



Archaeological geophysical survey and trial trench evaluation on land at Gipsy Lane Kettering Northamptonshire

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Authors: John Walford and James West

Illustrator: John Walford



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Authors: John Walford and James West

Illustrator: John Walford

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MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 809 800
www.mola.org.uk
sparry@mola.org.uk

STAFF

Project Manager: Anthony Maull Cert Arch

Text: John Walford BSc MSc

James West BSc MRes

Geophysical Team: John Walford

Peter Kieca MA

Gareth Carmichael BSc

Fieldwork: James West

Laura Gutel BA MA

Illustrations: John Walford

OASIS REPORT FORM

PROJECT DETAILS		OASIS No. molanort1-264962	
Project title	Archaeological geophysical survey and trial trench evaluation on land at Gipsy Lane, Kettering, Northamptonshire		
Short description	In September 2016 an archaeological geophysical survey and trial trench evaluation was carried out by MOLA (Museum of London) Archaeology, on behalf of Manor Oak Homes on land to the west of Gipsy Lane. The evaluation identified no archaeological features pre-dating the furrows indicative of medieval to post-medieval ridge and furrow cultivation. Features identified in the geophysical survey were, upon excavation, deemed to be of geological origin and not of archaeological significance.		
Project type	Trial trench evaluation		
Previous work	Desk based assessment conducted prior to geophysical survey (Crothers 2016). Geophysical survey took place prior to trial trenching.		
Current land use	Arable		
Future work	Unknown		
Monument type and period	Medieval to post-medieval		
Significant finds	-		
PROJECT LOCATION			
County	Northamptonshire		
Site address	Gipsy Lane, Kettering, Northampton		
Easting Northing	NGR SP 85116 79292		
Area (sq m/ha)	3ha		
Height aOD	100-105m aOD		
PROJECT CREATORS			
Organisation	MOLA Northampton		
Project brief originator	MOLA Northampton		
Project Design originator	Manor Oak Homes		
Director/Supervisor	James West		
Project Managers	Anthony Maull (MOLA Northampton)		
Sponsor or funding body	Manor Oak Homes		
PROJECT DATE			
Start date	06/09/2016		
End date	13/09/2016		
ARCHIVES	Location	Contents	
Physical	ENN108449	-	
Paper		Site records (1 archive box)	
Digital		Client report PDF. Survey Data, Photographs	
BIBLIOGRAPHY			
Title	Archaeological geophysical survey and trial trench evaluation on land at Gipsy Lane, Kettering, Northamptonshire, September 2016		
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Archaeological trial trench evaluation and geophysical survey on land at Gipsy Lane, Kettering Northamptonshire

Abstract

In September 2016 an archaeological trial trench evaluation was carried out by MOLA (Museum of London) Archaeology, on behalf of Manor Oak Homes. The evaluation identified no archaeological features pre-dating the furrows of medieval to post-medieval ridge and furrow cultivation. Features identified in the geophysical survey were, upon excavation, deemed to be of geological origin and not of archaeological significance.

1 INTRODUCTION

In September 2016 MOLA were commissioned by Manor Oak Homes to undertake an archaeological trial trench evaluation on land west of Gipsy Lane, Kettering, Northamptonshire (NGR: SP 85116 79292; Fig 1). The works were required in response to a forthcoming planning application for residential development and associated infrastructure, in line with *National Planning Policy Framework* (DCLG 2012).

The Archaeological Advisor for Northamptonshire County Council (NCCAA) had advised that a programme of archaeological geophysical survey and trial trench evaluation should be undertaken to determine the nature and extent of any archaeological remains within the Development Area. This followed an archaeological desk based assessment produced by MOLA (Crothers 2016). The scope of works was outlined in a Method Statement prepared by MOLA (2016).

The evaluation conformed to the Chartered Institute for Archaeologists' *Standard and guidance for archaeological geophysical survey* (2014a) and *Standard and guidance for archaeological field evaluation* (2014b). All stages of the project were undertaken in accordance with English Heritage, *Management of Research Projects in the Historic Environment* (MoRPHE) (EH 2006).

2 AIMS AND OBJECTIVES

The main aim of the investigation is to obtain information concerning the presence, character, date and level of preservation of surviving archaeological remains across the site.

The objectives of the project were to:

- Investigate the location, extent, nature, and date of any archaeological features or deposits that may be present at the development site;
- Investigate the integrity and state of preservation of any archaeological features or deposits that may be present;
- To produce a site archive for deposition with an appropriate museum and to provide information for accession to the Northamptonshire Historic Environment Record (HER).

