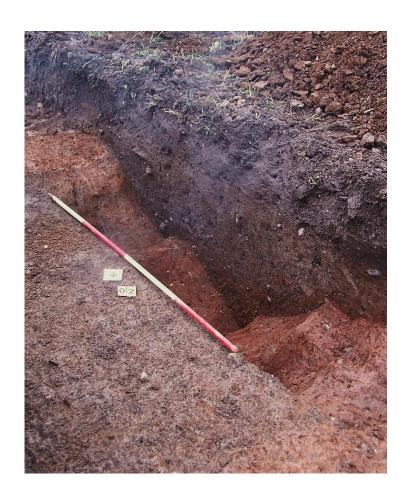


### **Archaeological Services**

An Archaeological Evaluation on Land east and west of Broughton Way, Broughton Astley, Leicestershire (SK 531930 & SP 527 931)



Roger Kipling

ULAS Report No 2013-184 ©2013

# An Archaeological Evaluation on Land east and west of Broughton Way, Broughton Astley, Leicestershire (SP 531 930 & SP 527 931)

#### **Roger Kipling**

For: Jelson Ltd.

Approved by:

Signed:

**Date**: 01.11.2013

Name: Patrick Clay

#### **University of Leicester**

Archaeological Services

University Rd., Leicester, LE1 7RH

Tel: (0116) 2522848 Fax: (0116) 2522614

ULAS Report Number 2013-184 ©2013 Accession Number X.A162.2013

#### **CONTENTS**

Introduction	
Site Description, Topography and Geology	4
Archaeological and Historical Background	5
Aims and Objectives	6
Methodology	7
Archaeological Trial Trenches	7
Results	8
The Eastern Area (Trenches 1-55)	.10
Western Area (Trenches 56-71)	.18
Discussions & Conclusion	21
Archive and Publications	.24
Publication	.24
Acknowledgements	.24
Bibliography	.24
Oasis Information	
Appendix 1: The Middle to Late Iron Age Pottery Nicholas J. Cooper	.26
Appendix 2: The Environmental Evidence Anita Radini & Rachel Small	
Figure 1: Site Location (Scale 1:50 000)	
rigule 1. Site Location (Scale 1.30 000)	/
Figure 2: Site location (east) with trench locations in relation to the geophysical	
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results	9
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results	9
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results	9 .10
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results	9 .10 .11
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results	9 .10 .11
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data	9 .10 .11 .11
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results	9 .10 .11 .11
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)	9 .11 .11 .12
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections	9 .10 .11 .12
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)	9 .10 .11 .11 .13
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)  Figure 10: Ditches [17] & [19]: section & plan	9 .10 .11 .12 .13 .14
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)  Figure 10: Ditches [17] & [19]: section & plan  Figure 11: Trench 53; ditches [14] & [16]; view southeast (1m scale)	9 . 10 . 11 . 12 . 13 . 14 . 15
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)  Figure 10: Ditches [17] & [19]: section & plan  Figure 11: Trench 53; ditches [14] & [16]; view southeast (1m scale)  Figure 12: Ditches [14] & [16]; section and plan	9 . 10 . 11 . 12 . 13 . 14 . 15
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results	9 .11 .11 .12 .13 .14 .15
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)  Figure 10: Ditches [17] & [19]: section & plan  Figure 11: Trench 53; ditches [14] & [16]; view southeast (1m scale)  Figure 12: Ditches [14] & [16]; section and plan  Figure 13: Site location (west) with trench locations in relation to the geophysical survey results	9 .10 .11 .12 .13 .14 .15 .15
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)  Figure 10: Ditches [17] & [19]: section & plan  Figure 11: Trench 53; ditches [14] & [16]; view southeast (1m scale)  Figure 13: Site location (west) with trench locations in relation to the geophysical survey results  Figure 14: Trench 67: view looking north-east (2m scale)	9 .10 .11 .12 .13 .14 .15 .16
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)  Figure 10: Ditches [17] & [19]: section & plan  Figure 11: Trench 53; ditches [14] & [16]; view southeast (1m scale)  Figure 12: Ditches [14] & [16]; section and plan  Figure 13: Site location (west) with trench locations in relation to the geophysical survey results  Figure 14: Trench 67: view looking north-east (2m scale)  Figure 15: Trench 71, gully [04]; view south (1m scale)	9 .10 .11 .12 .13 .14 .15 .15
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)  Figure 10: Ditches [17] & [19]: section & plan  Figure 11: Trench 53; ditches [14] & [16]; view southeast (1m scale)  Figure 13: Site location (west) with trench locations in relation to the geophysical survey results  Figure 14: Trench 67: view looking north-east (2m scale)	9 . 10 . 11 . 12 . 13 . 14 . 15 . 16 . 17
Figure 2: Site location (east) with trench locations in relation to the geophysical survey results  Figure 3: Trench 9: view northwest (2m scale)  Figure 4: Trench 30; view north (2m scale)  Figure 5: Trench 38: view north (2m scale)  Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data  Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)  Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections  Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)  Figure 10: Ditches [17] & [19]: section & plan  Figure 11: Trench 53; ditches [14] & [16]; view southeast (1m scale)  Figure 13: Site location (west) with trench locations in relation to the geophysical survey results  Figure 14: Trench 67: view looking north-east (2m scale)  Figure 15: Trench 71, gully [04]; view south (1m scale)  Figure 16: Trench 58, gully [06]; view west (1m scale)	9 . 10 . 11 . 12 . 13 . 14 . 15 . 16 . 19 . 19

## An Archaeological Evaluation at land east and west of Broughton Way, Broughton Astley, Leicestershire [NGR: SK 531 930 & SP 527 931]

#### Roger Kipling

#### **Summary**

An archaeological trial trench evaluation was undertaken in October 2013 at land to the east and west of Broughton Way, Broughton Astley, Leicestershire, by University of Leicester Archaeological Services on behalf of Jelson Ltd. The fieldwork was undertaken in response to an on-going planning application for a mixed use development and following two desk-based assessments and a geophysical survey in order to assess the potential impact of the development on any archaeological remains as may have been present.

The archaeological evaluation, comprising 71 30m by 1.8m trenches, at Broughton Way, Broughton Astley, revealed localised evidence of archaeological activity in the form of a small ditched enclosure likely representing a farmstead of Late Iron Age date in the eastern area.

