Late Neolithic Pits on Land Adjacent to Peterhouse Technology Park Cherry Hinton Cambridgeshire

Post-Excavation Assessment & Updated Project Design

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Post-Excavation Assessment

Late Neolithic Pits on Land Adjacent to Peterhouse Technology Park, Cherry Hinton, Cambridgeshire

Post-excavation Assessment and Updated Project Design

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Report Date: January 2016

Report Number:	1883
Site Name:	Peterhouse Technology Park
HER Event No:	ECB4639
Date of Works:	8th-25th September 2015
Client Name:	Orion
Client Ref:	
Planning Ref:	
Grid Ref:	TL 48832 55949
Site Code:	CAMPET15
Finance Code:	CAMPET15
Receiving Body:	CCC Stores
Accession No:	

Prepared by:	Nick Gilmour
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Date:	January 2016
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Position:	Senior Project Manager
Date:	January 2016
Signed:	.....

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Summary

Between 8th and 25th September 2015, Oxford Archaeology East carried out an archaeological excavation in advance of the construction of new commercial units on agricultural land to the west of Peterhouse Technology Park, Cherry Hinton, Cambridge (TL 48832 55949). This excavation identified nine pits of Late Neolithic date, along with tree throws containing further Neolithic material. The pits contained varying amounts of material, including Grooved Ware pottery, struck lithics, animal bone and charred plant remains.

1 Introduction

1.1 Project Background

1.1.1 The Peterhouse Technology Park is to be expanded to the agricultural land to the west (Fig.1). An evaluation has previously been carried out on the site, which revealed two Neolithic pits, along with tree throws containing further Neolithic material.

1.1.2 This assessment has been conducted in accordance with the principles identified in English Heritage's guidance documents *Management of Research Projects in the Historic Environment,* specifically *The MoRPHE Project Manager's Guide* (2006) and *PPN3 Archaeological Excavation* (2008).

1.2 Geology and Topography

1.2.1 The British Geological Survey indicates that the solid geology of the site at Cambridge road, Cambridge comprises the Zig-Zag Chalk Formation. A number of ice wedges were revisable in this chalk after the site was stripped.

1.2.2 The site lies at on a north-facing slope, dropping from 30m OD at the south to 22m OD at the north.

1.3 Archaeological and Historical Background

Prehistoric

1.3.1 A single prehistoric flint flake, a transverse arrowhead, a round scraper and number of other flints of Early Neolithic/Bronze Age date have been recorded immediately to the south east of Peterhouse Technology Park (ECB 04452).

1.3.2 The cropmarks of three ring ditches had been recorded on the site of Peterhouse Technology Park (ECB0880). The site was subsequently evaluated and excavated ahead of the construction of the Technology Park, revealing that the ring ditches were all approximately the same size but that none had any evidence of use for burial. Artefacts recovered include Late Neolithic flint artefacts, possibly residual and Middle to Late Bronze Age pottery. The cropmark of a ring ditch has been recorded immediately to the south of Peterhouse Technology Park.

1.3.3 Two Bronze Age barrows were formerly located immediately to the west of the study site in the area of the War Ditches but have been destroyed by chalk quarrying (ECB 04964 &04965).

1.3.4 Two flint Bronze Age scrapers have been recorded to the south-east of the site.

1.3.5 The War Ditches were a circular earthwork/hill fort of Iron Age date, now destroyed by chalk quarrying, to the south-west of the site (ECB04963).

Roman

1.3.6 A Roman settlement comprising post-built structures, a number of wells, kilns, pits, inhumation burials, agricultural features and pottery, has been excavated within the War Ditches Iron Age hillfort immediately to the west of the study site (ECB 04963a & 05216).

1.3.7 An unspecified number of Roman coins have been recorded as having been found on the south-eastern corner of the Peterhouse Technology Park (ECB 04841). A sherd of pottery was recorded during the evaluation of the Technology Park itself (ECB 08880a).

Saxon

1.3.8 A Saxon cemetery comprising 17 inhumation burials with 6th/7th century grave goods has been excavated at War Ditches (ECB04965a).

Medieval

1.3.9 Medieval pottery sherds were recorded during the evaluation of the Peterhouse Technology Park at the northern end of the site (08880b). Pottery sherds have also been recorded in the south-western corner of the study site.

1.4 Acknowledgements

1.4.1 The author would like to thank Rob Bourn of Orion, who commissioned the work. The excavation was directed by the author, with the assistance of John Diffey, Toby Knight, Goshia Kwiatkowska, Ash Pooley. The project was managed by James Drummond-Murray and the on-site survey was carried out by Dave Brown. Andy Thomas monitored the work, on behalf of Cambridgeshire County Council. Barry Bishop visited site to advise on flint recovery.

2 Project Scope

2.1.1 This assessment covers the excavation and evaluation phases. In addition, relevant finds from the test pitting and field phase are also included. A full report on the field walking and test pitting has already been produced (Fairbairn 2015).

3 Original Research Aims and Objectives

3.1.1 The main aim of the excavation was to preserve the archaeological evidence contained within the excavation area by record and to attempt a reconstruction of the history and use of the site.

3.2 Regional Research Objectives

3.2.1 Early Neolithic pits are known across East Anglia, but are not common in the Cambridge area. Such pits are one of the few feature types known from this period and offer great potential for understanding society at this time.

3.3 Site Specific Research Objectives

3.3.1 To recover as much as possible of the Early Neolithic material present on the site so as to allow for further study.

4 Summary of Results

4.1.1 Relatively few archaeological features were identified across the excavation area, although a large number of tree throws were present (Fig. 2). The Later Neolithic pits are discussed below in one section, with a separate section detailing the natural features.

4.2 Tree Throws and other Natural features

4.2.1 A number of tree throws were excavated and planned during the excavation, however, only those which contained finds or were of particular interest are discussed below. A large natural hollow was also excavated.

Tree throws 3 and 5

4.2.2 Two tree throws (**3** and **5**) were located close to the centre of the excavation area. Tree throw **3** was cut by Late Neolithic pit **1037** and tree throw **5** was cut by pit **1034**. Finds from these tree throws included pottery, animal bone and flint.

Tree throw 10

4.2.3 A further tree throw (**10**) was located close to pits **8** and **1017**. It contained pottery, animal bone and struck flints.

Tree throws 1003 and 1008

4.2.4 Two tree throws in the vicinity of pits **1001** and **1006** (**1003** and **1008**) did not contain any finds.

Tree throw 1016

4.2.5 Tree throw **1016** was cut by pit **1014**. This tree throw did not contain any finds, however, it may have influenced the location of pit **1014**. This pit was located in the centre of the crescent created by tree throw **1016**.

Hollow 1010

4.2.6 A shallow natural hollow was located at the western edge of the excavation area. This hollow (**1010** and **1022**) produced only very small quantities of flint and animal bone.

4.3 Later Neolithic Pits

4.3.1 A total of nine pits have been provisionally phased to the Later Neolithic period, although two of these contained no finds (Table 1). Generally the pits were circular in plan (apart from **1037**), with near vertical sides and flat bases. A summary of each pits' dimension and the finds from it is given in Table 1.

Cut	Fills	Finds	Diameter	Depth
8	7	Bone, pot, flint	0.98	0.28
1001	1000	None	0.78	0.24
1006	1004, 1005	None	0.53	0.34
1014	1011, 1012, 1013	Bone, pot, flint	1.35	0.46
1017	1018	Bone, pot, flint	0.88	0.42
1024	1025, 1026, 1027, 1028, 1029, 1030	Bone, pot, flint	0.95	0.48
1033	1031, 1032	Bone, pot, flint	0.91	0.36
1034	1035	Bone, flint	1.10	0.20
1037	1036	Bone, pot, flint	1.56 x 0.59	0.24

Table 1: Summary of Neolithic pits

4.3.2 These pits were spread across the site, although six pits occurred in three apparent pairs (**1001** and **1006**, **8** and **1017**, **1034** and **1037**).

4.3.3 A radiocarbon date was obtained from a fragment of charred hazelnut shell, recovered from pit **8**. This returned a date of 2866-2580cal BC (GU-39004, 4122±31BP).

5 Factual Data and Assessment of Archaeological Potential

5.1 Stratigraphic and Structural Data

The Excavation Record

5.1.1 All hand-written records have been collated and checked for internal consistency and the site records have been transcribed in full onto a MS Access database. The quantities of records are shown in the table below.

Type	Number
Context Register	3
Plan Registers	1
Section registers	1
Photo Registers	3
Sample Registers	5
Small Find Registers	0
Context Records	48
Plans at 1:10 and 1:20	12
Sections at 1:10 and 1:20	16

Table 2: The excavation record

Finds and Environmental Quantification

5.1.2 All finds have been washed, quantified and bagged. The catalogue of all finds is recorded in a MS Access database. Total quantities for each material type are listed below.

Material	Weight (kg)
Struck flint	4.204
Pottery	0.236
Animal bone	3.408
Burnt stone	6.339

Table 3: Artefact and ecofact quantification

Range and Variety

5.1.3 Features on the site consisted of pits and natural features, largely of Late Neolithic date. The table below summarises the total number of each type of feature that was excavated and fully recorded.

Pits	9
Finds unit	1
Tree throw	6
Natural hollow	1

Table 4: Range and variety of features

Condition

5.1.4 The near lack of finds in the topsoil and subsoil suggests that the Neolithic features were not being actively truncated by ploughing. However, the north-eastern part of the site had been truncated by the creation of a temporary construction compound, during the building of the adjacent Peterhouse Technology Park.

5.2 Documentary Research

Primary and Published Sources

5.2.1 The major sources available will include the Historic Environment Record, together with published and unpublished site reports. This incudes the Grooved Ware pit sites at Babrahm Road park and Ride and Linton Village College (Clarke and Gilmour forthcoming)

5.3 Artefact Summaries

5.3.1 Summaries of the artefacts recovered are given below, with full assessments presented in Appendix B.

Flint (Barry Bishop, Appendix B1)

Summary

5.3.2 In total 710 pieces of struck flint were recovered from the various investigations at Cherry Hinton. The majority were recovered during the evaluation and excavation phases from a series of pits, with two tree-throw hollows and a large natural hollow also producing small assemblages.

Statement of Potential

5.3.3 The lithic material recovered from Cherry Hinton adds significantly to our knowledge of Later Neolithic lithic technology, depositional practices and settlement activities. Particularly if taken in conjunction with the findings from the Later Neolithic pit sites in the area, it has the potential to contribute meaningfully to further understandings of the processes and patterns of inhabitation within the south Cambridge landscape.

Unworked burnt stone (Barry Bishop, Appendix B3)

Summary

5.3.4 Just over 6.6kg of unworked stone were recovered from the archaeological investigations, most of which came from a series of pits and tree-throw hollows (Table 11). It mostly comprises sandstone of a variety of lithological composition, which includes varying clast size distributions,

Statement of Potential

5.3.5 The quantities of burnt stone recovered indicate that pyrotechnical activities were an important aspect of the activities that resulted in the infilling of pits at the site. At present it is far from clear what the exact nature of the processes were that led to the generation or the deposition of the burnt stone and how they may have related to other activities at the site. Little further analytical work can be conducted on the material and as it mostly likely originates as glacial erratics there would be little to be gained in conducting detailed petrological sourcing. Its significance to the communities who gathered, burned and deposited the material is evident however, and that further research is conducted on its possible role and significance.

Pottery (Sarah Percival, Appendix B3)

Summary

5.3.6 A total of 121 sherds of pottery weighing 339g were collected from seven excavated features and from subsoil and topsoil. The sherds are mostly small and poorly preserved and the average sherd weight is 3g. The most significant pottery are 96 sherds of Grooved Ware from five pits. A single sherd of Earlier Neolithic pottery and a possible sherd of Beaker came from a tree throw and smaller quantities of Iron Age and Roman pottery was also recovered from topsoil, subsoil and test pit fills.