Specific research objectives, where applicable, were drawn from national and regional research frameworks documents (Cooper 2006, Knight *et al* 2012).

3 BACKGROUND

3.1 Location and Topography

The site covers 3ha and lies on land to the west of Gipsy Lane. The current land use is arable. The site is bounded to the north and east by Warren Hill, to the south-east by Gipsy Lane, to the west by the A14 and to the south by Northfield Road (Fig 1).

Topographically the site slopes gently down to the south and is situated at a height of c 100-105m above Ordnance Datum (aOD). The underlying geology has been mapped by the British Geological Survey as comprising Northampton sand formation and Ooidal Ironstone (BGS 2016).

3.2 Historical and archaeological background

A detailed investigation of the historical and archaeological background was conducted by Crothers (2016); a summary of those findings is given below.

Previous archaeological work

No previous archaeological work is known to have taken place on the site but a geophysical survey and an excavation have taken place in the field immediately to the south of the site. The Geophysical survey identified a possible barrow, remnants of former field systems and a number of linear and pit-like anomalies of unknown date. Ridge and furrow cultivation also formed part of the dataset (Attwood 2014). The excavations undertaken in 2015 (ENN107653) supported the previous survey and revealed post-medieval boundaries and trackways (Chinnock and Muldowney 2015). An archaeological survey took place along the course of the A1-M1 link road in 1983-4 (ENN104349) and a scatter of flints was found to the north of the proposed development site. A further scheme of archaeological observation took place along the M1-A1 link road in 1989-94 (ENN104278), now the A14, but nothing was found in the vicinity of the site (Soden and Dix 1995). Fieldwalking, geophysical survey and trial trenching took place further to the south of the site in 2005 (ENN104049). The fieldwalking revealed struck flints and post-medieval pottery, the geophysical survey revealed an east-west anomaly interpreted as a ditch but no archaeology was found during the excavations (Butler *et al* 2005).

Prehistoric

No Neolithic evidence has been found in the site area, however some late Neolithic flints were found c1km to the south of the site (Butler *et al* 2005).

A possible barrow has been identified in the field to the south of the site through geophysical survey. It was represented as a circular ditch with a pit-like anomaly in the centre (Attwood 2014).

A possible Romano-British site (HER3805) lies c 400m to the south-east of the site and unstratified Roman coins of Marcus Aurelius and Carausius (HER3805/0/0) have been found at in the same area.

Medieval

This site is likely to have been within the medieval field systems of Kettering. The Lynches (HER7724/1/1) was a medieval lodge with a rabbit warren (HER7724/1) which stood more than 500m to the east of the site to the north of Hall Field in the north-western part of the township in 1587. It comprised 96 acres of waste and was considered old in 1405. In 1488 pasture there was rented out for 12d and continued to be rented out until at least 1519. The area of the warren is known as a site of medieval activity (HER7724).