The site archive will be deposited with the Leicestershire County Council under the accession number X.A162.2013.

#### Introduction

An archaeological evaluation was undertaken on land to the east and west of Broughton Way, Broughton Astley, Leicestershire. Whilst two desk-based assessments (Hunt 2011a and b) had established that there were no known archaeological sites in the assessment area, the geophysical survey identified a few possible discrete and linear anomalies of possible archaeological origin (Smalley 2012a and 2012b). Of note to the centre of the eastern area was an enclosure likely to be of Iron Age or Roman date, suggesting high potential for archaeological remains to be present within the application area.

In consequence the Principal Planning Archaeologist (PPA), Historic & Natural Environment Team (HNET), Leicestershire County Council, recommended the need for a further phase of archaeological investigation comprising a programme of evaluation trenching. The investigation was required in order to provide an adequate sample of the development area and to assess the likely archaeological impact of the development proposals. The agreed scheme was set out in a Written Scheme of Investigation (WSI; ULAS 2013).

The fieldwork specified was intended to provide further indications of the character and extent of any buried archaeological remains in order that the potential impact of the development on such remains might be assessed. Fieldwork was carried out in October 2013 and involved the machine excavation of 71 trial trenches in order to provide the 2% sample of the development area requested by the Leicestershire County Council Senior Planning Archaeologist as advisor to the planning authority.

The archaeological evaluation was undertaken in accordance with National Planning Policy Framework Section 12: Conserving and Enhancing the Historic Environment (DCLG March 2012). All archaeological work followed the Institute for Archaeologists (IfA) Code of Conduct (2010) and adhered to their *Standard and Guidance for Archaeological Field Evaluation* (2008). The LCC *Guidelines and Procedures for Archaeological work Leicestershire and Rutland* (1997) was also adhered to.

#### Site Description, Topography and Geology

The proposed development comprises two sites located on the east and west sides of the B581 Broughton Way at the northern edge of the village of Broughton Astley (SP 531 930 and SP 527 931. The eastern site consists of three fields and covers 18.2 ha; a public footpath runs through the westernmost field leading east and then turning to the north. This field rises in its centre but appears largely flat. The south-eastern field rises from west to east and the north-eastern field undulates and rises to the north-east. The western site comprises 3.2 ha. at a height of approximately 79m OD and currently consists of a flat sub-rectangular field.

The Geological Survey of England & Wales, Sheet 169 (Coventry) shows that the geology of the sites would comprise alluvium and river terrace deposits, overlying Till, with the alluvium and river terrace deposits concentrated on the western side of the assessment area. The land falls from around 92m OD in the eastern part of the site to around 79m OD at the western edge.

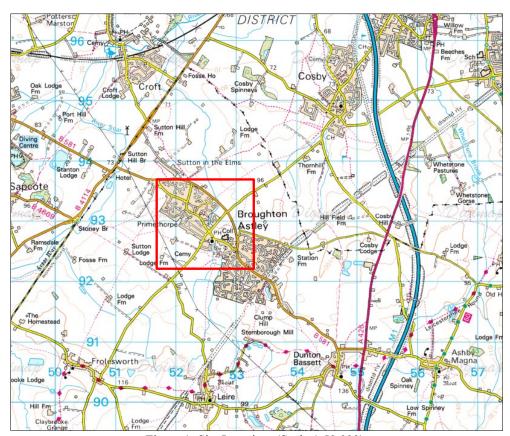


Figure 1: Site Location (Scale 1:50 000)

Reproduced from the Landranger 1:50000 map by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown Copyright 1996. All rights reserved. Licence number AL 100029495

#### Archaeological and Historical Background

Two desk based assessments were undertaken for the areas (Hunt 2011a and b). The Historic Environment Record (HER) for the area shows that there are no known archaeological sites in the assessment area itself. However, there are a few archaeological sites in the vicinity of the assessment area and these are summarised below.

The only known prehistoric site in the area is located to the west of Clump Hill, 1.5km south of the assessment area. Two burials, one disturbed were found during groundworks in 1926. The intact burial contained a flint dagger dated to the Late Neolithic-Early Bronze Age period (3000-1500 B.C) (MLE1318).

A Roman coin was found in a field south-west of Hall Farm, around 1.5km south of the assessment area (MLE7818). Roman pottery has been found at a site close to Sutton Chapel, 1km north-west of the assessment area (MLE7820).

Anglo-Saxon pottery was also found at the site mentioned above (MLE7820), further medieval remains lie nearby (MLE1310), suggesting an area of settlement.

The assessment area lies around 500m to the north-east of the medieval settlement core of Broughton Astley (MLE9437) and around 300m east of the settlement core of Primethorpe (MLE9445). The village would have appeared to have initially shrunk in size, possibly during the medieval period or post-medieval period. This has left areas containing the remains of earthworks. One group of these lies 200m south-west of the assessment area (MLE1306). The site of a medieval mill lies around 700m to the south-west of the site (MLE1304); a later mill was built here (MLE1305). Sherds of medieval pottery have been found around 450m south-west of the assessment area at 65, Old Mill Road (MLE9447) and the site lies around 400m north-east of the medieval church of St Mary (MLE10982).

Around 300m to the south-west of the assessment area lies the White Horse Inn, which is said to incorporate substantial remains of a medieval manor house. To the west of the Inn cobbled floors and 17th century and later coins have been found; a documentary reference in 1301 refers to 'herbage, garden, dovehouse and vivaries' (MLE1317). A group of post-medieval earthworks are located around 700m south of the site (MLE1301).

There are two post-medieval buildings in the vicinity. Both are some distance away from the assessment area. The late 18th century field barn and byre at Broughton Lane lies over 1km south-west of the site (MLE11004) and the 18th century Baptist Chapel at Sutton-in-the-Elms lies over 1km to the north-west (MLE11016). The remains of a post-medieval hall, later known as Arkwright Cottages were situated in Broughton, around 800m south of the site. They were demolished in 1991 (MLE1319). The site of a post-medieval windmill lies around 300m to the north-east of the site (MLE1303). A small post-medieval coin was found at the White Horse Inn (see above) in 1881 (MLE7343). The remains of post-medieval garden feature have been found in Rectory Gardens, 600m to the south-west of the site (MLE1320).

