



ARCHAEOLOGICAL INVESTIGATIONS AT LAND OFF STOCKTON ROAD, SEDGEFIELD

ARCHAEOLOGICAL EVALUATION REPORT

Report Number 2014/13 April 2014



ArcHeritage is a trading name of York Archaeological Trust. The Trust undertakes a wide range of urban and rural archaeological consultancies, surveys, evaluations, assessments and excavations for commercial, academic and charitable clients. We manage projects, provide professional advice and fieldwork to ensure a high quality, cost effective archaeological and heritage service. Our staff have a considerable depth and variety of professional experience and an international reputation for research, development and maximising the public, educational and commercial benefits of archaeology. Based in York, Sheffield, Nottingham and Glasgow the Trust's services are available throughout Britain and beyond.



ArcHeritage, Campo House, 54 Campo Lane, Sheffield S1 2EG

Phone: +44 (0)114 2728884 Fax: +44 (0)114 3279793 archeritage@yorkat.co.uk www.archeritage.co.uk

© 2014 York Archaeological Trust for Excavation and Research Limited Registered Office: 47 Aldwark, York YO1 7BX A Company Limited by Guarantee. Registered in England No. 1430801 A registered Charity in England & Wales (No. 509060) and Scotland (No. SCO42846)

CONTENTS

Ν	ON-TEC	CHNICAL SUMMARY III
K	ey pro	JECT INFORMATION III
1	INT	RODUCTION1
2	LOC	ATION, GEOLOGY AND TOPOGRAPHY1
3	MET	THODOLOGY
	3.1	Aims
	3.2	Methodology2
4	ARC	HAEOLOGICAL AND HISTORICAL BACKGROUND2
	4.1	Prehistoric and Roman2
	4.2	Medieval2
	4.3	Post-medieval to modern
	4.4	Geophysical survey3
5	EXC	AVATION RESULTS
	5.1	Trench 14
	5.2	Trench 24
	5.3	Trench 3
	5.4	Trench 4
	5.5 5.6	Trench 5
	5.7	Trench 7
6	DISC	CUSSION
7	CON	ICLUSIONS
8	АСК	NOWLEDGEMENTS
9	REF	ERENCES
1() FIGU	JRES 10
A	PPEND	IX 1: INDEX TO ARCHIVE 11
A	PPEND	IX 2: CONTEXT LIST
A	PPEND	X 3: POTTERY REPORT
A	PPEND	X 4: ENVIRONMENTAL ANALYSIS 14
A	PPEND	X 5: WRITTEN SCHEME OF INVESTIGATION 17

Figures

Figure 1: Site location map Figure 2: Trench location plan overlain on geophysical survey results Figure 3: 1857 OS map Figure 4: Plan of Trench 1 Figure 5: Plan of Trench 2 Figure 6: Plan of Trench 3 Figure 7: Plan of Trench 4 Figure 8: Plan of Trench 5 Figure 9: Plan of Trench 6 Figure 10: Section through ditch 605 Figure 11: Plan of Trench 7

Plates

Cover West facing section through ditch 605.

Plate 1: Furrow 104, viewed facing north	.4
Plate 2: Post-excavation view of Trench 2, facing north-east	. 5
Plate 3: Standing water at the south-west end of Trench 3	.6
Plate 4: West-facing view of ditch cut 605	.8

Tables

Table 1: Trench sizes and rationale	2
Table 2: List of archive contents	11
Table 3: List of contexts	12
Table 4: Results of environmental analysis	15
Table 5: Contents of environmental sample retent	

NON-TECHNICAL SUMMARY

This report present the results of an archaeological evaluation carried out by ArcHeritage at land off Stockton Road, Sedgefield (centred on NGR NZ 3607 2832). A total of seven trenches were excavated in March 2014 to investigate geophysical anomalies highlighted by a magnetometry survey carried out by GSB in 2013. This scheme of trenching provided a 1% sample of the site.

With the exception of a small number of possible plough furrows, only one trench was found to contain an archaeological feature; this was a shallow ditch of probable medieval date aligned east-west. The ditch was possibly cut to enclose an area of high ground. All other geophysical anomalies proved to relate to variations in geology.

Project Name	Land off Stockton Road, Sedgefield.
ArcHeritage Project No.	4111-141
Report status	Final
Type of Project	Archaeological Evaluation
Client	Story Homes
Planning Application No.	DM/14/00261/FPA
NGR	NZ 3607 2832 (centred)
OASIS Identifier	Archerit1-175867
Author	Arran Johnson
Illustrations	Arran Johnson
Editor	Anna Badcock
Report Number and Date	2014/13 25/04/2014
	4111141 Stockton Road V5.docx

KEY PROJECT INFORMATION

Copyright Declaration:

ArcHeritage give permission for the material presented within this report to be used by the archives/repository with which it is deposited, in perpetuity, although ArcHeritage retains the right to be identified as the author of all project documentation and reports, as specified in the Copyright, Designs and Patents Act 1988 (chapter IV, section 79). The permission will allow the repository to reproduce material, including for use by third parties, with the copyright owner suitably acknowledged.

Disclaimer:

This Report has been prepared solely for the person/party which commissioned it and for the specifically titled project or named part thereof referred to in the Report. The Report should not be relied upon or used for any other project by the commissioning person/party without first obtaining independent verification as to its suitability for such other project, and obtaining the prior written approval of York Archaeological Trust for Excavation and Research Limited ("YAT") (trading as ArcHeritage). YAT accepts no responsibility or liability for the consequences of this Report being relied upon or used for any purpose other than the purpose for which it was specifically commissioned. Nobody is entitled to rely upon this Report other than the person/party which commissioned it. YAT accepts no responsibility for any use of or reliance upon this Report by anybody other than the commissioning person/party.

1 INTRODUCTION

In March 2014, ArcHeritage carried out an archaeological evaluation on land off Stockton Road, adjacent to the A689 Stockton Road, Sedgefield. The work was undertaken on behalf of Story Homes in advance of a proposed 4.5 hectare residential development. A desk-based assessment (Stenton 2014) indicated that the site has been farmland for much of its history and despite prehistoric and Roman activity being present to the north, north-west and south of Sedgefield, there is no evidence of such activity within the site or the 1km search area.

A geophysical survey carried out by GSB in May 2013 highlighted areas of levelled ridge and furrow and a number of irregular anomalies (Gater 2013). The trenching plan of the evaluation was designed to investigate some of these anomalies as well as geophysically 'blank' areas and to characterise the archaeology of the site. The fieldwork was carried out in accordance with the WSI (see Appendix 5) and the standards and guidance of the Institute for Archaeologists (IfA 2008). It was monitored by Lee McFarlane, the development control archaeologist for Durham County Council.

2 LOCATION, GEOLOGY AND TOPOGRAPHY

The site is centred on NGR NZ 3607 2832 and is located at the south-east of Sedgefield, approximately 9.4km to the north-east of Newton Aycliffe and 9.8km to the north-west of Stockton-on-Tees, County Durham (Figure 1). The site is occupied by fields of pasture at the north and south-west, with an arable field at the south-east.

Ground level within the site generally slopes gently downwards from the north-west to the south and south-east area. The site is bounded by Stockton Road at the north, by field boundaries comprising trees, hedges and a shallow, largely dry ditch at the west and south and an embankment along the A689 at the east.

The solid geology of the site is Devensian glacial till and Devensian glaciofluvial sand and gravel, overlying Roxby Formation Calcareous Mudstone. A search of the British Geological Survey's online borehole mapping was made but returned no records for the site.

3 METHODOLOGY

3.1 Aims

The aims of the evaluation were:

- to determine the extent, condition, character, importance and date of any archaeological remains present;
- to provide information that will enable the remains to be placed within their local, regional, and national context and for an assessment of the significance of the archaeology of the proposal area to be made;
- to provide information to enable the local authority to decide on any requirements for further archaeological mitigation for the site;
- to examine anomalies detected by the geophysical survey.

3.2 Methodology

Seven trenches were excavated in March 2014. These covered a total area of 400m², representing a 1% sample of the site. The trench locations are shown in Figure 2. The topsoil strip was carried out by a seven ton 360° mechanical tracked excavator using a 1.80m toothless bucket. The trenches were located and surveyed using a Leica GPS Smartnet CS10.

The trenches were cleaned by hand and photographed with 35mm black and white film; digital shots were also taken. Trench plans were drawn at a scale of 1:50 and sections were drawn at 1:10. Features were recorded using the standard York Archaeological Trust single context system as laid out in the YAT recording manual (YAT 2009). All features were investigated by a hand excavated slot measuring 1.00m.

The trench locations and excavation and recording methodology conform to the specifications laid out in the Written Scheme of Investigation (Appendix 5). An index to the archive and a list of contexts are reproduced in Appendices 1-2. The size of the trenches and rationale for their location are given in Table 1 below.

Trench no.	Size (m)	Rationale
1	30 x 2	Targeted at geophysical anomalies of unknown origin
2	30 x 2	Targeted at geophysical anomalies of unknown origin
3	30 x 2	Targeted at geophysical anomalies of unknown origin
4	30 x 2	Targeted at geophysical anomalies of unknown origin
5	30 x 2	Targeted at areas of ridge and furrow
6	30 x 2	Targeted at geophysical anomalies of unknown origin
7	20 x 2	Targeted at areas of ridge and furrow

Table 1: Trench sizes and rationale

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

A report detailing the archaeological and historical background of the investigation area was compiled as part of the desk based assessment (Stenton 2014). A summary of the results of the assessment is given below.