Statement of Potential

5.3.7 Garwood noted in his review of Grooved Ware research written in 1999 that this type of pottery was poorly understood in non-monumental contexts in the region (Garwood 1999, 154). Since this time, several pit sites investigated in Cambridgeshire have produced significant and well dated Grooved Ware assemblages, for example Linton Village College (Clarke and Gilmour forthcoming). The Grooved Ware found at the Peterhouse site further contributes to this growing body of data and is therefore of some interest, especially as material recovered from samples offers further opportunities for dating the pit assemblages.

5.3.8 The remainder of the assemblage is largely unstratified and of little research potential.

5.4 Environmental Summaries

5.4.1 Summaries of the ecofacts recovered are given below, with full assessments presented in Appendix C.

Faunal Remains (Vida Rajkovača, Appendix C1)

Summary

5.4.2 The site produced an assemblage totalling 529 assessable specimens, 141 of which were identified to species level. Remains of pig and wild fauna dominated the hand-recovered material, a range of species typical for the period. Within the cattle cohort, it was possible to record smaller individuals and a number of fragments of larger elements which could be from aurochs. Aurochs was positively identified based on a

complete astragalus and a near complete 1st phalanx. Red deer was represented by 1st phalanx and a metatarsus fragment, and roe deer by an antler segment.

Statement of Potential

5.4.3 This material presents the opportunity to investigate peoples' relationship with the environment; the wild:domestic dichotomy, and whether it is a dichotomy at all.

Environmental Remains (Rachel Fosberry, Appendix C2)

Summary

5.4.4 Twenty-one bulk samples were taken from features within the excavated area in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of further archaeological investigations. Features sampled were predominantly pits that were later Neolithic in date. The sampling strategy of this site involved the 100% excavation of all pits with retention of deposits in sample buckets.

Statement of Potential

5.4.5 The small quantities of plant macrofossils recovered do not constitute a quantifiable assemblage. Further processing of the remaining soil is likely to produce more of the same remains but it is unlikely that the numbers of specimens recovered will be of statistical significance.

5.4.6 If further processing of soil is required for artefact retrieval it is recommended that they are processed by flotation as other methods of processing such as dry-sieving are likely to be impractical due to the sticky nature of the soil. If the samples are processed by flotation a flot can be recovered and a rapid scan would indicate whether significant numbers of cereal remains are present.

6 Updated Research Aims and Objectives

6.1 Regional Research Objectives

6.1.1 To contribute to the refining of the chronology and dating of Later Neolithic pottery in East Anglia;

6.1.2 To contribute to the understanding of the exploitation of farmed and wild animals during the Later Neolithic;

6.1.3 To contribute to a better understanding of wider patterns of occupation and activity within the landscape of south Cambridgeshire, by comparison with other Grooved Ware pit sites.

6.2 Site Specific Research Objectives

6.2.1 To investigate how this site was used during the Later Neolithic;

6.2.2 To establish a better understanding of the technological characteristics of the flint assemblages in order to elucidate the reduction strategies employed;

6.2.3 To gain further understanding of the depositional history of the assemblages within the Grooved Ware pits.

7 Methods Statements for Analysis

7.1 Stratigraphic Analysis

7.1.1 The environmental, artefactual and contextual data have been analysed and entered into an MS Access database. Contexts will be assigned a final phase and group number, within this database, dependant on the dating evidence found within them, stratigraphic and spacial relationships.

7.2 Illustration

7.2.1 The site plans have been digitised in qGIS and relevant sections will be digitised. Selected finds will be drawn by hand. These will be used to produce a series of figures showing plans and sections of the features on the site, together with other relevant illustrations. A small number of pottery sherds and several of the struck lithics will also require illustration.

7.3 Documentary Research

7.3.1 Research into documentary evidence will be undertaken to place the site within its wider context. This will involve consulting the Cambridgeshire Historic Environment Record as well as published and unpublished reports on similar sites excavated within the region.

7.4 Artefactual Analysis

7.4.1 The artefacts that require further analysis will be analysed by the relevant specialists, in accordance with their recommendations during the assessment stage. Further analysis will focus on the pottery and struck flints.

7.5 Ecofactual Analysis

7.5.1 Currently, there are insufficient plant macrofossil remains to allow for meaningful statistical analysis. However, if further samples are processed by flotation, then any additional remains will be assessed and a report detailing them will be produced.

7.5.2 The animal bone requires additional recording and analysis in order to contribute to the project's research aims stated above. Analysis of the auroch and deer remains, alongside those of domesticated animals is of particular interest.

7.6 Bulk Soil Sample Processing

7.6.1 The quantities of finds recovered from the bulk soil samples are listed in Table 5 below. Approximately 25% of the samples from each deposit have been processed to date.

Sample	Context	Cut	Feature description	Total buckets	Buckets processed	Buckets remaining	Bone weight	Pottery weight	Flint count
100	1000	1001	Pit	10	3	7	0	0	0
101	1004	1006	Pit	5	1	4	0	0	0
102	1005	1006	Pit	5	1	4	0	0	0
103	1011	1014	Pit	32	8	24	34g	3g	0
104	1012	1014	Pit	16	4	12	1g	0	0
105	1013	1014	Pit	7	2	5	1g	0	0
106	1015	1016	Tree throw	4	1	3	0	0	0
107	1018	1017	Pit	29	7	22	4g	0	3

108	1025	1024	Pit	12	3	9	31g	1g	0
109	1026	1024	Pit	4	1	3	6g	0	2
110	1027	1024	Pit	3	1	2	0	0	0
111	1028	1024	Pit	8	2	6	14g	0	2
112	1029	1024	Pit	2	1	1	11g	0	0
113	1030	1024	Pit	7	2	5	2g	0	3
114 (and 1)	7	8	Pit	9	2	7	83g	29g	2
115	6	5	Tree throw	4	1	3	1g	0	0
116	1031	1033	Pit	12	3	9	34g	0	7
117	1032	1033	Pit	14	4	10	9g	0	2
118	1035	1034	Pit	12	3	9	4g	0	0
119	1036	1037	Pit	21	5	16	3g	1g	0
120	4	3	Tree Throw	1	1	0	0	0	0
Total				217	56	161	238g	34g	21

Table 5: Quantity of sample buckets from each deposit, with numbers processed to date (by tank floatation) and quantification of finds from the processed samples. *N.B* each bucket contains *c*.10l of soil.

7.6.2 If the remaining samples are to be processed, this could be carried out in a number of ways.

- Dry sieving: This would enable the recovery of the majority of artefacts, but not environmental remains. This option would be difficult to carry out, due to the sticky clay component in most of the deposits.
- Tank Flotation: This would result in the recovery of the majority of artefacts and also charred plant macrofossils. This would take between 15-20 person days, including sorting of the heavy fraction, to process all remaining buckets.
- Dutch Sieve: This would result in the recovery of flint only. It would take 4-7 person days including sorting the residue, to process all of the remaining buckets.

8 Report Writing, Archiving and Publication

8.1 Report Writing

Tasks associated with report writing are identified in Table 7.

8.2 Storage and Curation

8.2.1 Excavated material and records will be deposited with, and curated by, Cambridgeshire County Council in the appropriate county stores under the Site Code CAM PET 15 and the county HER code ECB *****. A digital archive will be deposited with OA Library. CCC requires transfer of ownership prior to deposition. During analysis and report preparation, OA East will hold all material and reserves the right to send material for specialist analysis.

8.2.2 The archive will be prepared in accordance with current OA East guidelines, which are based on current national guidelines.

8.3 Publication

8.3.1 It is proposed that, following production of a full report, the results of the project should be published in the *Proceedings of the Cambridge Antiquarian Society*, under the title 'Grooved Ware Pits in Cambridgeshire, with particular reference to a newly excavated site at Cherry Hinton, Cambridge' by Nick Gilmour.

9 Resources and Programming

9.1 Project Team Structure

Name	Initials	Project Role	Establishment
James Drummond-Murray	JDM	Project Manager	OA East
Nick Gilmour	NG	Project Officer	OA East
Sarah Percival	SP	Prehistoric pottery specialist	OA East
Rachel Fosberry	RF	Environmental specialist	OA East
Barry Bishop	BB	Struck lithics specialist	Freelance
Vida Rajkovača	VR	Faunal specialist	Freelance
Elizabeth Ppescu	EP	Editor	OA East
Charlotte Walton	CW	Illustrator	OA East
Kat Hamilton	KH	Archives Supervisor	OA East

Table 6: Project team

9.2 Stages, Products and Tasks

	Task	Staff	No. Days
Project Management			
	Project management	JDM	2
	Liaison with relevant staff and specialists, distribution of relevant information and materials	NG	2
Stage 1: Stratigraphic Report			
	Finalise site phasing	NG	0.2
	Add final phasing to database	NG	0.2
	Compile group and phase text	NG	2
	Compile overall stratigraphic text and site narrative to form the basis of the full/archive report	NG	1
	Review, collate and standardise results of all final specialist reports and integrate with stratigraphic text and project results	NG	1
	Integrate documentary research	NG	1
	Write historical and archaeological background text	NG	1
	Edit phase and group text	NG	1
	Write discussion and conclusions	NG	3
Illustration			
	Digitise selected sections	CW	0.5
	Prepare phase plans, sections and other report figures	CW	2
	Select photographs for inclusion in the report	NG	0.2
Documentary research			

	Task	Staff	No. Days
	Collect reports and published accounts of other Grooved Ware pit sites for comparison	NG	2
Artefact studies			
	Analyse struck lithics	BB	12
	Analyse pottery	SP	1
Environmental Remains			
	Analyse faunal remains	VR	2
Stage 2:Publication			
	Compile list of illustrations/liaise with illustrators	NG	0.5
	Prepare report figures	CW	2
	Collate/edit captions, bibliography, appendices etc	NG	1
	Produce draft text	NG	1
	Internal edit	EP	1
	Incorporate internal edits	NG	0.5
	Final edit	JDM	1
	Send to publisher for refereeing	EP	0.2
	Post-refereeing revisions	EP/NG	1
	Copy edit queries	EP	1
	Proof-reading	EP	1
Stage 4: Archiving			
	Compile paper archive	KH	0.3
	Archive/delete digital photographs	KH	0.3
	Compile/check material archive	KH	0.3

Table 7: Task list

9.3 Project Timetable

9.3.1 It is anticipated that a full archive report will be produced within 6 months (by end of July 2016). Following this, work will begin on the publication, which it is hoped will be submitted to the *Proceedings of the Cambridge Antiquarian Society* in 2017.