The geophysical survey identified a few possible discrete and linear anomalies of possible archaeological origin (Smalley 2012a and 2012b). Of note to the centre of the eastern area is an enclosure likely to be of Iron Age or Roman date.

#### **Aims and Objectives**

The archaeological evaluation had the potential to contribute to the following research aims.

Mesolithic (Myers 2006; Knight et al 2012, English Heritage 2010)

• The exploitation of stream side locations during the Mesolithic (Myers 2006). Palaeoenvironmental evidence could provide information on land use.

Neolithic and Early Middle Bronze Age (Clay 2006; Knight et al 2012; English Heritage 2010)

• The development of ceremonial monuments and their environs – the e contains several prehistoric ceremonial landscapes and the scheme may uncover archaeological assets associated with these. Palaeoenvironmental evidence may provide information on agricultural practices and land use.

Late Iron Age (Willis 2006; Knight et al 2012; English Heritage 2010)

• There are Iron Age settlements in the vicinity of the scheme. Information on the sequence and chronology of settlements may be recovered and palaeoenvironmental evidence could provide information on agricultural practices and land use. Artefacts can provide evidence for evidence for craft industry and exchange across broad landscape areas.

The Roman Period (Taylor 2006; Knight et al 2012; English Heritage 2012)

• There are several Roman sites within the study area including enclosures and a Roman road. The evaluations may contribute to knowledge on Iron Age – Roman transitions in rural settlement, landscape and society. Artefacts may identify trade links and economy.

The general aims of the evaluation were as follows:

- To determine the location, extent, date, character, condition, significance and quality of any archaeological remains within the development site
- To assess vulnerability/sensitivity of any exposed remains
- To provide sufficient information on the archaeological potential of the site to enable the archaeological implications of the proposed development to be assessed
- To assess the impact of previous land use on the site
- To inform a strategy to avoid or mitigate impacts of the proposed development on surviving archaeological remains
- To produce a site archive for deposition with an appropriate museum and to provide information for accession to the Leicestershire HER.

Specific evaluation aims were to:-

 Seek to establish the nature of the geophysical anomalies and to determine if they are of archaeological significance

The evaluation was undertaken in order to enable reasoned and informed recommendations to be made to the local planning authority and, if appropriate, a suitable mitigation strategy for the proposed development to be formulated.

The design specification conforms to the requirements of the National Planning Policy Framework (2012). It has been designed in accordance with current best archaeological practice and the appropriate national standards and guidelines including:

- *Management of Archaeological Projects* (English Heritage, 1991);
- Model Briefs and Specifications for Archaeological Assessments and Field Evaluations (Association of County Archaeological Officers, 1994);
- *Code of Conduct* (Institute for Archaeologists, 2010);
- Standard and Guidance for Archaeological Field Evaluations (Institute for Archaeologists, 2010);
- Standards for Field Archaeology in the East of England (Association of Local Government Officers, 2003);
- Guidelines and Procedures for Archaeological work in Leicestershire and Rutland (Leicestershire County Council 1997)

#### Methodology

#### Archaeological Trial Trenches

Prior to the commencement of works a Leicestershire County Council Museums Accession Code was obtained and the required archive deposition forms completed. An OASIS online record was initiated and the key fields completed.

Following recommendations from the Senior Planning Archaeologist (SPA), Historic & Natural Environment Team (HNET), Leicestershire County Council, a programme of evaluation trenching was undertaken.

As the majority of the western area is to remain as open space and not be the subject of landscaping, trenching concentrated on the eastern half of the area, where the residential development will take place. Consequently a 2% sample of this area was examined, comprising 3834m², the equivalent of 71 30m by 1.8m trenches. Trench locations were in accordance with plans set out in the WSI, with a handheld GPS unit employed to position trenches targeting possible geophysical surveyed archaeological signals.

Topsoil and overburden was removed by a mechanical excavator using a toothless ditching bucket (c.1.8m wide), under archaeological supervision. The spoil generated during the evaluation was mounded away from the edges of each trench. Topsoil and subsoil was stored separately. Mechanical excavation ceased at undisturbed natural deposits.

The trenches were recorded at an appropriate scale by measured drawing and photography and were located to Ordnance Survey National Grid. A photographic record, utilising black and white negative film, supplemented by high resolution digital data capture, was maintained during the course of the fieldwork and included:

- the site prior to commencement of fieldwork;
- the site during work, showing specific stages of fieldwork;

Upon completion of the evaluation trenching, the excavated trenches were backfilled and loosely compacted.

#### **Results**

As set out in the Written Scheme of Investigation (ULAS 2013), 3834m<sup>2</sup> of archaeological trial trenches (71 trenches each 30 m in length and c.1.8m wide were excavated.

Excavation was undertaken using a  $360^{\circ}$  mechanical excavator fitted with a 1.8m wide toothless ditching bucket, with topsoil and overburden removed carefully in level spits, under continuous archaeological supervision.

Trenches were located in two principal areas, with **Trenches 56-71** located in the two fields west of Broughton Way, and **Trenches 1-55** on land bordered by Broughton Way and Cottage Lane, the latter principally targeting the probable ditched enclosure.



Figure 2: Site location (east) with trench locations in relation to the geophysical survey results

#### The Eastern Area (Trenches 1-55)

The area to the east of Broughton Way and north of Cottage Lane comprised three fields under arable cultivation. A total of 25 trenches (1-25) measuring 30m x 1.8m (**Trench 9** in Figure 3 pictured as an example) was opened in the two eastern fields, revealing a broadly similar sequence of 0.15m-0.30m of mid grey-brown clay loam topsoil overlying 0.10m-0.54m of mid yellow-brown sandy clay subsoil. The underlying sandy natural clay varied in colour between reddish-brown and yellowish brown. There were no indications of archaeological deposits beyond evidence of medieval plough furrows in several trenches.



Figure 3: Trench 9: view northwest (2m scale)

With the notable exception of those targeting the ditched enclosure, all of the trenches opened in the third, western field (**Trenches 26-45 & 49-50**) were archaeologically blank save for further indications of medieval plough furrows, as revealed by the geophysical survey. Some geological variations were evident, with a tendency for natural clays to the south, for example in **Trench 30** (Figure 4), and markedly sandier drift deposits towards the northwest (**Trench 38**) (Figure 5).



