Archaeological evaluation on land proposed for a new athletics ground Moulton College, Moulton Northamptonshire August 2014

Report No. 14/166

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OASIS REPORT FORM

PROJECT DETAILS	**Oasis No: molanort1-189219**	
Project title	Archaeological evaluation on land proposed for a new athletics ground, Moulton College, Moulton, Northamptonshire	
Short description	An archaeological evaluation was undertaken at Moulton College, Moulton, Northamptonshire in advance of a planning application for a new athletics ground. The evaluation comprised a geophysical survey followed by trial trench excavation. Eleven trenches were excavated which investigated a series of magnetic anomalies revealed by the geophysical survey as well as sampling the remaining area. The anomalies were shown to relate to geological variations, the remnants of medieval ridge and furrow cultivation and modern land drains. No significant archaeological features were present.	
Project type	Trial trench evaluation	
Site Status		
Previous work	None	
Current land use	Arable and pasture	
Future work	Unknown	
Monument type and period		
Significant finds		
PROJECT LOCATION		
County	Northamptonshire	
Site address	Moulton College Athletics Ground, Moulton, Northamptonshire	
Post code	N/A	
OS co-ordinates	NGR SP 773 675	
Area (sq m/ha)	*c* 4 hectares	
Height aOD	110m aOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	Archaeological Advisor NCC	
Project Design originator	MOLA Northampton	
Director/Supervisors	John Walford and Chris Jones (MOLA)	
Project Manager	Mark Holmes (MOLA)	
Sponsor or funding body	Mott MacDonald	
PROJECT DATE		
Start date	21 July 2014	
End date	08 August 2014	
ARCHIVES	**Location (Accession no.)**	**Contents**
Physical		
Paper		Site records
Digital		Survey data, report, photographs
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (MOLA report)	
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Abstract

An archaeological evaluation was undertaken at Moulton College, Moulton, Northamptonshire in advance of a planning application for a new athletics ground. The evaluation comprised a geophysical survey followed by trial trench excavation. Eleven trenches were excavated which investigated a series of magnetic anomalies revealed by the geophysical survey as well as sampling the remaining area. The anomalies were shown to relate to geological variations, the remnants of medieval ridge and furrow cultivation and modern land drains. No significant archaeological features were present.

1 INTRODUCTION

1.1 Background

Mott MacDonald commissioned MOLA to carry out an archaeological evaluation on land at Moulton College, Moulton (NGR SP 773 675, Fig 1). The evaluation consisted of a geophysical survey followed by trial trench excavation. The geophysical survey was undertaken 21-22 July 2014 whilst the trial trench excavation was undertaken 5-8 August 2014.

