Northamptonshire Archaeology

Archaeological excavation on land at Long Lane, Mulbarton, Norfolk July 2013

Northamptonshire Archaeology
`Bolton House
Wootton Hall Park
Northampton NN4 8BN
t. 01604 700493 f. 01604 702822
e. sparry@northamptonshire.gov.uk
w. www.northantsarchaeology.co.uk

Northamptonshire County Council

Liz Muldowney

Report 13/141

August 2013

ENF 131847

REGISTERED ORGANISATION IfA

STAFF

Project Manager:	Adam Yates BA MIfA
Text:	Liz Muldowney MA
Fieldwork:	Jim Burke Adam Meadows BSc
Metalwork	Tora Hylton
Brick	Pat Chapman BA CMS AIfA
Pottery	Liz Muldowney
Illustrations	Amir Bassir BSc

QUALITY CONTOL

	Print name	Signed	Date
Checked by	Pat Chapman		
Verified by	Adam Yates		
Approved by	Andy Chapman		

OASIS REPORT FORM

PROJECT DETAILS	**Oasis No: 157024**	
Project title	Archaeological excavation on land at Long Lane, Mulbarton, Norfolk, July 2013	
Short description	In July 2013, an archaeological excavation was carried out by Northamptonshire Archaeology, on behalf of CgMs Consulting. The excavation identified the base of a post-medieval brick clamp kiln.	
Project type	Excavation	
Previous work	Geophysical survey	
Current land use	Arable farmland	
Future work	Unknown	
Monument type and period	Post-medieval	
Significant finds	Brick; ceramics and metalwork	
PROJECT LOCATION		
County	Norfolk	
Site address	Long Lane, Mulbarton, Norfolk	
Easting Northing	619660, 299805	
Area (sq m/ha)	50.5 sq.m	
Height aOD	50mAOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Norfolk Museums and Archaeological Services	
Project Design originator	Northamptonshire Archaeology (NA)	
Director/Supervisor	Jim Burke (NA)	
Project Manager	Adam Yates (NA)	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	18/07/2013	
End date	19/07/2013	
ARCHIVES	**Location (Accession no.)**	**Contents**
Physical	ENF131847	Brick, ceramics, metalwork
Paper		Site records (1 archive box)
Digital		Client report PDF. Survey Data, Photographs
BIBLIOGRAPHY		
Title	Archaeological excavation on land at Long Lane, Mulbarton, Norfolk, July 2013	
Serial title & volume	13/141	
Author(s)	Liz Muldowney	
Page numbers	8 text, 4 figs	
Date	August 2013	

Contents

ARCHAEOLOGICAL EXCAVATION ON LAND AT LONG LANE, MULBARTON, NORFOLK

JULY 2013

Abstract

In July 2013, an archaeological excavation was carried out by Northamptonshire Archaeology, on behalf of CgMs Consulting, on land at Long Lane, Mulbarton, Norfolk. The excavation identified the base of a post-medieval brick clamp kiln.

1 INTRODUCTION

In July 2013, an archaeological excavation was carried out by Northamptonshire Archaeology (NA) on land Long Lane, Mulbarton, Norfolk (NGR: TM 19650 99800, Fig 1). The work was commissioned by CgMS Consulting ahead of the proposed development of the land.

The scope of works was outlined and detailed in the Written Scheme of Investigation prepared by Northamptonshire Archaeology (NA 2013). The objectives of the excavation were to determine the presence of any archaeological features or deposits within the application area and to date and characterise their extent, depth of burial and state of preservation.