Figure 4: Trench 30; view north (2m scale)



Figure 5: Trench 38: view north (2m scale)

As anticipated by the geophysical survey, a small ditched enclosure was located in the central eastern area, at the brow of a westward slope and measuring c.60m square and aligned north-west to south-east (Figure 6). The fourth (eastern) side was absent, likely due to plough erosion. There were indications of a single hornwork entrance positioned midway along the southern side. The survey suggested the presence of several internal features, including post-holes and gullies, the latter perhaps representing internal subdivisions. **Trenches 46**, **48**, **52**, **53** & **54** targeted the external ditch and Trenches 47 (located off the plan), whilst **Trenches 47** & **55** were located within the internal area. All trenches were positioned using a handheld GPS unit, and resultant features located via EDM survey.

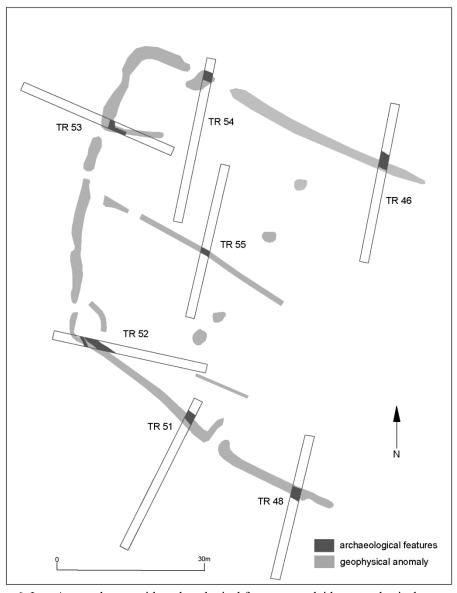


Figure 6: Iron Age enclosure with archaeological features overlaid on geophysical survey data

Three trial sections were hand-excavated across the external ditch in Trenches 46, 48 & 53. **Trench 46**, located on the northern side of the enclosure, revealed four intercutting ditches measuring between 0.40m and 1.58m wide and 0.50m-1.10m deep (Figures 7 & 8). All had similar open v-shaped profiles with 45°-50° sides to a narrow base and grey-brown sandy silt fills. The smallest [12] appeared to be the earliest and

[02] the latest in the sequence, the latter producing several sherds of probable Late Iron Age pottery.



Figure 7: Trench 46; ditches [02], [08], [10] & [12]; view looking south-east (2m scale)

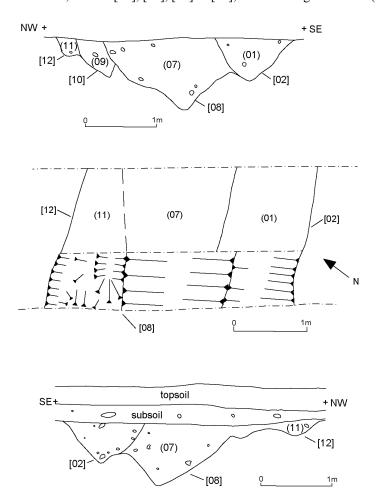


Figure 8: Trench 46: Ditches [02], [08], [10] & [12]: plan & sections

The enclosure ditch as observed on its southern side in **Trench 48** was a less substantial feature, with the earlier of two ditches, [19], measuring 1m wide x 0.35m deep and 30°-45° degree sides to a rounded base (Figures 9 & 10). A similarly sized recut [17] measured 1.35m wide and 0.40m deep and produced Late Iron Age scored decoration pottery.

A third slot was excavated, in **Trench 53** in the north-west corner of the enclosure at the junction of the external ditch [16] and a smaller internal ditch [14] (Figures 11 & 12). Excavation proved inconclusive, although there was a suggestion that the more substantial feature [16] post-dated its smaller companion, which produced a single Late Iron Age pottery sherd.

Results from bulk environmental soil samples taken from the three excavated ditch sections proved negative (Appendix 2).



Figure 9: Trench 48; ditches [17] & [19]; view west (1m & 2m scales)

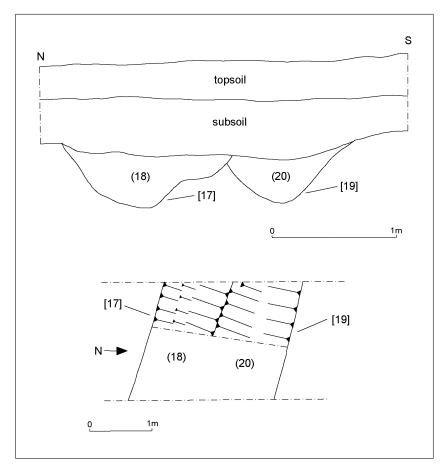


Figure 10: Ditches [17] & [19]: section & plan



Figure 11: Trench 53; ditches [14] & [16]; view southeast (1m scale)

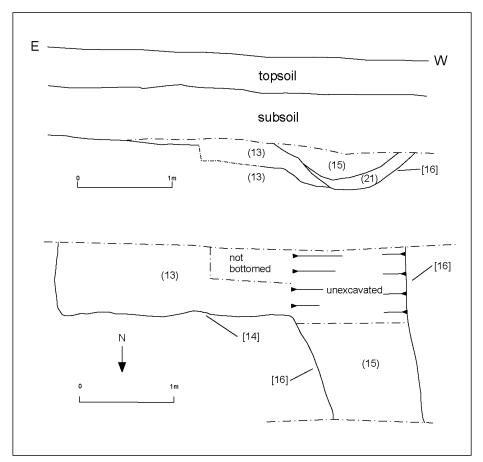


Figure 12: Ditches [14] & [16]; section and plan



Figure 13: Site location (west) with trench locations in relation to the geophysical survey results

#### Western Area (Trenches 56-71)

The western area, comprising two arable fields west of Broughton Way, consisted of a further 16 30m x 1.8m trenches opened in order to (a) target a number of geophysical anomalies and (b) provide representative coverage of the area of development (Figures 2 & 13).

All but two of the trenches proved archaeologically negative (see photograph of **Trench 67** below as a representative example), with trenches revealing a greater prevalence of natural sands and coarse gravels beneath 0.20m-0.30m of topsoil and 0.10m-0.60m of subsoil.