Appendix A. Context Summary

Context	Cut	Category	Feature Type	Other Comments
1	0	layer	topsoil	topsoil during evaluation
2	0	layer	subsoil	subsoil during evaluation
3	3	cut	tree throw	
4	3	fill	tree throw	
5	5	cut	tree throw	
6	5	fill	tree throw	
7	8	cut	pit	
8	8	cut	pit	
9	9	cut	tree throw	
10	9	fill	tree throw	
1000	1001	fill	pit	
1001	1001	cut	pit	
1002	1003	fill	tree throw	
1003	1003	cut	tree throw	
1004	1006	fill	pit	
1005	1006	fill	pit	
1006	1006	cut	pit	
1007	1008	fill	tree throw	
1008	1008	cut	tree throw	
1009	1010	fill	solution hollow	extends beyond LOE
1010	1010	cut	solution hollow	
1011	1014	fill	pit	
1012	1014	fill	pit	
1013	1014	fill	pit	
1014	1014	cut	pit	
1015	1016	fill	tree throw	
1016	1016	cut	tree throw	
1017	1017	cut	pit	
1018	1017	fill	pit	
1019	0	finds unit		finds from subsoil during excavation
1020	0	layer		modern disturbance layer across NW of site, from previous compound
1021	1022	fill	natural hollow	
1022	1022	cut	natural hollow	
1023	0	VOID		
1024	1024	cut	pit	
1025	1024	fill	pit	
1026	1024	fill	pit	
1027	1024	fill	pit	
1028	1024	fill	pit	
1029	1024	fill	pit	
1030	1024	fill	pit	
1031	1033	fill	pit	

Context	Cut	Category	Feature Type	Other Comments
1032	1033	fill	pit	
1033	1033	cut	pit	
1034	1034	cut	pit	
1035	1034	fill	pit	
1036	1037	fill	pit	
1037	1037	cut	pit	

Appendix B. Finds Reports

B.1 Struck Lithics

By Barry Bishop

Introduction

B.1.1 The archaeological investigations at Cherry Hinton resulted in the recovery of a large assemblage of struck flint. A full catalogue of the material arranged by individual context is presented in Table 8 and further details of all cores and implements are provided in Tables 9 - 11. These should be consulted in conjunction with reading this report, which characterizes the assemblage and assesses its archaeological significance and potential to contribute to the further understanding of the nature and chronology of activity at the site. All metrical descriptions follow the methodology established by Saville (1980). This report incorporates a re-examination of the struck flint found during preceding archaeological evaluation, test-pitting and fieldwalking investigations at the site, which have been previously assessed separately (Bishop 2014; 2015a).

Feature	Primary / Decortication Flake	Core preparation / modification flake	Core rejuvenation flake	Useable flakes	Chips (< 15mm max dimension)	Flake Fragments <10mm	Flake Fragments >10mm	Chunks/core shatter	Prismatic blade	Non-prismatic blade	Blade-like flakes	Flake Core	Flake struck from polished implement	Retouched	**Context Total Struck**
Top-soil	4	2		9				3	1	1	2			4	15
Sub-soil	2	3		16			5		2	3				1	27
Hollow 1022				1											1
Pit 0008	5	6	4	34	8	3	10		3	9		3		8	93
Pit 1014	20	29	6	114	50	36	42	4	8	29		3	2	18	361
Pit 1017	2	2		7	3	3			1	2	1			6	27
Pit 1024	4	10		16			4	1	1					4	40
Pit 1033	6	8	5	28	11	5	11		7	13	2	3		7	106
Pit 1034		1												2	3
Pit 1037				2						1	1				4
Tree-throw 0005	1	1	1	3			1	1		1		1		1	11
Tree-throw 1010	1	1		4											6
Total	**45**	**63**	**16**	**234**	**72**	**47**	**73**	**9**	**23**	**59**	**6**	**10**	**2**	**51**	**710**
Total %	*6.3*	*8.9*	*2.3*	*33.0*	*10.1*	*6.6*	*10.3*	*1.3*	*3.2*	*8.3*	*0.8*	*1.4*	*0.3*	*7.2*	*100*

Table 8: Quantification of struck flint.

Quantification and Distribution

B.1.2 In total 710, pieces of struck flint were recovered from the various investigations at Cherry Hinton. The majority were recovered during the evaluation and excavation phases from a series of pits, with two tree-throw hollows and a large natural hollow also producing small assemblages. The remaining pieces were mainly found during the fieldwalking and test-pitting programmes and came from top-soil and sub-soil deposits (Table 8; Table 9).

Raw Materials

B.1.3 The raw materials all comprise good knapping-quality flint although heavy recortication precludes identifying the colour of most pieces. However, occasional recent breaks have revealed the flint to be invariably fine-grained and translucent dark grey or black. Cortex is present on many of the pieces and this is thin but unweathered although thermal surfaces are also present. The cortex indicates that the raw materials were gathered directly from the chalk, probably from glacially weathered outcropping flint seams, such as can be found within the Holywell or New Pit Chalk Formations that are present to the south of the site.

Condition

B.1.4 The condition of the pieces varies according to context. Those from the pits and other features are nearly all in a good or only very slightly chipped condition. Between 5% and 25% of the pieces from the pits had been burnt and there is a high degree of breakage, the latter exacerbated by the very thin nature of many of the flakes. Whilst the assemblages had clearly experienced a complex history between manufacture and deposition, and most of the tools had clearly been used, their generally sharp condition suggests that most pieces had entered the pits not long after manufacture. The material from the soil horizons is, not unsurprisingly, in a much more chipped and abraded condition, consistent with it having been in an active burial environment such as a plough zone for a considerable period.

B.1.5 All pieces are recorticated and this has caused the edges of some to become friable and crumbly, masking potential light retouch or use-wear traces.

Technology, Typology and Dating

B.1.6 The assemblage is technologically homogeneous and the product of a competent but adaptable flake-based reduction strategy. It can be dated both technologically and typologically to the Later Neolithic and this is supported by its association with Grooved Ware pottery and radio-carbon dating.

B.1.7 The assemblage represents nearly all of the reduction sequence and includes the preparation and reduction of cores, and the manufacture and discard of tools. Pieces from the very early stages in core production, including pre-shaping and decortication, are under-represented and it is likely that the initial processing of raw materials was undertaken at the source.

B.1.8 The identification of specific reduction techniques is hampered by the relative paucity of cores recovered, although those present indicate relatively systematic attempts at blade manufacture as well as the production of large flakes of pre-determined shape from discoidal or Levallois-like cores (Table 10). Interestingly, some of the cores show evidence for both forms of working, indicating that not only were different core working strategies being pursued, but that these were being conducted on the same pieces of raw material and possibly by the same person.

B.1.9 The variety of different core working strategies has resulted is a wide range of flake shapes and sizes being present, these varying from narrow blades to broad flakes. The flakes are dominated by secondary and tertiary removals, with only 6% of the unretouched flakes and blades having 50% or more of their dorsal surface covered with cortex. Blades, taken here to simply denote flakes that are twice as long as wide, comprise less than 12% of the assemblage and few of these are indicative of truly systematic working involving the repeated production of standardised blanks, with non-prismatic blades outnumbering prismatic types by nearly 3:1. The flakes are variable

with some being relatively thick and occasionally badly detached. Most of these appear to have been generated whilst preparing cores or during their subsequent modification or rejuvenation, including by using the 'core-tablet' method of platform renewal. There are also many thin flakes that were struck from prepared cores that nearly always had trimmed core-face edges, with some flakes having facetted striking platforms that suggest the routine use of Levallois-like methods.

B.1.10 Micro-debitage, consisting of small flakes and core shatter less than 15mm in maximum dimension, is present and indicates core reduction, but none of the features contain sufficient quantities to indicate that this was occurring *in situ*; instead, it supports the notion that the material was knapped elsewhere and gathered for deposition within the pit.

B.1.11 Retouched implements contribute a relatively high 7.2% of the assemblage and are dominated by scrapers and flakes and blades with simple edge-retouch, which together account for over three-quarters of the tools (Table 11). The 16 scrapers are nearly all simple short- and long-end types although most are well made and have carefully crafted and symmetrically arced working edges. Twenty-four simple edge-retouched implements were identified, which include flakes and blades of a wide variety of shapes and sizes although most were probably used for cutting or sawing, the retouch either strengthening the cutting edge or providing a blunt edge to facilitate handling. To these may be added six serrated implements which are also likely to have been used for cutting and sawing. Three transverse arrowheads were recovered, comprising two oblique and one petit tranchet, both types being diagnostic markers of Later Neolithic industries (Clark 1934; Green 1980). Other retouched pieces include a bifacially worked chopping tool and a core-tool with severe battering along one edge, which was probably used either as a hammerstone or a pounder. Two flakes with polished dorsal facets indicate the re-working of a probable ground flint-axe.

Context and Deposition

B.1.12 Almost 90% of the struck flint from Cherry Hinton came from the fills of seven pits. These assemblages are essentially similar in terms of reduction techniques, raw material use and condition, although the size of the assemblages varied considerably, from three pieces in pit **1034** to 361 in pit **1014**; although several pits contained no struck flint at all. Some of the pits had multiple fills, and there are also significant differences in the quantity of lithic material distributed within these (see Table 9). Whilst broadly comparable, there are some differences apparent in the reduction stage composition between the pits' assemblages, such as in the relative proportions of retouched implements or cores, although the significance of this is difficult to assess as most of the assemblages are too small to allow confident statistical comparison.

B.1.13 The assemblages from the two tree-throw hollows are also comparable to the pits, and are likely to reflect broadly similar patterns of flint use and deposition. The remaining feature, hollow **1010**/**1022**, contained only a single piece, a large thin flake with a facetted striking platform which is also likely to date to the Later Neolithic.

B.1.14 No refitting has yet been attempted but it is evident that the pieces from most of the smaller assemblages are unlikely to produce many refits. Whilst there is a greater likelihood of refitting sequences from the larger pit groups, it is also clear that the assemblages are formed from multiple knapping events with only a small selection of the material from any specific knapping event being present. This further supports the notion that the assemblages were created elsewhere and selected portions of the debris gathered up and placed in the pits. Whether the assemblages from the pits were

gathered from a single common source remains unknown but could be elucidated by inter-pit refitting attempts.

Discussion

B.1.15 The struck flint assemblage can be regarded as large given the limited number of features identified at the site and represents a specific practice involving the infilling pits with the selected residues from flintworking. The assemblages represent most of the knapping sequence although it is likely that the raw materials were initially processed elsewhere. The overall assemblage contains a large proportion of used tools indicative of general settlement type activities, with a focus on the scraping and cutting of materials, possibly hide working or the processing of animal skins. The presence of arrowheads may also indicate hunting activities, although their deposition as well as the reworking of a ground flint axe may also hint at symbolic dimensions to the infilling of the pits.

B.1.16 Whilst some flintwork was recovered from surface deposits, there were no notable quantities or concentrations that could suggest where the main focus of settlement may have been, and it is likely that the flintwork had been brought to the site with the specific intent of depositing it into the pits.

B.1.17 It is clear that only a small proportion of what would have been generated during even a limited number of knapping episodes ever made it into pits. The wear exhibited by the implements and the condition of the pieces, including some that had been burnt prior to deposition, demonstrate that the material must been selected from a larger accumulation, or 'pre-pit' context, prior to being placed into the pits. In this respect the assemblages are comparable to other examples of deliberate or structure deposition seen at Later Neolithic pit sites in East Anglia and beyond (*e.g*. Thomas 1999; Garrow 2006). It has been argued that these features may have been dug and filled by transient communities with the intention of marking the landscape, or to commemorate the settlement and the events that occurred there. Recent excavations have revealed a number of Later Neolithic 'pit sites' in southern Cambridgeshire which have produced comparable assemblages to those recorded here, including that close by at Babraham Road but also at Hinxton, Linton and Melbourn (Bishop 2000; 2015; Bishop and Donnelly forthcoming; Dickson forthcoming). Somewhat further afield, similar struck flint assemblages from Grooved Ware pit groups have been found within the fens, such as at Fenstanton or the Over Barrow cemetery (Chapman 2005; Billington 2010). The similarities between many of these assemblages suggest close cultural associations, and their distribution may indicate periodic or seasonal movement between the low lying fens and the chalk uplands.

Significance and Recommendations

B.1.18 The lithic material recovered from Cherry Hinton adds significantly to our knowledge of Later Neolithic lithic technology, depositional practices and settlement activities. Particularly if taken in conjunction with the findings from the Later Neolithic pit sites in the area, it has the potential to contribute meaningfully to further understandings of the processes and patterns of inhabitation within the south Cambridge landscape.