2 BACKGROUND

2.1 Location and geology

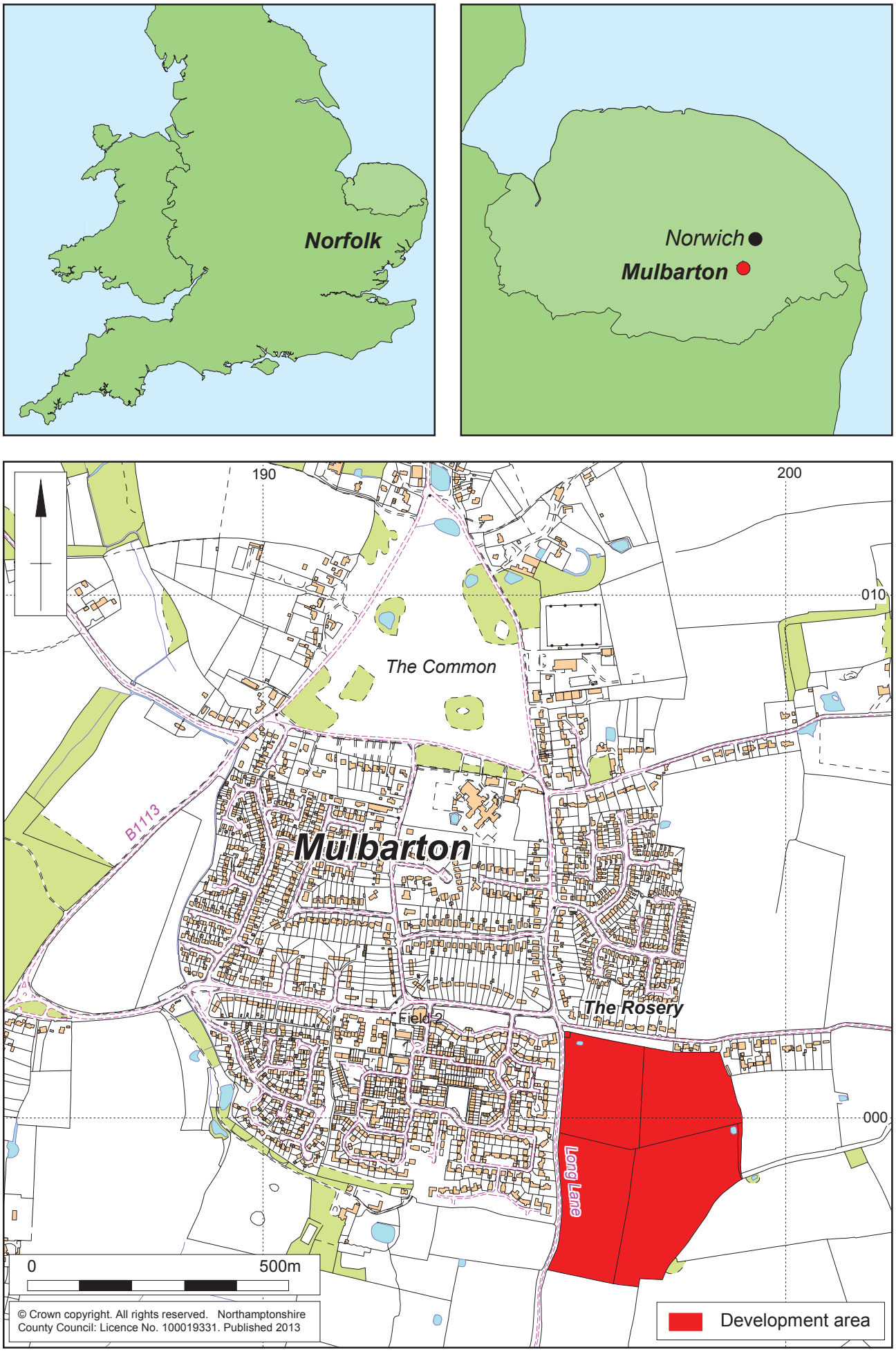
The site lies on the south-eastern side of the village of Mulbarton and currently forms four arable fields. In total the development area encompasses an area of 13.65 ha and is bounded to the north by The Rosery road then residential housing, and to the west by Long Lane, then residential housing, to the east and south by farmland. The underlying geology is White chalk subgroup overlain by Diamicton till (BGS 2013). The excavated portion of the site is at 50m aOD.

2.2 Historical and archaeological background

The site was the subject of an archaeological desk-based assessment carried out in 2011. This concluded that it was unlikely that significant archaeological or historical assets would be encountered within the development area (Howe Malcolm 2011). The following summary is derived from this document.

There were few archaeologically significant features within the vicinity of the development area. A probable Bronze Age barrow is recorded on the Common approximately 1km to the north and there is a deserted medieval settlement at Kenningham.

