FILKINS TO CARTERTON GAS PIPELINE
OXFORDSHIRE

POST-EXCAVATION ASSESSMENT
AND
UPDATED PROJECT DESIGN

CA PROJECT: 1385
CA REPORT: 03021

Author:	Laurent Coleman
Approved:	Martin Watts
Signed:	……
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Headquarters Building, Kemble Business Park, Cirencester, Gloucestershire, GL7 6BQ
Tel. 01285 771022 Fax. 01285 771033 E-mail: info@cotswoldarch.org.uk

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SUMMARY

Project Name:	**Filkins to Carterton Gas Pipeline**
Location:	Oxfordshire
NGR:	SP 2355 0338 to SP 2725 0635
Type:	Archaeological Excavation and Watching Brief
Date:	5 July to 12 August 2002
Location of Archive:	Oxfordshire Museum Service
Accession no.	2002.187
Site Code:	FCP 02

A programme of archaeological recording was undertaken by Cotswold Archaeology in July and August 2002 at the request of RSK Environment Ltd (on the behalf of Transco) along the route of a new gas pipeline between Filkins and Carterton in Oxfordshire. The excavation of a known archaeological site located at the south-western end of the pipeline was undertaken whilst a watching brief was maintained during all intrusive groundworks on the remainder of the pipeline route.

The excavation identified evidence of agricultural activity dating to the Iron Age and Romano-British periods. Eight inhumation burials and three cremation features dating to the latter period were also identified.

The watching brief identified a Romano-British drying oven at the north-eastern end of the pipeline. The remainder of the pipeline route was devoid of archaeological features.

This document presents a quantification and assessment of the evidence recovered during the project. It considers the evidence collectively in its local, regional, and national context, and presents an updated project design for a programme of post-excavation analysis to bring the results to appropriate publication.

1. INTRODUCTION

1.1 In July and August 2002, Cotswold Archaeology (CA) carried out a programme of archaeological recording for RSK Environment Ltd (RSK) on behalf of Transco on the route of the Filkins to Carterton Gas Pipeline. The pipeline route was 4.7km in length and linked existing gas pipelines to the south of the village of Filkins (NGR SP 2355 0338) and to the west of Carterton (NGR SP 2725 0635), both located in Oxfordshire (Fig. 1). The programme of archaeological recording was undertaken to mitigate against the damage or destruction of archaeological finds, features, and/or sites located on the pipeline route.

1.2 Preliminary work comprised the compilation of a desk-based assessment (RSK 2002) and a geophysical survey (Stratascan 2002). A project design for a programme of archaeological recording (CA 2002) was formulated, and approved by Hugh Coddington, Deputy County Archaeological Officer, Oxfordshire County Council, who also monitored the fieldwork through a series of site visits.

The pipeline route

1.3 The south-western end of the pipeline route was located at an existing gas pipeline to the south-west of the village of Filkins. The pipeline then ran in a north-easterly direction crossing the Broadwell Brook and passing to the north of the village of Kencot before terminating at the intersection with an existing gas pipeline to the west of Carterton (Fig. 2).

1.4 The south-western end of the pipeline route is located on the Thames Gravels within the Upper Thames Valley, running across relatively flat ground located on the Older Alluvium and the Terrace Deposits of the Quaternary period (BGS 1946). To the north-east of the Broadwell Brook the pipeline traversed higher, more undulating ground located on Cornbrash of the Middle Jurassic period (BGS 1982).

1.5 The fields traversed by the pipeline route were generally under arable cultivation. Two fields, located immediately to the south-west of the Broadwell Brook, were under pasture.

Archaeological background

1.6 The majority of the pipeline route was located on undeveloped agricultural land which did not cross any known archaeological sites. However, cropmarks identified at the south-western end of the pipeline route and a number of sites in the vicinity gave some indication of the potential of the area.

1.7 A desk-based assessment was compiled prior to the commencement of fieldwork. A number of sites were identified on or near to the pipeline route, the most significant of which are summarised below. Following the compilation of the desk-based assessment, a geophysical survey was conducted at the south-western end of the pipeline route.

1.8 Prehistoric activity is well attested in the area, including lithic artefacts dating to the Palaeolithic and Mesolithic periods, field monuments dating to the Neolithic period, agricultural and settlement activity dating to the Bronze Age, Iron Age, and Romano-British periods, settlement and funerary activity dating to the Anglo-Saxon period, and more recent agricultural activity dating to the medieval and post-medieval periods (RSK 2002).

1.9 The most recent survey of cropmarks in this area is the Thames Gravel Survey (RCHME 1993). This survey depicts an extensive area of cropmarks to the south of the south-western end of the pipeline route, representing probable agricultural boundaries, trackways, and settlement activity. Immediately adjacent there appears to be a zone of more intensive activity, with intercutting enclosures and evidence of occupation bounded by a double-ditched trackway.

1.10 A programme of archaeological recording was conducted within this zone of more intense activity during construction of the earlier gas pipeline (OAU 1993). Excavation identified a number of ditches and a probable storage pit dating to the Iron Age.

1.11 At Langford Downs, 2.5km to the south-west of Filkins, excavation in 1943 prior to gravel extraction identified a small farmstead dating to the 1st century AD. The settlement comprised two adjacent ditched enclosures, the full extent of which could not be traced, within which were broadly contemporary circular huts (Williams 1947).

1.12 Further afield, large-scale excavations have been conducted at Lechlade, 5km to the south of Filkins, prior to gravel extraction and residential development. Excavations at Butlers Field, Rough Grounds Farm, and Sherbourne House identified extensive settlement activity dating to the Iron Age, Romano-British, and Anglo-Saxon periods (Miles and Palmer 1986; Allen *et al*. 1993; and Bateman *et al*. 2001).

2. ORIGINAL OBJECTIVES

2.1 The Project Design (CA 2002), which was prepared prior to the commencement of site investigations, contained the following objectives:

- *to identify any archaeological remains revealed during the course of the construction works;*
- *to ensure the preservation by record of all archaeological remains revealed and/or identify deposits where preservation in situ would be the preferred option;*
- *to prepare an archaeological archive of the site including the treatment and preservation of any finds;*
- *an illustrated interim report will be compiled on the results of the fieldwork and assessment of the artefacts, palaeoenvironmental deposits etc. Copies of the report will be circulated to the Client and the County Archaeological Service. Preparation of the final report will be to a format agreed by Transco's archaeological representative and the County Archaeological Service;*
- *as the limited scope of this work is likely to restrict its publication value it is anticipated that a short publication note will be suitable for inclusion within an appropriate local archaeological journal, e.g. Oxoniensia.*

2.2 This document represents the illustrated interim report on the results f the fieldwork and assessment of the site data, as per bullet point 4 above.

3. METHODOLOGY

3.1 Following compilation of the desk-based assessment (RSK 2002), a detailed geophysical survey was undertaken at the south-western end of the pipeline route, which identified a complex of cropmarks on the line of the pipeline route and extending a considerable distance to the south (Stratascan 2002).

3.2 The area of archaeological activity thus identified on the pipeline route was subject to excavation, with a watching brief maintained on all other intrusive groundworks along the rest of the route. The remains of a Roman drying oven were identified during the watching brief towards the north-eastern end of the pipeline route, and this structure was also subject to excavation. No other archaeological deposits or features were identified during the watching brief.

3.3 All archaeological excavation was conducted according to the Project Design (CA 2002) and the *Standard and Guidance for archaeological excavation* (IFA 1999). A full written, drawn, and photographic record was made in accordance with the CAT Technical Manual 1: *Excavation Recording Manual* (1996). Deposits were assessed for their palaeoenvironmental potential and, where appropriate, sampled and processed in accordance with the CAT Technical Manual 2: *The Taking of Samples for Palaeoenvironmental/Palaeoeconomic Analysis from Archaeological Sites* (1994). All artefacts recovered were processed in accordance with the CAT Technical Manual 3: *Treatment of Finds Immediately After Excavation* (1995).