B.1.19 The recovery of further flints from the remaining soil samples would add to the overall assemblage and therefore increase the research potential of this assemblage.

B.1.20 The regional significance of this material warrants it to be fully examined and written up with the aim of publishing it within a general account of the archaeological investigations. The assemblage has been comprehensively catalogued and most of the classificatory work has been completed. Further work should focus on:

- establishing a better understanding of the technological characteristics of the assemblages in order to elucidate the reduction strategies employed;
- undertaking a limited refitting exercise both within and between the different pit assemblage, to help further understandings of the depositional history of the assemblages;
- research and undertaking detailed comparison with the assemblages from other Grooved Ware pit sites in south Cambridgeshire in order to better understand wider patterns of occupation and activity within the landscape.

B.1.21 Following completion of this work, it is recommended that the findings are fully written up and, alongside illustrations of the most relevant pieces, presented in any published account of the fieldwork.

Context	Feature	Sample No	Investigation phase	Primary / Decortication Flake	Primary / Decortication Blade	Core preparation / modification flake	Core preparation / modification blade	Core-tablet rejuvenation flake	Transverse core rejuvenation flake	Longitudinal core rejuvenation flakes	Useable flakes	Chips (< 15mm max dimension)	Flake Fragments <10mm	Flake Fragments >10mm	Chunks/core shatter	Prismatic blade	Non-prismatic blade	Blade-like flakes	Flake Core	Flake struck from polished implement	Arrowhead	Core-tool	Edge Trimmed	Scraper	Serrate	Context Total Struck
1021	Hol1022		Excavation								1															1
7	P0008		Evaluation	4		2		1	1		22	5	3	8		2	6						3		1	58
7	P0008	<114>	Excavation								1			1												2
7	P0008		Excavation		1	4			1	1	11	3		1		1	3		3				1	2	1	33
1011	P1014		Excavation	15	4	23	5	1	4	1	109	50	36	40	4	6	27		2	2	1	1	7	6	2	346
1012	P1014		Excavation	1		1					5			2		2	2		1				1			15
1018	P1017	<107>	Excavation								1							1					1			3
1018	P1017		Excavation	2		2					6	3	3			1	2					1	2	1	1	24
1026	P1024	<109>	Excavation			1					1															2
1026	P1024		Excavation	1	1	1					3			1		1							2			10
1028	P1024	<111>	Excavation	1		1																				2
1028	P1024		Excavation			5					7			2	1								2			17
1030	P1024	<113	Excavation								3															3
1030	P1024		Excavation	1		2					2			1												6
1031	P1033	<116>	Excavation									4	1	1			1									7
1031	P1033		Excavation	3	1	6	1	2	2		24	7	4	10		5	10	2	2		2		4			85
1032	P1033	<117>	Excavation								1						1									2
1032	P1033		Excavation	1	1		1		1		3					2	1		1						1	12

1035	P1034		Excavation			1																1		1		3
1036	P1037		Excavation								2						1	1								4
15.2	Subsoil		Test-pitting													1										1
24.2	Subsoil		Test-pitting								2					1										3
47.2	Subsoil		Test-pitting											1												1
1019	Sub-soil		Excavation	2		3					14			4			3							1		27
1	Topsoil		Evaluation			2					2				1		1							1		7
3.1	Topsoil		Test-pitting													1										1
6.1	Topsoil		Test-pitting															1								1
13.1	Topsoil		Test-pitting	1																						1
33.1	Topsoil		Test-pitting	1											1											2
44.1	Topsoil		Test-pitting								1															1
46.1	Topsoil		Test-pitting								1															1
61.1	Topsoil		Test-pitting															1								1
A4	Topsoil		Fieldwalking																					1		1
D13	Topsoil		Fieldwalking	1																						1
D4	Topsoil		Fieldwalking								1															1
E10	Topsoil		Fieldwalking	1																						1
F11	Topsoil		Fieldwalking								1															1
F5	Topsoil		Fieldwalking								1													1		2
F9	Topsoil		Fieldwalking																				1			1
H13	Topsoil		Fieldwalking								1				1											2
H9	Topsoil		Fieldwalking								1															1
6	TT0005		Evaluation	1		1					1															3
6	TT0005		Excavation					1			2			1	1		1		1				1			8
9	TT1010		Evaluation	1		1					4															6

Table 9: Full catalogue of struck flint arranged by individual context

Context	Feature	Investigation phase	Colour	Cortex	Condition	Recortication	Length (mm)	Breadth (mm)	Width (mm)	Weight (g)	Type	Clark et al. 1960 type	Morphology	No Flakes Removed	No. Platforms	Platform Type	Platform Treatment	Platform Relationship	% cortex remaining	Further incipient Hertzian cones	Description	Reason abandoned
7	P0008	Excav	Unknown	Thin unweathered	Good	White	45	45	26	46	Flake	D	Domed	10+	2	Flake scar	Edge trimmed	Keeled	40	None apparent	Split cobble or large flake with many small flakes removed centripetally across ventral face. Could be a 'front' type or unstruck Levallois-like core	Severe step / hinge fracture
7	P0008	Excav	Unknown	Thin unweathered	Good	White	76	57	39	169	Flake	D	Wedge	10+	2	Flake scar	None	Keeled	60	None apparent	Rounded nodule with flakes removed in sequence form two keeled platforms at one end	Unknown
7	P0008	Excav	Unknown	None	Good	White	58	58	22	72	Flake	D	Lenticular	10+	2	Flake scar	Edge trimmed	Right angled	0	None apparent	Tablet-shaped spall or large flake with flaked sides and one principal platform on either face. Both have main flakes removed Levallois-like	Severe step / hinge fracture
1011	P1014	Excav	Unknown	Thin unweathered	Good	White	55	53	40	99	Flake	D	Domed	10+	2	Flake scar	Edge trimmed	Keeled	10	None apparent	Hemispherical cobble with flakes removed across the 'ventral' and around all of the sides. One deep flake removed from 'ventral', comparable to Levallois-like method.	Severe hinge fractures
1011	P1014	Excav	Unknown	Thin unweathered	Good	White	48	46	28	53	Flake	A1	Domed	10+	1	Cortical	None	N/A	60	None apparent	Split cobble or large flake with many small flakes removed centripetally across	Unknown

																			ventral face. Possible unstruck Levallois-like core	
1012	P1014	Excav	Unknown	None	Good	White	61	50	25	74	Flake	E	Lenticular	10+	2	Flake scar	Edge trimmed	Keeled	0	None apparent	Extensively worked with two opposed keeled platforms	Unknown
1031	P1033	Excav	Unknown	Thermal scar	Good	White	62	40	29	54	Blade / narrow flake	C	Front type	10+	3	Flake scar	Edge trimmed	Contiguous	30	None apparent	Flake and blades removed from the front of an angular chunk with further flakes removed from the top and one side. Back remains unworked	Unknown
1031	P1033	Excav	Unknown	Thin unweathered	Good	White	65	47	28	81	Flake	A1	Domed	10+	1	Flake scar	None	N/A	30	None apparent	Split cobble or large flake with many small flakes removed centripetally across ventral face. Possible core tool or unstruck Levallois-like core	Unknown
1032	P1033	Excav	Unknown	Thin unweathered	Good	White	59	52	17	54	Flake	D	Domed	10+	2	Flake scar	Edge trimmed	Keeled	10	None apparent	Many blade scars on rounded 'front' on a cobble and back then many small flakes removed centripetally from around back but with no main flake removed. Possibly a 'normal' blade core re-used as a Levallois-like core?	Unknown
6	TT005	Excav	Unknown	None	Good	White	48	40	34	69	Flake	C	Globular	10+	3+	Flake scar	Edge trimmed	Contiguous	0	None apparent	Extensively reduced multiplatformed but has a keeled platform that 'spirals' around the core.	Unknown

Table 10: Detail of cores

Context	Feature	Ref	Investigation phase	Colour	Cortex	Condition	Flake type	Implement Type	Sub-type	Length (mm)	Breadth (mm)	Width (mm)	Description	Wear
7	P0008		Excav	Unknown	None	Slightly abraded	Flake	Edge retouched	Sharp	56	40	7	Fine bifacial retouch along part of right margin at proximal end and fine inverse and normal retouch on sinuous left margin	Moderate
7	P0008		Eval	Unknown	None	Good	Flake	Edge retouched	Sharp	26	15	5	Inverse, fine semi-invasive shallow retouch on right margin and around distal	Moderate
7	P0008		Eval	Unknown	Thin unweathered	Slightly abraded	Flake	Edge retouched	Sharp	>28	32	7	Very fine retouch / use-wear along right margin. Distal missing	Light to moderate
7	P0008		Eval	Unknown	Thin unweathered	Good	Non-prismatic blade	Edge retouched	Sharp	93	38	8	Fine to medium bifacial sporadic shallow retouch / battering along both margins	Moderate
7	P0008		Excav	Unknown	Thin unweathered	Slightly abraded	Flake	Scraper	End	>43	44	10	Medium, slightly denticulated steep scalar retouch around slightly convex distal and extending along part of right margin. Proximal end missing	Moderate
7	P0008		Excav	Unknown	Thin unweathered	Slightly abraded	Fragment	Scraper	Nosed	>20	21	4	Fine steep scalar retouch forming a nose at distal end. Proximal end missing	Moderate to heavy
7	P0008		Excav	Unknown	Thin unweathered	Slightly abraded	Narrow flake	Serrate	Unilateral	6	30	7	Occasional serrations along straight left margin. Possible very fine retouch along right margin	Light to moderate
7	P0008		Eval	Unknown	Thin unweathered	Good	Narrow flake	Serrate	Unilateral	47	27	4	Fine serrations c. 10 per cm along right margin.	Light to moderate
1011	P1014		Excav	Unknown	None	Good	Flake	Arrowhead	chisel	>48	37	5	Inverse notch cut into left margin at distal end forming a tail. Semi-invasive bifacial retouch along remainder of left margin. Right margin forms unretouched 'cutting edge'. Distal and proximal tips missing 't' = >48mm, 'r'= 37mm	None
1011	P1014		Excav	Unknown	Thin unweathered	Slightly abraded	Blade-flake	Edge retouched	Sharp	51	31	7	Rather irregular fine shallow scalar retouch across slightly convex distal end	Moderate