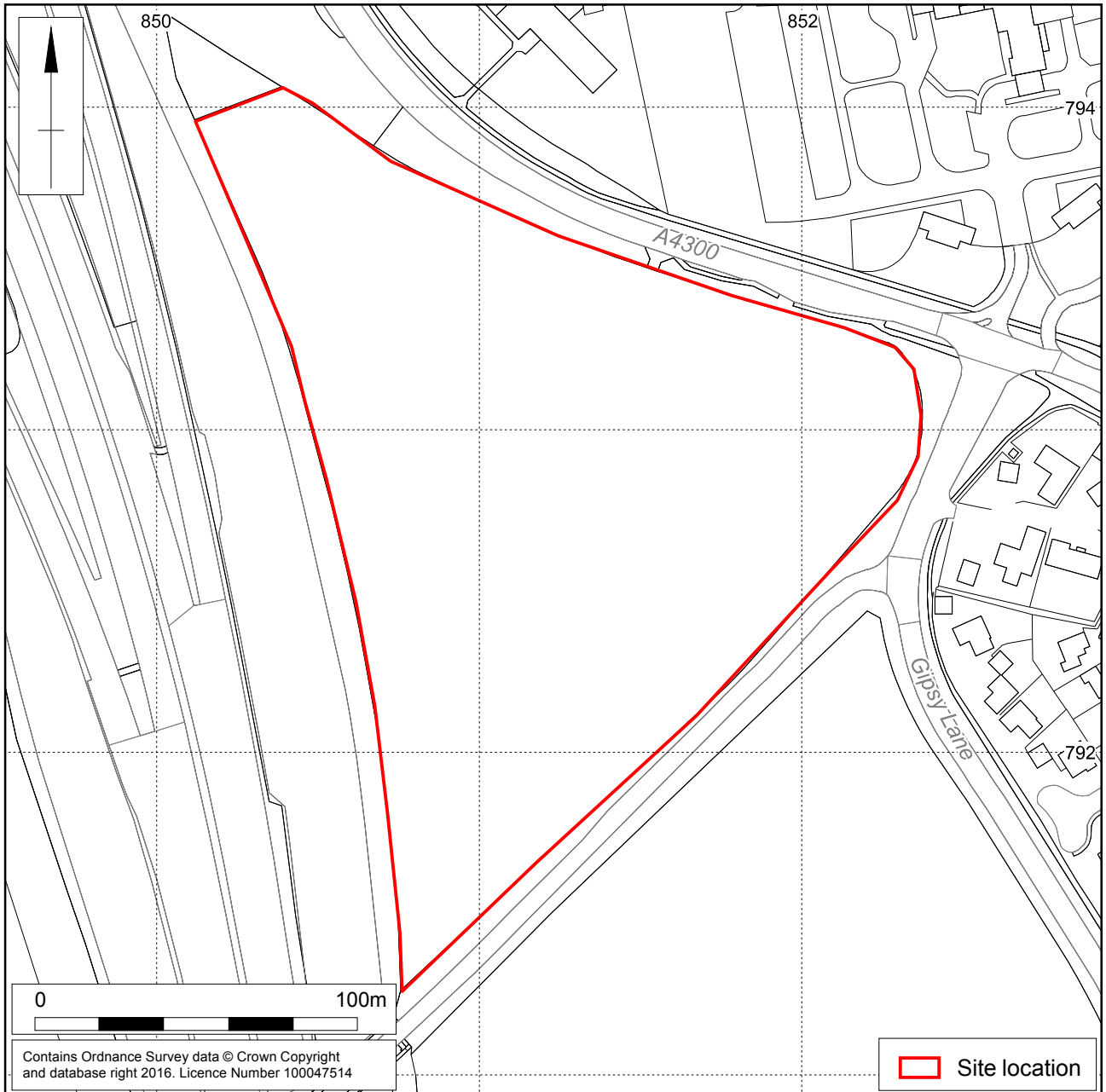
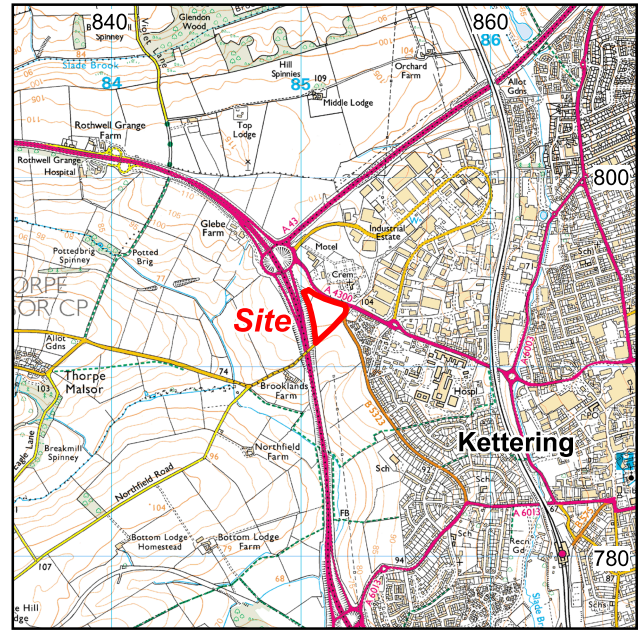
Much of Kettering's medieval road system (HER7198/77) lies less than 300m to the north-east of the site, much of which is no longer extant but the road forming the south-eastern boundary of the site is likely to be medieval in origin (HER7198/238). However, the lane forming the south-east boundary of the site probably originates from this period.

A sherd of Paffrath-type Germanic ware, probably forming part of a ladle was found 1km south of the site and was dated to the 13th century (ENN104049; Butler *et al* 2005).

Post-medieval

All modern maps record the site within fields. The 1932 field name map shows that the site occupied Corner Close and part of Middle Close and Notchwell. Ironstone quarrying began in Kettering in the 1870s by several different companies, and work took place up to but not including the site. Two smelting ironworks were also in operation although they have now been demolished (Foard and Ballinger 2000).