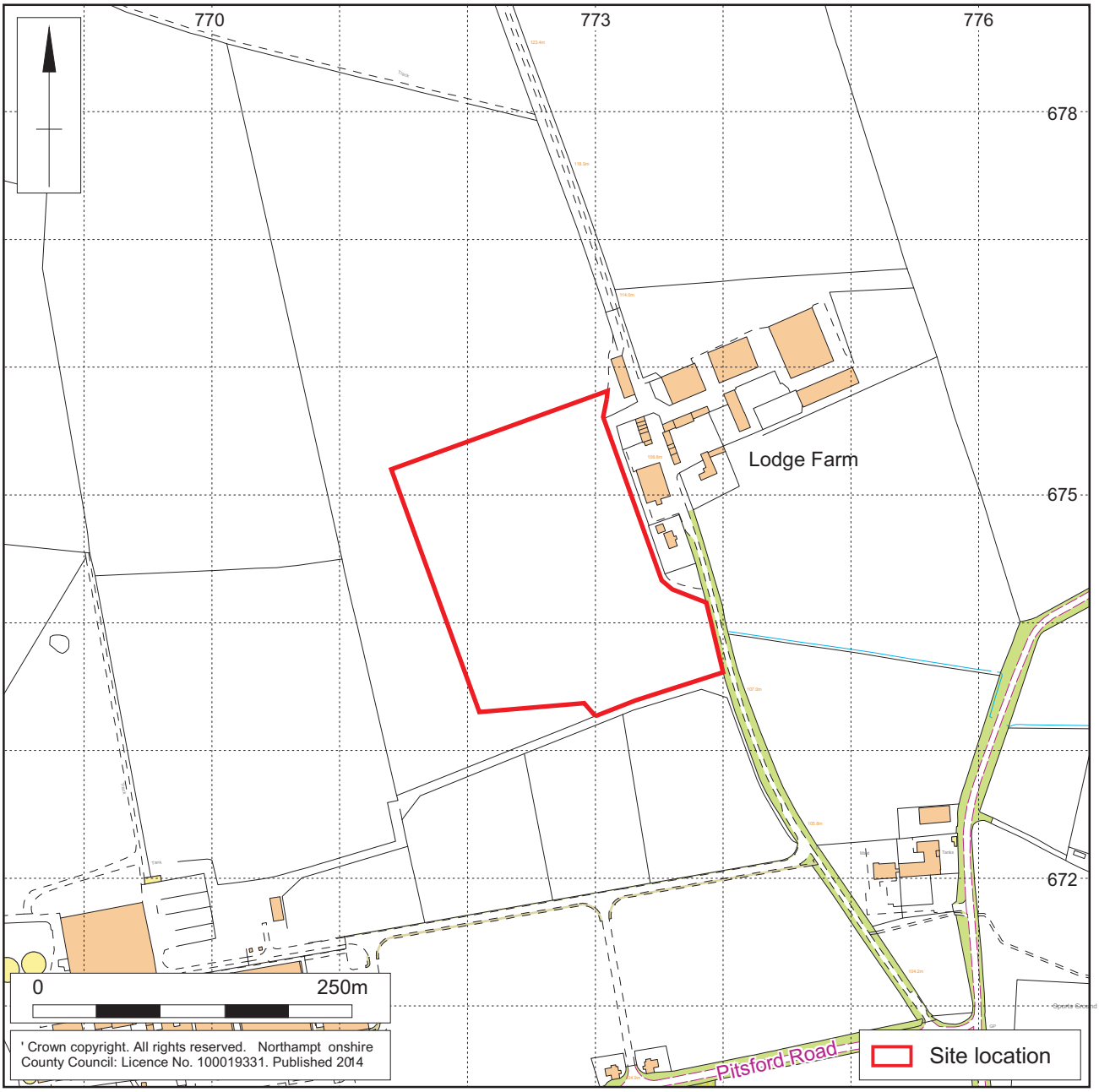
The works were undertaken in accordance with Section 12, paragraph 128 and Appendix 2 of the National Planning Policy Framework (DCLG 2012) and in accordance with WSIs prepared by MOLA (2014a, 2014b).

MOLA is an Institute for Archaeologists (IfA) registered organisation. This project was undertaken in accordance with the current best archaeological practice as defined in the Institute for Archaeologists' *Standard and Guidance for Archaeological Field Evaluation* (IfA 2008) and the procedural document *Management of Research Projects in the Historic Environment (MoRPHE)* (EH 2009).

1.2 Topography and geology

The evaluation area occupies a south facing slope above the 110m contour. The underlying geology is mapped as Stamford Member sandstone and siltstone with the western half of the area overlain by superficial deposits of Oadby Member chalky till (BGS 2014).

The evaluation area involved one large arable field and two smaller grassed paddocks. Overhead power lines run north-east to south-west and north-west to south-east across the development area.



Scale 1:5000

Site location Fig 1

1.3 Aims and objectives

The aims of the archaeological evaluation were to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development.

Specific research objectives followed those within national and regional research frameworks documents (English Heritage 1991, Knight et al 2012).

1.4 Historical and archaeologicical background

Linear cropmarks, probably of prehistoric and Roman date, are known immediately at the north and east of the application area (NHER 4558, 1290/0/1). The eastern cropmarks also include elements which may be prehistoric field and other enclosures (NHER 1489/0/1, 1489/0/2). To the south of the area lie further extensive remains of Romano-British and Iron Age settlement (NHER 4574, 9228).

2 GEOPHYSICAL SURVEY by John Walford

2.1 Geophysical survey methodology

A detailed magnetometer survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003). These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanoTesla (nT). The survey methods were specified in a WSI (MOLA 2014a) and complied with the guidelines issued by English Heritage and by the Institute for Archaeologists (EH 2008; IfA 2011).

A tape measure and optical square were used to establish a network of 30m grid squares across each of the fields to be surveyed, and a Leica Viva dGPS was used to tie these grids in to the Ordnance Survey National Grid. 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.

The survey data was processed using Geoplot 3.00v software. The striping was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed where necessary. The processed data is presented in this report in the form of greyscale plots at a range of +4nT (black) to -4nT (white). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2) and are shown with an interpretative overlay in Figure 3. Separate plots of the unprocessed data are presented in Figure 4.

