



Northamptonshire Archaeology

Geophysical survey and archaeological evaluation
of land at Lower Field
off Main Road, Church Stowe
Northamptonshire



Northamptonshire Archaeology

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Report 10/173

October 2010



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OASIS REPORT FORM

PROJECT DETAILS		
Project title	Church Stowe, Northamptonshire.	
Short description	In October 2010, Northamptonshire Archaeology undertook a geophysical survey and trial trench evaluation of land north of Church Stowe, Northamptonshire. The work was carried out in response to the submission of planning proposals for the formation of a lake/field pond. The geophysical survey identified several anomalies in the northern development part of the site, which were shown by subsequent trial trenching to be of geological origin, although evidence of land clearance in the form of isolated tree throws, were found. One tree throw contained a quantity of prehistoric pottery and charcoal.	
Project type	Geophysical survey and trial trench evaluation	
Site status	-	
Previous work	Not known	
Current land use	Arable	
Future work	Unknown	
Monument type/period	-	
Significant finds	None	
PROJECT LOCATION		
County	Northamptonshire	
Site address	Lower Field, off Main Street, Church Stowe, Northamptonshire	
Study area	4.85 hectares	
OS Easting & Northing	SP 6360 5790	
Height OD	93 - 117m OD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	NCC Archaeological adviser	
Project Design originator		
Director/Supervisor	Jim Burke (NA)	
Project Manager	Tony Walsh (NA)	
Sponsor or funding body	Peter Elwood	
PROJECT DATE		
Start date	5th October 2010	
End date	7th October 2010	
ARCHIVES		
	Location	Content
Physical	Project code: CSN 10	
Paper		
Digital		
BIBLIOGRAPHY		
	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	Geophysical survey and archaeological evaluation of land at Lower Field, off Main Street, Church Stowe, Northamptonshire.	
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Contents

1	INTRODUCTION	4
2	BACKGROUND	4
3	AIMS AND OBJECTIVES	2
4	GEOPHYSICAL SURVEY by Adrian Butler	2
5	TRIAL TRENCHING	4
6	THE PREHISTORIC POTTERY by Andy Chapman	10
7	THE ENVIRONMENTAL EVIDENCE by Karen Deighton	10
8	DISCUSSION	11
	BIBLIOGRAPHY	12
	APPENDIX 1: TRENCH AND CONTEXT SUMMARY	13

Figures

Front cover: General view of the site with trench's opened

Fig 1: Site location, 1:10,000

Fig 2: Magnetometer Survey Results

Fig 3: Magnetometer Survey Interpretation

Fig 4: Site plan showing trench locations, 1:2,000

Fig 5: Trench Plans

Fig 6: Trench 1, General view, looking south

Fig 7: Trench 1, General view, looking north

Fig 8: Trench 2, General view, showing the natural geology, looking south-west

Fig 9: Trench 2a, General view, looking north-west

Fig 10: Trench 2b, General view, looking north-west

Fig 11: Trench 3, General view, looking north-west

**GEOPHYSICAL SURVEY AND ARCHAEOLOGICAL EVALUATION
OF LAND AT LOWER FIELD OFF MAIN ROAD
CHURCH STOWE,
NORTHAMPTONSHIRE
OCTOBER 2010**

ABSTRACT

In October 2010 Northamptonshire Archaeology undertook a geophysical survey and trial trench evaluation of land north of Church Stowe, Northamptonshire. The work was carried out in response to the submission of planning proposals for the formation of a lake/field pond.

The geophysical survey identified several anomalies in the northern development part of the site, which were shown by subsequent trial trenching to be of geological origin.

Evidence of ancient land clearance in the form of isolated tree throws, were found. One tree throw contained a quantity of prehistoric pottery and charcoal.