4.1 Prehistoric and Roman

There are no recorded prehistoric or Roman sites or findspots within a 1km radius of the site. Activity in the Sedgefield area during these periods is indicated by several sites further to the northwest, including a prehistoric settlement at Hardwick Park that was superseded by a mid-1st- to mid 3rd-century Romano-British town in its immediate vicinity. The Cades Roman road, which connected Chester-le-Street and York, ran in close proximity to the Roman town.

4.2 Medieval

Medieval ridge and furrow, surviving either as earthworks or as cropmarks have been recorded in the area immediately surrounding the site. The geophysical survey recorded plough-levelled ridge and furrow within the site itself (Gater 2013). This indicates that the site was part of Sedgefield's open field system during the medieval period. Sedgefield was first recorded as 'Ceddesfeld' in AD 915, the Old English place-name elements indicating early

medieval activity in the area. The extent of the early medieval settlement is unknown. Sedgefield's historic settlement core contains a mid-13th-century church, early 14th-century market place and the site of a medieval rectory, while Sedgefield Hospital was constructed in the late 12th century.

4.3 Post-medieval to modern

No historic plans of Sedgefield pre-dating the 1838 tithe map survive, so the pre-19th-century history of the site is unclear. The 1838 tithe map showed the site as being fields, in both arable and pasture usage. No features other than the field boundaries and a track crossing the central area were shown on the map. The track was a continuation of a 'foot road' that ran south-east from Sedgefield and may have originated as a customary route through the common or glebe fields during the medieval or early post-medieval periods.

The field boundaries depicted in 1838 remained unchanged at the time of the 1857-1859 Ordnance Survey map (Figure 3). The OS map depicted several features within the site, including a track that ran parallel with the south-west perimeter; and a ditch or land drain in the south-west corner. The only change depicted on the 1895 OS map was a small pond in the angle between the western boundary of Meadow Field and the track shown in 1857.

No substantive changes were marked on OS maps for the first half of the 20th century. The current south and east perimeters of the site were formed through the construction of the A689 between 1963 and 1971.

4.4 Geophysical survey

A magnetometry survey was undertaken by GSB (Gater 2013). This did not record any responses which could definitively be identified as archaeological features, apart from those associated with former ridge and furrow cultivation. The ridge and furrow was aligned northwest to southeast across the site, becoming fainter towards the southwest end. A number of magnetic anomalies of unknown origin were identified, which could not clearly be identified as archaeological, geological or agricultural in origin.

5 EXCAVATION RESULTS

5.1 Trench 1

Superficial geology in Trench 1 was reached at a depth of 0.47m below ground level (BGL), sloping from 92.60m aOD at the east end of the trench to 92.22m OD at the west (Figure 4). The natural consisted of a firm, light-brown clay (context 102) with frequent pebbles and sandstone fragments. This was overlain by a soft, light-brown sandy clay subsoil (context 101). A shallow plough furrow of indeterminate date was recorded running north-south across the trench (cut 104). This feature measured 1.09m in width and survived to a depth of 0.12m (Plate 1). No finds were recovered from its fill (103). Three ceramic field drains were noted running on a north-west/south-east alignment; these were not individually recorded.



Plate 1: Furrow 104, viewed facing north

5.2 Trench 2

Superficial geology, comprising glacial deposits (context 202, Plate 2) were exposed at a representative depth of 0.35m BGL sloping from 94.06m aOD at the north-east end of the trench to 93.59m aOD at the south-west extreme. These comprised the same stony clay seen in Trench 1 and were again overlain by a soft, light brown, sandy clay subsoil (context 201). Four shallow features interpreted as furrows were noted to run north-west/south-east across the trench (cuts 204, 206, 208 and 210). It is worth noting that these furrows are on the same alignment as the current ploughing. Two ceramic field drains were exposed but not individually recorded (Figure 5).



Plate 2: Post-excavation view of Trench 2, facing north-east

5.3 Trench 3

The superficial geology in Trench 3 (context 302) comprised a mid-brown clayey sand occurring at around 0.30m BGL, underlying a thin layer of sandy subsoil (context 301). The superficial geology followed a gentle slope from 93.51m aOD at the north-east end of the trench to 93.04m aOD to the south-west (Figure 6). No evidence was uncovered for the large geophysical anomaly at the south-east end of the trench, which may have represented a change in the geology. Standing water was noted at this end of the trench; this could perhaps have affected the geophysical signal (Plate 3). A ceramic field drain was exposed running roughly east-west.



Plate 3: Standing water at the south-west end of Trench 3

5.4 Trench 4

The superficial geology in this trench was characterised by a soft, mid-brown sandy clay (context 402), occurring at around 93.30m aOD (0.30m BGL) across the trench and underlying a thin subsoil around 100mm in depth (context 401). Alongside three unexcavated ceramic field drains, a shallow plough furrow (cut 404, Figure 7) was recorded running north-west to south-east, measuring 0.64m in width and 0.10m in depth. No datable material was recovered from this feature, although the fact that it follows the alignment of current ploughing suggests a relatively recent date. A geophysical anomaly at the west end of the trench was not visible

upon excavation. Concentrations of sand and clay were noted; however, upon investigation these proved to be variations within the geology.

5.5 Trench 5

No archaeological features, field drains or subsoil were encountered in Trench 5. The superficial geology comprised a firm, light orange brown to mid-brown clay with occasional lenses of pebbles and degraded sandstone fragments (context 501). The natural sloped sharply from 96.99m aOD at the north-east end of the trench to 95.77m aOD at the southwest (Figure 8), occurring at 0.35m BGL. Levelled ridge and furrow ploughing suggested by the geophysics was not visible within the trench. The position of this trench on higher ground and the lack of any subsoil indicate that recent ploughing has largely removed any trace of earlier agriculture.

5.6 Trench 6

The superficial geology was encountered at a depth of up to 0.40m BGL in this trench, sloping sharply from 95.67m aOD at the northern limit of excavation, to 94.93m aOD to the south. The natural was a firm, light brown clay (context 602), overlain by a thin layer of subsoil (context 601). Three ceramic field drains running north-west/south-east were exposed but not separately recorded (Figure 9).

A geophysical anomaly running east to west across the centre of the trench proved to be a shallow ditch measuring 2.15m in width and 0.58m in depth (cut 605, Plate 4, Figure 10). The ditch contained two fills, the uppermost being a soft, dark-greyish brown sandy, silty clay with lenses of burnt clay and charcoal (context 603). The lower fill was similar in colour but cleaner, with fewer inclusions (context 604). The ditch ran across the slope of the hill, possibly enclosing an area of high ground, although the geophysical survey does not offer a clear picture of the full run of this feature. Finds of refuse material (pottery, animal bone, charcoal) recovered from the fills of the ditch could indicate the presence of nearby domestic activity, although further investigation of the hilltop would be required to expand upon this possibility.

The pottery recovered from the ditch was highly abraded and difficult to date with any precision. It appears to date to the medieval period or slightly earlier and is likely to have been locally made (see Appendix 3 for further detail). A soil sample from the upper ditch fill context 603 was processed for environmental analysis. The sample contained material strongly suggestive of midden deposits, including domestic refuse and either industrial or structural debitage. This could indicate nearby settlement or the use of domestic rubbish in manuring fields. A number of small, very badly degraded pottery fragments, an abundance of roots and insect/invertebrate eggs all indicated mixing or re-working of the deposit. Oak and ash charcoal were recovered, possibly derived from the burning of a building, the re-use of structural timbers for fuel or from some industrial process. There was also some heather charcoal and a carbonised heather flower, suggesting that heathland resources had been used for fuel or domestic functions. Other contents of the sample included a fragments of unidentifiable burnt bone and a small flint fragment. A report on the environmental analysis is contained in Appendix 4.



Plate 4: West-facing view of ditch cut 605

5.7 Trench 7

This trench was situated at the eastern extreme of the proposed development area. The superficial geology occurred at a depth of 93.88m OD, sloping slightly to the south-west (Figure 11). This comprised a firm, mid-orange-brown stony clay (context 702), underlying around 0.10m of more mixed subsoil (context 701). The trench was positioned to investigate geophysical evidence of ridge and furrow ploughing, but none was visible, with modern ploughing having removed all trace of medieval activity. Two north-west to south-east aligned ceramic field drains were noted, but no archaeological features survived.

6 DISCUSSION

All but one of the geophysical anomalies investigated within the seven trenches of this evaluation proved to represent changes in the superficial geology. The geology of the north-eastern half of the site was typified by clay, turning sandier and stonier to the south-west. Excavation of a 1% sample of the proposed development area revealed only one archaeological feature, a medieval ditch in Trench 6 containing material that appears to derive from a midden deposit.

7 CONCLUSIONS

The desk based assessment suggested that the site has been in agricultural use from at least the medieval period, with occasional shifts from pastoral to arable use. The excavation work carried out as part of this evaluation has provided no evidence to contradict this theory. Geophysical survey identified medieval ridge and furrow cultivation and a number of unidentifiable anomalies. All but one of the seven trenches proved to be devoid of archaeological features, with the exception of a small number of plough furrows and one medieval ditch. The geophysical survey indicates that the ditch runs on an east to west alignment across the slope, though its full extent and purpose is unclear. It was filled by two silty deposits, the uppermost containing charcoal, pottery and burnt material suggestive of a midden deposit, probably from domestic refuse.

Following completion of this evaluation report, a geophysical survey was undertaken on land to the immediate north-west of the site (P Johnson 2014). The survey revealed geophysical anomalies of very likely archaeological origin, in the form of enclosure ditches. This may give some archaeological context to the ditch revealed during this evaluation (Trench 6).

