.M. (ed). 2001 *Centre for Archaeology Guidelines: Archaeometallurgy*. English Heritage