Figure 14: Trench 67: view looking north-east (2m scale)

The sole archaeology present in this area comprised two isolated gullies, the first of which, [04], was located in **Trench 71** (Figure 13) in the north-east corner of the larger field. The truncated, undated feature measured 0.47m wide, 0.24m deep and 1.80m+ in length, with 30°-45° sides to a flattish base and crossed the northern end of the trench on a north-east to south-west alignment (Figures 15 & 17).

The second gully, [06], presented a slightly more open, U-shaped profile than the first, measuring 0.90m wide, 0.50m deep and with 30°-45° sides to an uneven base. Located towards the southern end of **Trench 58**, the feature ran at right angles across the trench on an east-west alignment (Figures 2, 16 & 17). The single mid-grey silty clay fill produced no finds.



Figure 15: Trench 71, gully [04]; view south (1m scale)



Figure 16: Trench 58, gully [06]; view west (1m scale)

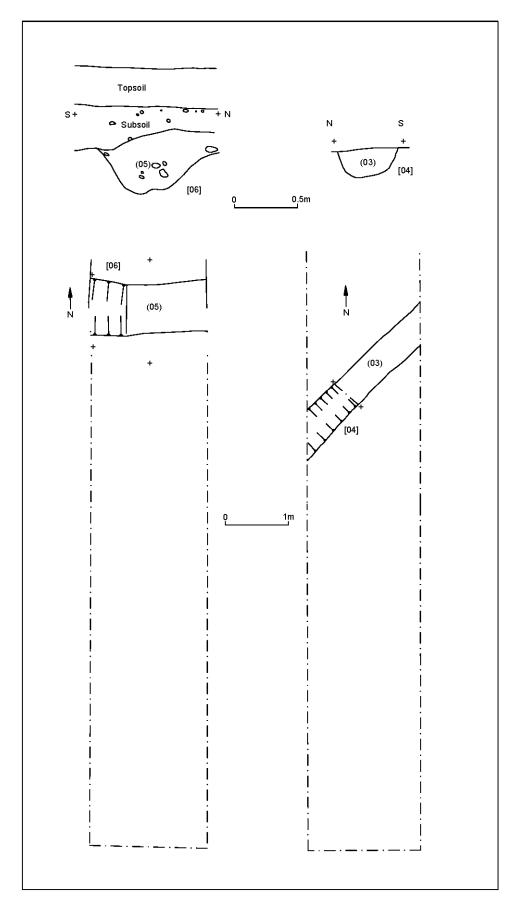


Figure 17: Gullies [04] & [06]

#### **Discussions & Conclusion**

The archaeological evaluation at Broughton Way, Broughton Astley, confirmed the results of an earlier geophysical survey for the presence of a small ditched enclosure of Late Iron Age date. Located in the central eastern area of the site at the brow of a westward slope and measuring  $c.60\mathrm{m}$  square, the enclosure is typical in terms of its form and location of small enclosed sub-rectangular farmsteads of this date encountered in the East Midlands, situated on south-facing slopes and close to water (Clay 2001, 6; Willis 2006). There were limited indications of survival of internal features and/or structures along with hints of more than one phase of structural development.

TRENCH	ORIENTATION	LENGTH AND WIDTH (metres)	DESCRIPTION	DEPTH (MIN- MAX metres)
			Topsoil 0.19-0.34m, subsoil 0.10-0.16m.	0.34-0.50
1	NW-SE	30 x 1.80	No archaeological finds or features.	
_			Topsoil 0.27-0.30m, subsoil 0.16-0.44m.	0.47-0.76
2	NE-SW	30 x 1.80	No archaeological finds or features.	0.65.0.55
	NW CE	Topsoil 0.21-0.29m, subsoil 0.27-0.42m.	0.65-0.77	
3	NW-SE	30 x 1.80	No archaeological finds or features.	0.00.1.10
4	NIW CE	20 1.00	Topsoil 0.26-0.30m, subsoil 0.20-0.42m.	0.88-1.10
4	NW-SE	30 x 1.80	No archaeological finds or deposits.	0.57.0.93
5	CW NE	20 - 1 90	Topsoil 0.23-0.31m, subsoil 0.16-0.36m.	0.57-0.82
5	SW-NE	30 x 1.80	No archaeological finds or deposits.  Topsoil 0.22-0.28m, subsoil 0.10-0.23m.	0.41-0.74
6	SW-NE	30 x 1.80	No archaeological finds or deposits.	0.41-0.74
U	SW-INE	30 X 1.00	Topsoil 0.20-0.30m, subsoil 0.10-0.37m.	0.47-0.63
7	NW-SE	30 x 1.80	Possible pit.	0.47-0.03
,	TTTV-5L	30 X 1.00	Topsoil 0.21-0.28m, subsoil 0.16-0.28m.	0.60-0.63
8	8 NE-SW 30 x 1.80		No archaeological finds or deposits.	0.00-0.03
U	0 IVL-5W		Topsoil 0.22-0.28m, subsoil 0.04-0.10m.	0.27-0.39
9 NW-SE		30 x 1.80	No archaeological finds or deposits.	0.27 0.05
-			Topsoil 0.22-0.31m, subsoil 0.04-0.14m.	0.23-0.41
10	*		No archaeological finds or deposits.	
	Topsoil 0.18-0.26m, subsoil 0.04-0.11m.		0.27-0.39	
11	1 /		No archaeological finds or deposits.	
	Topsoil 0.26-0.32m, subsoil 0.02-0.13m.		0.36-0.50	
12			No archaeological finds or deposits.	
	Topsoil 0.21-0.29m, subsoil 0.16-0.22m.		0.38-0.54	
13	NE-SW	NE-SW 30 x 1.80 No archaeological finds or deposits.		
	Topsoil 0.18-0.25m, subsoil 0.03-0.			0.18-0.41
14	14 NW-SE 30 x 1.80		No archaeological finds or deposits.	
			Topsoil 0.23-0.30m, subsoil 0.12-0.30m.	0.50-0.60
15	15 NE-SW 30 x 1.80		No archaeological finds or deposits.	0.22.0.20
16	NIW CE	20 1.00	Topsoil 0.18-0.24m, subsoil 0.04-0.15m.	0.22-0.38
16	16 NW-SE 30 x 1.80		No archaeological finds or deposits.	0.26.0.52
17	17 NE CW 20 - 1 90		Topsoil 0.18-0.23m, subsoil 0.08-0.30m. No archaeological finds or deposits.	0.36-0.52
1/	17 NE-SW 30 x 1.80		Topsoil 0.14-0.25m, subsoil 0.09-0.25m.	0.24-0.50
18	N-S	30 x 1.80	No archaeological finds or deposits.	0.24-0.30
10	11-0	JU A 1.0U	Topsoil 0.20-0.25m, subsoil 0.09-0.20m.	0.38-0.43
19	SW-NE 30 x 1.80 No archaeological finds or deposits.			
	Topsoil 0.21-0.30m, subsoil 0.10-0.19			
			1 0p3011 0.21-0.30111, 3u03011 0.10-0.13111.	0.41-0.55