Metal detected finds dating from the Romano-British and Saxon periods have been recovered 500m to the east. The historic core of Mulbarton lies a considerable distance to the north of the development area, but a hamlet called the Rosery was located just to the north of the development area in the early 19th century.



Scale 1:10,000

Site location Fig 1

A detailed magnetometer survey of the development area was carried out by Northamptonshire Archaeology in April 2013 (Walford 2013). The survey detected linear anomalies relating to old field boundaries and field drains as well as an isolated rectangular anomaly indicative of burnt soil or ceramic debris and an area of similar material contained within a visible hollow in the field (Fig 2). The isolated anomaly was interpreted as a possible kiln, the cluster in the hollow was identified as the possible remnants of a small quarry.

3 METHODOLOGY

The mitigation area was focussed on the rectangular anomaly identified in the geophysical survey and comprised an exploratory trench, designed to confirm the presence of the anomaly, that was subsequently expanded to an area measuring 50.5 sqm (Figs 2 and 3). The excavation area was located using a Leica system 1200 differential GPS.

A 360^{o} tracked mechanical excavator fitted with a 1.9m-wide ditching bucket was used to remove topsoil and subsoil to reveal the archaeological horizon. The excavation area was cleaned sufficiently to enable the identification and definition of archaeological features. A hand-drawn plan of all archaeological features was made at scale 1:50 and was related to the Ordnance Survey National Grid using Leica system 1200 differential GPS. Archaeological features and deposits were examined by hand excavation to determine their nature, date and significance. Recording followed standard NA procedures as described in the *Fieldwork Manual* (NA 2011). Deposits and features were described on *pro-forma* sheets to include measured and descriptive details of the context, its relationships, interpretation and a checklist of associated finds. Context sheets were cross-referenced to scale plans, section drawings and photographs. Photography comprised 35mm black and white film supplemented with high resolution digital images. The section was drawn at scale 1:10 and related to Ordnance Survey datum. Spoil heaps and features were scanned with a metal detector to maximise the recovery of metal objects.

All works were conducted in accordance with the Institute for Archaeologists' *Code of Conduct* (IfA 2010) and *Standard and Guidance for Archaeological Field Excavation* (IfA 2008).