2.2 Geophysical survey results

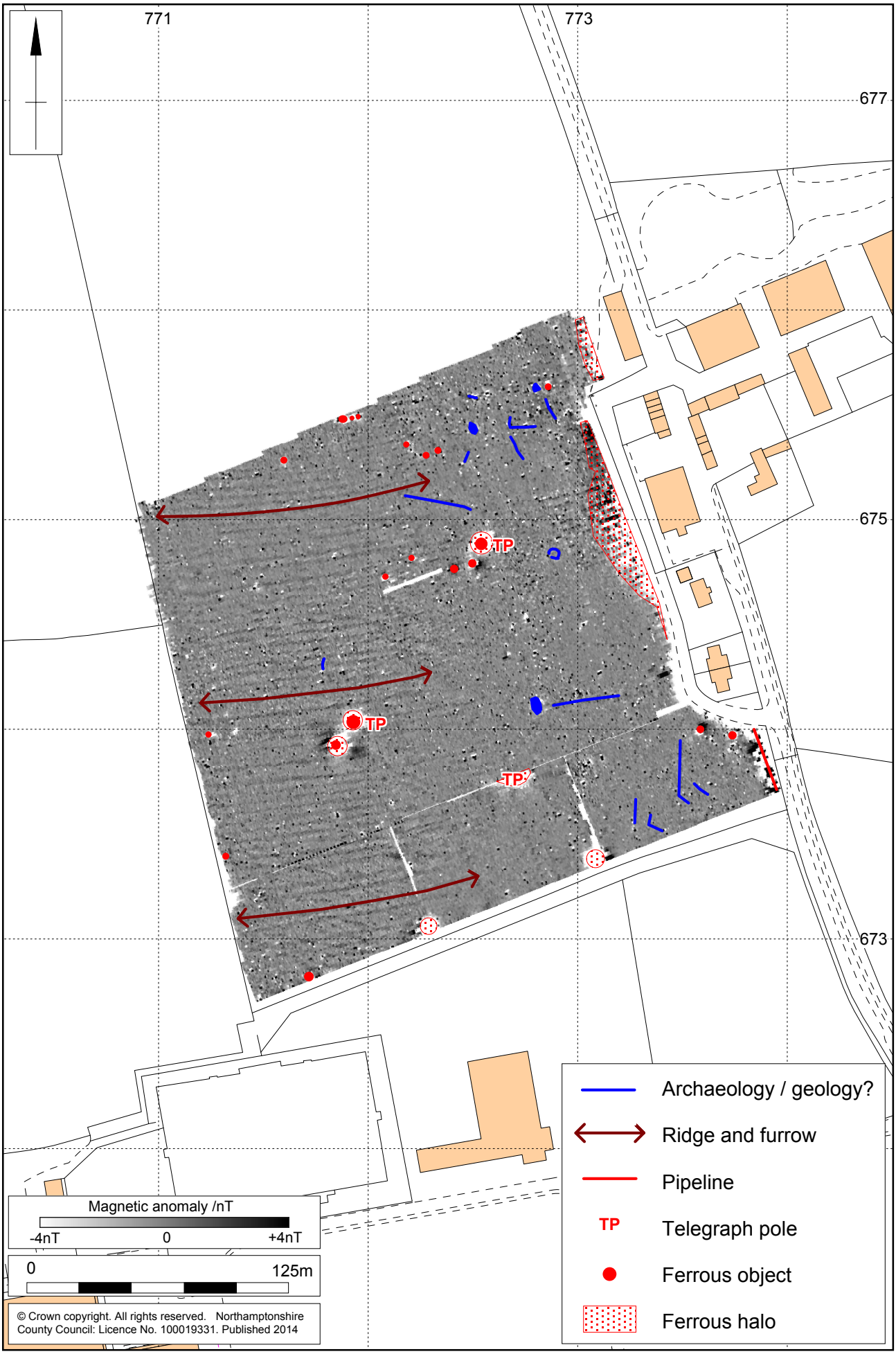
The geophysical survey detected various weak and disjointed magnetic anomalies of indeterminate origin (Fig 2). One set of weakly positive linear anomalies were detected in the south-eastern paddock, a more heterogeneous set of small positive anomalies were detected in the north-east of the survey area and in between these sets, the survey detected a localised positive anomaly from which a diffuse linear anomaly projects eastwards. None of these anomalies are particularly diagnostic and, whilst they could represent archaeological features (ditches and pits) with poorly developed magnetic contrasts, it would also be possible for them to represent geological features such as frost cracks and pockets of iron mineralisation.