<b>20</b> NW-SE 30	30 x 1.80 No archaeological finds or deposits.
20 NW-SE 3	5 1
<b>21</b> SW-NE 3	Topsoil 0.24-0.32m, subsoil 0.23-0.31m. 0.54-0.76 No archaeological finds or deposits.
ZI SW-NE 3	Topsoil 0.27-0.30m, subsoil 0.12-0.30m. 0.50-0.74
22 NE-SW 3	30 x 1.80 No archaeological finds or deposits.
11E 5W 5	Topsoil 0.26-0.34m, subsoil 0.13-0.23m. 0.50-0.56
23 NW-SE 3	30 x 1.80 No archaeological finds or deposits.
20 1111 22 0	Topsoil 0.30-0.35m, subsoil 0.12-0.23m. 0.56-0.71
24 NW-SE 3	30 x 1.80 No archaeological finds or deposits.
	Topsoil 0.25-0.31m, subsoil 0.13-0.23m. 0.50-0.82
25 SW-NE 3	No archaeological finds or deposits.
	Topsoil 0.23-0.39m, subsoil 0.07-0.16m. 0.35-0.61
26 NW-SE 3	No archaeological finds or deposits.
	Topsoil 0.24-0.34m, subsoil 0.10-0.23m. 0.42-0.62
27 NE-SW 3	No archaeological finds or deposits.
28 NE-SW 3	30 x 1.80 Topsoil 0.23-0.30m, subsoil 0.10-0.20m. 0.42-0.58
	No archaeological finds or deposits.
	Topsoil 0.24-0.31m, subsoil 0.13-0.23m. 0.51-0.62
<b>29</b> E-W 3	No archaeological finds or deposits.
	Topsoil 0.18-0.30m, subsoil 0.08-0.18m. 0.42-0.51
30 NW-SE 3	No archaeological finds or deposits.
21 NIW CD 2	Topsoil 0.23-0.37m, subsoil 0.10-0.25m. 0.40-0.64
31 NW-SE 3	No archaeological finds or deposits.
NIW CE 2	Topsoil 0.26-0.32m, subsoil 0.15-0.29m. 0.51-0.65
32 NW-SE 3	No archaeological finds or deposits.  Topsoil 0.30-0.43m, subsoil 0.29-0.50m. 0.85-1.10
33 N-S 3	Topsoil 0.30-0.43m, subsoil 0.29-0.50m. 0.85-1.10 No archaeological finds or deposits.
33 N-S 3	Topsoil 0.33-0.41m, subsoil 0.31-0.51m. 0.90-1.30
34 NW-SE 3	30 x 1.80 No archaeological finds or deposits.
34 NW-SL 3	Topsoil 0.22-0.34m, subsoil 0.07-0.23m. 0.43-0.65
35 NE-SW 3	No archaeological finds or deposits.
112 5 11	Topsoil 0.27-0.40m, subsoil 0.14-0.28m. 0.57-0.90
36 NW-SE 3	30 x 1.80 No archaeological finds or deposits.
	Topsoil 0.28-0.38m, subsoil 0.30-0.42m. 0.87-1.03
37 NW-SE 3	No archaeological finds or deposits.
	Topsoil 0.26-0.35m, subsoil 0.24-0.31m. 0.65-0.80
38 NW-SE 3	No archaeological finds or deposits.
	Topsoil 0.24-0.32m, subsoil 0.18-0.29m. 0.52-0.75
39 SW-NE 3	No archaeological finds or deposits.
	Topsoil 0.29-0.33m, subsoil 0.18-0.46m. 0.73-0.85
40 NW-SE 3	No archaeological finds or deposits.
	Topsoil 0.24-0.36m, subsoil 0.15-0.41m. 0.59-0.92
41 SW-NE 3	No archaeological finds or deposits.
A2 NIW CE 2	Topsoil 0.25-0.40m, subsoil 0.27-0.80m. 1.00-1.10
42 NW-SE 3	No archaeological finds or deposits.
43 NW-SE 30	Topsoil 0.24-0.30m, subsoil 0.10-0.54m. 0.73-1.10 No archaeological finds or deposits.
43 NW-SE 3	Topsoil 0.22-0.27m, subsoil 0.19-0.27m. 0.42-0.72
44 NW-SE 3	30 x 1.80 No archaeological finds or deposits.
11111-1512	Topsoil 0.21-0.32m, subsoil 0.11-0.28m. 0.40-0.73
45 N-S 3	No archaeological finds or deposits.
2.2	Topsoil 0.19-0.28m, subsoil 0.10-0.16m. 0.40-0.53
46 NW-SE 3	30 x 1.80 Enclosure ditches [02, 08, 10, 12].
	Topsoil 0.22-0.30m, subsoil 0.10-0.50m. 0.32-0.79
47 N-S 3	No archaeological finds or deposits.
	Topsoil 0.20-0.35m, subsoil 0.35-0.55m. 0.64-1.04
48 N-S 3	30 x 1.80 Enclosure ditches [17 & 19].
49 E-W 3	Topsoil 0.25-0.36m, subsoil 0.30-0.50m. 0.80-0.85 No archaeological finds or deposits.