4. RESULTS

4.1 Three broad periods of activity were identified at the two excavation sites through stratigraphic relationships, fill characteristics, and analysis of the dating evidence from the two excavated sites. The periods comprised:

Period 1: Iron Age
Period 2: Romano-British
Period 3: medieval/post-medieval

It should be noted that activity dating to all periods was not identified on both sites.

4.2 Brief summaries of the fieldwork results, the artefactual evidence, and the biological evidence are given for each site below. More detailed information is provided in Appendices 1 and 8.

Filkins (Site 1): Fieldwork summary

4.3 Site 1 (centred on NGR: SP 2370 0345; Fig. 3) was located 1km to the south of the village of Filkins. Detailed geophysical survey of an area measuring 340m by 20m

identified a curvilinear double-ditched trackway. The site was divided into two areas (A and B) by the presence of a wide, dense hedgerow. Excavation of the larger Area A (340m by 6m) confirmed the presence of the trackway, and dated it to the Romano-British period. A number of burials and cremations were associated with this feature. Several earlier Iron Age features were also identified, mainly at the south-western end of the area. Virtually all features in Area A had been truncated by later plough furrows. Excavation of Area B (35m by 6m) revealed a palaeochannel and another Romano-British ditch.

Period 1: Iron Age

4.4 A discrete group of Middle to Late Iron Age features, largely comprising curvilinear ditches and pits, was identified at the south-western end of Area A (e.g. ditch J). A possible storage pit (pit A) contained a large number of pig bones and a shallow pit (pit B) contained the skeleton of a dog. A number of features contained large quantities of burnt stone fragments and large sherds of coarse pottery, suggesting the presence of settlement activity in the vicinity.

4.5 Iron Age activity was also noted further to the east where a ditch (ditch C) had been truncated by the Romano-British trackway. A further small group of possible Late Iron Age features was located at the north-eastern end of Area A, where two ditches (ditches D and E} were identified.

4.6 The majority of potsherds recovered from these features were coarse fossil shell and limestone-tempered fabrics, with some quartz-tempered material. Represented forms consist mainly of hand-made, slack-shouldered, neckless jars or bowls with plain-rounded rims. These fabrics and forms are typical of the Middle to Late Iron Age (*c*. 300BC-AD50). A few sherds of wheel-thrown material in grog-tempered wares were also recovered. This material probably dated to the middle years of the 1st century AD.

Period 2: Romano-British

4.7 The presence of both trackway ditches identified from cropmarks and geophysical survey was confirmed, and were found to contain pottery dating to the late 1st to 2nd century AD. A number of ditches (ditches F, G, and H) in the vicinity of the trackway were broadly contemporary, but one ditch (ditch I), located between the trackway ditches, contained pottery dating to the 3rd to 4th century AD, suggesting that the trackway was no longer in use at this time.

4.8 The majority of the Roman pottery comprised reduced sandy wares, almost certainly of local manufacture. Also present were small quantities of Gaulish samian, Savernake ware, Dorset black-burnished ware, Oxfordshire whiteware mortaria, and red slipped ware. Necked jar forms dominated with small numbers of open forms, lids, tankards, and a ring-necked flagon. The pottery sherds recovered were of a relatively small size suggesting that the excavation area was somewhat removed from Romano-British settlement activity. This is supported by the area being largely devoid of the pits and postholes generally associated with settlement activity during this period.

4.9 Of particular interest was the identification of a number of inhumations (B1 to B8) and cremations (C1 to C3) in the vicinity of the trackway. The burials exhibited variable states of preservation, largely dependent on the depth of initial burial and truncation by later ploughing. The dating of these burials is problematic as only one (B1) was buried with any grave goods (a collection of Roman iron shoe cleats and nails). A small sherd of pottery dating to the Late Iron Age/Early Roman-British period was recovered during excavation of B7 and B8, but this was probably residual and all of the burials are thought from their form to be Roman. The burials comprised a mixed burial group of eight individuals aged between five and forty-five years. They were all orientated broadly east/west and the majority had been placed in a supine position. A number of the burials appeared to be associated with pre-existing features such as the trackway ditches.

4.10 In contrast to the common circular cremation pits typical of the early Romano-British period, the three cremations had been placed in sub-rectangular pits which appeared to resemble small graves. The fills of these pits comprised mixed deposits which contained cremated human bone, charcoal fragments and silty clay. There was no evidence for *in situ* burning of the soil. All three features were orientated approximately east/west and appeared to be late in the Romano-British sequence. The burials and cremations appeared to have been located along the trackway and associated ditches, rather than comprising a clearly defined cemetery group.

4.11 A ditch and a palaeochannel were identified in Area B. The fills of the these features appeared to be contemporary, suggesting that the ditch had drained into the channel.

Period 3: Medieval and post-medieval

4.12 Evidence for ridge and furrow cultivation dating to these periods was encountered throughout the site, and survived as extant earthworks in the field immediately to the north-west of this area and at the north-eastern end of the site.

Carterton (Site 2): Fieldwork summary

4.13 A drying oven dating to the earlier Romano-British period was excavated prior to pipeline construction at the north-eastern end of the pipeline (NGR: SP 6951 6207; Fig. 4).

Period 2: Romano-British

4.14 The drying oven had been badly truncated by ploughing, with only one course of stonework, built directly on the bedrock, surviving *in situ*. The feature comprised a stone-lined flue with a stokehole at one end and the fragmentary remains of a T-shaped structure at the other. The stone lining and the bedrock floor of the structure had been discoloured by heat in the vicinity of the stokehole. Pottery dating to the 1st to 2nd century AD was recovered from the backfill of the flue. The T-shaped form of the feature supports a date early in the Romano-British period (Morris 1979).

Stratigraphic record: factual data

4.15 Following the completion of the programme of archaeological recording an ordered, indexed, and internally consistent site archive of both sites was compiled in accordance with specifications presented in the *Management of Archaeological Projects* (EH 1991). A database of all contextual and artefactual evidence and site matrices were also compiled and cross-referenced to spot dating. The archive comprised the following records:

Context sheets	475
Sample sheets	35
Skeleton sheets	8
Plans (various scales)	49
Sections (1:10 and 1:20)	83
Black and white films	10
Colour films	10
Matrices	9

4.16 The survival and intelligibility of the site stratigraphy is assessed as being relatively good, with archaeological remains having survived as negative features frequently containing clearly differentiated fills at Site 1, and one course of the stone-built the

drying oven having survived at Site 2. At both sites moderate truncation of archaeological deposits by later ploughing was apparent. Despite the relative paucity of stratigraphic relationships, interpretation of and the assignment of provisional phases to the most of the recorded features has been possible.

Stratigraphic record: statement of potential

4.17 A secure stratigraphic sequence is essential in elucidating the form, purpose, date, organisation, and development of the various phases of activity represented. This can be achieved through the detailed analysis of the sequence and further integration of the artefactual dating evidence. Integration of the cropmark and/or geophysical surveys will enhance interpretation of the excavated features by providing a wider context in which features can be understood. The refined sequence will serve as the spatial and temporal framework within which other artefactual and biological evidence can also be understood.

Artefactual record: factual data

4.18 Where appropriate, finds collected during the excavation have been washed, marked, quantified, and marked by context. The metalwork has been stabilised and stored, with desiccating silica gel, in sealed plastic containers.

Type	Category	Count	Weight (g)
Pottery	Iron Age	454	4243
	Roman	230	1668
	medieval	18	65
	post-medieval	86	557
	Total	788	6533
Flint		5	
Brick/tile		2	56
Fired clay			196
Metals	Iron objects	14	
	Copper alloy objects	2	
	residues		292

The Pottery

4.19 A total of 788 sherds of pottery was recovered from 87 contexts. The bulk of the pottery dates to the later Iron Age and Romano-British periods with a small quantity of medieval and post medieval pottery also present.