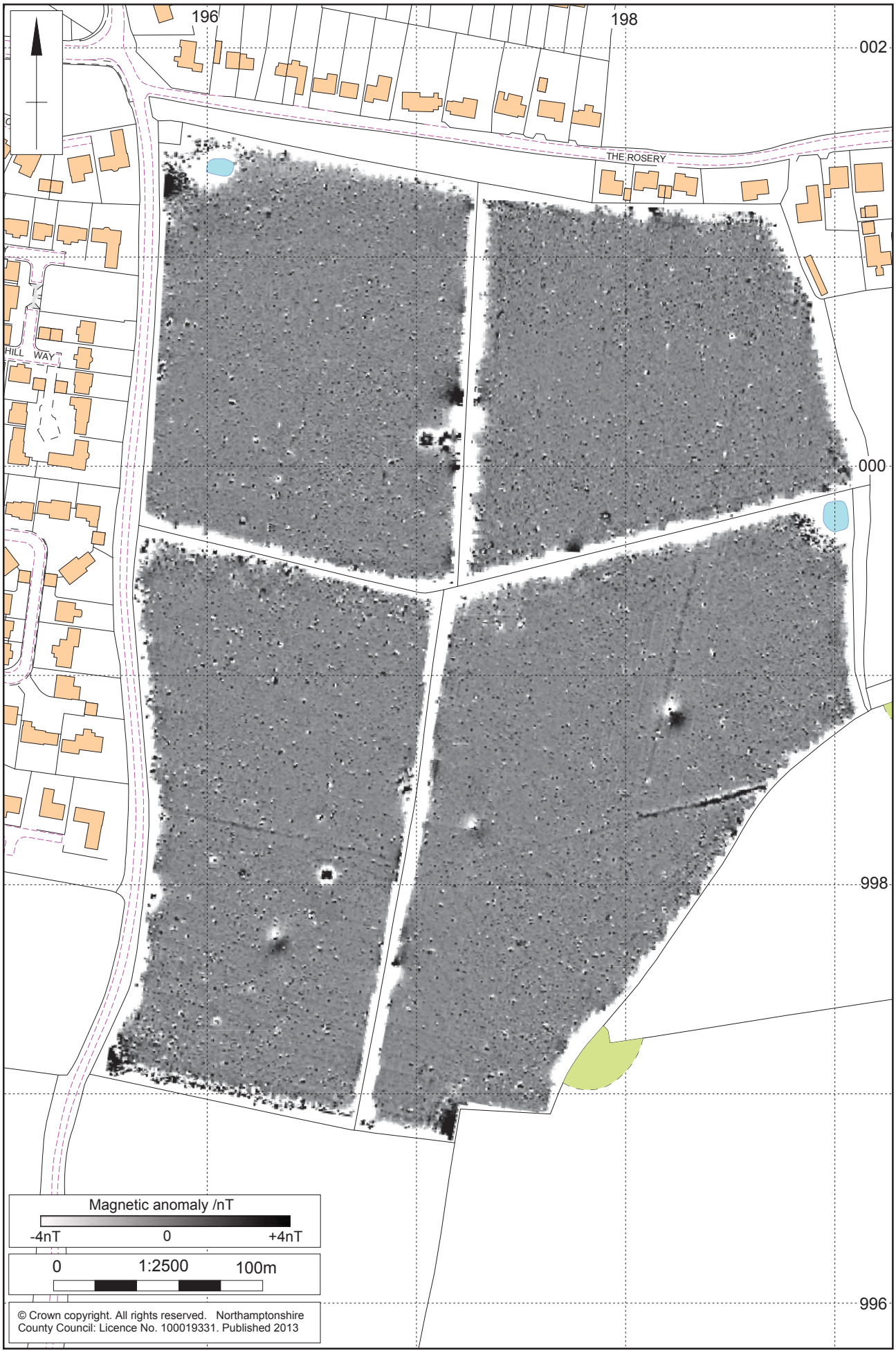
4 THE EXCAVATED EVIDENCE

4.1 Introduction

The results of the mitigation are presented below preceded by a description of the general stratigraphy within the excavated area, full context descriptions are included in the appendix.