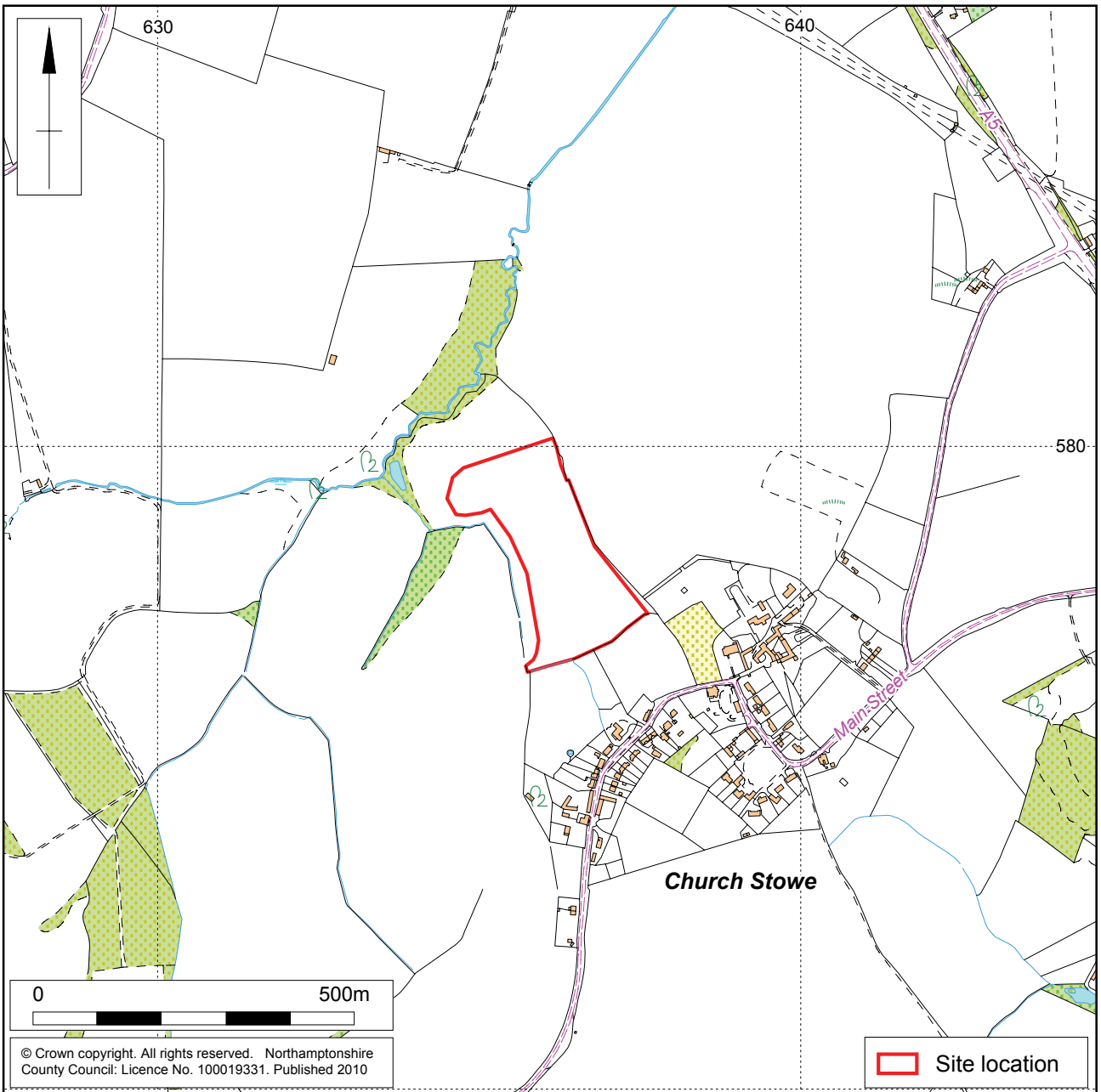
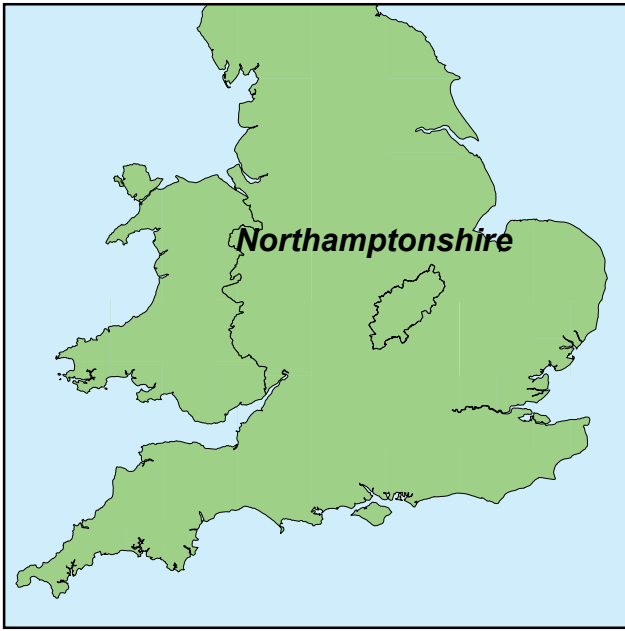
1 INTRODUCTION