1011	P1014		Excav	Unknown	Thin unweathered	Good	Cortical flake	Edge retouched	Sharp	>82	46	11	Fine bifacial retouch / use damage along right margin.	Moderate
1011	P1014		Excav	Unknown	Thin unweathered	Good	Narrow flake	Edge retouched	Blunt	54	26	7	Medium, slightly sinuous steep scalar retouch along part of left margin. Accentuated cortex 'backing . Slight use-wear to right margin?	Light
1011	P1014		Excav	Unknown	None	Slightly abraded	Non-prismatic blade	Edge retouched	Sharp	79	29	10	Very fine retouch along part of right margin near distal end. Steep unmodified left margin	Moderate
1011	P1014		Excav	Unknown	None	Slightly abraded	Flake	Edge retouched	Sharp	55	63	8	Fine retouch along part of right margin	Moderate
1011	P1014		Excav	Unknown	Thin unweathered	Slightly abraded	Flake	Edge retouched	Sharp	90	62	9	Fine sporadic retouch around right margin and extending around distal.	Moderate to heavy
1011	P1014		Excav	Unknown	None	Slightly abraded	Prismatic blade	Edge retouched	Sharp	43	17	5	Fine bifacial retouch / use damage along left margin.	Moderate
1011	P1014		Excav	Unknown	Thin unweathered	Slightly abraded	Prismatic blade	Scraper	Long-end	51	20	7	Fine steep scalar retouch around slightly convex distal	Light
1011	P1014		Excav	Unknown	Thin unweathered	Good	Cortical flake	Scraper	End	>51	40	12	Medium to heavy moderately steep scalar retouch around convex distal end and extending slightly up both lateral margins	Light to moderate
1011	P1014		Excav	Unknown	Thin unweathered	Slightly abraded	Flake	Scraper	End	40	42	9	Medium to heavy moderately steep scalar retouch around convex distal end and extending slightly up left margin	Moderate
1011	P1014		Excav	Unknown	None	Good	Narrow flake	Scraper	Long-end	60	33	8	Medium to heavy moderately steep scalar retouch around finely arced distal end	Moderate
1011	P1014		Excav	Unknown	Ancient thermal scar	Good	Core-tool	Scraper	End	46	44	14	Thermal spall with medium, slightly convex moderately steep scalar 'retouch' along part of one side.	Moderate
1011	P1014		Excav	Unknown	Thin unweathered	Slightly abraded	Cortical flake	Scraper	End	>26	39	6	Medium, moderately steep scalar retouch around a finely arced distal end. Rest of flake missing	Light to moderate
1011	P1014		Excav	Unknown	Thin unweathered	Burnt	Narrow flake	Scraper	Long-end	54	33	14	Medium, moderately steep scalar retouch around a finely arced distal end.	Light to moderate
1011	P1014		Excav	Unknown	Ancient thermal scar	Good	Narrow flake	Serrate	Unilateral	65	27	10	Fine retouch and serrations c.10 per cm along straight right margin. Partial cortex 'backing along left margin.	Light to moderate
1011	P1014		Excav	Unknown	None	Slightly abraded	Prismatic blade	Serrate	Unilateral	>38	19	6	Fine inverse serrations c. 10 per cm along left margin. Distal and proximal ends missing	Light to moderate

1012	P1014		Excav	Translucent black	None	Slightly abraded	Fragment	Edge retouched	Blunt	32	20	7	Fine to medium bifacial retouch / battering along left margin	Moderate to heavy
1018	P1017		Excav	Unknown	Ancient thermal scar	Good	Core-tool	Bifacial	Chopper	>38	0	20	Thermal spall with bifacial slightly convex moderately steep medium scalar 'retouch' along part of one side. cf chopping tool or possibly scraper	Moderate
1018	P1017		Excav	Unknown	None	Burnt	Fragment	Edge retouched	Steep	>28	30	8	Medium, steep scalar retouch along extant part of ?right margin. Proximal and distal ends missing	Light to moderate
1018	P1017		Excav	Unknown	None	Slightly abraded	Transverse core-rejuvenation flake	Edge retouched	Sharp	>36	35	15	Fine bifacial retouch / use-wear along left margin and similar unifacial retouch along right margin. Proximal end missing	Moderate
1018	P1017	<107>	Excav	Unknown	None	Slightly abraded	Broken blade	Edge retouched	Sharp	>22	15	3	Fine, slightly invasive shallow inverse retouch along straight right margin.	Moderate
1018	P1017		Excav	Unknown	None	Burnt	Fragment	Scraper	End	>29	30	10	Medium, steep scalar retouch around well-arced distal. Proximal end missing.	Light to moderate
1018	P1017		Excav	Unknown	Thin unweathered	Slightly abraded	Prismatic blade	Serrate	Bilateral	>52	27	6	Fine serrations c. 8 15 per cm along both straight lateral margins	Moderate
1026	P1024		Excav	Unknown	Ancient thermal scar	Good	Narrow flake	Edge retouched	Sharp	56	30	11	Very fine retouch / use-wear along left margin	Moderate
1026	P1024		Excav	Unknown	Thin unweathered	Slightly abraded	ore modification flake	Edge retouched	Sharp	77	52	17	Very fine inverse and normal retouch / use-wear along left margin.	Moderate to heavy
1028	P1024		Excav	Unknown	None	Slightly abraded	Core modification flake	Edge retouched	Sharp	>32	48	12	Very fine bifacial retouch / use-wear along right margin. proximal missing	Moderate
1028	P1024		Excav	Unknown	Thin unweathered	Good	Prismatic blade	Edge retouched	Sharp	85	25	10	Fine retouch / heavy use-wear along right margin towards distal end.	Heavy
1031	P1033		Excav	Unknown	None	Slightly abraded	Narrow flake	Arrowhead	Oblique	>52	32	3	Inverse notch cut into left margin at distal end forming a tail. Abrupt retouch along remainder of left margin. Right margin forms unretouched 'cutting edge'. 't' = >52mm, 'r'= 31mm	None

1031	P1033		Excav	Unknown	None	Good	Flake	Arrowhead	Petit-tranchet	30	38	3	Straight abrupt retouch obliquely truncating distal end and extending up right margin, joining slightly concave abrupt retouch that truncates proximal end. Left margin forms unretouched 'cutting edge'. 't' = 37mm, 'r' = 31mm	None
1031	P1033		Excav	Unknown	None	Slightly abraded	Narrow flake	Edge retouched	Sharp	>40	25	3	Very fine bifacial retouch / use-wear along right margin. proximal missing	Moderate to heavy
1031	P1033		Excav	Unknown	None	Good	Narrow flake	Edge retouched	Sharp	49	27	8	Very fine retouch / use-wear along left margin	Moderate
1031	P1033		Excav	Unknown	Thin unweathered	Good	Cortical flake	Edge retouched	Sharp	50	34	11	Very fine inverse retouch / use-wear along left margin. Cortex 'backing' on right margin	Moderate to heavy
1031	P1033		Excav	Unknown	Thin unweathered	Good	Cortical flake	Edge retouched	Steep	74	54	10	Very fine steep retouch along slightly convex distal	Moderate to heavy
1032	P1033		Excav	Unknown	None	Slightly abraded	Non-prismatic blade	Serrate	Unilateral	56	26	5	Fine retouch and serrations c. 12 per cm along straight right margin.	Moderate
1035	P1034		Excav	Unknown	Thin unweathered	Good	Core-tool	Bifacial	Hammerstone / pounder	45	61	26	Flaked pebble forming a wedge-shaped implement with extensive battering around ridge.	Heavy
1035	P1034		Excav	Unknown	None	Burnt	Flake	Scraper	End	56	45	14	Medium, steep scalar retouch around well-arced distal	Moderate
1019	SS		Excav	Translucent black	Thin unweathered	Chipped	Flake	Scraper	End	55	45	17	Medium to heavy steep scalar retouch around convex distal	Moderate
1	Topsoil			Unknown	Thin unweathered	Chipped	Flake	Scraper	End	31	27	12	Rather irregular medium, moderately steep scalar retouch around convex distal	Moderate
F9	Topsoil		FW	Translucent black	Thin unweathered	Chipped	Fragment	Scraper	Side	>28	32	8	Medium, steep scalar retouch along left margin.	Moderate
A4	Topsoil		FW	Unknown	None	Slightly abraded	Flake	Scraper	End and side	>58	40	9	Medium to heavy steep scalar retouch around convex distal and extending partly along right margin.	Moderate
F5	Topsoil		FW	Unknown	Thin unweathered	Chipped	Flake	Scraper	End	45	37	10	Medium, steep scalar retouch around convex distal	Moderate
6	TT0005		Excav	Unknown	Thin unweathered	Good	Cortical flake	Edge retouched	Sharp	46	33	15	Fine retouch or worn serrations along right margin.	Moderate to heavy

Table 11: Detail of retouched struck flints

B.2 Unworked Burnt Stone

By Barry Bishop

Introduction

B.2.1 The archaeological investigations at Cherry Hinton resulted in the recovery of a large assemblage of burnt but otherwise unworked stone. This report quantifies the material, assesses its significance and recommends any further work required for the material to achieve its full research potential. It incorporates a re-examination of the material found during preceding archaeological evaluation, test-pitting and fieldwalking investigations at the site which have been previously assessed separately (Bishop 2014a; 2015a).

Quantification

Context	Feature	Burnt Flint No.	Burnt Flint Wt:g	Burnt Sandstone No.	Burnt Sandstone Wt:g
	Topsoil	9	218		
1019	Subsoil	2	25		
1011	Pit 1014	4	14	66	3,084
1012	Pit 1014			3	6
0007	Pit 0008			37	746
1028	Pit 1024			3	451
1031	Pit 1033			18	747
1035	Pit 1034	1	12	8	652
0006	Tree-throw 0005			3	284
0009	Tree-throw 1010			13	376
	Total	*16*	*318*	*151*	*6,346*

Table 12: Quantification of Unworked Burnt Stone

Description

B.2.2 Just over 6.6kg of unworked stone and flint were recovered from the archaeological investigations at Cherry Hinton, most of which came from a series of pits and tree-throw hollows (Table 12). It mostly comprises sandstone of a variety of lithological composition, which includes varying clast size distributions, colour and inclusions, with some fragments containing small quantities of mica. Some hard siliceous fragments, comparable to sarsen, are present but the majority are friable, possibly a result of burning. The fragments vary in colour from light greyish brown to dark reddish brown, but again the colour is likely to have been affected by burning and several pieces have darker, reduced, interiors. The outer surfaces demonstrate the pieces to have derived from rounded cobbles with worn and sometimes pitted skins. The largest extant cobble measures 103mm in maximum dimension and weighs 582g, but the vast majority of pieces are fragmented and larger pieces may have been present.

B.2.3 Small quantities of unworked burnt flint were also recovered, this mostly coming from topsoil and subsoil deposits although pits **1014** and **1034** did contain small quantities. Whilst all of the flint had clearly been heated to a very high temperature, causing it to become fire crazed and attain a grey-white colour, it is not always certain that every piece of the sandstone had been definitely burnt. However, sufficient pieces have become distorted and cracked, and evidently oxidised or reduced, to indicate that the majority, if not all, had indeed been burnt. None of this material shows any signs of working, although it is possible that some of the sandstone pieces could be fragmented querns or grinding equipment, but have lost any worked surfaces. Whatever their precise histories, there are far higher quantities of sandstone present than could be

accounted for by incidental incorporation or the random gathering of local stone for use in hearth construction. Burnt stone can be expected to be generated as incidental waste at sites where hearths are regularly constructed directly on to the ground, but this usually results in small quantities being found, distributed at low densities across many features. The high concentrations recorded in some of the features here strongly suggest that it was being deliberately produced and disposed of formally. The high proportions of burnt sandstone present are also intriguing. Whilst sandstone cobbles are present as glacial erratics in the local surface deposits and alluvial terraces, they only form a very minor component. In some of the contexts here they are far better represented than would be expected if they had been randomly gathered from the landscape. A possibility is that they had been preferentially selected as sandstone has a much lesser tendency to fracture violently when heated compared to flint.

Discussion

B.2.4 The purposes that lie behind both the creation of the burnt stone and its deposition remain enigmatic, although the deliberate heating of often-large quantities of stone is frequently documented at prehistoric sites. In addition to the classic burnt mound sites, which most frequently belong to the Bronze Age and bear few of the characteristics noted here, large quantities of burnt stone are sometimes found in other prehistoric contexts. The reasons behind the generation of large quantities of burnt stone remain enigmatic. Perhaps the most favoured explanations see it as being associated with cooking activities, its scale suggesting communal efforts, perhaps associated with feasting or ceremonial practices. Other explanations regard it as the residues from saunas (Barfield and Hodder 1987) and a variety of industrial processes, such as leather making or wool processing, have been put forward to account for its generation (*e.g.* Hedges 1975; Barfield and Hodder 1987; Barfield 1991; Jeffery 1991; Dunkin 2001).