8 ACKNOWLEDGEMENTS

ArcHeritage would like to thank Lee McFarlane, the Durham County Council development control archaeologist, for monitoring the project. Thanks are also due to Story Homes for commissioning the work and providing access to the site. The fieldwork was undertaken by Gary Millward, Ben Savine and Arran Johnson.

9 REFERENCES

Gater, J. 2013. Land off Stockton Road, Sedgefield: Magnetometry Survey. Unpublished GSB Survey Report No. G1336.

IfA. 2008. Standard and Guidance for Field Evaluation. Institute for Archaeologists: Reading.

Johnson, P. 2014. Land off Stockton Road, Sedgefield, County Durham. Trent and Peak Archaeology geophysical survey Report No. 10/2014.

Stenton, M. 2014. Land Off Stockton Road, Sedgefield. Desk Based Assessment. ArcHeritage Report No. 2013/01 (revised).

YAT. 2005. York Archaeological Trust Fieldwork Recording Manual. Unpublished YAT manual.

10 FIGURES

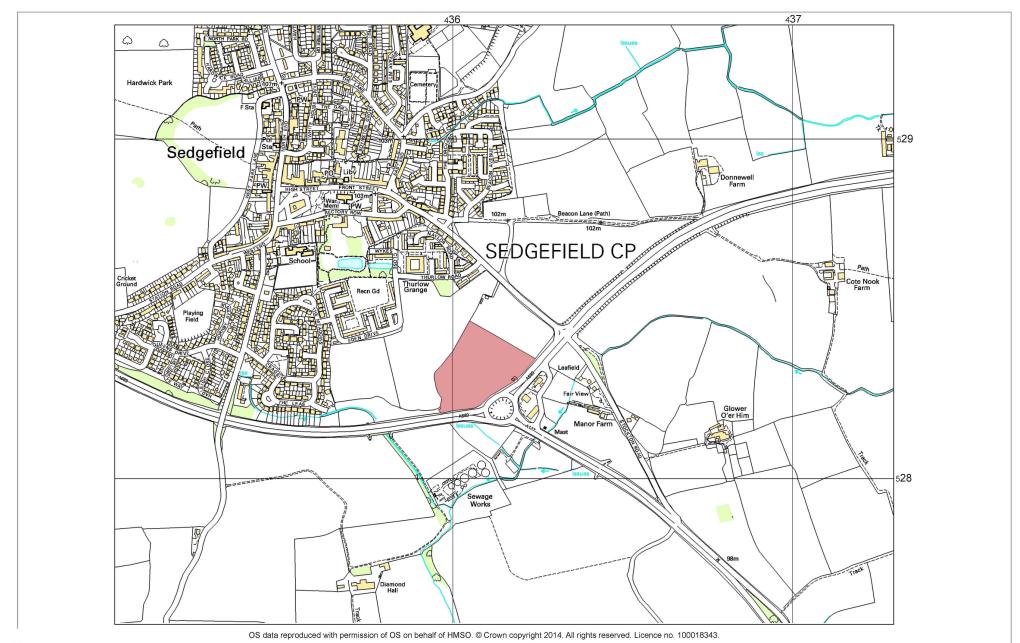
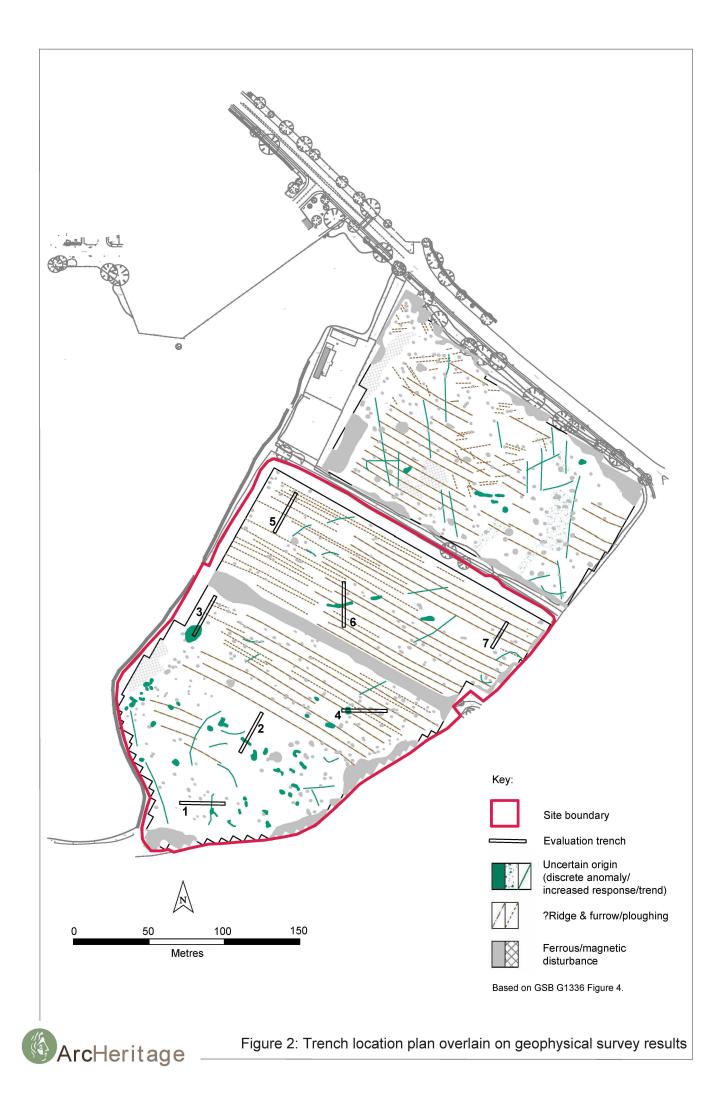