In October 2010 Northamptonshire Archaeology (NA) undertook a geophysical survey and trial trench evaluation of a plot of land to the north of Church Stowe, Northamptonshire (site centres on NGR SP 6360 5790, Fig 1). The works were required by Northamptonshire County Council Archaeological Adviser (NCCAA) in response to a planning application submitted to Daventry District Council (DCC) by Mr Peter Elwood for the formation of a lake/field pond (DA/2010/0682)

2 BACKGROUND

The site lies in an arable field to the north of Church Stowe, and covers an area of 4.85 hectares. It is situated on a relative steep north-west facing slope above a tributary of the River Nene, with the ground level descending from 117m to 93m aOD.

The village has been the subject of an earthwork survey, which, in conjunction with evidence from aerial photographs, has demonstrated the presence of activity around the



Scale 1:10,000

Site location Fig 1

northern edge of the current settlement. This consists of a number of probable hollow ways and enclosures. One of the hollow-ways was recorded in the field immediately to the south of the application site.

Possible prehistoric activity has been recorded from aerial photographs to the south and south west of the modern village, approximately 400-450m from the application site. Watling Street follows the route of the modern A5 c 1km to the north-east.

3 AIMS AND OBJECTIVES

The purpose of the work, as outlined in the brief issued by the NCCAA, was to determine and understand the nature, function and character of any archaeological remains in its cultural and environmental setting.

The aims of the investigation were to:

- Establish the date, nature and extent of activity or occupation on the development site
- Recover artefacts to assist in the development of a type series within the region,
- And recover palaeo-environmental remains to determine local environmental conditions.

4 GEOPHYSICAL SURVEY by Adrian Butler

4.1 Methodology

The survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003) and a Geoscan FM256. These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanotesla (nT).

The survey area was divided into 30m grid squares. A tape measure and optical square were used to set out the field and the grid was measured in against permanent features. The gradiometers were carried at a brisk but steady pace through each grid, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per grid.

All fieldwork methods complied with the guidelines issued by English Heritage, and by the Institute for Archaeologists (EH 2008; Gaffney, Gater and Ovendon 2002).

The survey data was processed using Geoplot 3.00u software. Striping, caused by slight

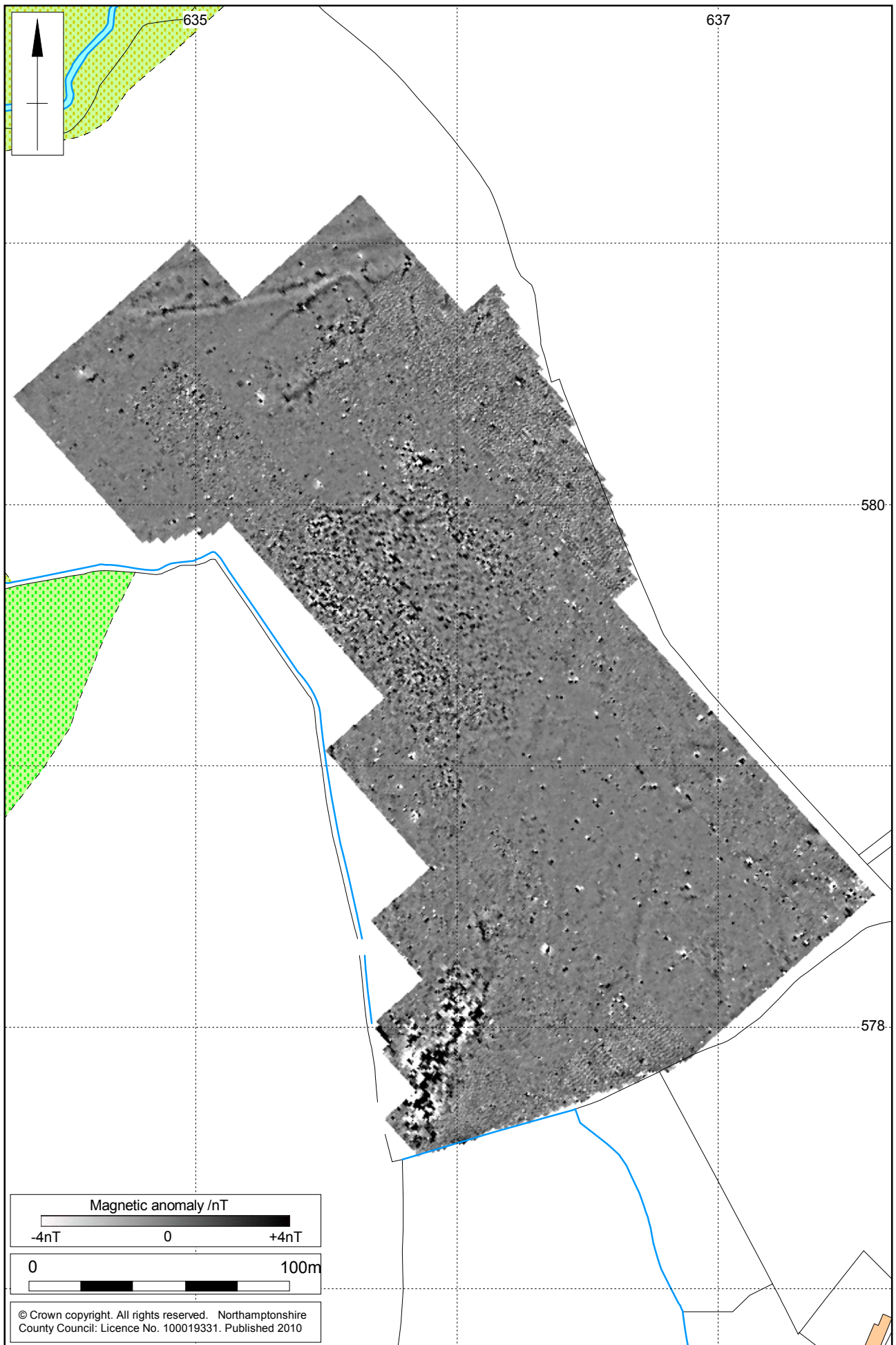
mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of greyscale plots (scale +4nT to -4nT black ~ white) (Fig 2). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping. An interpretative plot has been produced and shown overlain onto the data (Fig 3).