Ceramic building material and fired/burnt clay

4.20 Two fragments of flat roof tile of likely post-medieval date were recovered. Additionally a small quantity of miscellaneous fired/burnt clay was recovered from features of Iron Age and Romano-British date.

Worked flint

4.21 Five pieces of worked flint, a scraper and four flakes, were recovered. All derive from unstratified Late Iron Age or later contexts and all can be considered as re-deposited.

Metal artefacts

4.22 Two items of copper alloy and fourteen of iron were recovered. The copper alloy items consist of an undatable and unstratified sheet fragment and a fragmentary buckle of probable medieval date. Iron items, twelve of which come from burial B1, comprise nails and Romano-British shoe cleats.

Metallurgical residues

4.23 A small quantity of ferrous metalworking residues (292g) was recovered from Romano-British and medieval/post-medieval dated contexts. All fragments are undiagnostic of process.

Artefactual record: statement of potential

4.24 The pottery is of importance as the major provider of dating evidence from the site. Further research and analysis, to include full recording by vessel form and fabric type, is required in order to maximise the dating potential of the group. Such recording may also provide an indication of the relative status of the site, and of pottery supply through time. To confirm the suspected local origin for the Iron Age pottery, all fabrics of this date should be analysed and fully described. The restricted size of the assemblage and the linear nature of the site means that there is limited potential for identifying vessel use or spatial distribution. Further analysis will therefore concentrate on establishing chronology and placing the various elements within the local and regional setting through local comparanda. A publication report should be prepared and number of vessels, mostly dating from the Iron Age, should be illustrated.

4.25 All other artefacts categories, including ceramic building material, worked flint and metallurgical residues, have no potential for further analysis, although a record of the presence of this material should be made within the publication report. However,

a separate small section dealing with the unusual iron shoe cleats should be prepared, to include illustration of three representative examples.

Biological record: factual data

4.26 All ecofacts recovered from the excavation have been cleaned, marked, quantified and catalogued by context. A 10-litre sub-sample of each environmental sample taken was processed according to standard flotation methods for the purposes of assessment.

Type	Category	Count
Animal bone		166
Human bone	individuals	8
Cremated human bone	deposits	3
Samples	environmental	5

Animal bone

4.27 Approximately 166 fragments of animal bone were recovered from the site during the normal course of hand-excavation. The majority of the assemblage is from securely stratified Iron Age and Romano-British contexts. Around 64% of bone fragments could be identified to species and the remaining portion of the assemblage includes undiagnostic fragments that could only be assigned to general categories. Only domestic species are represented among the diagnostic material, these include cattle, sheep/goat, pig, horse and dog.

Human remains

4.28 Eight individuals are represented in the skeletal remains, all discrete burials. Three cremation deposits were also excavated. All of the human remains are believed to be of Romano-British date.

4.29 Initial inspection of the inhumations suggests that five adults are represented (two probable males, one probable female, and two uncertain), along with three juveniles. Pathological changes and other skeletal variations were noted from three of the adults and the two juveniles. No diagnosis of conditions leading to pathological changes was undertaken at this level of analysis. Initial examination of the cremated human remains was unable to determine number of individuals or data relating to age and sex.

Environmental samples

4.30 Charred plant remains are small in quantity, with only a few, badly-preserved seeds being present. Cultivates, including barley and wheat, and weed seeds have been

identified, however no chaff was observed, suggesting that these remains are accidental introductions, and that the site was some distance from the crop processing and cooking areas.

4.31 By contrast, the mollusc assemblage presents a large and varied collection of animals, representing both land and freshwater habitats. The general assemblage is very suggestive of a permanently wet place, with year-round, slow-flowing, well-oxygenated water, surrounded by damp vegetation, such as flood-meadow or ephemeral marshland. The snails are present in abundance, suggesting that they were native to these conditions rather than introductions.

Biological record: statement of potential

4.32 The animal bone assemblage is small, indicting peripheral activity to settlement, but the number of specimens from which more detailed or zooarchaeologically significant information can be obtained is considered inadequate for any meaningful discussion of animal husbandry. No further work is recommended on the assemblage although its presence should be noted within the publication.

4.33 The human remains are an interesting group. The potential for further analysis is high, particularly with regard to the amount of pathology exhibited by some of the adult individuals. Analysis should be directed at the diagnosis of the pathological conditions suffered, in particular the skeletons from burials B1, B3, B4, B6 and B7. Further analysis on the cremated remains including estimation of minimum number of individuals is important, particularly as these may represent pyre pit deposits.

4.34 There is potential for further analysis of the diverse mollusc remains, with the aim of confirming a suspected wet, marginal environment in the Iron Age. There is no potential for further analysis of charred plant remains, due to the low quantities and poor condition of the material recovered.

4.35 The absence of artefactual dating, other than a single sherd of pottery and a few iron objects, presents problems when considering the relationship between the Romano-British trackway and the later burials and inhumations. Although suspected to be broadly contemporary with the earlier trackway, the possibility remains that all of the burials and cremations are considerably later and their location around and within the trackway may be entirely coincidental. In order to establish the date of the burials and cremations, and their contemporaneity or otherwise with the trackway,

three pairs of radiocarbon dates will be required: from a burial, a cremation, and from the trackway itself, if suitable datable material is forthcoming.

5. STORAGE AND CURATION

5.1 All artefacts, including pottery, building material, fired clay, worked flint, glass and bone, require no further treatment fore their long term storage. Such material is stored by context in plastic bags within acid-free, brass wire-stitched cardboard boxes. Metal artefacts have been stabilised and are currently stored in sealed, plastic boxes with humidity controlled, in accordance with the guidelines of the Society for Museum Archaeologists (1993). Suitable arrangements for transfer to Oxfordshire County Museum under Accession No. OXCMS 2002.187, have been made.

6. UPDATED AIMS AND OBJECTIVES

6.1 The excavation achieved the first three aims outlined in the Project Design (paragraph 2.1). In order to publish the site appropriately, the following updated objectives have been set out:

Objective 1: to establish a secure stratigraphic sequence for the site, so that the maximum information regarding the form, function, organisation, and development of the site can be understood;

Objective 2: through examination of the artefactual evidence in conjunction with stratigraphic record, interrogate the datasets for any evidence regarding the nature and economy of the site;

Objective 3: to establish full integration of the cropmark, geophysical, and excavation data, including consideration of the data from the Broughton Poggs to Highworth gas pipeline (OAU 1993), and comparison with the excavation at Langford Downs (Williams 1947) and the broader region.

Objective 4: to further consider the inhumation burials especially with regard to the date of deposition and the location of these features within the site, both spatially and chronologically. This will be facilitated by the provision of radiocarbon dates. The inhumation burials will also be considered within their regional context especially with relation to the recently published regional synthesis (Booth 2001).

Objective 5: to further consider the cremation pits in relation to other excavated examples. 'Cremation grave pits' having also been identified at Great Dunmow and Kelvedon in Essex and Skeleton Green in Hertfordshire (Philpot 1991). Similar features have been identified in continental Europe, 'Brandgrubengräben' (burials in which the cremated bone is buried unsorted from the pyre debris) comprised the predominant burial type at Vindonissa, Carnuntum, and Krefeld-Gellep (Pearce 2002).

Objective 6: to further examine the apparent association between the inhumation burials, cremation pits, the trackway, and agricultural boundaries. Especially in relation to recent work on Romano-British rural burial practice, for example by Pearce (1998).

Objective 7: to the consider the relationship between the extent of archaeological activity identified and the underlying geology encountered together with the local context of the previously unknown Romano-British activity represented by the drying oven identified to the west of Carterton.