Figure 1: Site location



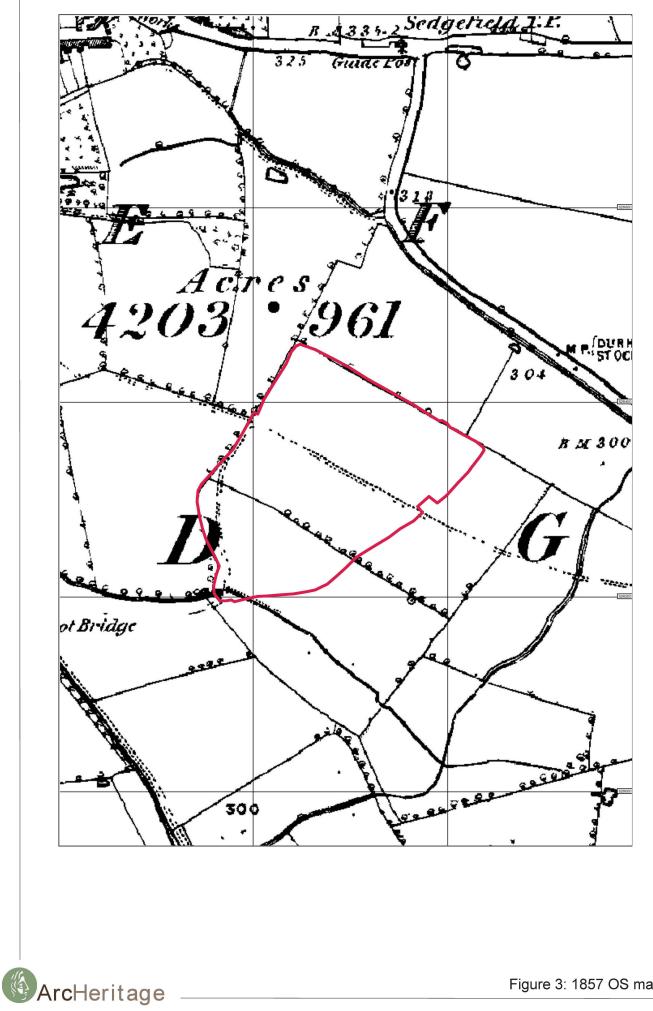
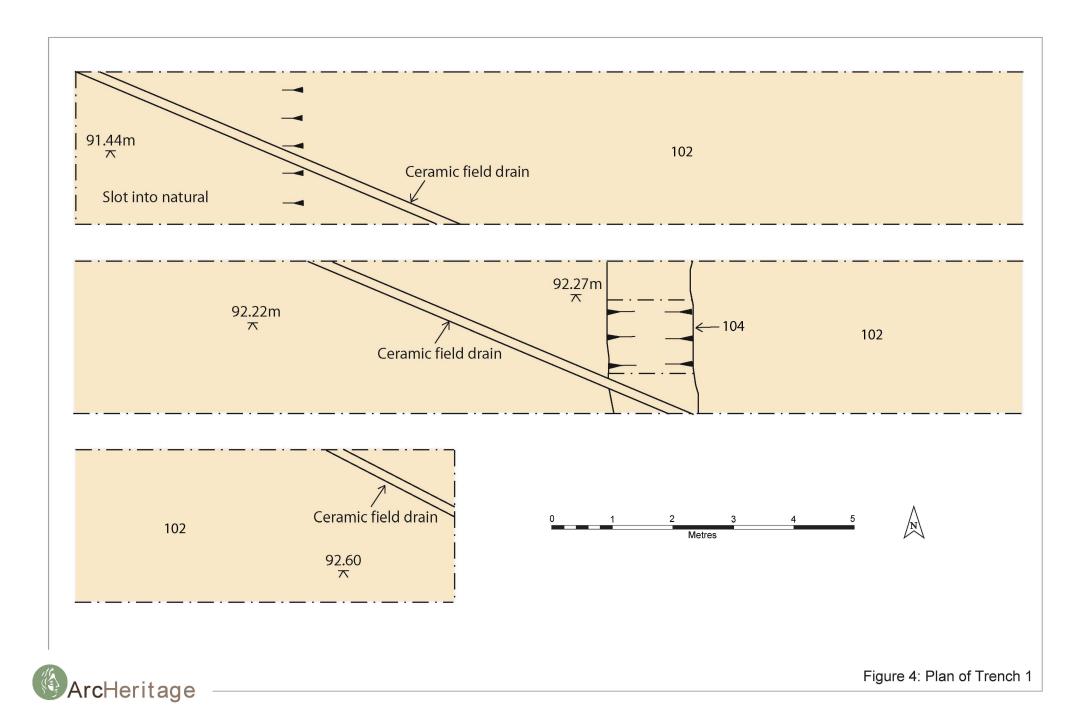
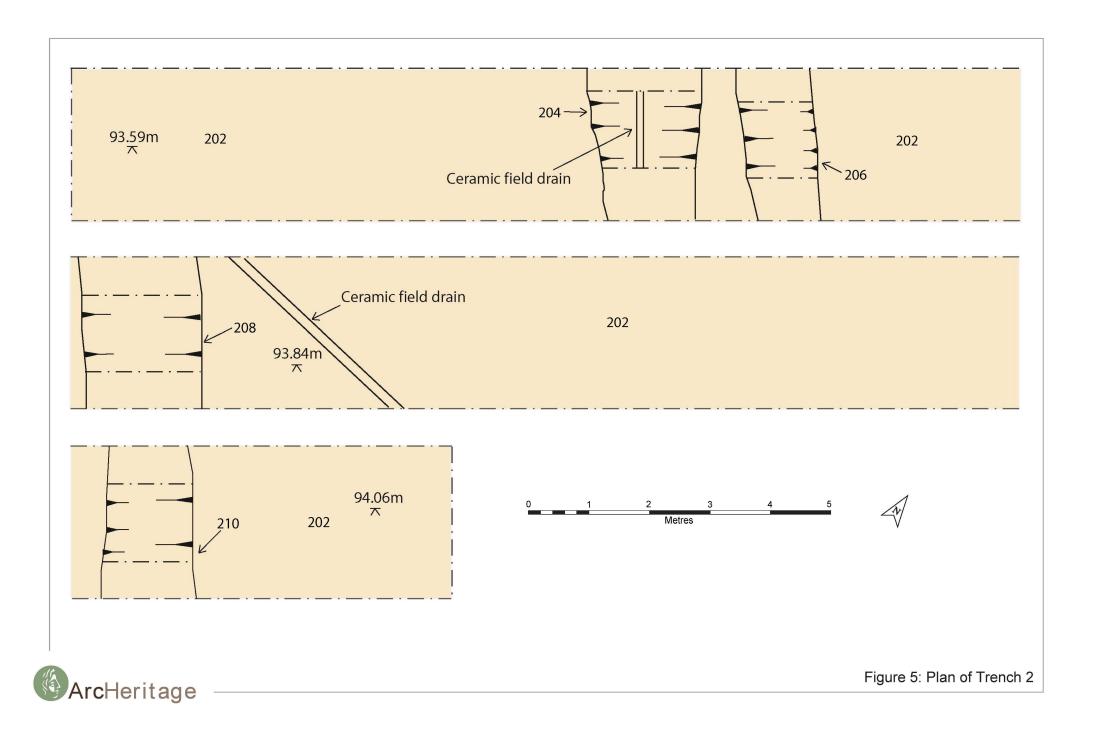
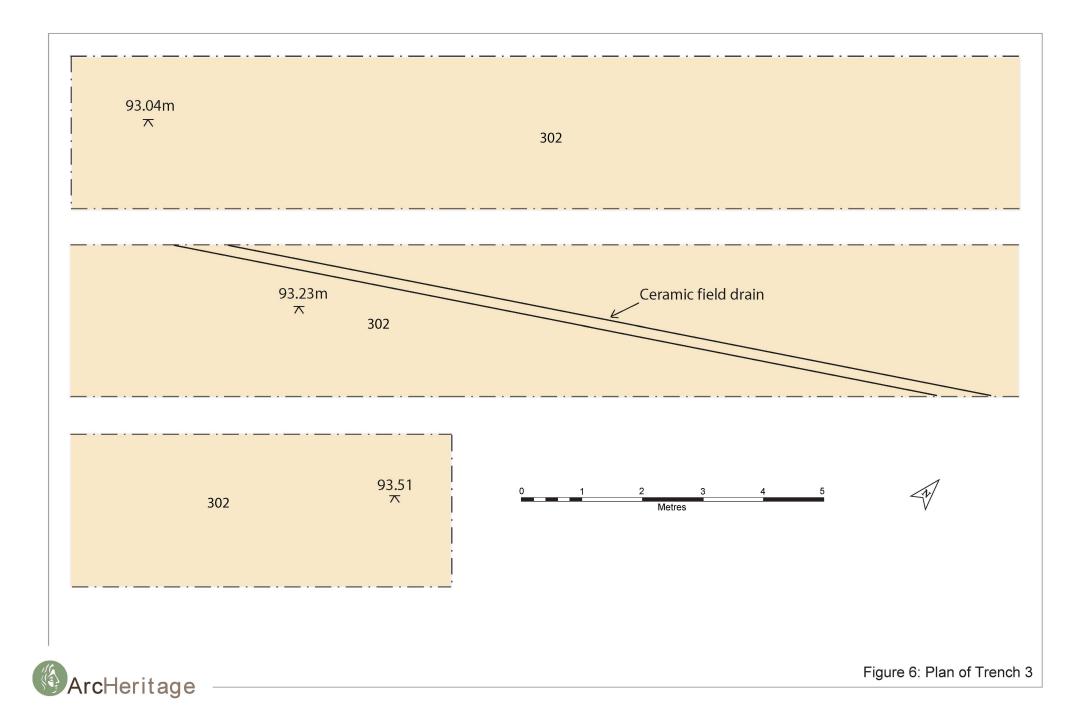
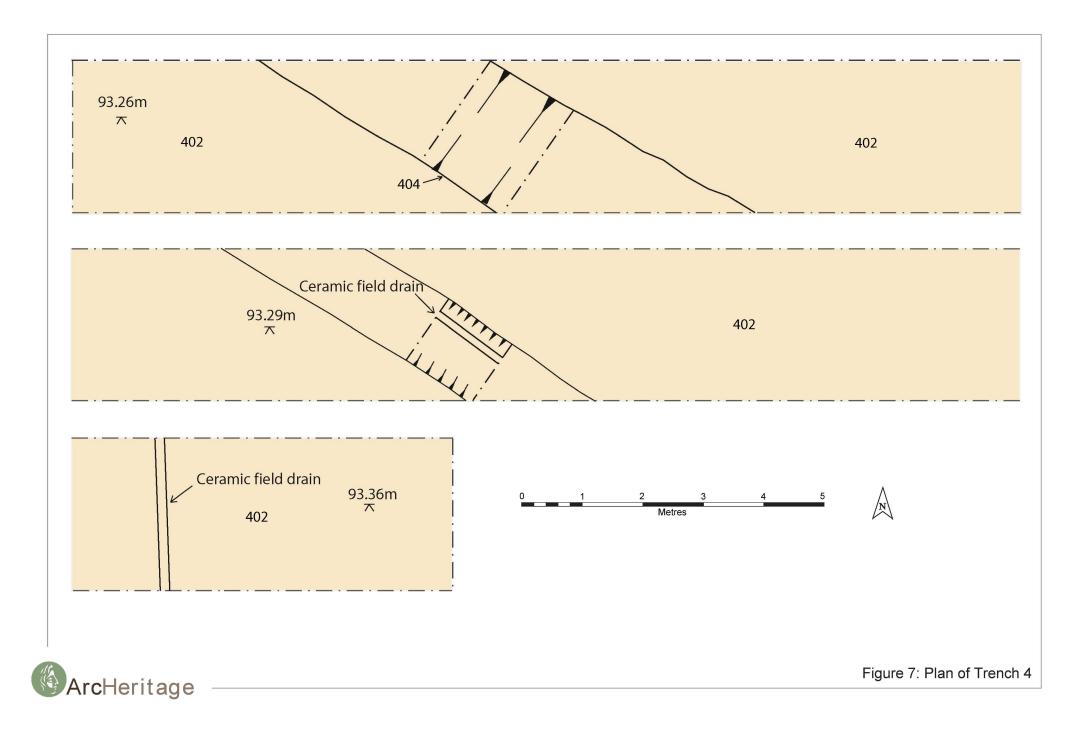