Pottery dating to the 17th, 18th and 19th centuries was found in a field south of this site to the far south of that field during fieldwalking (Butler *et al* 2005; ENN104049).



Scale 1:2000

Site location Fig 1

4 METHODOLOGY

4.1 Geophysical survey

The geophysical survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate magnetic gradiometers (Bartington and Chapman 2004). These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanoTesla (nT).

A network of 30m grid squares was set out across the entire survey area by means of a tape measure and optical square and key grid points were tied in to the Ordnance Survey National Grid by measurement with a Leica Viva RTK GPS. The gradiometers were then carried at a brisk but steady pace through each grid square, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per square. All fieldwork methods complied with the guidelines issued by English Heritage and the ClfA (EH 2008; ClfA 2014a).

The survey data was processed using Geoplot 3.00v software. Striping, caused by slight sensor imbalances, was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed where necessary to correct offsets caused by an uneven survey pace. The processed data is presented in this report in the form of a greyscale plot at a range of +4nT (black) to -4nT (white). This has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). An interpretive overlay is presented in Figure 3, and a plot of the unprocessed survey data in Figure 4.

4.2 Trial trench excavation

The development area was subject to archaeological evaluation through trial trench excavation. Six trial trenches, each measuring 30m long by 1.8m wide, were excavated across the area, targeting anomalies identified in the geophysical data (Fig 1).

The topsoil and overburden were removed by a mechanical excavator, fitted with a toothless ditching bucket, to reveal significant archaeological remains or, where these are absent, the natural substrate. The topsoil was stacked separately from the subsoil and other deposits to allow for appropriate backfilling. This work was carried out under direct archaeological supervision.

All archaeological deposits encountered during the course of the excavation were fully recorded, following standard MOLA procedures (MOLA 2014). All deposits were given a separate context number in a sequence assigned to each trench. They were described on *pro-forma* context sheets to include details of the context, its relationships and interpretation.

All trench locations were recorded using Leica Viva Global Positioning System (GPS) survey equipment using SMARTNET real-time corrections, operating to a 3D tolerance of $\pm 0.05\text{m}$. A full digital photographic record was maintained. The field data from the evaluation has been compiled into a site archive with appropriate cross-referencing.

The photographic archive comprises of high resolution digital photography (12 megapixels or greater). Overall shots of each trench were taken together with detailed shots of individual features and feature groups as appropriate. All photographs, except general site shots or specific shots for publication have included a north arrow. All photographs, where appropriate, have included a suitable photographic scale.

The excavated area and spoil heaps were scanned with a metal detector to ensure maximum finds retrieval.

After monitoring and approval from the NCCAA, the trenches were backfilled with their up-cast, lightly compacted by the mechanical excavator.

5 GEOPHYSICAL SURVEY RESULTS

The survey detected a series of weakly positive, parallel linear anomalies aligned south-west to north-east across the majority of the survey area. Their slightly curving alignments and the regular 8-9m spacing are both typical characteristics of medieval to early post-medieval ridge and furrow cultivation, with the anomalies representing the residual, below-ground traces of the individual furrows.

One broad positive linear anomaly bisects the field from north-west to south east and a small number of narrower, more irregular linear anomalies occur elsewhere. Such anomalies frequently indicate the lines of backfilled ditches, but in this particular case the trenching results (see below) showed that they related to natural fissures and junctions between different geological strata. Likewise, a number of small discrete positive anomalies which could, in principle, have represented backfilled pits, turned out to have natural or indeterminate origins.

A band of intense magnetic disturbance has been detected along the western side of the survey area. This can be firmly attributed to a gas main which runs on the same alignment. A few much smaller anomalies are similarly intense and can be attributed to small and insignificant pieces of ferrous debris within the ploughsoil.