4.2 Survey results

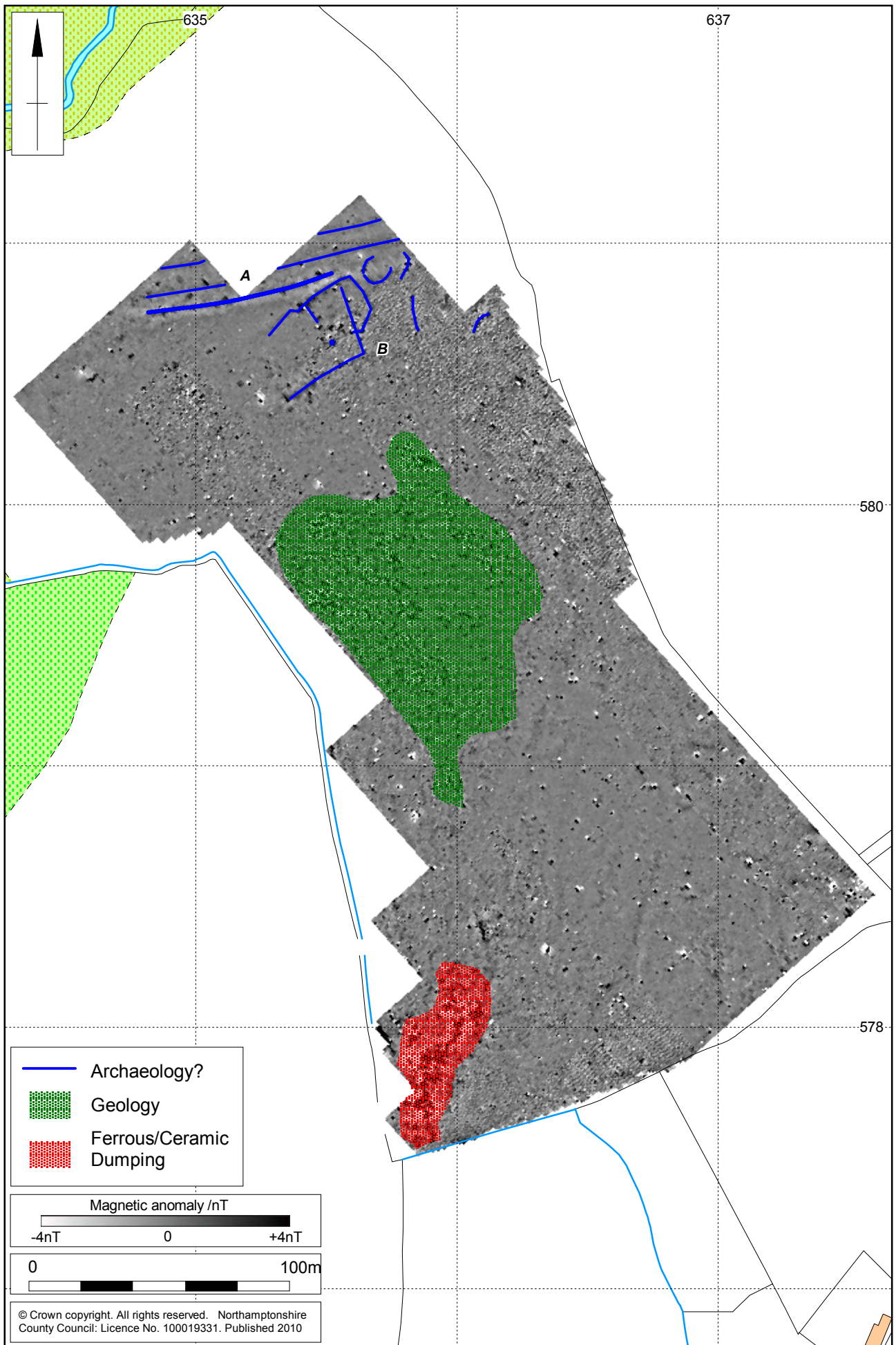
The anomalies detected by the survey lie in three zones across the site: south, centre and north (Figs 2 and 3). In the southern zone an area of mixed high and low readings suggests possible thermoremnantly magnetised features, although they are more likely relate to dumps of brick and rubble around the field entrance.