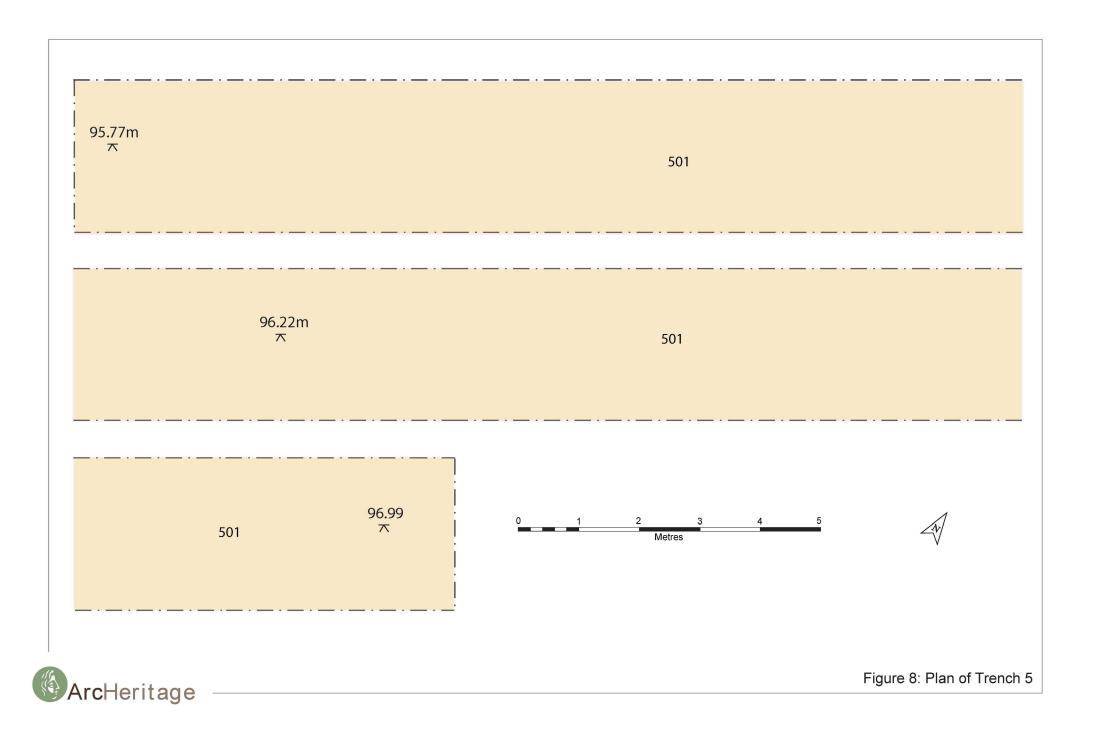
Figure 3: 1857 OS map

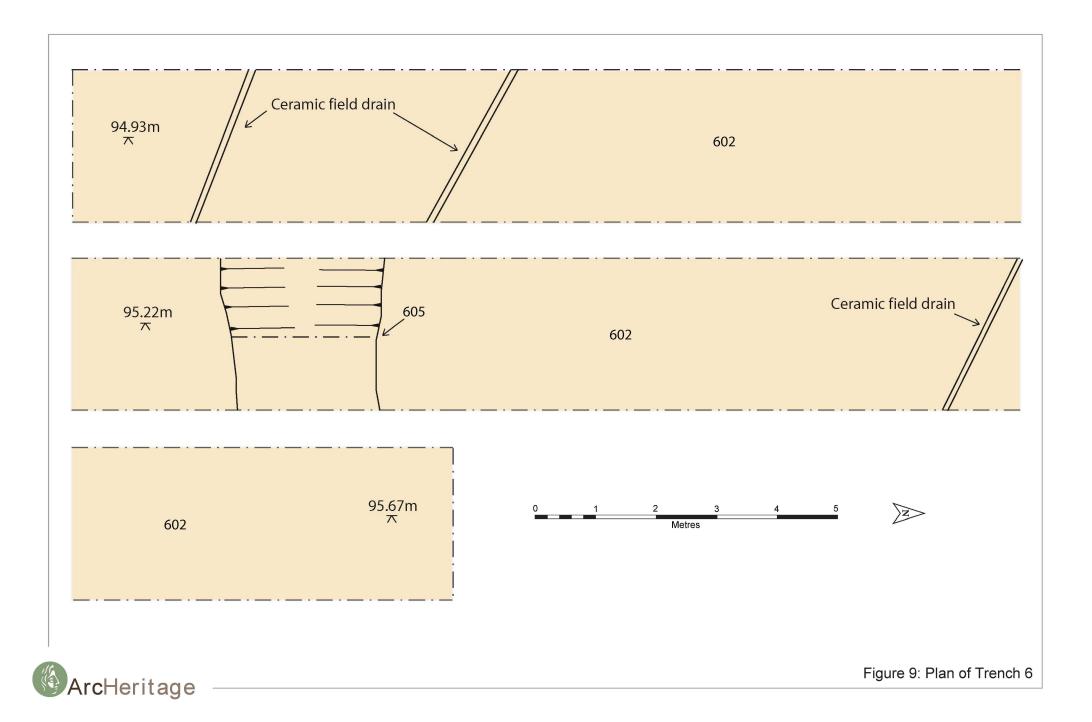


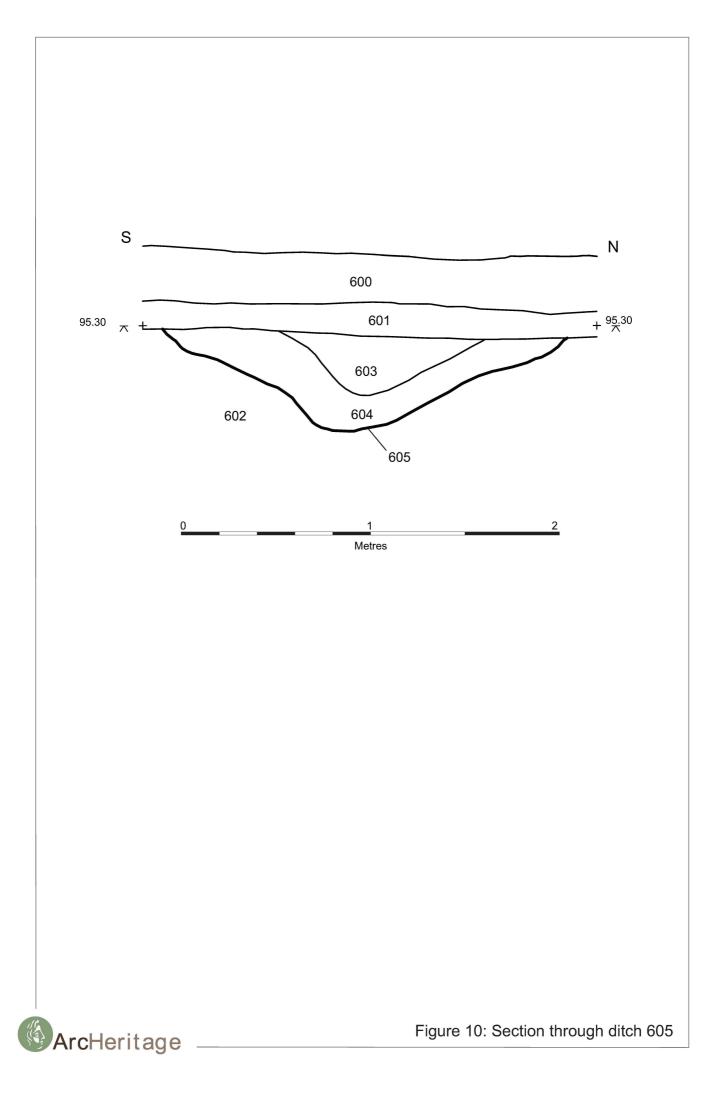


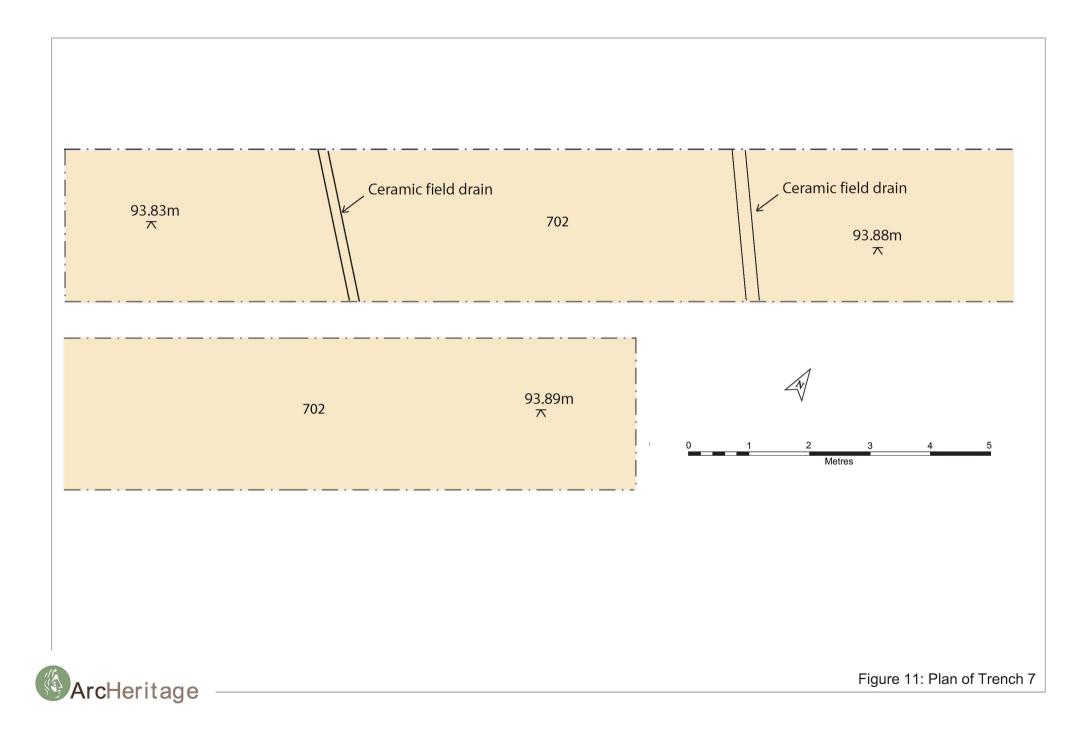












APPENDIX 1: INDEX TO ARCHIVE

Item	Number of items
Context registers	2
Context sheets	35
Photographic registers	3
Original drawings	8
B/W photographs (films/contact sheets)	1
Digital photographs	48
Sample register	1
Sample sheets	1
Written Scheme of Investigation	1
Report	1