7. PUBLICATION

7.1 The results of the excavations at both sites (Filkins and Carterton) merit publication. The detailed examination of part of a previously undated cropmark complex is of importance, especially when considered in conjunction with the unexpected discovery of significant funerary activity. The publication value of the site is further enhanced by the availability of the geophysical survey, the cropmark evidence, and the earlier fieldwork on the route of the Highworth to Broughton Poggs gas pipeline, all of which will enable the consideration of the site within a broader context. The identification of the drying oven near Carterton is also noteworthy. It is therefore proposed that publication is achieved as a report in *Oxoniensia*.

Synopsis of proposed report

Iron Age and Romano-British activity at Filkins and Carterton, Oxfordshire: Excavations in 2002

by

Laurent Coleman and Martin Watts

Abstract	
Brief summary of the project	200 words
Introduction	
Project background, archaeological background, topography, geology	800 words
Excavation Results	1500 words
The Finds	
Pottery (Ed McSloy)	1700 words
Iron Objects (Ed McSloy)	200 words
Biological Evidence	
Human Bone (Tony Waldron)	2000 words
Mollusca (Eden Hutchins)	500 words
Radiocarbon dating	500 words
Discussion	
Iron Age	500 words
Romano-British	1000 words
Conclusions	200 words
Acknowledgements	200 words
Bibliography	1000 words
	9400 words
	(*c.* 15 pages)

Illustrations:

Location of site:	1.5 pages
Filkins (Site 1), excavation areas A and B (plans and sections):	1.5 pages
Carterton (Site 2) (plan and section):	0.5 pages
Pottery:	1 page
Metal artefacts:	0.5 pages
Burials:	2 pages
	7 pages

Tables:

Pottery:	0.5 pages
Human bone:	1 page
Mollusca:	0.5 pages
Radiocarbon dates:	1 page
	3 pages

Total Publication Estimate: ***c.*** **25 pages**

8. PROJECT TEAM

8.1 The post-excavation and publication programme will be under the management of **Martin Watts MIFA** (Senior Project Manager: SPM), who will co-ordinate the work of the following personnel:

Laurent Coleman AIFA (Project Officer: PO):
post-excavation phasing, draft report preparation, research and archive.

Ed McSloy MIFA (Finds Officer: FO):
Specialist report preparation and liaison, post-excavation phasing.

Sam Inder (Finds Assistant: FA):
Samples processing.

Peter Moore (Senior Illustrator: SI):
Production of all site plans, sections and artefact drawings.

8.2 Contributions by the following external consultants will be managed by the Finds Officer:

Eden Hutchens (Freelance Consultant):	Mollusca
To be confirmed:	Human bone
University of Waikato (New Zealand):	Radiocarbon dating

8.3 The final publication report will be edited and refereed internally by CA senior project management, will be externally copy-edited, and externally refereed by Professor Timothy Darvill, Bournemouth University.

8.4 The production of the publication report will largely depend upon the availability of the external specialists, but CA will aim to complete a publication draft within one year of acceptance of the publication proposals herein.

9. TASK LIST

TASK	PERSONNEL	DURATION/NUMBER
Project Management		
	SPM	1.5 days
Stratigraphic Analysis		
	PO	5 days
	FO	1 day
	SPM	0.5 day
Research, comparanda		
	PO	1 day
Preparation and despatch of artefacts and ecofacts		
	FO	0.5 day
Liaison with specialists		
	FO	1 day
Pottery		
Analysis and report preparation	FO	2.5 days
Illustration	SI	1.5 days
Metal Artefacts		
Analysis and report preparation	FO	0.5 day
Illustration	SI	0.5 day
Human bone		
Additional sampling of burial samples	FA	5 days
Analysis and report preparation	Specialist	6 days
Mollusca		
Additional processing of environmental samples	FA	5 days
Analysis and report preparation	Specialist	2 days
Radiocarbon dating		
Radiocarbon dating	Specialist	6 determinations
Report preparation	FO	1 day
Preparation of publication report		
Abstract and introduction	PO	0.5 day
	SI	0.5 day
Excavation results	PO	3 days
	SI	3 days
Compilation of specialist reports, tables etc.	PO	1 day

	SI	1 day
Discussion, conclusions	PO	3 days
Acknowledgements, bibliography	PO	0.5 day
Editing		
Preliminary editing	SPM	1 day
Revisions	PO	0.5 day
Secondary editing	SPM	0.5 day
Submission to external referees		
Final editing	PO	1 day
	SPM	1 day
Publication		
	Oxoniensia	25 pages
Archive		
Research archive completion	PO	0.5 day
	FO	0.5 day
Microfilm		FEE
Deposition		FEE

10. TIMETABLE

10.1 For a publication project, CA would normally aim to have completed a publication draft within one year of approval of the updated publication project design. A detailed programme will be produced on approval of the updated publication project design.

11. BUDGET

11.1 The following allocation of resources is proposed. All figures are exclusive of VAT.

Staff Costs:

CA Grade	Person	Per day	days	total
Senior Project Manager	Martin Watts	£292	4.5	£1314
Project Officer	Laurent Coleman	£180	16	£2880
Finds Officer	Ed McSloy	£180	7	£1260
Senior Illustrator	Peter Moore	£202	6.5	£1313
Finds Assistant	Sam Inder	£123	10	£1230
Total Project Salary:				**£7997**

Non-Staff Internal Costs:

Transport	£70
NMR microfilm copy:	£50
Archive deposition:	£70
Total:	**£190**

External Fees:

Specialism	Consultant	Per item	No.	Total
Mollusca	Eden Hutchens	£150 / day	2 days	£300
Human Bone	To Be Confirmed	£150 / day	6 days	£900
Radiocarbon dating	University of Waikato, NZ	£250	6	£1500
Publication	*Oxoniensia*	£35	25	£875
Total:				**£3575**

Gross Total for Project: £11,762

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APPENDIX 1: THE POTTERY BY ED MCSLOY

The pottery was quantified by sherd count and weight per context, although not at this stage sorted into fabric types or classified according to vessel form. For the purposes of spot-dating, a brief note was made of diagnostic fabrics and forms present by context.

A total of 788 sherds of pottery (6.533kg) was recovered from 87 contexts. The bulk of the pottery dates to the later Iron Age and Romano-British periods with a small quantity of medieval and post-medieval pottery also present. The condition of the pottery is mixed: Iron Age pottery is generally in good condition with calcareous inclusions intact, abrasion limited and many substantial sherds present. Average sherd weight for this material is highest of all the represented dated groups at approx 9.2g. Material of medieval and post-medieval date, predominantly from furrows, is characterised by small and abraded sherds with an average weight of just 6g. A proportion of the Roman material also appears abraded or to have suffered surface deterioration due to soil conditions. Average sherd weight (7.4g) is low for the Romano-British material which tends to be robust.

Iron Age

Approximately 450 sherds of Iron Age pottery were recovered, mainly from linear features concentrated at the south-western end of trench 1. The bulk of this material would appear to date to the Middle to Late Iron Age (*c*. 300BC – AD50) and consists of coarse fossil shell and limestone-tempered fabrics, together with a smaller quantity of quartz-tempered material. Represented forms consist mainly of hand-made slack-shouldered, neckless jars or bowls with plain-rounded rims.

Smaller quantities (<10 sherds) of wheel-thrown material in grog-tempered fabrics are also present. This material probably dates to the early to middle years of the 1st century AD. A single necked 'cordoned' jar is recorded from an unstratified context.

Romano-British

Approximately 230 sherds of Roman pottery were recovered. Much of the Roman material consists of reduced sandy wares, almost certainly of local manufacture. Also present are small quantities of Gaulish samian, Savernake ware, Dorset black-burnished ware, Oxfordshire whiteware mortaria and red slipped ware. Necked jar forms dominate with small numbers of open forms, lids, tankards and a ring-necked flagon.

Dating is hindered by the dominance of the local greywares, which are both long-lived and conservative in terms of form, and also by the frequently small numbers of sherds per context. Of the few larger groups, those from the drying oven and the trackway ditch indicate an earlier/middle Roman date, perhaps late 2nd/early 3rd for the drying oven and dated contexts with larger quantities of pottery, and late 1st or 2nd century for the trackway ditch. Elsewhere there is also detectable a bias to earlier Roman types. Late Roman types including Oxfordshire red-slipped ware and whiteware mortaria, significantly, are sparse.