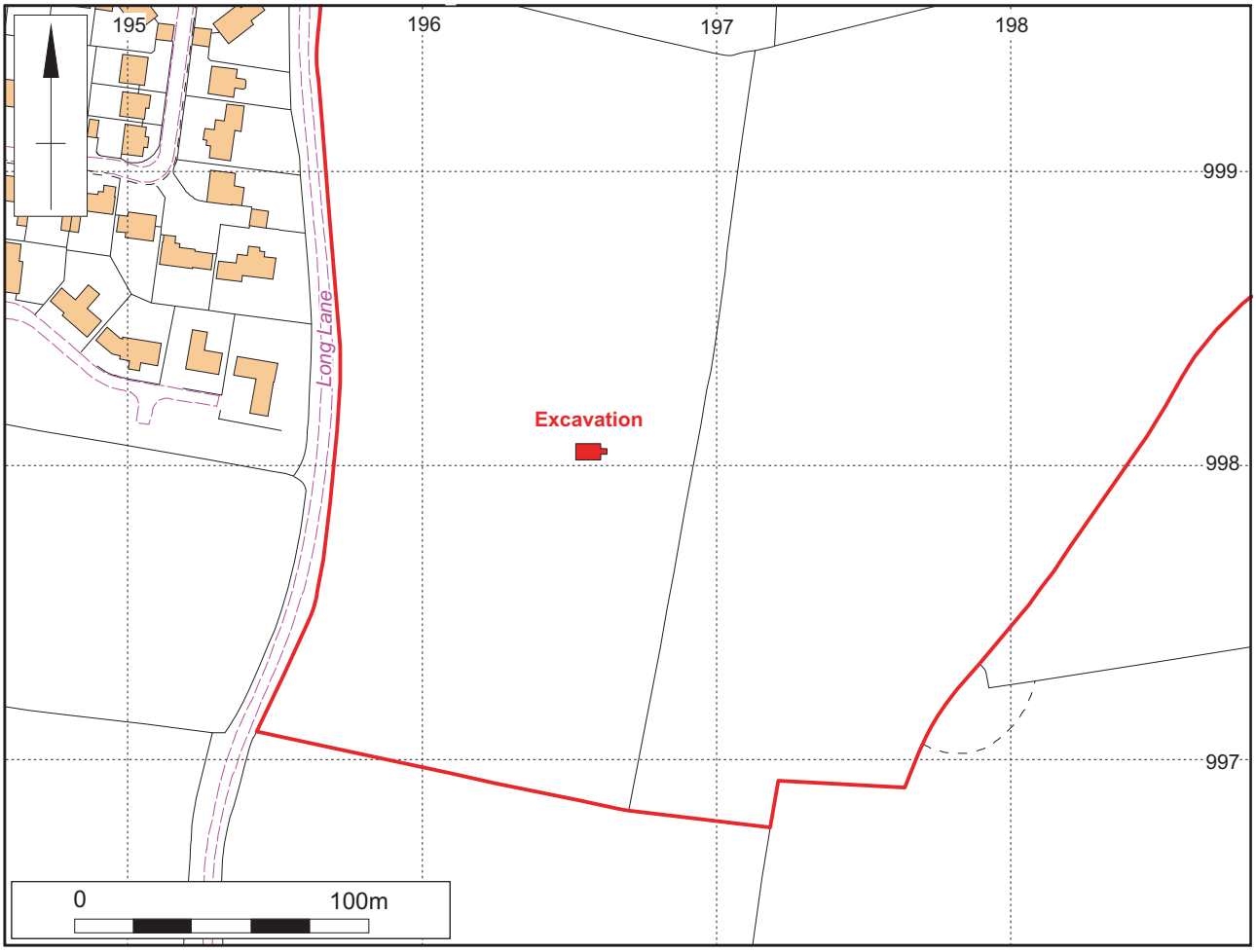
4.2 General stratigraphy

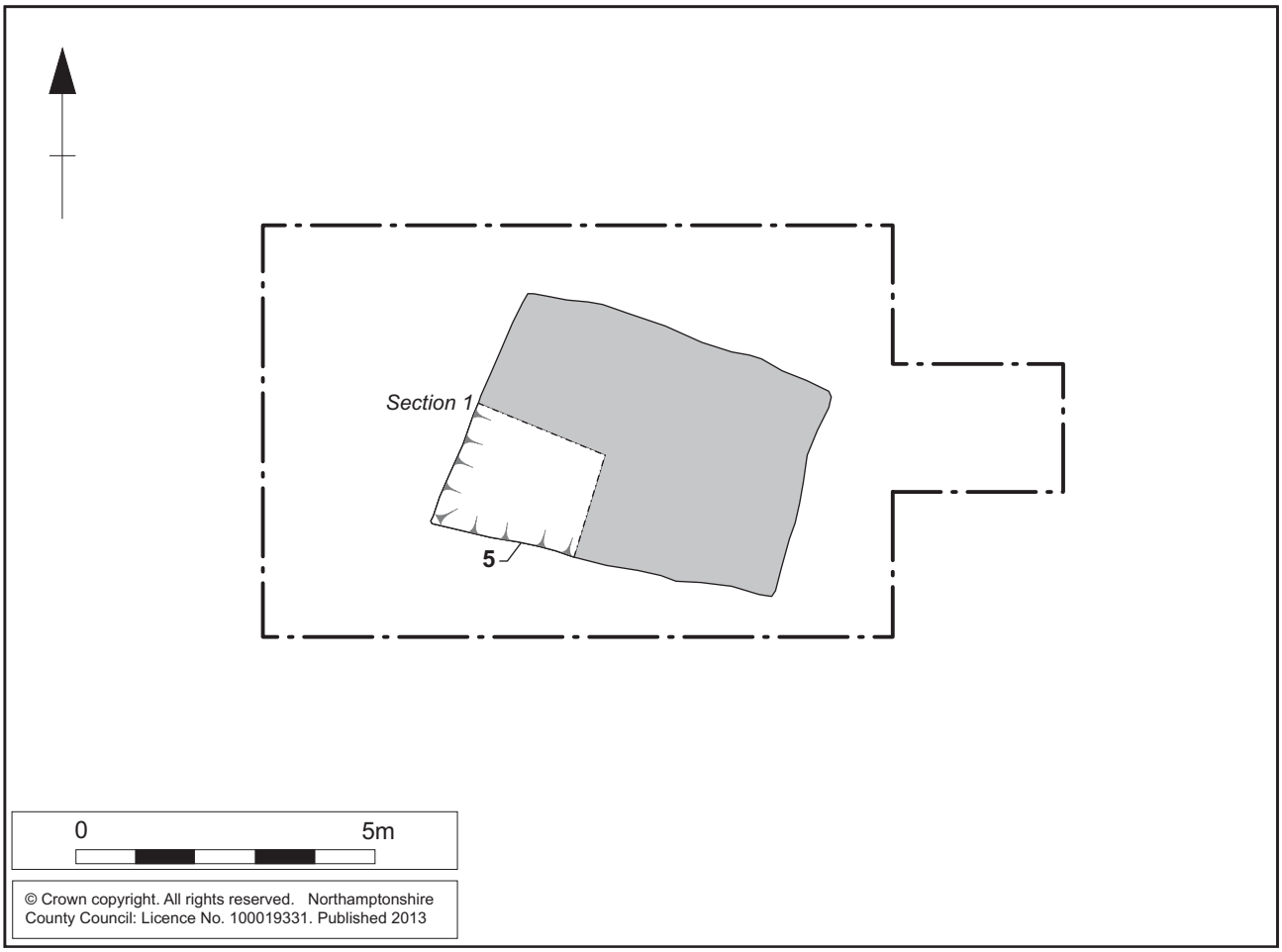
The natural horizon (3) was compact orange-brown sandy clay with moderate large flint nodules. This was overlain by was *c*0.2m of compact mid greyish brown sandy clay subsoil (2) with similar stony inclusions and fragments of brick. The topsoil (1) was compact light greyish brown sandy silt with moderate small flint and chalk fragments throughout, measuring 0.05m deep. Fragments of iron nails and a 19th-century AD heel iron were recovered from this deposit by metal