	Topsoil 0.25-0.35m, subsoil 0.15-0.						
50	N-S	30 x 1.80	No archaeological finds or deposits.	0.60-0.70			
			Topsoil 0.25-0.35m, subsoil 0.15-0.40m.	0.70-0.80			
51	N-S	30 x 1.80	Enclosure ditch (not numbered).				
			Topsoil 0.30-0.30m, subsoil 0.20-0.40m.	0.55-0.90			
52	E-W	30 x 1.80	Enclosure ditch (not recorded)				
			Topsoil 0.30-0.35m, subsoil 0.30-0.50m.	0.70-1.10			
53	W-E	30 x 1.80	Ditches [14] & [16]				
			Topsoil 0.25-0.40m, subsoil 0.20-0.50m.	0.70-0.90			
54							
			Topsoil 0.30-0.40m, subsoil 0.40-0.50m.	0.80-1.00			
55	N-S	30 x 1.80	No archaeological finds or deposits.				
	)	20 100	Topsoil 0.22-0.28m, subsoil 0.15-0.20m.	0.48-0.64			
56	NW-SE	30 x 1.80	No archaeological finds or deposits.	0.60.0.72			
	NG	20 100	Topsoil 0.25-0.28m, subsoil 0.14-0.30m.	0.60-0.72			
57	N-S	30 x 1.80	No archaeological finds or deposits.	0.60.0.60			
50	N C	20 1 90	Topsoil 0.30-0.30m, subsoil 0.20-0.30m.	0.60-0.60			
58	N-S	30 x 1.80	Gully [06]	0.22.0.22			
59	NW-SE	30 x 1.80	Topsoil 0.16-0.25m, subsoil 0.06-0.10m. No archaeological finds or deposits.	0.22-0.33			
39	IN W -SE	30 X 1.60	Topsoil 0.18-0.26m, subsoil 0.12-0.36m.	0.55-0.75			
60	E-W	0.55-0.75					
00	60 E-W 30 x 1.80		No archaeological finds or deposits.  Topsoil 0.20-0.20m, subsoil 0.20-0.20m.	0.50-0.50			
61	N-S	30 x 1.80	No archaeological finds or deposits.	0.50-0.50			
01	11.5	Topsoil 0.20-0.30m, subsoil 0.28-0.36		0.66-0.80			
62	NE-SW	*		0.00 0.00			
			Topsoil 0.20-0.25m, subsoil 0.36-0.67m.	0.74-0.92			
63	NW-SE	30 x 1.80	No archaeological finds or deposits.				
			Topsoil 0.20-0.25m, subsoil 0.18-0.33m. 0.56-0.				
64	N-S	30 x 1.80	No archaeological finds or deposits.				
			Topsoil 0.14-0.26m, subsoil 0.31-0.53m.	0.66-0.95			
65	<b>65</b> E-W 30 x 1.80		No archaeological finds or deposits.				
			Topsoil 0.18-0.45m, subsoil 0.29-0.57m.	0.71-0.99			
66	NW-SE	30 x 1.80	No archaeological finds or deposits.				
			Topsoil 0.20-0.38m, subsoil 0.18-0.53m.	0.44-0.82			
67	SW-NE	30 x 1.80	No archaeological finds or deposits.	0.25 0.50			
60	OTT NE	20 100	Topsoil 0.18-0.32m, subsoil 0.10-0.17m.	0.37-0.50			
68	SW-NE	30 x 1.80	No archaeological finds or deposits.	0.40.0.62			
(0)	CWAID	20 1 00	Topsoil 0.18-0.25m, subsoil 0.14-0.33m.	0.48-0.63			
69	SW-NE	30 x 1.80	No archaeological finds or deposits.	0.50.0.62			
70	NIW CE	20 - 1 90	Topsoil 0.18-0.28m, subsoil 0.20-0.41m.	0.50-0.62			
70	NW-SE	30 x 1.80	No archaeological finds or deposits.	0.52.0.62			
71	NC	30 v 1 90	Topsoil 0.18-0.29m, subsoil 0.16-0.34m.	0.52-0.62			
71	N-S	30 x 1.80	Gully [04]				

Figure 18: Trench table (shaded entries: archaeology present)

#### **Archive and Publications**

The site archive (X.A41.2013), consisting of paper and photographic records, will be deposited with Leicestershire Museums Service.

The archive consists of:

- 71 trench recording sheets
- Photographic record indices
- 155 digital photographs
- Environmental sample index
- 22 context record sheets
- Context record index
- 4 A3 & A2 drawing record sheets
- 21 Iron Age pottery sherds
- 8 environmental bulk samples
- A risk assessment form

#### **Publication**

A version of the excavation summary (see above) will appear in due course in the *Transactions of the Leicestershire and Rutland Archaeological and Historical Society*.

#### Acknowledgements

Steve Baker, Jon Coward, Ruth Humphrey, Roger Kipling and Jamie Patrick of ULAS undertook the archaeological evaluation on behalf of Jelson Ltd. The project was managed by Patrick Clay. Post-excavation work was undertaken by Nicholas J. Cooper (pottery), Anita Radini and Rachel Small (environmental analysis).

#### **Bibliography**

Brown, D., 2008 Standard and guidance for the preparation of Archaeological Archives (Institute for Archaeologists)

Clay, P; 2001 'Leicestershire and Rutland in the First Millennium BC' *Transactions of the Leicestershire Archaeological and Historical Society* 75, 1-20.

Clay, P., 2006 'The Neolithic and Early to Middle Bronze Age in N. J. Cooper (ed) 2006 69-89.

Cooper, N.J., (Ed) 2006 The Archaeology of the East Midlands An Archaeological Resource Assessment and Research Agenda. Leicester Archaeology Monograph 13.

Hunt, L; 2011a An Archaeological Desk-Based Assessment for land to the south-east of Cosby Road, Broughton Astley, Leicestershire (SP 527 929). ULAS Report 2011-054

Hunt, L; 2011b An Archaeological Desk-Based Assessment for land to the east of Broughton Way, Broughton Astley, Leicestershire (SP 531 930) ULAS Report 2011-055

IfA, 2008 Codes of Conduct and Standards and Guidance for Archaeological Field Evaluation

Kipling, R., 2013 An Archaeological Desk-Based Assessment of Land at Quorn County Farms Estate, Farley Way, Quorn, Leicestershire ULAS Report 2013-026

Knight, D. Vyner, B. and Allen, C. 2012, *East Midlands Heritage. An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands*. Nottingham Archaeological Monographs 6, University of Nottingham and York Archaeological Trust.