A zone of many discrete and conjoined, positive and negative magnetic anomalies in the centre of the field indicate to the likely area of geological variation. A number of other anomalies were detected further to the north, on the edge of the survey area including three linear, slightly positive, magnetic anomalies, orientated north-north-east to south-south-west these were interpreted as possible archaeological features.



Scale 1:2000

Magnetometer survey results Fig 2



Scale 1:2000

Magnetometer survey interpretation Fig 3

5 TRIAL TRENCHING

5.1 Methodology

Nine trenches varying in length from 10-50m were excavated in order to examine the geophysical survey anomalies (Fig 4).

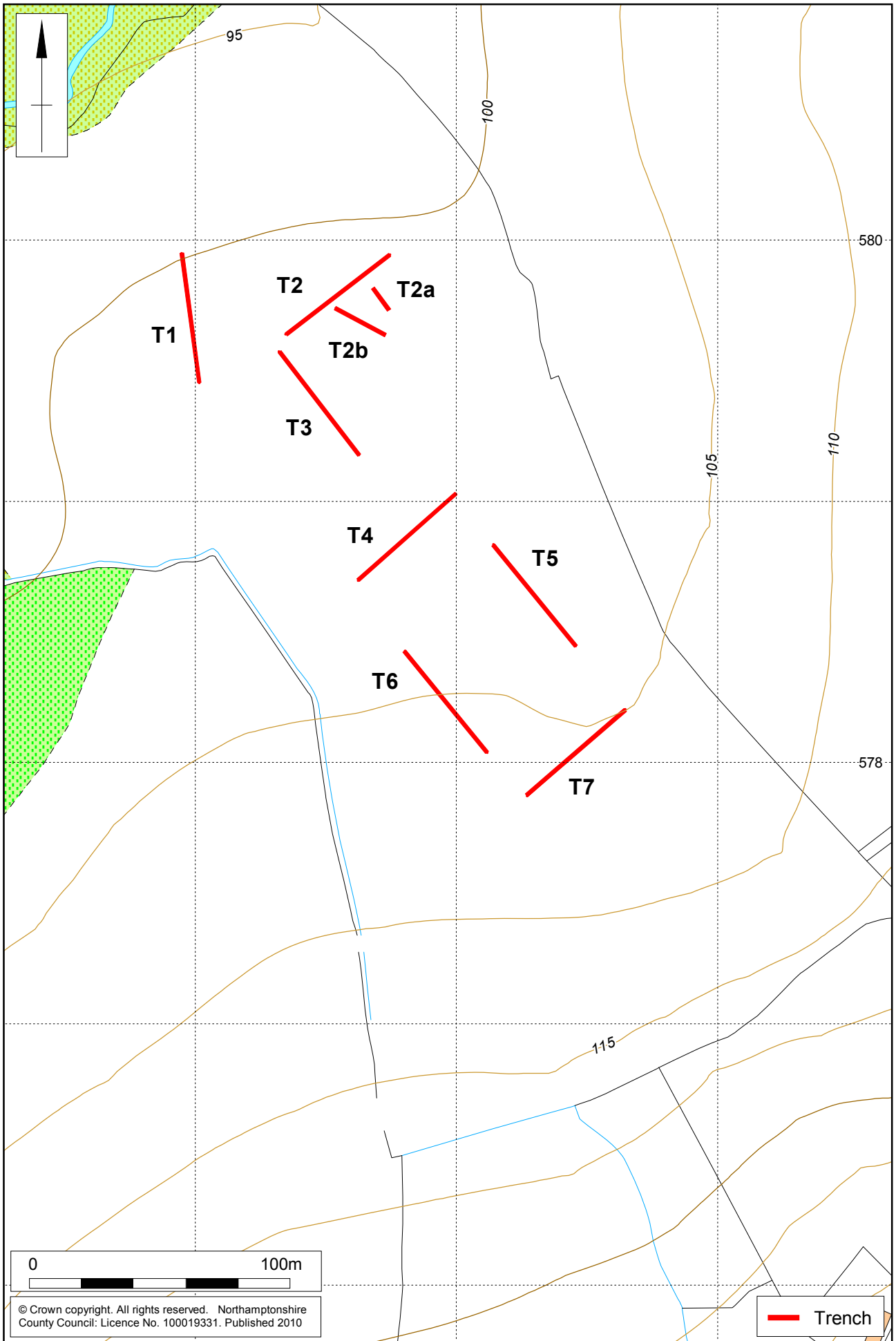
In discussion with the NCCAA, it was agreed that two further trenches south of trench 2 were to be excavated to determine the presence/absence of any archaeological features. Trenches 5, 6 and 7 were cut short by 10m each to gain this extension.