Table 2: List of archive contents

APPENDIX 2: CONTEXT LIST

Trench no	Context no	Description
1	100	Topsoil
1	101	Subsoil
1	102	Superficial geology
1	103	Furrow fill
1	104	Furrow
2	200	Topsoil
2	201	Subsoil
2	202	Superficial geology
2	203	Furrow fill
2	204	Furrow
2	205	Furrow fill
2	206	Furrow
2	207	Furrow fill
2	208	Furrow
2	209	Furrow fill
2	210	Furrow
3	300	Topsoil
3	301	Subsoil
3	302	Superficial geology
4	400	Topsoil
4	401	Subsoil
4	402	Superficial geology
4	403	Furrow fill
4	404	Furrow
5	500	Topsoil
5	501	Superficial geology
6	600	Topsoil
6	601	Subsoil
6	602	Superficial geology
6	603	Ditch fill
6	604	Ditch fill
6	605	Ditch
7	700	Topsoil
7	701	Subsoil
7	702	Superficial geology

Table 3: List of contexts

APPENDIX 3: POTTERY REPORT

By Anne Jenner, York Archaeological Trust.

One context (603) produced eight very abraded and small sherds which range in size from 1cm to <4 cms. One sherd is mainly reduced to a grey colour but also has partially oxidised surfaces and another tiny sherd is possibly ceramic building material. The six remaining sherds are of a fine sandy red ware, often with a lightly reduced core. They have an open fabric, hackly break and contain a moderate amount of black and red iron ore, sparse clay pellets and some organic material. One sherd had a chalk like inclusion. None of them appear to have any glaze on them.

It is difficult to tell what forms these sherds came from, though one rim sherd is probably from a jar with an everted flanged rim, the edge of which has been squared off. It is hard to be certain of the date of this small assemblage, particularly as any wheel thrown marks have worn off and there is insufficient material to get a clean break without destroying what little is left of the sherds themselves. Despite this, these sherds do not appear to be Roman, particularly as the grey sherd has patches of oxidation which may indicate that it was fired in a bonfire kiln. Roman kilns were more sophisticated and produced a more even effect. It is therefore likely that this assemblage is medieval or slightly earlier.

It is hard to find a provenance, but they may be a product of fairly local kilns, or perhaps from the Tees Valley or Beverley to the south and east of Sedgefield.

APPENDIX 4: ENVIRONMENTAL ANALYSIS

By Sharon Carson, Clark Innes & Ruth Whyte, edited by Jennifer Miller.

Northlight Heritage report DL 002/14.

Bulk Sample Processing

The sample was floted for the recovery of environmental evidence and artefacts using standard methods and a *Siraf* flotation system including a bespoke pumped recycled water system with four settling tanks. It was disaggregated by agitating in water over a 500µm diameter mesh supported over a flotation drum. Light, primarily organic materials that floated as wash-over (flots) were retained on 500µm and 1mm calibrated mesh diameter *Endicot* sieves whilst other materials larger than 500µm that did not float remained on the mesh as the retent.

The wet retent was spread out on a plastic tray and examined visually before being tagged and dried. The flot material was wrapped in blue acid-free paper, tagged and recorded before being air dried on trays in a warm drying room. Once dried, the retent was sieved using 4mm and 2mm *Endicot* sieves and sorted using magnified illuminated lamps for all categories of artefacts and ecofacts. A magnet was employed to locate magnetized stone and metals.

Sorting of the retent was undertaken using a *Nikon 93756* binocular microscope at variable magnifications of between x8 and x40 with associated *Schott KL-1500 LCD* cold light source. Sorted materials were bagged and labelled for submission to specialists and weighed (where relevant) using an *Ohaus CS200* digital scale calibrated to 0.01g. Sorted residues were also weighed on a digital scale, bagged and stored pending decision regarding disposal.

Botanical Material Identification

Botanical material from the sorted flotation retent was added to the flot before being sorted through a 500μ m, 1mm and 4mm sieve. Charcoal >4mm was 100% analysed in order to characterise the assemblage present. Charcoal identification was undertaken with reference to Schweingruber (1990) using the reflected light of a Zenith metallurgical microscope at X63 magnification. The botanical assemblage was 100% analysed for carbonised cereals, seeds and other macroplant remains. Identification was undertaken with reference to Beijerinck (1947), Cappers *et al.* (2006) and the Dickson botanical reference collection. Plant nomenclature follows Stace (1997).

Results

Context (603) Sample <1>

The sample contained frequent pottery shards, badly degraded. The assemblage varied in colour and mainly consisted of light orange brown and grey fragments. One small flint flake, possibly worked, was also recovered.

Charcoal and cinder was moderately abundant and oak (*Quercus*) and ash (*Fraxinus*) dominated the assemblage, with three fragments of heather (*Calluna vulgaris*) charcoal. No other botanical remains were present with the exception of one carbonised heather capsule/flower.

A small assemblage of calcined bone fragments was recovered, consisting of five indeterminate fragments less than 5mm in size.

ArcHeritage - Sedgefield 4111141	Context	603
	Sample	1
Flot Composition (1-5 abundance scale)		
Charcoal		++
Cinder		++
Insect/invertebrate eggs		++
Roots		++++
Total Charcoal (flot+retent)		
Charcoal >4mm		10ml
Charcoal <4mm		10ml
% ID >4mm		100
AMS option (charcoal or cereal) Y / N		
Charcoal	common name	
Calluna vulgaris	heather	3
Fraxinus	ash	6
Quercus	oak	16
Plant macros (carbonised)	common name	
	heather	
Calluna vulgaris capsule/flower	capsule/flower	1

Table 4: Results of environmental analysis

ArcHeritage - Sedgefield 4111141	Context	603
Retent vol. 0.06L	Sample	1
100% sorted		
Charcoal		9.62g
Cinder		2.35g
Bone		0.09g
Flint		0.01g
Pottery		29.35g

Table 5: Contents of environmental sample retent

Discussion

The pottery fragments were very badly degraded and rounded with no angular edges, suggestive of some degree of re working of the deposit. An abundance of roots and insect/invertebrate eggs indicates bioturbation and mixing of the context has occurred. One small flint flake was recovered, which may or may not be worked and could have derived from a variety of possible sources including buildings and walls or redeposited knapping debitage.

The predominance of oak and ash in the sample suggests residue from the intentional selection of these wood types. Ash and especially oak are slow maturing trees that form durable timbers and are valued as such. Ash wood is very strong, resilient and resistant to stress and as a result commonly has a structural use for roofing and supporting beams (Gale and Cutler 2000). It is also highly valued as a fuel source as it forms a dense wood that burns well. Oak is even more highly prized for structural use, but also for fuel in situations requiring high temperatures with prolonged burning, such as metalworking. The charcoal assemblage

may be residual from the destruction and burning of a building, the re-use of structural timbers for fuel or from some industrial process.

The presence of heather charcoal and a carbonised capsule/flower may suggest utilisation of heathland resources for fuel, flooring rushes, thatching or cereal parching (Dickson and Dickson 2000), but regardless of provenance, they support the interpretation of domestic residues including domestic midden

Calcined bone fragments were indeterminate and could not be established if human or faunal. The fragments may be residual from deposition of household hearth waste.

Collectively, the finds from this sample are strongly suggestive of midden deposits including domestic waste and either industrial or structural debitage.

References

Beijerinck, W. 1947. Zadenatlas der Nederlandsche Flora. Veenman & Zonen, Wageningen.

Cappers, R.T.J., Bekker, R.M. and Jans, G.E.A. 2006. *Digital Seed Atlas of the Netherlands*. Groningen: Barkhuis Publishing.

Dickson, C. A. and Dickson, J. H. 2000. Plants and People in Ancient Scotland. Tempus, Stroud.

Gale, R. and Cutler, D.F. 2000. *Plants in Archaeology – Identification Manual of Artefacts of plant origin from Europe and the Mediterranean*. Kew: Westbury Scientific Publishing & Royal Botanic Gardens.

Schweingruber, F. H. 1990. Anatomy of European Woods. Haupt, Berne & Stuttgart.

Stace, C. 1997. New Flora of the British Isles. Cambridge: Cambridge University Press.

APPENDIX 5: WRITTEN SCHEME OF INVESTIGATION

Site Location:	Sedgefield
NGR:	NZ 3588 2839
Prepared for:	Story Homes
Status of WSI:	approved

1 SUMMARY

1.1 A planning application is proposed for residential development of an approximately 4.5 hectare site adjacent to the A689 Stockton Road, Sedgefield. An archaeological desk based assessment of the site has been carried out by ArcHeritage (2013) and a Geophysical Survey has been undertaken by GSB (2013). The desk based assessment identified Medieval ridge and furrow within the site and that the site has been in use as agricultural fields since at least the Medieval period and there is the potential for as yet unknown archaeological deposits to be present at the site. A programme of archaeological works is therefore required to provide further information on the archaeological potential of the site and inform the planning application.