detector. The only pottery recovered from the site was retrieved from the subsoil, and comprised one sherd of salt glazed stoneware dating from the 17th to 18th century and a small sherd of late Romano-British greyware.



1:2500 (A4)

Magnetometer survey results Fig 2





Scale 1:100 (A4)

Site plans Fig 3

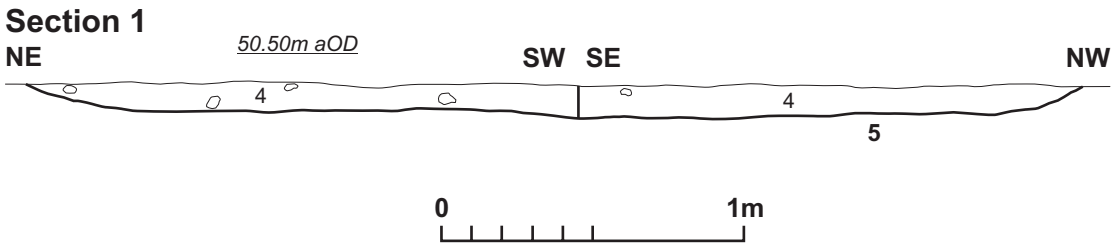
4.3 Brick clamp kiln

The geophysical anomaly (Fig 2), when exposed, was a rectangular area of heat affected soil (Figs 3 and 4) measuring 4.5m by 3.25m with its long axis on a north-north-west to south-south-east alignment.