Post-Roman

Approximately 100 sherds of post-Roman pottery, comprising material of medieval, post-medieval and early modern dating, were recovered. Much of this material derives from furrow fills and consists of sherds of mixed date. Four contexts, probable furrow fills, produced pottery (13 sherds in total) exclusively of medieval date.

Medieval fabrics include coarse limestone/flint tempered 'Newbury B' and Cotswold oolitic, types, and glazed Minety and Oxford or Brill-Boarstall products. Identifiable forms are restricted to everted-rim jars and a single bowl. A broad 13th to 15th century dating can be applied to this material. Post-medieval/modern pottery consists primarily of glazed earthenwares, German and English stonewares and English china.

Statement of potential and requirements for further analysis

The pottery is of importance as the major provider of dating evidence from the site. Further analysis to consist of full recording by vessel form and fabric type (tied into existing local pottery type series) is vital in order to maximise the dating potential of the group. Such recording will also enable analysis directed at assessing the relative status of the site and such issues as pottery supply through time. To confirm a local origin for the Iron Age pottery, all fabrics of this date should be fully described. In other respects the restricted size of the assemblage, and the linear nature of the site as exposed means however that there is limited potential for addressing issues of vessel use and any spatial analysis. The desired end product of further analysis will be a full publication report to concentrate on establishing chronology and placing the various elements within the local and regional setting. To this end, particularly for the pre-Roman material, local comparanda should be sought. A number of vessels, mostly Iron Age should also be illustrated.

Task list

- Describe (fabrics) and quantify Iron Age pottery;
- Record and quantify Roman and post-Roman fabrics matching with Oxfordshire fabric type series (Booth 1997; Evans 2002);
- Prepare archive database;
- 10-15 vessels to be drawn, mostly of Iron Age date from the larger groups, 1002/1003, 1090 and 1313 but also Roman material from drying oven;
- Produce pottery report – to include preliminary research, including contemporaneous material from the region.

Total: 2.5 days (Finds Officer)
1 day (Senior Illustrator)

APPENDIX 2: CERAMIC BUILDING MATERIAL AND FIRED CLAY BY ED MCSLOY

Two fragments of ceramic flat roof tile of probable post-medieval date were recovered from a furrow. Small quantities of miscellaneous fired/burnt clay (196g in total) were recovered from features of Iron Age and Romano-British date. All fired/burnt clay consists of small, formless fragments where original function remains obscure.

Statement of potential and requirements for further analysis

The potential of this material is low and there is no requirement for further analysis. This category of artefact will be integrated into the descriptive excavation results section, and will be undertaken as part of the preparation of the publication text.

APPENDIX 3: THE WORKED FLINT BY ED MCSLOY

Five pieces of worked flint were recovered. All derive from unstratified, Late Iron Age or later dated contexts and all can be considered as re-deposited. Most pieces consist of secondary or tertiary flakes, together with a single scraper and 're-touched flake'. No truly diagnostic pieces are present, although the prevalence of flakes, mostly of squat proportions probably indicates a later Neolithic or later dating.

Statement of potential and requirements for further analysis

The potential of this material is low and there is no requirement for further analysis. This category of artefact will be integrated into the descriptive excavation results section, and will be undertaken as part of the preparation of the publication text.

APPENDIX 4: THE METAL ARTEFACTS BY ED MCSLOY

Two items of copper alloy and a fourteen of iron were recovered. The copper alloy items consist of an undatable and unstratified sheet fragment and a fragmentary buckle (sf. 1003) of probable medieval date, from 1038. Iron items, twelve of which come from burial B1, are mostly nails. Sfs 1005, 1006, 1007, 1008 and 1009, all from burial B1, are a mix of shoe cleats and hobnails of Romano-British date.

Statement of potential and requirements for further analysis

The metal objects will require a catalogue description and classification, and a short report on the shoe cleats should be prepared for publication. Three of the more complete iron shoe cleats from burial B1 should be drawn.

Total: 0.5 day (Finds Officer)
0.5 day (Senior Illustrator)

APPENDIX 5: THE METALLURGICAL RESIDUES BY ED MCSLOY

Small quantities of ferrous metalworking residues (292g) were recovered. All fragments are undiagnostic of process and consist of small, formless fragments of relatively dense slag. With the exception of small fragments from Romano-British context 1158, all of the slag comes from furrow fills or other horizons and occurs with post-medieval or modern pottery.

Statement of Potential and requirements for further analysis

The potential of this material is low and there is no requirement for further analysis. This category of artefact will be integrated into the descriptive excavation results section, and will be undertaken as part of the preparation of the publication text.

APPENDIX 6: ANIMAL BONE BY LORRAIN HIGBEE

The entire assemblage was subjected to assessment by rapidly scanning and the following information recorded; species, skeletal element, age related features, completeness for biometric analysis, as well as more general observations on butchery, taphonomy and pathology. Due to the low incidence of specimens suitable for more detailed study, that is age and mensural data, it was decided early on in the assessment to record this information for the sake of providing a complete archive of the assemblage. This information was entered into a database and is available in the site archive. For a full description of the methods considered in the assessment of this assemblage the reader is referred to Davis (1992).

The assemblage is reasonably well preserved as indicated by the large number of specimens that could be identified to species. However, a significant proportion of fragments had undergone some degree of diagenetic alteration in the burial environment. These changes are principally caused by alterations in the chemical composition of bone and take the form of pitting and corrosion of the cortical surface. The main causes of chemical change are soil pH, aeration, water regime, and bacterial action. In general terms these changes have not effected species identification however, they have effaced surface details such as canid gnawing and butchery marks.

Approximately 166 fragments of animal bone were recovered from the site during the normal course of hand-excavation. The majority of the assemblage is from securely stratified Iron Age and Romano-British contexts quantified by species and phase in the table below.

Species	Iron Age	Romano-British	Medieval	Unphased
Cattle	17	11	-	1
Sheep/goat	14	14	1	2
Sheep	3	-	-	-
Pig	1	2	-	2
Horse	15	17	-	2
Dog	*1	2	-	-
Bird indet.	-	1	-	1
Cattle-sized	19	13	2	1
Sheep-sized	11	11	-	2
Total	81	71	3	11

Number of identified specimens per species by phase (or NISP).
* = denotes complete skeleton.

Around 64% of bone fragments could be identified to species and the remaining portion of the assemblage includes undiagnostic fragments that could only be assigned to general categories (e.g. 'cattle-sized') that may include bones from species of a similar size (e.g. cattle/horse). Only domestic species are represented these include cattle, sheep/goat, pig, horse and dog. Two bird bones were also recovered but unfortunately these were incomplete (shaft only) and could not be identified to species.

Of the three common stock species cattle is the most common in the Iron Age assemblage whilst sheep/goat is slightly less common than horse and pig is represented by only one scapula. Cattle bones taken to represent

waste from primary carcass dismemberment (i.e. fragments from the head and bones from limb extremities) are slightly more abundant than bones of high meat value.

Horse is the second most abundant species and this is a slightly unusual feature of the assemblage. Maltby (1996) in a recent summary of animal husbandry during the British Iron Age estimates that horse bones constitute between 10-20% of all large domestic mammal remains (i.e. cattle/horse) although higher percentages have been recorded as for example at Owslebury, Hampshire (Maltby, 1987). The relatively large number of horse bones from the site might be explained by the peripheral location of the excavation area in relation to associated settlement. Wilson (1996) has suggested that the bones of large animals are more abundant in peripheral areas because they tend to be slaughtered further away from domestic dwellings and are also more likely to be effected by rubbish clearance. The fact that butchery evidence was recorded on one scapula from the trackway ditch coupled with the types of horse bones represented would seem to support this interpretation.