Overburden was removed with a tracked 360° mechanical excavator fitted with a 1.8m-wide toothless ditching bucket to expose the first significant archaeological level, or in the absence of archaeology, the geology. Cleaning of exposed surfaces, hand excavation and recording progressed in accordance with the methodology set out in the written scheme of investigation (NA 2010) and brief (NCC 2010) and in fulfilment of the requirements of the (Institute for Archaeologists) *Standard and Guidance for Archaeological Field Evaluations* (IfA 2008).

5.2 General stratigraphy

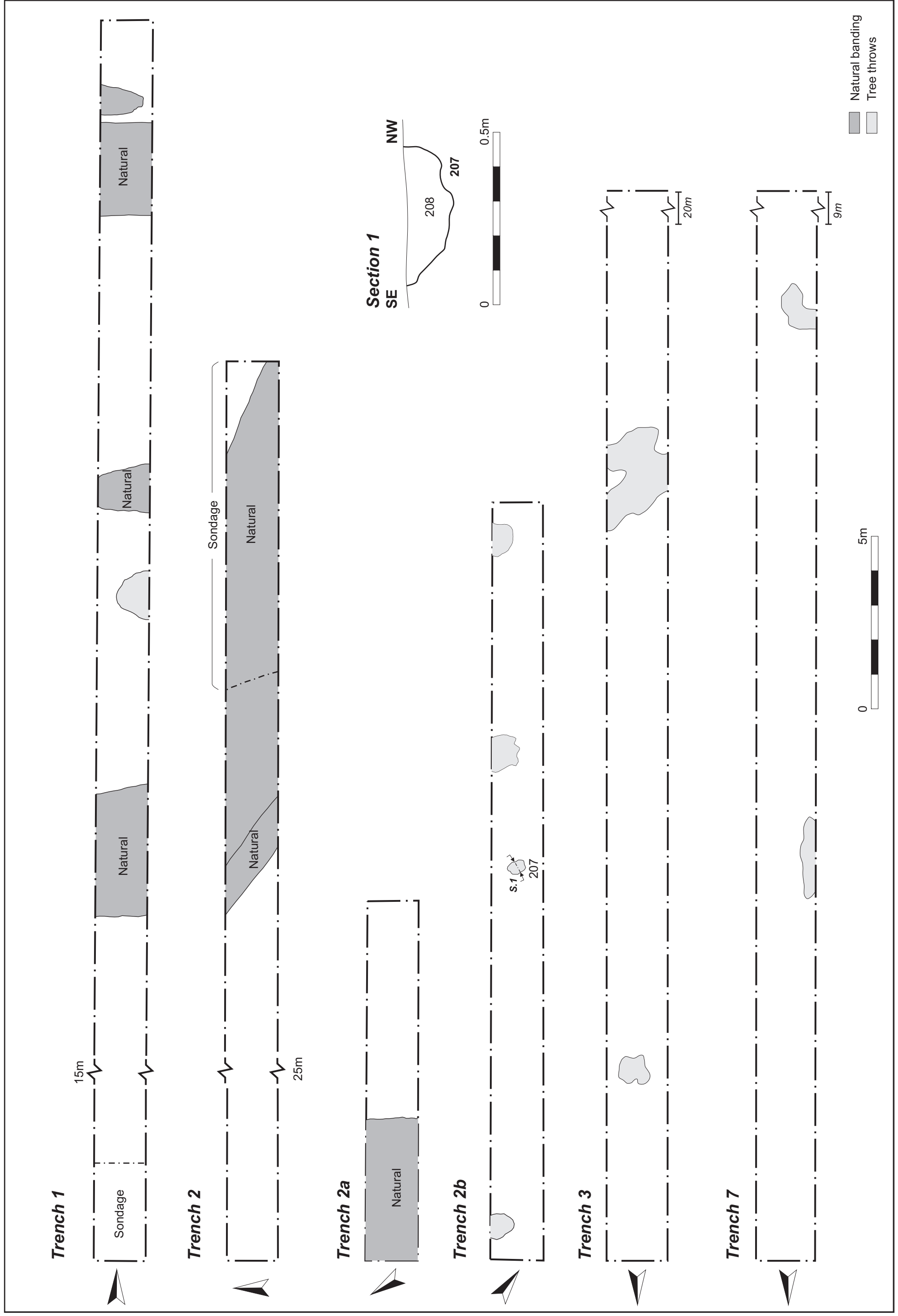
The geology generally comprised Jurassic rocks of the Lias group, with Upper Lias clays underling the southern to central parts of the site and outcrops of the Marlstone rock bed to the north (BGS 1969). These occur as mid yellow-grey clay containing unsorted flints and pebbles with ironstone and sandstone fragments and bands of mudstone, sandstone and limestone.