A series of closely spaced parallel curvilinear anomalies were detected across the whole western half of the survey area. These represent medieval to early post-medieval ridge and furrow, of which no surface trace survives.

A number of intense magnetic anomalies were detected and can be attributed to modern features as follows. The linear anomaly of alternating polarity in the far south-east of the survey area represents an underground pipe and the three large dipolar anomalies in the main field represent two telegraph poles and a stay cable. A third telegraph pole is represented by a partial negative halo on the boundary of the main field and the paddocks. Two similar negative halos which occur on the boundaries between the paddocks indicate the location of metal gates. The much larger magnetic halo at the eastern edge of the survey area relates to the adjacent buildings. The survey also detected a random distribution of small dipolar anomalies which almost certainly indicate small piece of scrap iron buried in the ploughsoil.

1:2500

Magnetometer survey results Fig 2



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Magnetometer survey interpretation Fig 3

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Unprocessed magnetometer survey data Fig 4

3 TRIAL TRENCH EVALUATION

The programme of trenching was carried out in accordance with a Written Scheme of Investigation (WSI) prepared by MOLA (MOLA 2014b). This required the excavation of eleven trenches, planned to investigate the potential impact of the proposed development on any archaeological remains within the development area. The trenches were designed to target the geophysical survey anomalies and to examine the remaining 'blank' areas (Fig 5).

Trenches were set out using differential GPS (Leica Viva) operating to an accuracy of +/- 0.05m. All trenches were excavated using a tracked excavator, fitted with a toothless ditching bucket, operated under constant archaeological supervision. The trenches were all 50m in length and were excavated to a width of 1.6m.

The excavation and recording were carried out in accordance with MOLA guidelines and all records were created using MOLA pro-forma (MOLA 2014c). Photographs were taken of all trenches and all relevant deposits on 35mm monochrome print film, high resolution digital images were also taken. Work was carried out in accordance with the Institute for Archaeologists' *Standard and guidance for archaeological field evaluation* (IfA 2008).

The trenches were excavated to the top of the natural geological horizon or the upper archaeological levels, whichever was the highest. Levels in metres above Ordnance Datum were established for all trenches and excavated features using a dumpy level from temporary bench marks (TBMs) established using GPS.

All records and materials were compiled in a structured archive in accordance with the guidelines of Appendix 3 in the English Heritage procedural document, *Management of Archaeological Projects 2* (EH 1991).

1:2500

Trench plan Fig 5

4 THE EXCAVATED EVIDENCE

4.1 The archaeological deposits

No significant archaeological features were present in any of the trenches. The only artefact recovered was a single worked flint found in the topsoil of trench 9 (see 4.2 below).

The general stratigraphic sequence was consistent in all eleven trenches excavated. Firm mid yellow-grey natural clays with occasional small stones was generally encountered at a depth of 0.3 - 0.5m below ground surface. This varied becoming siltier or sandier in places with occasional inclusions of chalky till material. These natural variations corresponded with the geophysical survey anomalies. The natural geology was overlain by firm mid yellow brown silt clay subsoil between 0.08m and 0.2m thick whilst the topsoil was firm dark grey brown sandy clay up to 0.33m thick.

Trenches 3 and 4 were aligned across a hollow in the sloping field. The geophysical anomaly running through the trenches was a band of silty clay caused by water collecting at the base of the slopes.

Furrows deriving from medieval ridge and furrow cultivation were encountered in the majority of trenches. Their alignment corresponded with that indicated by the geophysical survey.

A full index of contexts is included as Appendix 1.

4.2 **The worked flint** by Andy Chapman

A single worked flint was unstratified. It is fashioned on opaque stony flint, varying from light brown to grey-black in colour. It comprises a thick plano-convex rod, 56mm long (broken), up to 21mm wide and 7-10mm thick. The sides have been roughly flaked to create steep edges, and the surviving, distal, end is rounded and polished through use. Some *c* 5mm of the proximal end has been lost to later damage. All flake scars show signs of wear through use. By both shape and wear pattern the piece can be characterised as a text book fabricator, dating to the late Neolithic/early Bronze Age, used in combination with a stone as a strike-a-light, with repeated use responsible for the worn and polished surfaces.