B.2.5 Substantial quantities of sandstone cobbles and fragments have also been recovered from comparable and similarly dated pits at the close-by Babraham Road Park and Ride site, where it was argued they had been deliberately deposited (Bishop 2000). Large quantities of burnt sandstone have also been found in features dating to the Middle Bronze Age at Addenbrooke's MSCP site (Timberlake 2013) and from Early Bronze Age pits at Fordham (Bishop 2014b), but there are no other records of the selective deposition of large quantities within other Later Neolithic contexts in the south Cambridge area.

Significance and Recommendations

B.2.6 The quantities of burnt stone recovered indicate that pyrotechnical activities were an important aspect of the activities that resulted in the infilling of pits at the site. At present it is far from clear what the exact nature of the processes were that led to the generation or the deposition of the burnt stone and how they may have related to other activities at the site. Little further analytical work can be conducted on the material and as it mostly likely originates as glacial erratics there would be little to be gained in conducting detailed petrological sourcing. Its significance to the communities who gathered, burned and deposited the material is evident however, and it is recommended that the material is described for the purposes of publication and that further research is conducted on its possible role and significance.

B.3 Prehistoric and Roman Pottery

By Sarah Percival

Introduction

B.3.1 A total of 121 sherds of pottery weighing 339g were collected from seven excavated features and from subsoil and topsoil (Table 13). The pottery is fragmentary and no complete vessels were recovered. The sherds are mostly small and poorly preserved and the average sherd weight is 3g.

B.3.2 The most significant of the pottery found during the excavations are 96 sherds of Grooved Ware from five pits. A single sherd of Earlier Neolithic pottery and a possible sherd of Beaker came from the fill of tree throw **10** and smaller quantities of Iron Age and Roman pottery were also recovered from topsoil, subsoil and test pit fills. The remainder of the assemblage is prehistoric but is otherwise not closely datable. A total of 31 sherds weighing 34g were recovered from samples, targeted to recover maximum material from the Grooved Ware pits (Table 14). Pottery from samples forms 13% of the Grooved Ware assemblage by weight.

Feature	Context	Feature type	Spotdate	Vessel Type	Quantity	Weight
8	7	Pit	Later Neolithic	Grooved Ware	40	53
10	9	Treethrow	Earlier Neolithic	Mildenhall Ware?	1	2
			Later Neolithic early Bronze Age	Beaker?	1	8
			Not closely datable		3	6
1014	1011	Pit	Later Neolithic	Grooved Ware	38	98
			Not closely datable		1	3
	1012		Later Neolithic		8	20
1017	1018	Pit	Later Neolithic	Grooved Ware	4	20
1019	1019	Subsoil	Late Iron Age		2	6
			Late Iron Age/ early Roman		2	18
1024	1030	Pit	Not closely datable		2	3
1033	1031	Pit	Later Neolithic	Grooved Ware	4	47
1037	1036	Pit	Later Neolithic	Grooved Ware	2	20
102	102	Subsoil	Earlier Iron Age		5	11
			Iron Age		1	2
			Roman		2	6
			Not closely datable		1	1
103	103	Test pit	Earlier Iron Age	Cup	1	2
					1	2
			Iron Age		1	4
101	101	Topsoil	Iron Age		1	7
Total					**121**	**339**

Table 13: Quantity and weight of pottery by spot date and feature

Feature	Sample	Quantity	Weight
8	1	19	18
	114	8	11
1014	103	2	3
1024	113	1	1
1037	119	1	1
Total		**31**	**34**

Table 14: Quantity and weight of pottery by feature and sample number

Methodology

B.3.3 The assemblage was analysed in accordance with the Guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 2010). The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types. Fabric codes were prefixed by a letter code representing the main inclusion present (F representing flint, G grog and Q quartz). Vessel form was recorded; R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. The sherds were counted and weighed to the nearest whole gramme. Decoration and abrasion were also noted.

Earlier Neolithic

B.3.4 A small rim sherd in fine sandy fabric from treethrow **10** may be Mildenhall Ware. The rim is flattened to a T-shaped profile and has fine incised diagonal lines decorating the rim top. T-shaped rims with incised decoration are typical of Mildenhall Ware and this rim compares well with examples from Spong Hill, Norfolk (Healy 1988, fig.71, P140) although the sandy fabric is not typical of Mildenhall Ware which is usually flint tempered.

Later Neolithic

B.3.5 A moderate assemblage of 96 sherds of Grooved Ware weighing 258g was collected from pits **8**, **1014**, **1017**, **1033** and **1037**. Pit **8** contained the largest single assemblage comprising 40 sherds, perhaps all from the same pot - a tub-shaped vessel with in-turned, pointed rim decorated with short vertical slashes to the exterior. The rim sherd is comparable to examples from Durrington Walls (Longworth 1971, fig.49, P231). A total of 54% of the sherds by weight were recovered from samples.

B.3.6 Pit **1014** contained 38 sherds including sherds from a minimum of four vessels and including one rim, also pointed but undecorated. Thirty sherds are decorated with shallow incised channels forming chevrons and horizontal bands similar to decoration seen on Grooved Ware from Eynesbury and Haddenham (Ellis 2004, fig.10, 1: Evans and Hodder, 2006, fig.5.32, 10). Eight sherds from a flat base are present, although no base angle survives. A total of 2% by weight of the sherds from pit **1014** came from samples.

B.3.7 Pits **1017** and **1033** each contained four sherds. The sherds from pit **1017** are decorated with incised channels, whilst sherds from a least two vessels came from pit **1033** including a direct flat rim decorated with deep fingertip decoration to the exterior and on the interior bevel and body sherds decorated with possible pinched cordons similar to examples found at Durrington Walls (Longworth 1971, fig.49, P228).

B.3.8 Two further sherds decorated with incised channels came from pit **1037** of which one small scrap weighing 1g came from a sample.

B.3.9 The Grooved Ware is made of mainly shell-tempered fabrics with a smaller quantity tempered with grog. Shell inclusions are consistent with Grooved Ware found at sites in north-western Cambridgeshire such as Etton, near Maxey (Kinnes 1998, 161) Site 4, Over (Garrow 2006, 102) and Eynesbury, St Neots (Ellis 2004, 30).

B.3.10 The Grooved Ware is most similar in form and decoration to the Durrington Walls substyle (Longworth 1971). A radiocarbon dates obtained from hazelnut shell from pit **8** suggests that it was filled around 2777 to 2580 cal BC (70.2%). This date falls well within the date ranges expected for Grooved Ware of *c.*3000 to 2000 BC (Garwood 1999, 152). and compares well with Grooved Ware also of the Durrington Walls substyle found at Linton Village college which dates to 2630 – 2460 cal BC (SUERC-14247, Clarke and Gilmour forthcoming).

Late Neolithic/ Early Bronze Age

B.3.11 A single sherd of possible Beaker in sandy fabric with sparse shell inclusions was found in the fill of treethrow **10**. The sherd is decorated with sharply incised line forming a triple band.

Iron Age

B.3.12 A rim in flint-tempered fabric from a small Early Iron Age cup plus a further flint-tempered body sherd came from test pit **103.** A further body sherd in similar fabric was found in subsoil 102. These sherds date to around 800-350 BC.

B.3.13 Single body sherds in sandy fabrics from subsoil 102 and test pit 103 and a shell-tempered body sherd from topsoil 101 are probably Mid or Later Iron Age, dating to 350-100 BC.

Late Iron Age and Roman

B.3.14 A sherd in proto-greyware dating to the latest Iron Age (100/50 BC to AD 50/100) came from subsoil 1019. Also recovered from this deposit were a fine wheelmade shell-tempered body sherd and a sandy oxidised rim sherd from a wide-mouth jar. Both are Roman but are otherwise not closely datable. Subsoil 102 also produced two Roman body sherds, one in unsourced sandy greyware and the other in sandy oxidised ware.

Statement of Research Potential

B.3.15 Garwood noted in his review of Grooved Ware research written in 1999 that this type of pottery was poorly understood in non-monumental contexts in the region (Garwood 1999, 154). Since this time several pit sites investigated in Cambridgeshire have produced significant and well dated Grooved Ware assemblages, for example Linton Village College (Clarke and Gilmour forthcoming). The Grooved Ware found at the Peterhouse site further contributes to this growing body of data and is therefore of some interest, especially as material recovered from samples offers further opportunities for dating the pit assemblages.

B.3.16 The remainder of the assemblage is largely unstratified and of little research potential.

Further Work

B.3.17 A full report is required on the Grooved Ware assemblage to provide full fabric and form descriptions, along with a discussion of the assemblage in local/ regional context.

B.3.18 Five sherds require illustration and a full catalogue of illustrated sherds will be provided.

B.3.19 Any further sherds recovered from samples should be integrated into the catalogue and included in the report.

B.3.20 It would be of interest to recover further material suitable for radiocarbon dating from samples taken from the Grooved Ware pits and other features.

Appendix C. Environmental Reports

C.1 Faunal remains

By Vida Rajkovača

Introduction

C.1.1 Archaeological work on the site resulted in the recovery of an assemblage totalling 529 assessable specimens, 141 of which were identified to species level (26.7% of the assemblage). The assemblage is made up of hand-recovered bone (258 specimens) and bone recovered as heavy residues following the processing of bulk soil samples (271 specimens). Pits were 100% sampled, with only some 25% being processed at this point. Bone was associated with Grooved Ware pottery suggesting a Late Neolithic date for the material.

Preservation, fragmentation and taphonomy

C.1.2 The preservation is overall moderate to quite poor and the material is highly fragmented. The overwhelming majority of the bone was recorded as eroded and with signs of extremely flaking and a few examples of canine gnawing were noted. Despite high levels of fragmentation, a few younger individuals represented by porous specimens were also recorded.

Methods:Identification, quantification and ageing

C.1.3 The zooarchaeological investigation followed the system implemented by Bournemouth University with all identifiable elements recorded (NISP: Number of Identifiable Specimens) and diagnostic zoning (amended from Dobney & Reilly 1988) used to calculate MNE (Minimum Number of Elements) from which MNI (Minimum Number of Individuals) was derived. Identification of the assemblage was undertaken with the aid of Schmid (1972), and reference material.

Hand-recovered material

C.1.4 Remains of pig and wild fauna dominated the hand-recovered material, a range of species typical for the period. Although a great proportion of the pig component consists of loose teeth, the prevalence is still important (Table 14). Within the cattle cohort, it was possible to record smaller individuals and a number of fragments of larger elements which could be from aurochs, though this was not possible to confirm using biometry as almost all were fragmentary. Aurochs was, however, positively identified based on a complete astragalus and a near complete 1st phalanx. Red deer was represented by 1st phalanx and a metatarsus fragment, and roe deer by an antler segment.

	CAMPET14		CAMPET15	
Taxon	NISP	*%NISP*	NISP	*%NISP*
Cow	10	*45.4*	23	*28.4*
Sheep/goat	0	*0*	3	*3.7*
Pig	10	*45.4*	51	*63*
Dog/ fox	0	*0*	1	*1.2*
Aurochs	0	*0*	2	*2.5*
Red deer	1	*4.6*	1	*1.2*
Roe deer	1	*4.6*	0	*0*

Sub-total by species	**22**	*100*	**81**	*100*
Cattle-sized	10	0	43	0
Sheep-sized	10	0	41	0
Rodent-sized	.	0	0	0
Mammal n.f.i.	15	0	36	0
Total	**57**	**0**	**201**	**0**

Table 15. The hand-recovered material: Number of Identified Specimens for all species from all contexts; the abbreviation n.f.i. denotes that the specimen could not be further identified.

Bone from heavy residues

C.1.5 Tables 16 and 17 show the differences in the material between the hand-recovered bone and that coming from processing of samples. The lack of microfauna, aviofauna or ichtyofauna in the bulk soil samples is a testimony to a good hand-recovery methods and it is in keeping with known period patterns. The bone was overwhelmingly dominated by unidentifiable crumbs of larger elements.