All the trenches had an agricultural plough soil lying directly on the underlying bedrock. Plough scars were evident in all of the trenches, which were mostly removed to clarify the geology. Tree throws were noted in Trenches 1, 2b, 3, 5 and 7 (Fig 5) sample excavation was carried out on some of the tree throws, which all turned out to be sterile except in trench 2b, (Fig 5) this contained prehistoric pottery and charcoal remains within a single fill. Land drains were noted in Trenches 3, 6 and 7, trench 7 had a deeper cut land drain at the western end of the trench with two parallel drains at each side. Ridge and furrow was present in most of the trenches.



Scale 1:2,000

Trench locations Fig 4



5.3 Trench 1

The three linear anomalies identified by the geophysical survey (Figs 2, 3 and 5) were encountered in the central and northern parts of this trench.

They were distinctive linear bands of natural ironstone/limestone geology that followed the contour of the land, in a west to easterly direction (Fig 6).

They were also noted in Trench 2 (see below). At the southern end of the trench were irregular bands of natural blue-yellow clay (Fig 7).



Trench 1, general view, looking south Fig 6



Trench 1, general view, looking north Fig 7

5.4 Trenches 2, 2a and 2b

Trench 2 (Fig 2) contained two linear bands of geology (Fig 8), both of which corresponded with the geophysical survey and are the same bands that were noted, in Trench 1. The first natural band of geology which was sampled with the mechanical excavator, to a depth in excess of 1.5m, was mudstone and sandstone, the second band of geology was an orange sandy gravel with inclusions of ironstone.

Two additional trenches (Trenches 2a and 2b) located to the south of the trench were excavated to clarify the results of the geophysical survey' (Figs 9 and 10).

In Trench 2a (Fig 2) the northern part of was the continuation of the natural geological band seen in Trench 2 (Fig 9).

In Trench 2b there were four tree throws, one of which (Fig 5, 207), contained charcoal and prehistoric pottery, the charcoal is consistent with the burning *in situ* of the stump as part of land clearance, the prehistoric pottery could indicate refuse disposal or the refuse generated by the short-term use of the tree throw; for example as a temporary shelter. All the tree throws had irregular sides and undulating bases.



Trench 2, showing the geology, looking south-west Fig 8



Trench 2a, general view, looking north-west Fig 9



Trench 2b, general view, looking north-west Fig 10

5.5 Trench 3

This trench contained two tree throws, and six land drains at the southern end of the trench (Fig 11).