1.2 This Written Scheme of Investigation (WSI) has been prepared in consultation with the development control archaeologist for Durham County Council (DCC). The work will be carried out in accordance with this WSI, and according to the principles of the Institute for Archaeologists (IfA) Code of Conduct and all relevant standards and guidance.

2 SITE LOCATION & DESCRIPTION

2.1 The site is centred on NGR NZ 3588 2839 and is located at the south-east of Sedgefield, approximately 9.4km to the north-east of Newton Aycliffe and 9.8km to the north-west of Stockton-on-Tees, County Durham (Figure 1). The site is occupied by fields of pasture at the north and south-west, with an arable field at the south-east.

2.2 Ground level within the site generally slopes gently from the north-west to the south and south-east area. The site is bounded by Stockton Road at the north, by field boundaries comprising trees, hedges and a shallow, largely dry, ditch at the west and south and an embankment along the A689 at the east.

2.3 The solid geology of the site is Devensian glacial till and Devensian glaciofluvial sand and gravel, overlying Roxby Formation Calcerious Mudstone. A search of the British Geological Survey's online borehole mapping was made but returned no records for the site.

3 DESIGNATIONS & CONSTRAINTS

3.1 There are no SAMs or Registered Battlefields within 1km of the site, although the Ceddesfeld Hall Registered Park and Garden (Site 1) is situated within the search area.

3.2 The site is currently in agricultural use.

4 ARCHAEOLOGICAL INTEREST

4.1 Medieval and early post-medieval agricultural activity is indicated by levelled ridge and furrow earthworks in the north-east part of the site. Both this and the southern part of the site had been taken out of arable use prior to 1838 when they were recorded as 'grass'. While levelled ridge and furrow may also have remained in the southern area in 1838, this part of the site was in arable use by 1945 and

does not now retain any evidence of ridge and furrow. None of the field names recorded within the site in 1838 suggest the likely presence of archaeological features, although the 'Foot Road' that crossed the centre of the site at that date may have developed from a medieval or early post-medieval customary route. This feature remains extant as a public footpath.

4.2 Given the levelled ridge and furrow, the land is likely to have remained in agricultural use throughout the early post-medieval period. While 60 acres of glebe land to the south-east of Sedgefield rectory were passed to the town's rectors by the Bishop of Durham in 1501, there is no evidence to indicate that the site formed part of this grant. In contrast to the fields immediately to the west, the site was not freehold land owned by the rectors of Sedgefield.

4.3 The site remained farmland throughout the 19th and 20th centuries. No buildings are recorded within the site during this period, although several small structures, an access road, an area of hardstanding and a number of enclosures were situated in the north-west tip of the site by 2001. These features were derelict by 2006 and had been replaced by The Stables, a paddock and stabling, by 2008. Field boundaries, two ponds, tracks and ditches or land drains are the only other features known to have been present within the site since 1838. Both ponds have been in-filled, although waterlogging had occurred at their locations at the time of the site visit. A track shown in the south-west of the site in the second half of the 19th century remains extant but is not a designated public footpath.

4.4 An extensive Iron Age and Romano-British settlement and a Roman road are situated at East Park, to the north-west of Sedgefield, with further activity recorded to the north and south of the site, and previously unknown prehistoric and Roman activity within the site cannot be ruled out.

4.5 A magnetometer survey was undertaken (GSB 2013). The magnetic survey has not recorded any definite archaeological responses, apart from those associated with former ridge and furrow cultivation. However, there were a number of magnetic anomalies identified of unknown origin.

4.6 There are a number of responses that are difficult to interpret; while an archaeological interpretation cannot be dismissed entirely the anomalies could easily be of agricultural or natural origins. In the absence of any supporting information the responses can only be given an "uncertain" interpretation category.

5 AIMS

5.1 The aims of the evaluation are:

- to determine the extent, condition, character, importance and date of any archaeological remains present
- to provide information that will enable the remains to be placed within their local, regional, and national context and for an assessment of the significance of the archaeology of the proposal area to be made
- to provide information to enable the local authority to decide any requirements for further archaeological mitigation for the site
- to ground truth the geophysical survey results

6 EXCAVATION METHODOLOGY

- 6.1 The evaluation will comprise the following elements:
 - Trial trenching
 - Reporting

Please note that further stages of work or other mitigation measures could be required by the local authority, depending upon the results of the evaluation.

No.	Size (m)	Rationale
1	30 x 2	Targeted at geophysical anomalies of unknown origin
2	30 x 2	Targeted at geophysical anomalies of unknown origin
3	30 x 2	Targeted at geophysical anomalies of unknown origin
4	30 x 2	Targeted at geophysical anomalies of unknown origin
5	30 x 2	Targeted at areas of ridge and furrow
6	30 x 2	Targeted at geophysical anomalies of unknown origin
7	20 x 2	Targeted at areas of ridge and furrow

6.2 A series of seven trenches will be excavated these will cover a total area of 400m² representing a 1% sample of the site. The location of the trenches is shown on Figure 2. Trenches will be stepped if necessary, to ensure their stated size at the base of the trench.

6.3 The trench locations will be accurately plotted using an EDM Total station, by measurement to local permanent features shown on published Ordnance Survey maps. All measurements will be accurate to +/-10cm, and the trenches locatable on a 1:2500 Ordnance Survey map. This is to ensure that the trenches can be independently relocated in the event of future work.

6.4 Overburden such as turf, topsoil or other superficial fill materials would be removed by a machine fitted with a toothless bucket. Mechanical excavation equipment would be used judiciously, under archaeological supervision down to the top of archaeological deposits, or the natural subsoil, whichever appears first. If archaeology is present machining will cease and excavation will normally proceed by hand. Where deep homogenous deposits, or deposits such as rubble infills, are encountered, these may be carefully removed by machine, after consultation with the development control archaeologist

6.5 The machine will not be used to cut arbitrary sondages down to natural deposits.

6.6 All trenches will be sufficiently cleaned by hand to enable potential archaeological features to be identified and recorded; areas without archaeological features will be recorded as sterile and no further work will take place in these areas. The stratigraphy of all trenches will be recorded on trench record sheets even where no archaeological features are identified.

6.7 A sufficient sample of any archaeological features and deposits revealed will be excavated in an archaeologically controlled and stratigraphic manner in order to establish the aims of the evaluation.

- Discrete features will be half-sectioned in the first instance.
- Linear features will be sample excavated (to a minimum of 25% of their length) with each sample being not less than 1m in length
- Deposits at junctions or interruptions in linear features will be sufficiently excavated to allow relationships to be determined.
- Structures will be sample excavated to a degree whereby their extent nature, form, date, function and relationships to other features and deposits can be established.

7 RECORDING METHODOLOGY FOR EVALUATION

7.1 All archaeological features will be recorded using standardised pro forma record sheets. Plans, sections and elevations will be drawn as appropriate and a comprehensive photographic record will be made where archaeological features are encountered.

7.2 Archaeological deposits will be planned at a basic scale of 1:50, with individual features requiring greater detail being planned at a scale of 1:20. Larger scales will be utilised as appropriate.

Cross-section of features will be drawn to a basic scale of 1:10 or 1:20 depending on the size of the feature. All drawings will be related to Ordnance Datum. Where it aids interpretation, structural remains will also be recorded in elevation.

7.3 Each context will be described in full on a pro forma context record sheet in accordance with the accepted context record conventions. Each context will be given a unique number. These field records will be checked and indexes compiled.

7.4 Photographs of work in progress and post-excavation of individual and groups of features will be taken. This will include general views of entire features and of details such as sections as considered necessary. The photographic record will comprise 35mm format black and white film and digital photography. All site photography will adhere to accepted photographic record guidelines.

7.5 Areas which do not contain any archaeological deposits will be photographed and recorded as being archaeologically sterile. The natural stratigraphic sequence within these areas will be recorded.

7.6 All finds will be collected and handled following the guidance set out in the IfA guidance for archaeological materials. Unstratified material will not be kept unless it is of exceptional intrinsic interest. Material discarded as a consequence of this policy will be described and quantified in the field. Finds of particular interest or fragility will be retrieved as Small Finds, and located on plans. Other finds, finds within the topsoil, and dense/discrete deposits of finds will be collected as Bulk Finds, from discrete contexts, bagged by material type. Any dense/discrete deposits will have their limits defined on the appropriate plan.

7.7 All artefacts and ecofacts will be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication *First Aid for Finds*, and recording systems must be compatible with the recipient museum. All finds that fall within the purview of the Treasure Act (1996) will be reported to HM Coroner according to the procedures outlined in the Act, after discussion with the client and the local authority.

7.8 Other samples will be taken, as appropriate, in consultation with ArcHeritage specialists and the English Heritage Regional Science Advisor, as appropriate (e.g. dendrochronology, soil micromorphology, monolith samples, C14, etc.). Samples will be taken for scientific dating where necessary for the development of subsequent mitigation strategies. Material removed from site will be stored in appropriate controlled environments.

7.9 In the event of human remains being discovered during the evaluation these will be left *in-situ*, covered and protected, in the first instance. The removal of human remains will only take place in compliance with environmental health regulations and following discussions with, and with the approval of, the Ministry of Justice. If human remains are identified, the Ministry of Justice and curator will be informed immediately. An osteoarchaeologist will be available to give advice on site.

- If **disarticulated** remains are encountered, these will be identified and quantified on site. If trenches are being immediately backfilled, the remains will be left in the ground. If the excavations will remain open for any length of time, disarticulated remains will be removed and boxed, for immediate reburial by the Church.
- If **articulated** remains are encountered, these will be excavated in accordance with recognised guidelines (see 6.12) and retained for assessment.
- Any grave goods or coffin furniture will be retained for further assessment.