Kiln [5] showing heat affected soil, looking north-north-west Fig 4

The rectangular pit had shallow sides and a flat base and measured 0.11m deep (Fig 5). The fill (4) comprised dark reddish brown firm silty clay with frequent charcoal flecks; burnt flint fragments and frequent brick fragments. The brick recovered from the fill was handmade with flinty inclusions and had been fired unevenly; the presence of bricks in the fill suggests that this pit was the base of a brick clamp. The fill appears to have undergone a degree of post-depositional modification through differential heating. On the upper surface of the fill a striping affect was observed, with alternating bands of poorly differentiated dark grey and orange soil 0.6-0.7m wide (Fig 4), although these were not so readily apparent in section (Fig 5). It is likely that the orange bands mark the location of the brick stacks, the darker bands the channels between them.

The sample from the fill contained small amounts of charred plant remains as well as charred wood, coal and flakes of brick; this suggests that the kiln was fired with wood and coal but it is not clear if the charred plant remains were derived from accidental burning of surrounding grassland or whether the grasses were dried deliberately to be used as kindling.



Scale 1:25

Section through kiln [5] Fig 5

5 THE FINDS

5.1 Pottery by Liz Muldowney

Two sherds of pottery were recovered from the subsoil (2) within the excavation area, one sherd of 17th to 18th century salt-glazed stoneware and one sherd of late Romano-British greyware.

5.2 Brick by Pat Chapman

The partial remains of a handmade brick, weighing 530g, came from fiil (4) in kiln pit [5]. It was manufactured from hard fine brown sandy clay with some flint inclusions up to 10mm long, and has a black core. There are no measurable dimensions, although the minimum thickness would have been 65mm (2½ inches). Brick has been used as a building material in this region from the 13th century onwards, this brick could date from the medieval period to the late 19th century, but was probably made in the later post-medieval period.

5.3 Metalwork by Tora Hylton

A small group of iron objects were recovered from the subsoil (2). They include a heel iron and eight nail fragments.

The heel iron is incomplete, part of one arm is missing and it displays signs of excessive wear on one side. Typologically it is an example of a U-shaped heel iron with a rectangular cross-section, a form which dates to the 19th century (Margeson 1993, fig 31, 395). Heel irons were used to protect the heels of wooden clogs and shoes.

There are eight nail fragments; five retain heads, two with flat sub-circular heads, one with a T-shaped head and two with no distinct heads. With the exception of one small 'tack-like 'nail with a circular –sectioned shank, all have square-sectioned shanks.

6 CHARRED PLANT MACROFOSSILS by Val Fryer

A sample for the evaluation of the content and preservation of the plant macrofossil assemblage was taken from the fill (4) of kiln [5]

The sample was bulk floated by NA, having been pre-soaked in bicarbonate to break down the clay matrix of the soil. The flot was collected in a 300 micron mesh sieve. The dried flot was scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed below in Table 1. Nomenclature within the table follows Stace (1997). All plant remains were charred. Modern fibrous roots, seeds, buds and arthropod remains were also recorded.

The flot was small (circa 0.1 litres in volume), and plant macrofossils were scarce. However, individual seeds of dock (*Rumex* sp.) and knotgrass (*Polygonum aviculare*) were noted along with a low density of charcoal/charred wood fragments (many of which were quite large at >10mm) and occasional pieces of charred root or stem. Other remains included a high density of coal fragments, black porous and tarry residues (which were probable bi-products of the combustion of coal) and small pieces of burnt or fired clay. The latter included 'flakes' of brick, but largely consisted of small pieces of clay which had been burnt *in situ* beneath the clamp.

Table 1: Charred plant macrofossils and other remains

Sample No./Context No.	**1/(4)**
Plant macrofossils	
Polygonum aviculare L.	x
Rumex sp.	x
Charcoal <10mm	xx
Charcoal >10mm	xx
Charred root/stem	x
Other remains	
Black porous and tarry residues	xxx
Burnt/fired clay	xx
Burnt stone	x
Small coal frags.	xxxx
Vitreous material	x
Sample volume (litres)	
Volume of flot (litres)	**0.1**
% flot sorted	**100%**

Key to table
x = 1 – 10 specimens
xx = 11 – 50 specimens
xxx = 51 – 100 specimens
xxxx = 100+ specimens

In summary, the plant macrofossil assemblage is extremely limited in composition, but it does appear to indicate that wood was used for part of the firing process, although it may not have been the principal fuel. It is unclear whether the seeds are relicts of plants burnt *in situ* near or beneath the clamp, or whether they are derived from dried herbage, which may have been used as tinder or fuel. As the assemblage is so small, it is possible that the clamp was cleaned after use, possibly as a means of preventing an accidental fire.