1:2000

Magnetometer survey results Fig 2



1:2000

Magnetometer survey results with trench locations shown Fig 3



1:2000

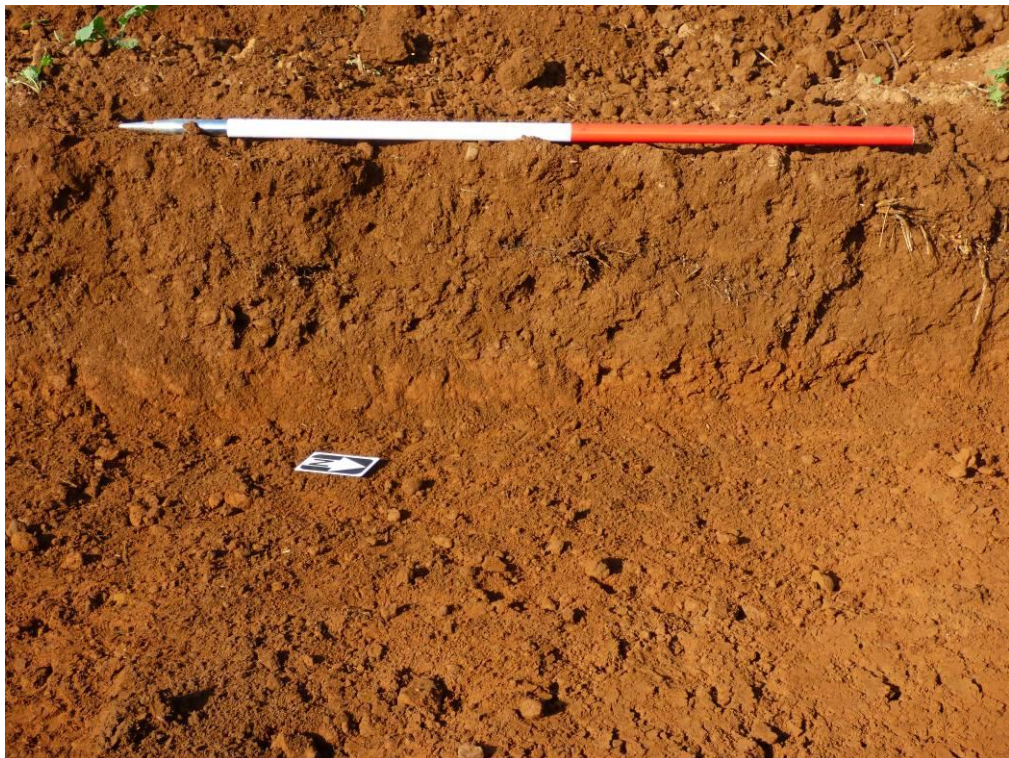
Unprocessed magnetometer data Fig 4

6 THE EXCAVATED EVIDENCE

6.1 General stratigraphy

The stratigraphic sequences remained consistent throughout the majority of the excavated trenches. The natural substrate comprised mid red-brown sandy silt, with frequent sub-angular ironstone fragments throughout. There were occasional patches of light grey sand and degraded ironstone mixed into the mid-brown sandy silt.

Trenches 1 and 3 show a ditch like feature aligned north-west to south-east, upon further investigation it can be determined that this material is a series of sand and ironstone bands layered upon each other, with a higher sand content than the surrounding natural material. Most of the geophysical survey anomalies targeted in the trial trenching proved to be geological anomalies.



Trench 2, representative section, looking south-west Fig 5

Subsoil was present in all trenches, but was no thicker than 0.09m and comprised loose light-mid red-brown sandy silt with no inclusions. The topsoil comprised a loose mid grey-brown sandy silt with no inclusions. The archaeological horizon existed between 0.26 and 0.34m below the present ground surface.

6.2 Trial trenches

The trench locations are shown in Figure 1 and an inventory of contexts is provided in Appendix 1.

Trench 3

This trench, along with Trench 1, was placed to target a large linear positive anomaly identified in the geophysical data aligned north-west to south-east across the site. Upon excavation of the trench the anomaly was proven to be a geological feature. Figure 6 shows the ironstone and sand layered upon each other, with sterile and friable sand underlying the ironstone.



Trench 3, geological feature, looking north-west Fig 6

Trench 4

Furrows, indicative of medieval ridge and furrow cultivation, were identified in the geophysical data across the whole area aligned north-east to south-west. During excavation furrows were only identified in Trench 4 and appeared to correlate well with the geophysical data. Very little of the furrows had survived at the archaeological horizon. An excavated example from this trench measured 3m in width and was 0.03m deep. The furrows parallel to one another and lay approximately 4m apart. No dating evidence was recovered from any of the furrows.