The complete skeleton of an adult dog was recovered from pit B. Measurements taken on complete long bones (converted following Harcourt, 1974) indicate that the animal had a shoulder height of approximately 472mm. These measurements and those taken of the more complete left tooth row were compared to the Iron Age ranges recently published by Clark (2000) the results indicate that the animal is fairly average in size and conformation for the period.

Horse is the most common species in the Romano-British assemblage and at least two individuals are represented. The types of bones recovered show a slight bias towards waste from initial butchery processing. One deciduous tooth was recovered from the trackway ditch, suggesting local rearing.

In contrast to the Iron Age assemblage sheep/goat is the most common stock species followed by cattle and then pig. There is some degree of bias to the types of sheep/goat bones recovered, mostly metapodia and loose teeth, suggesting mostly butchery waste is represented.

Two dog bones were recovered from the trackway ditch, including a loose lower first molar and the shaft of a humerus.

Three bone fragments were recovered from the fills of medieval furrows they include two cattle-sized fragments and a sheep/goat radius.

A total of 11 bone fragments come from contexts of uncertain date, these include bones from the three common stock species as well as horse and one of the two bird bones recovered from the site.

Small assemblages of Iron Age and Romano-British date were recovered from the site. Both assemblages include a surprisingly large number of horse bones which, it is suggested reflects the types of activities taking place in locations peripheral to the settlement area.

Statement of potential and requirements for further analysis

The assemblage is small and the number of specimens from which more detailed or zooarchaeologically significant information can be obtained is considered inadequate for any meaningful discussion of animal husbandry. Thus no further work is recommended on the assemblage although the results from this assessment, which indicated an area of peripheral activity, should be incorporated into any future publication.

APPENDIX 7: HUMAN REMAINS BY TERESA GILMORE

An assessment of the human remains was undertaken to provisionally establish the minimum number of individuals, their ages and sexes, and to record any obvious pathologies. Sex was determined on adult remains using standard criteria (Bass, 1967; Brothwell, 1981; Phenice, 1967; Buikstra & Ubelaker, 1994). Adult age was determined using a variety of methods depending on skeletal parts present: dental attrition (Brothwell, 1981), cranial sutures (Meindle & Lovejoy, 1985), auricular surface (Lovejoy et al, 1985). Juvenile age was determined using dental eruption (Van Beek, 1983; Ubelaker, 1978). Pathology and non-metric variation was diagnosed using criteria in Aufderheide & Rodriguez-Martin (1998).

Eight individuals are represented in the skeletal remains, all from discrete burials. All remains had been subject to fragmentation. Burials B2 and B8 were the least well preserved, with severe loss of integral structure and cortex. Burials B3, B4, B5 and B7 had the best quality of bone including preservation of the cortex. Burials B1 and B6 were of moderate preservation. Five adults are represented (two probable males, one probable female, and two unknown), along with three juveniles.

Burial	Skeleton	Age	Sex	Preservation	Pathology
B1	11163	30 – 45 yrs	?Male	70 – 75%	?Cribra Orbitalia in Left Orbit. Wormian bone in Lambdoidal suture Periodontal disease. Spinal Osteoarthritis
B2	11296	?Adult	Unknown	5 – 10%	
B3	11281	30 – 45 yrs	?Female	75 – 80%	Caries in lower left PM1
B4	11343	7 – 8 yrs	N/A	45 – 50%	Notching of occulusal surface of permanent incisors. Shovelling of upper lateral incisors.
B5	11348	2 - 2½ yrs	N/A	< 5%	
B6	11288	*c.* 5 yrs	N/A	15 – 20%	Notching on occulusal surface of permanent incisors
B7	11334	17 – 25 yrs	?Male	15 – 20%	Periostitis covering right and left femorii, tibiae, fibuli & hard palate Peridontal disease in maxilla and mandible. Abscess below lower left premolars.
B8	11346	Adult	Unknown	5 – 10%	

Pathological changes and non-metric variation were noted from three of the adults (B1, B3, B7) and two of the juveniles (B4, B6). No diagnosis of conditions leading to pathological changes was undertaken at this level of analysis.

Cremated bone was weighed and measured from four contexts (table below). The state of oxidation and hence the quality of cremation varies from white/grey fragments to black/grey fragments. Due to the heavily fragmented nature of the bone, no minimum number of individuals has been calculated.

Cremation	Context Number	Weight (g)	Recognisable Fragments	Approx. dimensions largest fragment (mm)
C1	1233	48	Cranial Bone	35 by 25
C1	1234	14		25 by 15
C1	1236	31	Cranial Bone Long bone	30 by 15
C2	1266	155	Humeral Head Long Bones Patella	61 by 13
C3	1268	33		50 by 20

Weight, recognisable fragments and approximate dimensions of cremated bone samples.

Statement of potential and requirements for further analysis

The remains represent a mixed burial group of 8 individuals. The youngest individual is about 5 yrs and the oldest about 30 – 45 yrs. A high frequency of pathological changes and non-metric variation is apparent from this sample, including changes due to infection (B7), dental disease (B1, B3, B6) and of nutritional deficiency (B1). No traumatic lesions are apparent at this level of analysis.

The high frequency of dental non-metric variation (notched incisors) on both the juvenile remains could indicate a high probability that they are genetically linked. This could indicate that this assemblage is of a family group.

Due to the amount of pathology exhibited by some of the adult individuals, this assemblage should be subjected to further analysis to allow a diagnosis of the pathological conditions suffered. Further analysis on the cremated remains including estimation of minimum number of individuals is important, particularly with regard to possible pyre pit/'*bustum*' deposits. Such analysis will require processing of all remaining soil samples from cremation deposits.

Total: 5 days (Finds Assistant) processing of burial and cremation samples
6 days (Specialist) Full analysis and report

APPENDIX 8: THE ENVIRONMENTAL SAMPLES BY EDEN HUTCHENS

5 samples were submitted for assessment of ecofactual potential.

Samples were taken using sealable plastic tubs and transported to the CA offices for processing. 10 litres of each 40-litre sample were processed for purposes of assessment. Processing was by means of flotation utilising meshes of 250µm and 500µm for the flot and residue respectively. Residues and flots were dried in a low temperature drying cabinet prior to sorting.

The dried flot was inspected under a 20x objective microscope with direct lighting. Detailed inspection was carried out under a 40x objective microscope.

KEY
+ 1 present
1 2-10 present
2 11-100 present
3 101-1000 present
4 1000+ present
For charcoal the score is an expression of *relative abundance*, rather than a count.

Sample	**1026**	**1032**	**1033**	**1034**	**1035**	**Habitat**
Feature	Ditch E	Trackway	Trackway	Pit A	Ditch J	
Spot-date	Iron Age	Roman	Roman	Iron Age	Iron Age	
Context	1328	1201	1200	1092	1065	
Ceciloides acicula	1	1	2		2	burrowing, catholic
Trichia hispida (type)	1	2	2		1	catholic
Trichia striolata (type)			1			damp, vegetated, shady.
Planorbis albus	1		2			freshwater
Vallonia sp.	1	2	2	1	1	
Cochlicopa lubrica		1	2			catholic; damp, shady places.
Oxyloma pfeifferi			1			marshes, wetland. not in woods.
Lymnaea truncatula			1			freshwater
Bithynia tentaculata	1	1	1	+		freshwater
Pupilla muscorum		2	1	+		dry, exposed places
Vertigo sp.	+				+	
Vertigo pygmaea					1	dry, grassy places.
Vertigo pusilla/angustior		+		+	1	
Valvata piscinalis				1		freshwater
Carychium tridentatum			+	+		catholic; well-vegetated places.
Clausilia bidentata rugose		+				moist places; old walls, woods.
Cepea hortensis	+					varied; vegetated, damp places.