Trench 3, general view looking north-west Fig 11

6 THE PREHISTORIC POTTERY by Andy Chapman

From a tree throw in trench 2b, [207] fill (208), there are some 40 small sherds and fragments, weighing 70g, from a single hand-built vessel. The fabric has a grey core and light brown to grey surfaces, and is highly vesicular from the loss of the inclusions, probably crushed shell. From these general characteristics it can only be given a broad prehistoric date.

7 THE ENVIRONMENTAL EVIDENCE by Karen Deighton

7.1 Introduction

A single sample (40 litres) was collected by hand from a context during the course of excavation from context (208). This material was processed and assessed to determine the presence, preservation and nature of any ecofacts and to confirm the function and nature of the feature.

7.2 Method

The sample was processed using a modified siraf tank fitted with a 250micron mesh and flot sieve. The resulting flots and residues were dried. The flots were then sorted with the aid of a stereoscopic microscope (10x magnification) and residues were scanned. Any charred plant remains were identified.

7.3 Results

A total of 84g of charcoal were collected. This consisted largely of small (less than 2mm) and medium (less than 10mm) irregular shaped fragments with occasional large fragments (greater than 10mm) and twig pieces.

7.4 Conclusion

The results are consistent with the burning *in situ* of timber as part of land clearance and confirm the identification of the feature as a tree throw. No further work is recommended.

8 DISCUSSION

No significant archaeological features were encountered within the evaluation area and all the features identified by the geophysical survey were shown to be of geological origin. The geology across the site was highly variable, with alternating bands of sandstone, mudstone, oolitic limestone and a siliceous intrusive deposit. Similarly, the two additional trenches established that the anomalies indicated on the geophysical survey in that area were also geological features.

Although no archaeological features associated with occupation were found, Prehistoric pottery was present in one of the tree throws in trench 2b. This would suggest that occupation was nearby, using the tree throw for refuse disposal, or, alternatively; that the pottery may have been refuse generated by the short-term use of the tree throw, for example as a temporary working shelter.

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APPENDIX 1: TRENCH AND CONTEXT SUMMARY

Trench No	General	Context	Description	Notes
1	Traces of plough scars	101	Ploughsoil, mid brown clay loam with frequent chalk, stones, flint 0.20m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
		102	Natural, variation of natural, light grey-brown silty clay, blueish clay patches. Banding of Ironstone, limestone	Tree throws were noted
2	Traces of plough scars	201	Ploughsoil, mid brown clay loam with frequent chalk, stones, flint 0.26m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
		202	Natural, variation of natural, light yellow-orange clay, blue clay patches. Ironstone, limestone	
2a	Tree throws noted and plough scars	203	Ploughsoil, mid brown clay loam with frequent chalk, stones, flint 0.20m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
		204	Natural, orange-yellow silty clay, chalk flex,	
2b	Tree throws noted	205	Ploughsoil, mid-dark grey clay loam with some stones, 0.26m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
		206	Cut of Tree throw, irregular sides and base	
		207	Fill of tree throw, Mottled dark brown-orange clay loam	Containing Prehistoric pottery and charcoal
		208	Natural, firm light mottled orange-grey clay with frequent small stones and chalk lumps	
3	Tree throws and land drains noted	301	Ploughsoil, mid-dark brown-grey clay loam with some stones, 0.30m deep,	Topsoil and subsoil merged, due to shallow depth and ploughing.
		302	Natural, firm light mottled orange-grey clay with frequent small stones and chalk lumps.	
4	No features present	401	Ploughsoil, mid grey-brown clay loam with some stones, 0.30m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
		402	Natural, mid brown-orange, mottled clay, ironstone and gravels.	
5	Deep plough scars at	501	Ploughsoil, mid grey-brown clay loam with some stones, 0.27m deep	Topsoil and subsoil merged, due to shallow depth and ploughing

Trench No	General	Context	Description	Notes
	southern end of trench			
		502	Natural, mid grey-brown clay with moderate chalk and small stones	
6	Modern ditch and land drains	601	Ploughsoil, mid grey-brown clay loam, 0.28m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
		602	Cut of modern drainage ditch.	
		603	Fill of modern drain single re-deposited mottled clay fill with land drain at the base	Two further land drain were noted within this trench
		604	Natural, brown-orange clay with gravels	
7	Land drains and tree throws	701	Ploughsoil, dark grey-brown clay loam, 0.25m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
		702	Natural mid brown-orange silty clay, ironstone and gravels,	Land drains and tree throws



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General view of the site looking north

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