

**ANGELINOS PUMPING STATION TO  
ARDLEY RESERVOIR,  
OXFORDSHIRE: MAINS PIPELINE  
REINFORCEMENT**

**POST-EXCAVATION ASSESSMENT  
AND  
UPDATED PROJECT DESIGN**

*For*

**THAMES WATER UTILITIES LTD**

CA REPORT: 06058

MAY 2007

# ANGELINOS PUMPING STATION TO ARDLEY RESERVOIR, OXFORDSHIRE: MAINS PIPELINE REINFORCEMENT

## POST-EXCAVATION ASSESSMENT AND UPDATED PROJECT DESIGN

CA PROJECT: 9028  
CA REPORT: 06058

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## CONTENTS

SUMMARY .....	3
1. INTRODUCTION .....	5
<i>Location (Fig. 2) .....</i>	5
<i>Archaeological background (Fig. 2) .....</i>	6
2. AIMS AND OBJECTIVES .....	7
3. METHODOLOGY .....	7
4. RESULTS .....	8
<i>Fieldwork summary (Figs 2-5) .....</i>	8
<i>Stratigraphic record: factual data .....</i>	12
<i>Stratigraphic record: statement of potential .....</i>	12
<i>Artefactual record: factual data .....</i>	12
<i>Artefactual record: statement of potential .....</i>	13
<i>Biological record: factual data .....</i>	14
<i>Biological record: statement of potential .....</i>	16
5. STORAGE AND CURATION .....	18
6. UPDATED AIMS AND OBJECTIVES .....	18
7. PUBLICATION .....	20
<i>Synopsis of Proposed Report .....</i>	20
8. PROJECT TEAM .....	22
9. TASK LIST .....	23
10. TIMETABLE .....	23

11. REFERENCES ..... 24

APPENDIX 1: STRATIGRAPHIC ASSESSMENT BY K. CULLEN..... 27

APPENDIX 2: WORKED FLINT BY E.R. McSLOY ..... 28

APPENDIX 3: POTTERY BY E.R. McSLOY..... 29

APPENDIX 4: FIRED CLAY BY E.R. McSLOY ..... 31

APPENDIX 5: METALWORK BY E.R. McSLOY ..... 32

APPENDIX 6: THE HUMAN REMAINS BY TERESA GILMORE ..... 33

APPENDIX 7: ANIMAL BONE BY S. WARMAN..... 34

APPENDIX 8: CHARRED PLANT MATERIAL BY S. WARMAN AND ELIZABETH PEARSON ..... 40

APPENDIX 9: CHARCOAL BY ROWENA GALE ..... 41

APPENDIX 10: MOLLUSCS BY S. WARMAN AND KEITH WILKINSON ..... 44

**LIST OF ILLUSTRATIONS**

- Fig. 1 Site location plan (1:50,000)
- Fig. 2 Areas 1 and 2 (1:10,000)
- Fig. 3 Areas 3 and 4 (1:5,000)
- Fig. 4 Areas 5 and 6 (1:2,500)
- Fig. 5 Areas 5 and 6; Plans and sections AA to DD (1:1,000 and 1:50)
- Fig. 6 Section across Aves Ditch (1:50)

## SUMMARY

<b>Site Name:</b>	Angelinos Pumping Station to Ardley Reservoir
<b>Location:</b>	Oxfordshire
<b>NGR:</b>	SP 501205 to SP 548249
<b>Type:</b>	Evaluation, Excavation and Watching Brief
<b>Date:</b>	2004-2005
<b>Location of Archive:</b>	To be deposited with Oxfordshire Museum Service
<b>Accession no.</b>	OXCMS 2004/149
<b>Site Code:</b>	APS 04/05

A programme of archaeological work was undertaken in advance of the construction of the northern section of the Angelinos Pumping Station to Ardley Reservoir Mains Pipeline Reinforcement, from Kirtlington to the Ardley Reservoir, Oxfordshire and to the M40 to the east. The work was commissioned by Thames Water Utilities Ltd and undertaken by Cotswold Archaeology (CA). The programme of work comprised a fieldwalking survey (CA 2004) and field evaluation along the pipeline route, followed by the excavation of two areas (Areas 5 and 6) and a watching brief carried out during mechanical excavation of the pipe trench.