Molluscs

Sample	**1026**	**1032**	**1033**	**1034**	**1035**
Feature	Ditch E	Trackway	Trackway	Pit A	Ditch J
Spot-date	Iron Age	Roman	Roman	Iron Age	Iron Age
Context	1328	1201	1200	1092	1065
Hordeum vulgare	1				+
Secale cereale					+
Triticum sp.	1	+	+		1
Chenopodium sp.	1				
Vicia sp.	+	+			

Charred plant remains

A small amount of burnt wood (charcoal) and small animal remains were present in each sample.

The mollusc assemblage presents a large and varied collection of animals, representing both land and freshwater biomes. The general assemblage is very suggestive of a permanently wet place, with year-round, slow-flowing, well-oxygenated water, surrounded by damp vegetation, such as flood-meadow or ephemeral marshland. The snails are present in abundance, suggesting that they are not introductions, but autochthonous.

The seed remains are paltry, with a few, badly-preserved seeds being present. No chaff was observed, suggesting that these remains are accidental introductions, and that the major crop processing and cooking areas were elsewhere. *Hordeum* (Barley) and *Triticum* (Wheat) are common crops, while *Vicia* (Vetch) is now a fairly common leguminous weed, although it has been cultivated in the past. *Chenopodium* (Goosefoot) is another common weed plant.

Statement of potential and requirements for further analysis

The mollusc remains requires further analysis from further material processed from each sample. Animals like *Vertigo pygmaea* and *Clausilia bidentata,* while not rare, are not especially common finds in archaeological contexts. Further processing and analysis might also serve to confirm identification of the *Vertigo pusilla*/*angustior*. All the examples from this assemblage had broken mouth parts, making identification problematic. The differentiation of these two animals would be interesting, as they live in radically different environments (one very wet, one very dry).

The seed remains, being small and badly preserved, do not in themselves merit any further work. Additional charred plant remains produced from further processing of the samples recommended for recovery of mollusc remains, should be scanned and a short report compiled for all recovered material.

Total: 5 days (Finds Assistant) Additional processing of samples
2 days (Eden Hutchins) Analysis and report production