7 DISCUSSION

The mitigation works accurately targeted the site of the geophysical anomaly and identified the base of a rectangular pit forming part of a brick clamp kiln. The remnants of the kiln base comprised a shallow pit containing debris from the firing process and fragments of brick wasters, which produced the strong geophysical anomaly. It is the presence of the brick wasters that identify this as a brick clamp rather than a pottery or tile kiln.

No datable artefacts were recovered from the kiln itself, but the handmade bricks recovered are likely to date from the later post-medieval period. No kilns or infrastructure were recorded on the earliest Ordnance Survey map from 1882, by this point the fields are set out in the pattern that is retained to the present day. Therefore the kiln is likely to predate the later half of the 19th century, but could have dated from the 17th century onwards. The pottery recovered from the subsoil above the kiln included examples of Romano-British and 17th to 18th century wares. The post-medieval salt-glazed pottery might have been contemporary with the firing of the kiln, but the Romano-British sherd is clearly residual.

The hollow, identified in the geophysical survey, containing magnetically enhanced material remains in the landscape as a shallow hollow (Fig 6). It may be the remains of a clay extraction pit associated with brickmaking.

To the east of the development area is a lane off the A140 Ipswich road, heading towards the site and the hamlet of The Rosery called Brick Kiln Lane, which might support the interpretation that this was a post-medieval brick kiln.

Possible remains of clay extraction pit in northern field, looking north-east Fig 6

BIBLIOGRAPHY

Howe Malcolm 2011 *Land at Long Lane, Mulbarton, Norfolk: Historic Environment Assessment*, Howe Malcolm Archaeology and Planning Ltd

IfA 2008 *Standard and guidance for archaeological field excavation*, Institute for Archaeologists

IfA 2010 *Code of Conduct,* Institute for Archaeologists

Margeson, S, 1993 *Norwich Households: Medieval and Post-medieval finds from Norwich Survey Excavations* 1971-78, East Anglian Archaeology **58**

NA 2011 *Archaeological Fieldwork Manual*, Northamptonshire Archaeology

NA 2013 *Written scheme of investigation for archaeological mitigation works at Long Lane, Mulbarton, Norfolk,* Northamptonshire Archaeology

Stace, C, 1997 *New Flora of the British Isles*. 2nd edition. Cambridge University Press

Walford, J, 2013, *Archaeological geophysical survey of land at Long Lane, Mulbarton, Norfolk, April 2013,* Northampton Archaeology **2013/73**

Websites

BGS 2013 http://www.bgs.ac.uk/geoindex/home.html British Geological Survey website, accessed 5 August 2013

Old Maps 2013 http://www.old-maps.co.uk/index.html accessed 5 August 2013

Northamptonshire Archaeology
a service of Northamptonshire County Council August 2013

APPENDIX: CONTEXT DATA

Context	Type	Fill of	Description	Dimensions (m)	Artefacts
1	Topsoil		Compact light greyish brown sandy silt	0.05m thick	
2	Subsoil		Compact mid greyish brown sandy clay	*c*.0.20m thick	Pottery; metalwork
3	Natural		Compact orange-brown sandy clay		
4	Fill	[5]	Firm reddish dark brown silty clay with frequent charcoal flecks and burnt flint fragments	0.11m deep	Brick
5	Kiln pit		Rectangular with gradual sides and a flat base	4.5m long 3.25m wide 0.11m deep	

Northamptonshire County Council

Northamptonshire Archaeology

Northamptonshire Archaeology
Bolton House
Wootton Hall Park
Northampton NN4 8BN
t. 01604 700493 f. 01604 702822
e. sparry@northamptonshire.gov.uk
w. www.northantsarchaeology.co.uk

CHAS Contractors Health & Safety Assessment Scheme Accredited Contractor www.chas.gov.uk

Registered Organisation IfA

Northamptonshire County Council