7.10 Where a licence is issued, all human skeletal remains must be properly removed in accordance with the terms of that licence. Where a licence is not issued, the treatment of human remains will be in accordance with the requirements of Civil Law, IfA Technical Paper 13 (1993) and English Heritage guidance (2005).

8 SPECIALIST ASSESSMENT

8.1 The stratigraphic information, artefacts, soil samples, and residues will be assessed as to their potential and significance for further analysis and study. The material will be quantified (counted and weighted). Specialists will undertake a rapid scan of all excavated material. Ceramic spot dates will be given. Appropriately detailed specialist reports will be included in the report.

8.2 Materials considered vulnerable should be selected for stabilisation after specialist recording. Where intervention is necessary, consideration must be given to possible investigative procedures (e.g. glass composition studies, residues on or in pottery, and mineral-preserved organic material). Allowance will be made for preliminary conservation and stabilization of all objects and a written assessment of long-term conservation and storage needs will be produced. Once assessed, all material will be packed and stored in optimum conditions, in accordance with Watkinson and Neal (1998), IfA (2007) and Museums and Galleries (1992).

8.3 All finds will be cleaned, marked and labelled as appropriate, prior to assessment. For ceramic assemblages, any recognised local pottery reference collections and relevant fabric Codes will be used.

8.4 Allowance will be made for the recovery of material suitable for scientific dating and contingency sums will be made available to undertake such dating, if necessary. This will be decided in consultation with the development control archaeologist.

9 EVALUATION REPORT & ARCHIVE PREPARATION

9.1 Upon completion of the site work, an evaluation report will be prepared to include the following:

- a) A non-technical summary of the results of the work.
- b) An introduction which will include the planning reference number, grid reference and dates when the fieldwork took place.
- c) An account of the methodology and detailed results of the operation, describing natural and archaeological deposits, archaeological features, associated finds and environmental data, and a conclusion and discussion.
- d) A selection of photographs and drawings, including a detailed plan of the site accurately identifying trench locations, selected feature drawings, and selected artefacts, and phased feature plans where appropriate.
- e) Specialist artefact and environmental reports where undertaken, and a context list/index.
- f) Details of archive location and destination (with accession number, where known), together with a context list and catalogue of what is contained in that archive.
- g) A copy of the key OASIS form details
- h) Copies of the Brief and WSI
- i) Additional photographic images may be supplied on a CDROM appended to the report

9.2 Three copies of the report will be submitted to the commissioning body. A bound and digital copy of the report will be submitted to the Durham County Council Historic Environment Record (HER) for planning purposes, and subsequently for inclusion into the HER.

9.3 A field archive will be compiled consisting of all primary written documents, plans, sections and photographs. Catalogues of contexts, finds, soil samples, plans, sections and photographs will be produced. ArcHeritage will liaise with the appropriate museum prior to the commencement of fieldwork to establish the detailed curatorial requirements of the museum and discuss archive transfer

and to complete the relevant museum forms. The relevant museum curator would be afforded access to visit the site and discuss the project results.

9.4 The owner of the Intellectual Property Rights (IPR) in the information and documentation arising from the work, would grant a licence to the Local Authority and the museum accepting the archive to use such documentation for their statutory functions and provide copies to third parties as an incidental to such functions. Under the Environmental Information Regulations (EIR), such documentation is required to be made available to enquirers if it meets the test of public interest. Any information disclosure issues would be resolved between the client and the archaeological contractor before completion of the work. EIR requirements do not affect IPR.

9.5 Upon completion of the project an OASIS form will be completed at http://ads.ahds.ac.uk/project/oasis/.

10 POST EXCAVATION ANALYSIS & PUBLICATION

10.1 The information contained in the evaluation report will enable decisions to be taken regarding the future treatment of the archaeology of the development site and any material recovered during the evaluation.

10.2 If further archaeological investigations (mitigation) take place, any further analyses (as recommended by the specialists, and following agreement with the development control archaeologist) may be incorporated into the post-excavation stage of the mitigation programme unless such analysis are required to provide information to enable a suitable mitigation strategy to be devised. Such analysis will form a new piece of work to be commissioned.

10.3 In the event that no further fieldwork takes place on the site, a full programme of post excavation analysis and publication of artefactual and scientific material from the evaluation may be required by the development control archaeologist. Where this is required, this work will be a new piece of work to be commissioned.

10.4 If further site works do not take place, allowance will be made for the preparation and publication in a local and/or national journal of a short summary on the results of the evaluation, if justified.

11 HEALTH AND SAFETY

11.1 Health and safety issues will take priority over archaeological matters and all archaeologists will comply with relevant Health and Safety Legislation.

11.2 A Risk Assessment will be prepared prior to the start of site works.

12 PRE-START REQUIREMENTS

12.1 The client will be responsible for ensuring site access has been secured prior to the commencement of site works, and that the perimeter of the site is secure.

12.2 The client will provide ArcHeritage with up to date service plans and will be responsible for ensuring services have been disconnected, where appropriate.

12.3 The client will be responsible for ensuring that any existing reports (e.g. ground investigation, borehole logs, contamination reports) are made available to ArcHeritage prior to the commencement of work on site.

13 REINSTATEMENT

13.1 Following excavation and recording the spoil from the trenches will be backfilled unless requested otherwise. The backfill material will be levelled and compressed as far as possible with the

mechanical excavator bucket, but will not be compressed to a specification. ArcHeritage are not responsible for reinstating any surfaces, including reseeding, unless specifically commissioned by the client who will provide a suitable specification for the work.

14 TIMETABLE & STAFFING

14.1 The timetable fieldwork will start during the week of 10th March. Fieldwork will be completed within one week and preparation of the post excavation assessment an preparation of the evaluation report will produced within four weeks of the completion of fieldwork. Processing and analysis of scientific dating samples will take longer, if undertaken, and such results will delay the issue of the full evaluation report although an interim report will be produced within four weeks.

14.2 Specialist staff available for this work are as follows:

- Head of Artefact Research Dr Ailsa Mainman
- Human Remains Malin Holst (York Osteoarchaeology Ltd) & Rebecca Storm (University of Bradford)
- Palaeoenvironmental remains Northlight Heritage
- Head of Curatorial Services Christine McDonnell
- Finds Researcher Nicky Rogers
- Post-medieval Pottery Dr David Barker
- Medieval Pottery Researcher Anne Jenner
- Finds Officers Geoffrey Krause & Rachel Cubitt
- Archaeometallurgy & Industrial Residues Dr Rod Mackenzie & Dr Roger Doonan
- Conservation Ian Panter

15 MONITORING OF ARCHAEOLOGICAL FIELDWORK

15.1 As a minimum requirement, the development control archaeologist will be given a minimum of one week's notice of work commencing on site, and will be afforded the opportunity to visit the site during and prior to completion of the on-site works so that the general stratigraphy of the site can be assessed and to discuss the requirement any further phases of archaeological work. ArcHeritage will notify the development control archaeologist of any discoveries of archaeological significance so that site visits can be made, as necessary. Any changes to this agreed WSI will only be made in consultation with the development control archaeologist.

16 COPYRIGHT

16.1 ArcHeritage retain the copyright on this document. It has been prepared expressly for the named client, and may not be passed to third parties for use or for the purpose of gathering quotations.

17 KEY REFERENCES

ArcHeritage. 2013. Land off Stockton Road, Sedgefield: Desk Based Assessment ArcHeritage Report Number 2013/01

Brown, D. H. 2007. Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation. IfA/AAA

Department for Communities and Local Government 2012. National Planning Policy Framework.

English Heritage. 2001. Archaeometallurgy. Centre for Archaeology Guidelines.

English Heritage. 2002. Environmental Archaeology. A guide to the theory and practice of methods from sampling and recovery to post-excavation.

English Heritage. 2003. Where on Earth are We? The Global Positioning System (GPS) in archaeological field survey.

English Heritage. 2004. Geoarchaeology: using earth sciences to understand the archaeological record.

English Heritage. 2005 Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England.

English Heritage. 2006. *Guidelines on the x-radiography of archaeological metalwork*.

English Heritage. 2006b. Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide.

English Heritage. 2007. Understanding the Archaeology of Landscape – a guide to good recording practice

English Heritage. 2008. Investigative Conservation.

GSB. 2013. Land off Stockton Road, Sedgefield. Geophysical Survey Report G1336

Institute for Archaeologists. 1993. Technical paper No 13 by McKinley, J. I., and C. Roberts. *Excavation and post-excavation treatment of cremated and inhumed human remains*.

Institute for Archaeologists. 2007. Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation by D.H. Brown.

Institute for Archaeologists. 2008. Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials.

Institute for Archaeologists. 2008. Standard and Guidance for Archaeological Field Evaluation

Museum and Galleries Commission. 1992. Standards in the museum care of archaeological collections.

RCHMS. 1999. Recording Archaeological Field Monuments – a descriptive specification.

Standing Conference of Archaeological Unit Managers (SCAUM). 2007. Health and Safety in Field Archaeology

Neal, V., and D. Watkinson (eds). 1998. *First Aid for Finds: practical guide for archaeologists.* United Kingdom Institute for Conservation of Historic & Artistic Works, Archaeology Section; 3rd Revised Edition.

See also the HELM website for a full list of English Heritage Guidance documents:

http://www.helm.org.uk/server/show/nav.19701













ArcHeritage 54 Campo Lane Sheffield S1 2EG

T: 0114 2728884 F: 0114 3279793

www.archeritage.co.uk