5 CONCLUSION

The evaluation has established that there were no significant archaeological features present. The anomalies identified by geophysical survey relate to variations in the natural geology as well as remnant furrows from medieval ridge and furrow cultivation and more modern land drains.

Despite having prehistoric and Romano-British sites located to the south and east, the lack of archaeological features and finds within the development area would suggest that the hiatus in this area is genuine.

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MOLA
3 September 2014

APPENDIX 1: CONTEXT INVENTORY

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
1	**50m x 1.6m, Approx. W-E**	**477285 267356 477235 267395**	**--**	**--**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
101	Topsoil	Mid-dark grey-brown silty clay	D 0.18-0.22m	
102	Subsoil	Firm mid yellow-brown silty clay	D:0.08-0.10m	-
103	Natural	Firm mid yellow-grey silty clay with orange sandier patches .		-

Trench 1, looking east Fig 6

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
2	**50m x 1.6m, Approx. W-E**	**477376 267370 477326 267374**	**110.10m**	**109.78m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
201	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.22-0.25m	
202	Subsoil	Firm mid yellow-grey silty clay	D:0.08-0.10m	-
203	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones		-

Trench 2, looking west Fig 7

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
3	**50m x 1.6m, Approx. NW-SE**	**477286 267391 477270 267438**	**112.29m**	**111.93**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
301	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.24-0.28m	
302	Subsoil	Firm mid yellow-grey silty clay	D:0.08-0.28m	-
303	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones		-

Trench 3, looking north-west Fig 8

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
4	**50m x 1.6m, Approx. NW-SE**	**477319 267404 477304 267451**	**110.96m**	**110.62m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
401	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.25-0.28m	
402	Subsoil	Firm mid yellow-grey silty clay	D:0.06-0.10m	-
403	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones		-

Trench 4, looking south-east Fig 9

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
5	**50m x 1.6m, Approx. NE-SW**	**477242 267440 477290 267455**	**111.67m**	**111.33m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
501	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.24-0.31m	
502	Subsoil	Firm mid yellow-grey silty clay	D:0.07-0.10m	-
503	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones		-

Trench 5, looking north-east Fig 10

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
6	**50m x 1.6m, Approx. NW-SE**	**477297 477281 477281 267505**	**112.85m**	**112.49m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
601	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.23-0.27m	
602	Subsoil	Firm mid yellow-grey silty clay	D:0.10-0.12m	-
603	Natural	Firm mid yellow-grey silty sand clay with orange sandier patches, occasional small stones.		-

Trench 6, looking south-east Fig 11

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
7	**50m x 1.6m, Approx. NW-SE**	**477196 267446 477181 267494**	**115.98m**	**115.57m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
701	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.22-0.33m	
702	Subsoil	Firm mid yellow-grey silty clay	D:0.04-0.14m	-
703	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones.		-

Trench 7, looking south-east Fig 12

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
8	**50m x 1.6m, Approx. NW-SE**	**477179 267509 477226 267490**	**116.36m**	**115.98m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
801	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.24-0.28m	
802	Subsoil	Firm mid yellow-grey silty clay	D:0.11-0.14m	-
803	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones.		-

Trench 8, looking south-east Fig 13

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
9	**50m x 1.6m, Approx. NE-SW**	**477187 267524 477235 267538**	**116.45m**	**116.12m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
901	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.23-0.30m	One worked flint
902	Subsoil	Firm mid yellow-grey silty clay	D:0.02-0.10m	-
903	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones.		-

Trench 9, looking north-east Fig 14

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
10	**50m x 1.6m, Approx. NE-SW**	**477241 267500 477251 267549**	**115.00m**	**114.68m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1001	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.20-0.32m	
1002	Subsoil	Firm mid yellow-grey silty clay	D:0.10-0.12m	-
1003	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones.		-

Trench 10, looking south-west Fig 15

Trench No	**Length, width & alignment**	**NGR**	**Surface height (aOD)**	**Depth & height of natural (aOD)**
11	**50m x 1.6m, Approx. NE-SW**	**477260 267521 477282 267566**	**113.63m**	**113.29m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1101	Topsoil	Mid-dark grey-brown silty clay occasional small stones	D 0.18-0.30m	
1102	Subsoil	Firm mid yellow-grey silty clay	D:0.06-0.16m	-
1103	Natural	Firm mid yellow-grey silty clay with orange sandier patches, occasional small stones.		-

Trench 11, looking south-west Fig 16

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