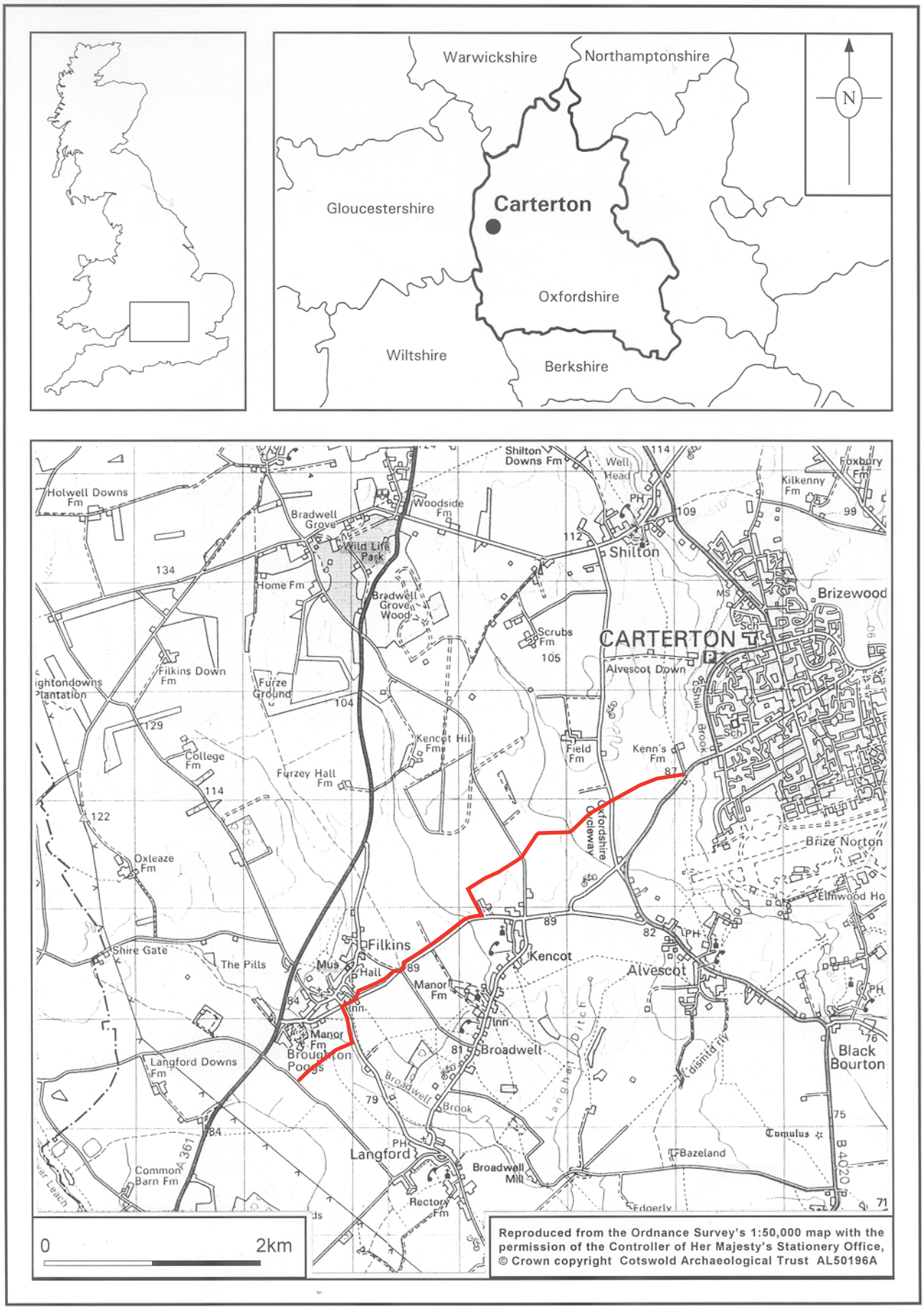

Fig. 1 Location plan

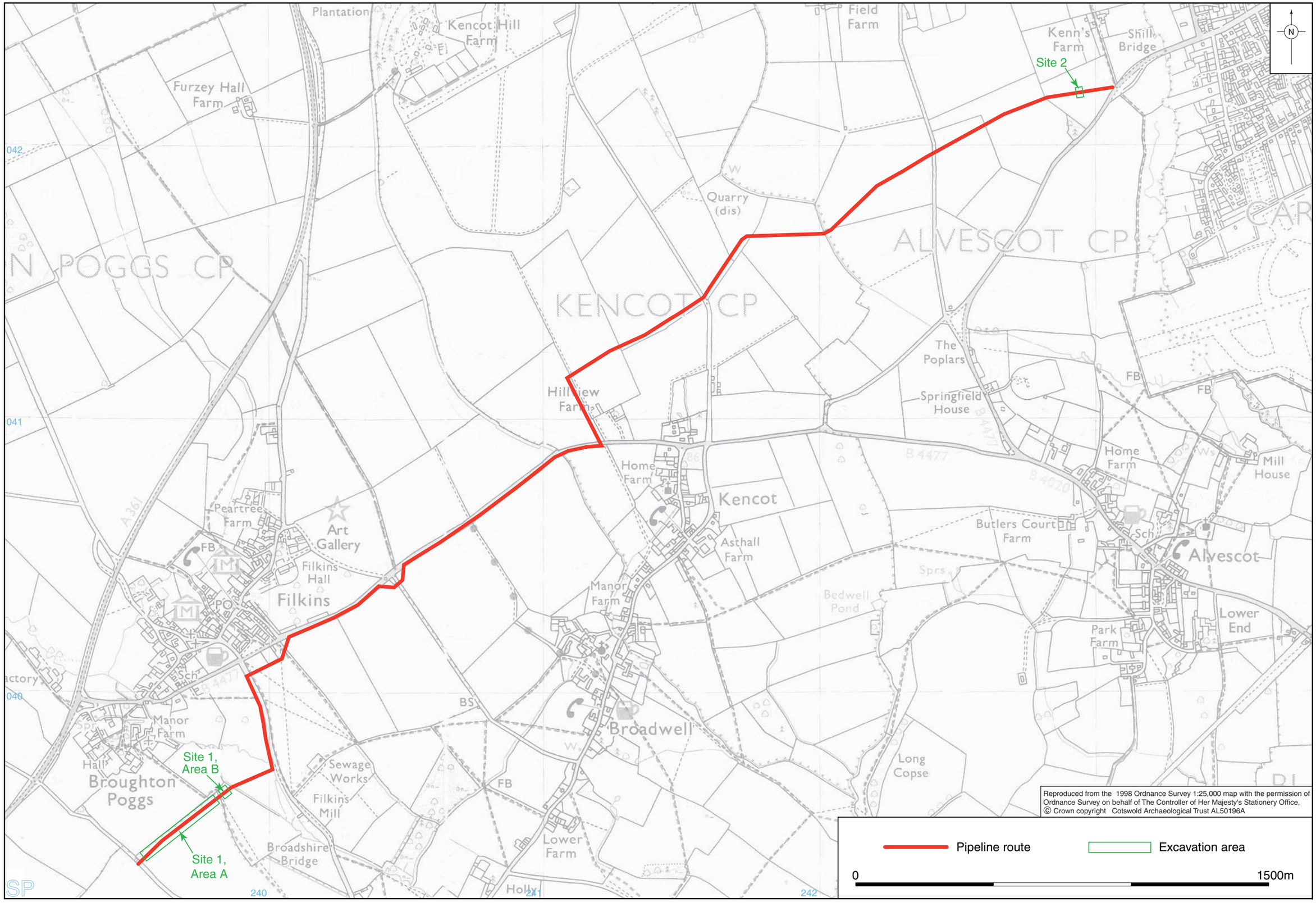

Fig. 2 Pipeline route (1:12,500)

Area A

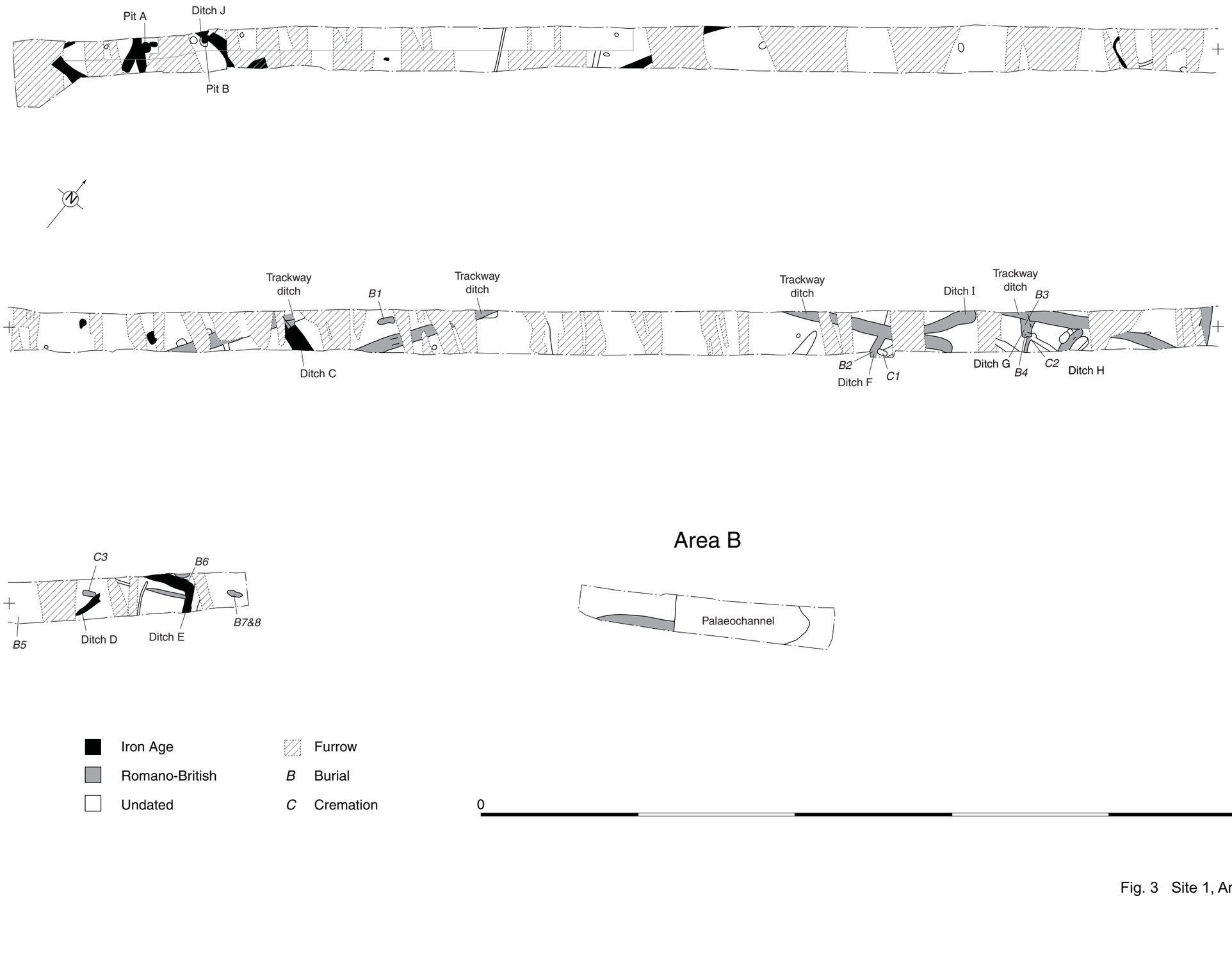

Fig. 3 Site 1, Areas A and B (1:500)

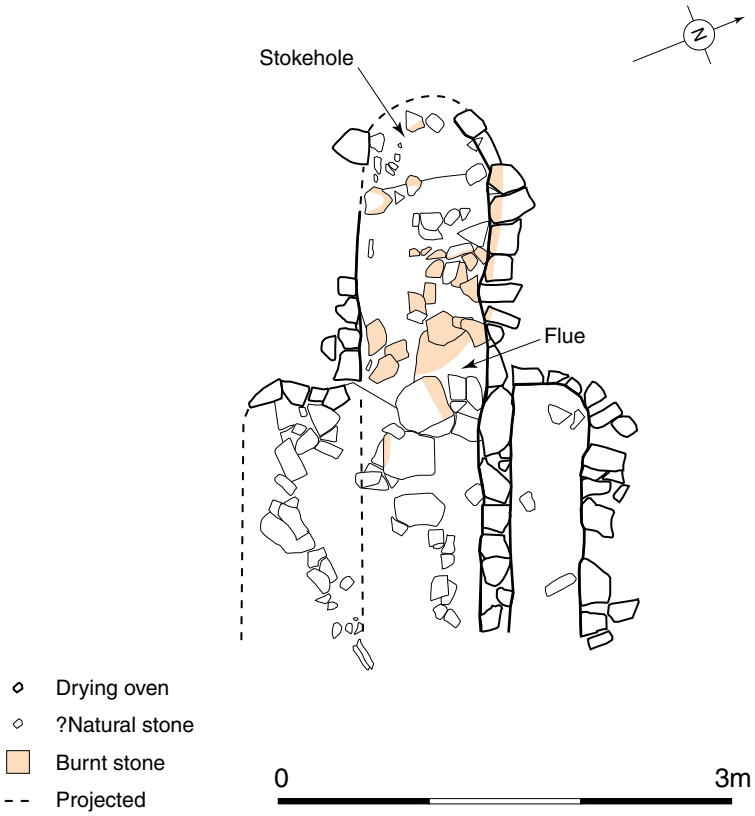

Fig. 4 Site 2, plan of drying oven (1:50)