	NISP		
Taxon	*Hand-recovered*	*Heavy residues*	**Total NISP**
Cow	10	1	11
Pig	10	3	13
Dog/ fox	0	5	5
Red deer	1	0	1
Roe deer	1	0	1
Sub-total to species	**22**	**9**	**31**
Cattle-sized	10	0	10
Sheep-sized	10	17	27
Mammal n.f.i.	15	26	41
Total	**57**	**52**	**109**

Table 16. Number of Identified Specimens for all species from CAMPET14; the abbreviation n.f.i. denotes that the specimen could not be further identified.

	NISP		
Taxon	*Hand-recovered*	*Heavy residues*	**Total NISP**
Cow	23	0	23
Sheep/goat	3	0	3
Pig	51	28	79
Dog/ fox	1	1	2
Aurochs	2	0	2
Red deer	1	0	1
Sub-total to species	**81**	**29**	**110**
Cattle-sized	43	4	47
Sheep-sized	41	102	143
Rodent-sized	0	2	2
Mammal n.f.i.	36	82	118
Total	**201**	**219**	**420**

Table 17. Number of Identified Specimens for all species from CAMPET15; the abbreviation n.f.i. denotes that the specimen could not be further identified.

C.1.6 Although it is almost impossible to assess the assemblage any further in the absence of any biometrical or economic data, it would be potentially significant to process the remainder of the pit contents. Similarly dated pits are not rare, but exploring domestic Grooved Ware contexts is extremely important as the majority of our knowledge is based on monument contexts from the rest of the country. The assemblage's strong wild component, and the high ratio of burnt material are both typical for Grooved Ware pits from the region (see Garrow 2006). Further work is recommended mostly for the importance of investigating the relationship with the environment, the wild:domestic dichotomy, and whether it is a dichotomy at all, and the first instances of structured deposition (Legge 1991; Richards and Thomas 1984).

C.2 Environmental Samples

By Rachel Fosberry

Introduction

C.2.1 Twenty-one bulk samples were taken from features within the excavated areas in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of further archaeological investigations.

C.2.2 Features sampled were predominantly pits that are thought to be Early Neolithic in date. Samples taken during the evaluation of this site yielded occasional charred wheat and barley grains and hazelnut fragments. The sampling strategy of this site evolved during the excavation through agreement with consultant Rob Bourn and Andy Thomas (Cambridgeshire County Council Development Control) to 100% excavate the larger pits with retention of deposits in sample buckets.

Methodology

C.2.3 The sampling strategy included the recommendation that 25% of the soil from each sample would be processed for an initial appraisal. The samples were processed by water flotation (using a modified Siraff three-tank system) for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. The floating component (flot) of the samples was collected in a 0.25mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 1mm sieve. Both flot and residues were allowed to air dry. A magnet was dragged through each residue fraction prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Table 18. Identification of plant remains is with reference to the *Digital Seed Atlas of the Netherlands* and the authors' own reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (1997) for other plants. Carbonised seeds and grains, by the process of burning and burial, become blackened and often distort and fragment leading to difficulty in identification. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Quantification

C.2.4 For the purpose of this initial assessment, items such as seeds and artefacts have been scanned and recorded qualitatively according to the following categories:

= 1-10, ## = 11-50, ### = 51+ specimens #### = 100+ specimens

Items that cannot be easily quantified such as charcoal and fragmented bone have been scored for abundance:

+ = rare, ++ = moderate, +++ = abundant

f= fragment

Results

C.2.5 Preservation of plant remains is by carbonisation. Charcoal (as evidence of the burning of wood) is sparse with no obvious hearth deposits recovered. Charred grains (usually as single specimens) are present in nine of the samples. Both wheat (*Triticum* sp.) and barley (*Hordeum vulgare*) grains are present but preservation is poor. Charred hazelnut (*Corylus avellana*) shell fragments are present in 12 of the pit samples. None of the fragments would constitute more than two whole hazelnuts. The cereal grains were recovered from the flot but the hazelnut shells were mostly retrieved from the sample residues.

Sample No.	Context No.	Cut No.	Feature Type	% context sampled	EstimatedSample Size (L)	Volume processed (L)	Flot Volume (ml)	Preservation	Cereals	Chaff	Charred hazelnut shell	Charcoal <2mm	Charcoal 2mm-10mm	Charcoal > 10mm	Flot comments	Pottery	Small mammal bones	Large mammal bones	Burnt mammal bones	Worked flint	Flint debitage
114	7	8	Pit	50	90	19	25	Charred	#	0	0	+	0	0	Single indet wheat grain	##	#	++	+	0	#
100	1000	1001	Pit	100	100	24	50	Charred	#	0	0	0	0	0	Single charred wheat grain	0	0	0	0	0	0
101	1004	1006	Pit	100	50	8	15	None	0	0	0	0	0	0		0	0	0	0	0	0
102	1005	1006	Pit	100	50	8	20	Charred	0	0	##f	0	0	+		0	0	0	0	0	0
103	1011	1014	Pit	100	320	64	180	Charred	0	0	0	+	+	+		#	#	+++	+++	0	##
104	1012	1014	Pit	100	160	32	20	Charred	#f	0	#f	0	0	0	Single charred wheat grain	0	0	+	+++	0	0
105	1013	1014	Pit	100	70	18	15	Charred	0	0	0	0	0	0		0	0	0	+++	0	0
107	1018	1017	Pit	100	290	58	65	Charred	#	0	##f	+	0	0	Single charred wheat grain	0	0	++	++	0	#
108	1025	1024	Pit	100	120	29	30	Charred	#	0	#f	0	+	0	Four charred wheat grains	0	0	+++	++	0	0
109	1026	1024	Pit	100	40	8	30	Charred	0	0	##f	+	0	0		0	0	++	++	#	#
110	1027	1024	Pit	100	30	9	1	Charred	0	#	#f	+	0	0	charred culm node (cereal?)	0	0	0	0	0	0
111	1028	1024	Pit	100	80	12	15	Charred	#	0	##f	+	+	0	Single charred wheat grain – possibly emmer	0	0	+++	+++	0	#
112	1029	1024	Pit	100	20	8	5	Charred	0	0	#f	+	+	0		0	0	+++	+++	0	0
113	1030	1024	Pit	100	70	16	2	Charred	0	0	##f	+	0	0		#	0	+	+	0	#

116	1031	1033	Pit	100	120	24	15	Charred	#	0	###f	+	++	+	Single charred wheat grain	0	0	+++	+++	0	#
117	1032	1033	Pit	100	140	36	25	Charred	0	0	#f	+	+	+		0	0	++	0	#	0
118	1035	1034	Pit	100	120	23	40	Charred	#	0	0	+	+	0	Single charred barley grain	0	0	++	0	0	0
119	1036	1037	Pit	100	210	42	50	None	0	0	0	0	0	0		#	0	++	+	0	0
120	4	3	Tree-throw	10	10	8	3	Charred	0	0	0	0	0	+		0	0	+++	0	0	0
115	6	5	Tree-throw	<20	40	9	15	None	0	0	0	0	0	0		#	0	+	0	0	0
106	1015	1016	Tree-throw	25	40	8	5	Charred	#	0	#f	0	0	0	Single charred wheat grain	0	0	0	0	0	0

Table 18: Environmental samples from CAMPET15

Discussion

C.2.6 The sub-samples processed from the excavation of this site have produced identical results to those from the evaluation, with charred grains of wheat and barley and occasional hazelnut shell fragments being recovered from most of the pit fills.

Statement of Potential and Recommendations

C.2.7 Wheat (either einkorn (*T. monococcum*) or emmer (*T. dicoccum*) and barley were the first cereals to be cultivated in Britain and hazelnuts would have been an important wild food resource in the Neolithic period. Occasional charred grains and burnt hazelnut shells are frequently recovered from Neolithic pits as they survive well in archaeological deposits (Jones 2000, 80). The small quantities recovered so far do not constitute a quantifiable assemblage. Further processing of the remaining soil is likely to produce more of the same remains but it is unlikely that the numbers of specimens recovered will be of statistical significance.

C.2.8 If further processing of soil is required for artefact retrieval it is recommended that they are processed by flotation as other methods of processing such as dry-sieving are likely to be impractical due to the sticky nature of the soil. If the samples are processed by flotation a flot can be recovered and a rapid scan would indicate if significant numbers of cereal remains are present.

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APPENDIX E. RADIOCARBON DATING CERTIFICATE

Scottish Universities Environmental Research Centre

Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor R M Ellam Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

09 November 2015

Laboratory Code	SUERC-63668 (GU39004)
Submitter	Rachel Fosberry Oxford Archaeology East 15 Trafalgar Way Bar Hill Cambs. CB23 8SQ
Site Reference	CAMPET14
Context Reference	7
Sample Reference	1
Material	Charred plant remains : Corylus avellana
$\delta^{13}C$ relative to VPDB	-24.3 ‰
Radiocarbon Age BP	4122 ± 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

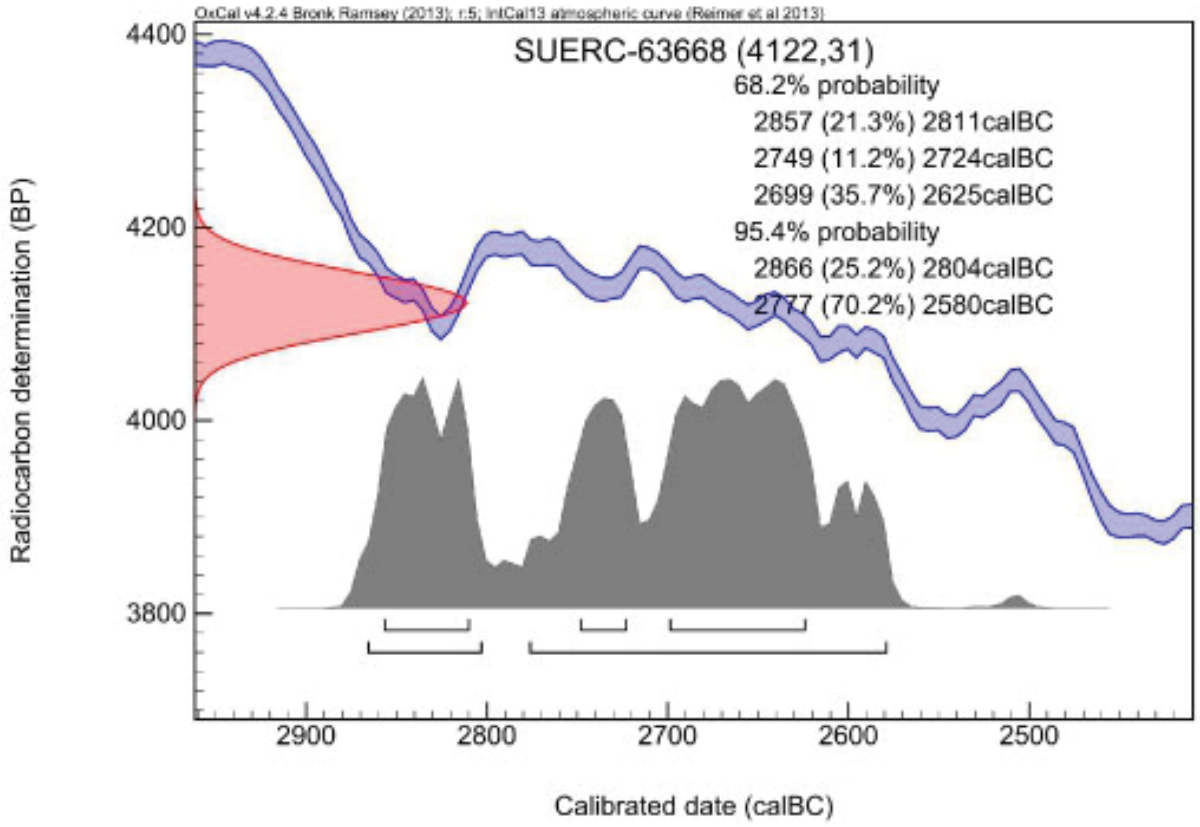
Conventional age and calibration age ranges calculated by :- E. Dunbar Date :- 09/11/2015

Checked and signed off by :- P. Naysmith Date :- 09/11/2015

University of Glasgow

THE UNIVERSITY OF EDINBURGH

Calibration Plot



APPENDIX F. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	oxfordar3-236275		
Project Name	Late Neolithic Pits on Land Adjacent to Peterhouse Technology Park, Cherry Hinton, Cambridgeshire		
Project Dates (fieldwork) Start	08-09-2015	Finish	24-09-2015
Previous Work (by OA East)	Yes	Future Work	No

Project Reference Codes

Site Code	CAMPET15	Planning App. No.	
HER No.	ECB4639	Related HER/OASIS No.	ECB4215

Type of Project/Techniques Used

Prompt: Select Prompt (this should be in your brief/spec)...