Myers, A., 2006 'The Mesolithic' in N. J. Cooper (Ed) 2006 51-69

Smalley, R., 2013a, Geophysical Survey Report- Land south of Cosby Road, Broughton Astley, Leicestershire Stratascan Report J3021A

Smalley, R., 2013b, Geophysical Survey Report- Land east of Broughton Way, Broughton Astley, Leicestershire Stratascan Report J3021B

ULAS, 2013 Written Scheme of Investigation for Archaeological Work on Land to the East and West of Broughton Way, Broughton Astley, Leicestershire

Taylor, J., 2006 'The Roman Period' in N. J. Cooper (Ed) 2006 137-160.

Willis, S., 2006 'The Later Bronze Age and Iron Age' in N. J. Cooper (Ed) 2006 89-136

#### **Oasis Information**

Project Name	Land at Broughton Way, Broughton Astley,				
	Leicestershire				
Project Type	Archaeological evaluation				
Project Manager	Patrick Clay				
Project Supervisor	Roger Kipling				
Previous/Future work	Development				
Current Land Use	Agricultural				
Development Type	Mixed use				
Reason for Investigation	NPPF				
Position in the Planning Process	Pre-application				
Site Co ordinates	NGR SP 531 930 & SP 527 931				
Start/end dates of field work	October 2013				
Archive Recipient	Jelson Ltd.				
Study Area	3.2ha.				

Roger Kipling ULAS University of Leicester University Road Leicester LE1 7RH Tel:0116 252 2836 Fax: 0116 252 2614

Email: rwk1@le.ac.uk

© ULAS 01/11/2013

#### **Appendix 1: The Middle to Late Iron Age Pottery** *Nicholas J. Cooper*

#### Introduction

A total of 21 sherds of Middle to Late Iron Age pottery weighing 260g with an EVEs value of 0.03 was retrieved from five contexts relating to the enclosure. With an average sherd weight of 16g the assemblage is in relatively good condition.

#### Methodology

The pottery has been analysed by form and fabric using the Leicestershire County Museums prehistoric pottery fabric series (Marsden 2011, 62, Table 1), and quantified by sherd count, weight and EVEs.

#### Analysis of Assemblage by Fabric, Form and Decoration

The full quantified record of the assemblage is presented below Table 1. The forms, fabrics and decoration are typical of East Midlands scored ware assemblages across the region from the 4th century BC to the earlier 1st century AD (Elsdon 1992a, 85, Fig.1 and 2)

Table 1 Quantified record of Iron Age pottery

Iron Age Pot from Broughton Astley XA162.2013										
Context	Cut	Fabric	Form	Rim	Dec	Sherds	Weight	Diam	EVEs	Comment
1	2	Q1	ELS4	Pinch evert	scored	3	20	160	0.03	Plus Fired clay
1	2	Q5	body			1	2			
13		R1	body			1	20			
18	17	S1	body		scored	5	21			
18	17	Q1	body		scored	10	62			Same as 22
22		Q1	body		scored	1	202			Same as 18
Total						21	327		0.03	AvShWt 16g

The vessels in the assemblage are manufactured in a variety of fabrics, but the most common are mineral in origin (quartz fabrics Q1 and 5 and granitic R1), with shell tempering (Fabric S1) more commonly found to the east and south of the county. The prevalence of quartz sand tempering is typical of sites to the south of Leicester such as Enderby (Elsdon 1992b), with granitic fabrics are more common at sites to the north of Leicester such as Humberstone and Beaumont Leys (Marsden 2011, 61) closer to the granodiorite outcrops at Mountsorrel. Whilst both fabrics are represented here, most common is the use of quartz sand tempering (Fabric Q1), which may derive from riverine deposits.

Only one rim is represented in the assemblage, from (1), from a slack shouldered jar with a pinched everted rim (Elsdon 1992a fig.1.4 or 1.7). Of note (22) contained a large sherd from a large thick-bodied jar with scored decoration which appears to be from the same vessel as those from (18). Scored decoration is prevalent amongst the group and this may point to the assemblage being Late Iron Age in date.

#### **Bibliography**

Elsdon, S.M., 1992a 'East Midlands Scored Ware' TLAHS 66, 83-91.

- Elsdon, S.M., 1992b 'Iron Age pottery' *in* P. Clay 'An Iron Age Farmstead at Grove Farm, Enderby, Leicestershire', 38-52, *TLAHS* **66**, 1-82.
- Marsden, P., 2011 The Prehistoric pottery and briquetage in J. Thomas, *Two Iron Age Aggregated Settlements in the Environs of Leicester: Excavations at Beaumont Leys and Humberstone*, Leicester Archaeology Monograph 19, 61-80. Leicester: University of Leicester, School of Archaeology and Ancient History.

#### **Appendix 2: The Environmental Evidence**Anita Radini & Rachel Small

During an archaeological evaluation at Broughton Astley, conducted by the University of Leicester Archaeological Services, six samples were taken for the recovery of plant and other remains in order to assess the potential preservation of evidence about past environment, food production and consumption at the site and possible dating evidence. Six 20-litre soil samples were taken from six ditches: sample 1 (01) [2], 2 (7) [8], 3 (18) [17], 4 (20) [19], 5 (13) [14], 6 (15) [16].

An initial visual inspection of the samples showed them to consist of sandy or sandy clay soil, with some charcoal flecks visible. This initial impression was confirmed by flotation of sub-samples, using a 0.5mm mesh with flotation through a 0.30mm mesh sieve, which resulted in the retrieval of only a limited amount of charcoal flecks, too small to be identified. This material could have been deposited as windblown or waterborne and not relate to activities on the site.

The soil was found not to have potential for archaeobotanical analysis, and no further archaeobotanical analysis is therefore recommended on these samples. However, it is important to take into account that soil conditions can vary widely across different areas of a site, and therefore the implementation of an appropriate sampling strategy is still highly advisable if future archaeological work is undertaken in the area.

#### **Contact Details**

Richard Buckley or Patrick Clay University of Leicester Archaeological Services (ULAS) University of Leicester, University Road, Leicester LE1 7RH

**T:** +44 (0)116 252 2848 **F:** +44 (0)116 252 2614

E: ulas@le.ac.uk w: www.le.ac.uk/ulas