7 DISCUSSION

No archaeological features predating the medieval to post-medieval furrows were identified by the trial trench evaluation and no residual finds were recovered from the topsoil or subsoil. The large linear anomaly identified in the geophysical data has, upon excavation, been interpreted as a geological feature based on the composition of the fills. Nevertheless, it remains possible that the anomaly relates to a sunken track associated, perhaps, with nearby ironstone quarrying in the 19th century. Despite there being no record of ironstone quarries within the development area, though such quarries are commonplace around Kettering. The trial trench evaluation immediately to the south-east of the site contained some evidence of quarrying activity in its north-eastern corner (Chinnock and Muldowney 2015). A detailed account of the ironstone quarrying of the region identifies one such location as 'west of Gipsy Lane' (Tonks 1991). A noticeable dip in the ground level exists in the eastern corner of the present development area which may hint at some disturbed ground at the very edge of or just beyond the field boundary.

Furrows indicative of ridge and furrow cultivation, identified in the geophysical survey, were present in Trench 4. It is likely that the land has remained in agricultural use since the medieval period and prior to Enclosure, formed part of the open field system around Kettering (Crothers 2016). Heavy ploughing of the area may have diminished the archaeological potential of the site, though it is deemed unlikely that significant archaeological remains exist within the development area.

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MOLA Northampton

V1 October 2016

V2 8th December 2016

APPENDIX: CONTEXT INDEX

Trench No	Length, width & alignment	NGR	Surface height	Depth & height of natural
1	30m x 1.80m NE-SW	485102 279333	103.54m aOD	103.28m aOD
<i>Context</i>	<i>Context type Feature & type</i>	<i>Description</i>	<i>Dimensions</i>	<i>Artefacts/ Samples</i>
101	Topsoil	Mid grey-brown sandy-silt	0.22m thick	-
102	Subsoil	Mid red-brown sandy-silt	0.04m thick	-
103	Natural	Mid red-grey sand and ironstone	-	-



Trench 1, general view, looking north-east Fig 7

Trench No	Length, width & alignment	NGR	Surface height	Depth & height of natural
2	30m x 1.80m NW-SE	485102 279299	102.72m aOD	102.46m aOD
Context	Context type Feature & type	Description	Dimensions	Artefacts/ Samples
201	Topsoil	Mid grey-brown sandy-silt	0.23m thick	-
202	Subsoil	Mid red-brown sandy-silt	0.03m thick	-
203	Natural	Mid red-grey sand and ironstone	-	-



Trench 2, general view, looking south-east Fig 8

Trench No	Length, width & alignment	NGR	Surface height	Depth & height of natural
3	30m x 1.80m NE-SW	485146 279284	102.19m aOD	101.92m aOD
Context	Context type Feature & type	Description	Dimensions	Artefacts/ Samples
301	Topsoil	Mid grey-brown sandy-silt	0.21m thick	-
302	Subsoil	Mid red-brown sandy-silt	0.06m thick	-
303	Natural	Mid red-brown sand and Ironstone	-	-
304	Natural	Mid red-grey sand	-	-



Trench 3, general view, looking south-west Fig 9

Trench No	Length, width & alignment	NGR	Surface height	Depth & height of natural
4	30m x 1.80m NE-SW	485197 279298	102.43m aOD	102.09m aOD
Context	Context type Feature & type	Description	Dimensions	Artefacts/ Samples
401	Topsoil	Mid grey-brown sandy-silt	0.25m thick	-
402	Subsoil	Mid red-grey sandy-silt	0.09m thick	-
403	Natural	Light grey-brown sand and degraded ironstone	-	-



Trench 4, general view, looking south-west Fig 10

Trench No	Length, width & alignment	NGR	Surface height	Depth & height of natural
5	30m x 1.80m WNW-ESE	485135 279233	100.80m aOD	100.54m aOD
Context	Context type Feature & type	Description	Dimensions	Artefacts/ Samples
501	Topsoil	Mid grey-brown sandy-silt	0.22m thick	-
502	Subsoil	Mid red-brown sandy-silt	0.04m thick	-
503	Natural	Mid red-brown sand and ironstone	-	-



Trench 5, general view, looking south-east Fig 11

Trench No	Length, width & alignment	NGR	Surface height	Depth & height of natural
6	30m x 1.80m NE-SW	485102 279242	101.50m aOD	101.24m aOD
Context	Context type Feature & type	Description	Dimensions	Artefacts/ Samples
601	Topsoil	Mid grey-brown sandy-silt	0.23m thick	-
602	Subsoil	Mid red-brown sandy-silt	0.03m thick	-
603	Natural	Mid red-grey sand and ironstone	-	-



Trench 6, general view, looking south-east Fig 12



MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 809 800
www.mola.org.uk
business@mola.org.uk