Please select all techniques used:

☐ Field Observation (periodic visits)	☒ Part Excavation	☐ Salvage Record
☐ Full Excavation (100%)	☐ Part Survey	☐ Systematic Field Walking
☐ Full Survey	☐ Recorded Observation	☐ Systematic Metal Detector Survey
☐ Geophysical Survey	☐ Remote Operated Vehicle Survey	☐ Test Pit Survey
☒ Open-Area Excavation	☐ Salvage Excavation	☐ Watching Brief

Monument Types/Significant Finds & Their Periods

List feature types using the NMR Monument Type Thesaurus and significant finds using the MDA Object type Thesaurus together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
pit	Neolithic -4k to -2k	pottery	Neolithic -4k to -2k
	Select period...	flint	Neolithic -4k to -2k
	Select period...	bone	Neolithic -4k to -2k

Project Location

County	cambridgeshire	Site Address (including postcode if possible)	
District	cambridge city	land adjacent to Peterhouse Technology Park Fulbourne Road Cambridge	
Parish	Cherry hinton		
HER	Cambrdgeshire		
Study Area	0.57ha	National Grid Reference	TL 48832 55949

Project Originators

Organisation	OA EAST
Project Brief Originator	Andy Thomas
Project Design Originator	Nick Gilmour
Project Manager	James Drummond-Murray
Supervisor	Nick Gilmour

Project Archives

Physical Archive	Digital Archive	Paper Archive
CCC stores	OA East office	CCC Stores
Accession ID ...	CAMPET15	Accession ID ...

Archive Contents/Media

	Physical Contents	Digital Contents	Paper Contents
Animal Bones	☒	☒	☒
Ceramics	☒	☒	☒
Environmental	☒	☒	☒
Glass	☐	☐	☐
Human Bones	☐	☐	☐
Industrial	☐	☐	☐
Leather	☐	☐	☐
Metal	☐	☐	☐
Stratigraphic		☐	☒
Survey		☒	☐
Textiles	☐	☐	☐
Wood	☐	☐	☐
Worked Bone	☐	☐	☐
Worked Stone/Lithic	☒	☒	☒
None	☐	☐	☐
Other	☐	☐	☐

Digital Media	Paper Media
☒ Database	☐ Aerial Photos
☐ GIS	☒ Context Sheet
☐ Geophysics	☒ Correspondence
☒ Images	☐ Diary
☒ Illustrations	☒ Drawing
☐ Moving Image	☐ Manuscript
☒ Spreadsheets	☐ Map
☒ Survey	☐ Matrices
☒ Text	☐ Microfilm
☐ Virtual Reality	☐ Misc.
	☐ Research/Notes
	☒ Photos
	☒ Plans
	☒ Report
	☒ Sections
	☐ Survey

Notes:

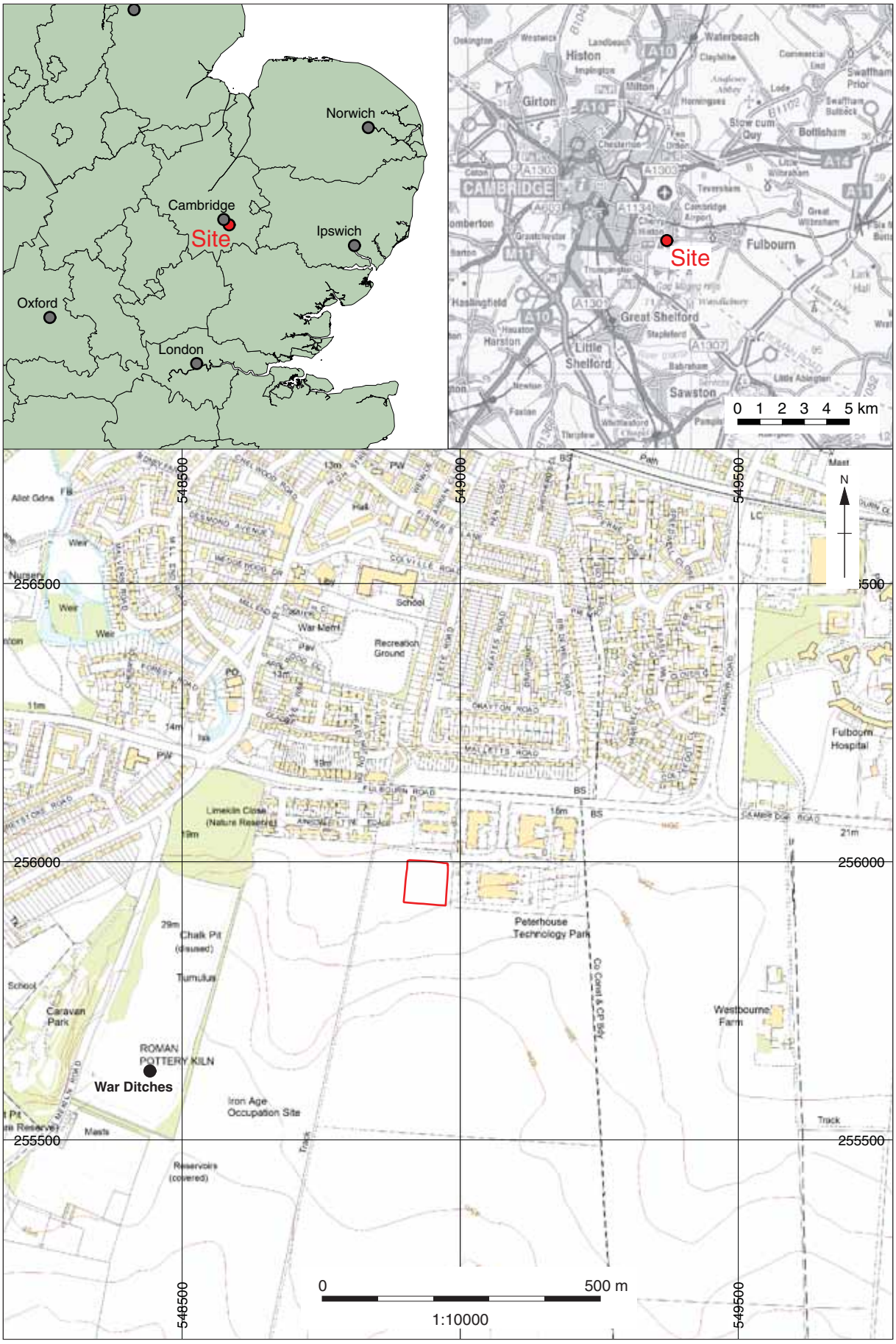


Figure 1: Site location

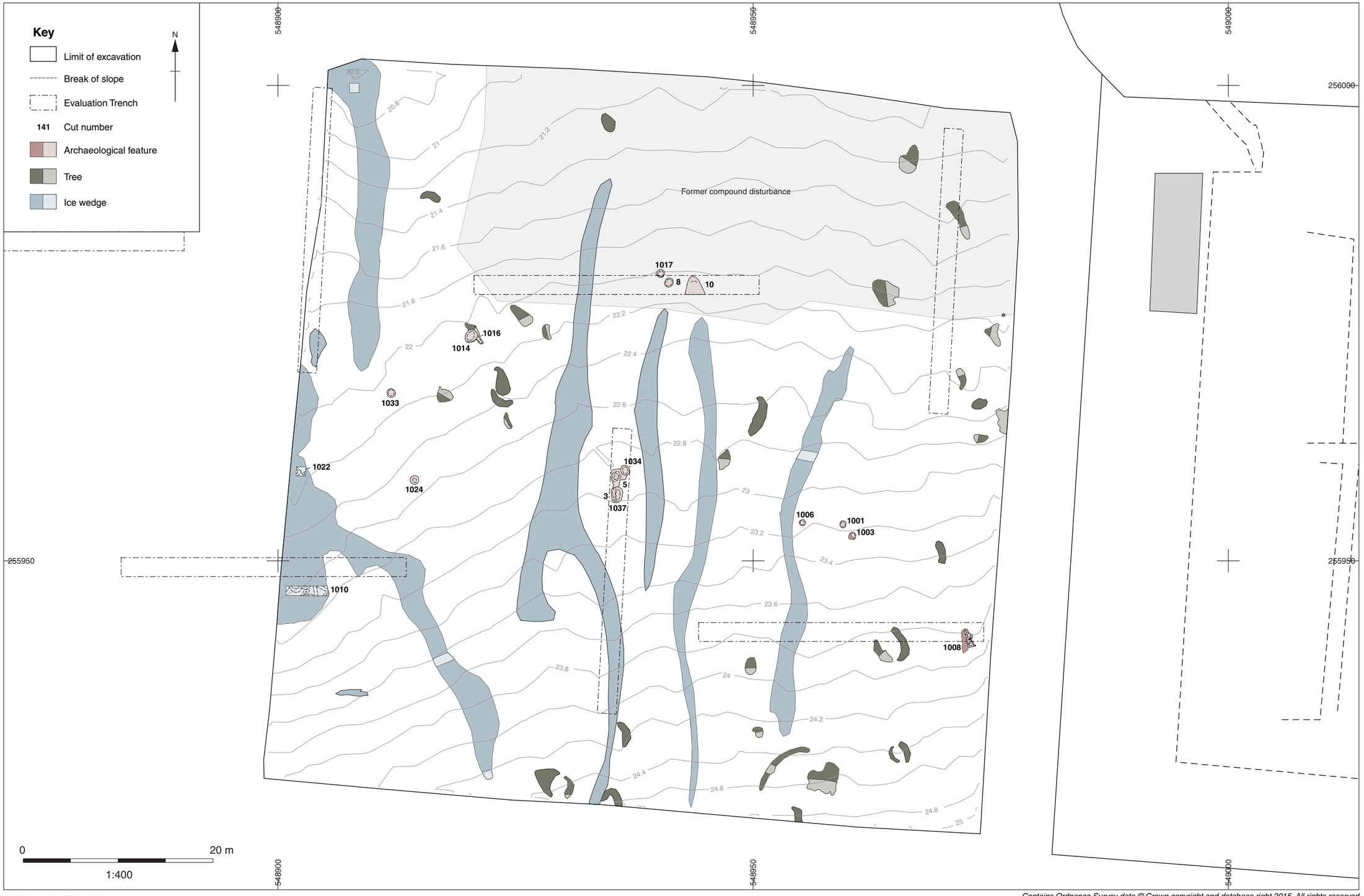


Figure 2: Site plan

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