Features associated with settlement/enclosures and dated to the Mid to Late Iron Age to 1st century AD were uncovered. Area 5 contained a number of circular, steep-sided, flat-bottomed pits interpreted as storage pits, which had been re-used for the disposal of domestic waste. These were located close to a ditch and two subcircular enclosure ditches. The enclosures were only partially uncovered within the pipeline route. Two neonate burials were excavated within Area 5, one within a pit, the other within one of the enclosure ditches. Area 6 also contained a number of storage pits, some of them with human bone placed within them. A large ditch defined the limits of the pits, and was cut into the bedrock. All the features were dated by quantities of similarly dated Iron Age pottery. The subsequent watching brief recorded the remains of the Iron Age 'Aves Ditch', a probable tribal territory marker, evidence for which survived beneath the road (B4030) between Areas 5 and 6, and as an earthwork alongside the excavation areas.

This document presents a quantification and assessment of the evidence recovered from the excavation. 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 A programme of archaeological work was undertaken by Cotswold Archaeology (CA) in advance of the reinforcement of the Angelinos Pumping Station to Ardley Reservoir Mains Pipeline, Oxfordshire. The work was commissioned by Thames Water Utilities Ltd. The programme of work comprised a fieldwalking survey (CA 2004) and field evaluation along the pipeline route, followed by the excavation of two areas (Areas 5 and 6) and a watching brief carried out during mechanical excavation of the pipe trench on the northern section of the pipe route between Kirtlington and Ardley Reservoir was replaced (NGR: SP 501205 to SP 548249; Figs 2-4). No construction was undertaken between Angelinos and Kirtlington and no further archaeological work was undertaken in Areas 1-4 which were deemed to be devoid of significant archaeology as a result of fieldwalking, geophysics and cropmark study.
- 1.2 The reinforcement works constituted permitted development under the terms of the Town and Country Planning Act, being exempt from the requirement for planning permission under the General Development Order. The archaeological work was commissioned in accordance with the terms of the Code of Practice on Conservation, Access and Recreation, published as a result of the 1989 Water Act. Following discussions between Mike Lang Hall (Thames Water's Archaeological Consultant) and Hugh Coddington (Deputy County Archaeological Officer, Oxfordshire County Council), a subsequent detailed Written Scheme of Investigation (WSI) was produced by CA (2005). The fieldwork also followed the *Standard and Guidance for Archaeological Field Evaluation* (2001a), and the *Standard and Guidance for Archaeological Field Excavation* (2001b) and *Watching Briefs* (2001c) issued by the Institute of Field Archaeologists, and the *Management of Archaeological Projects II* (EH 1991). It was monitored by Mr Lang Hall and Mr Coddington, including site visits, throughout the programme of work.

### **Location (Figs 1-4)**

- 1.3 The pipeline runs through predominantly open arable farmland, across gently undulating land and proceeds north/north-east from Angelinos Reservoir (at 100m AOD), crossing the A4260 and running east/north-east along the line of Akeman Street (see below), which is clearly defined by hedge boundaries as far as the Oxford-Leamington railway line, and crossing the River Cherwell and Oxford canal. The route then rises onto a plateau, crossing the A4095, and then runs north and

then north-east to follow the line of Aves Ditch (see below). At the crossing of the B4030 (where excavation Areas 5 and 6 were located) the route crosses Aves Ditch and then diverges from it, running north-west, north of Middleton Stoney Park. This line continues directly to Ardley Reservoir (Lang Hall Archaeology 2004). An easterly branch of the route runs south-east of Ardley Reservoir to cross the B430 north of Dewars Farm before continuing east to the M40.

- 1.4 The underlying geology of the area is predominantly and Cornbrash and Great Oolite of the Middle Jurassic era (BGS 1979).

### ***Archaeological background***

- 1.5 Details of the pipeline route, including topography, geography and current land use, together with the historical and archaeological background of the area traversed, have previously been researched (Lang Hall Archaeology 2004). In summary, this assessment identified the route of Akeman Street, a major Roman road from Cirencester (Corinium Dobunorum) to St Albans (Verulamium); Aves Ditch, believed to be an Iron Age territorial boundary, surviving as a substantial linear earthwork; and a number of cropmark sites, as lying on or close to the route of the pipeline. Archaeological remains were identified during the initial stages of evaluation works, which comprised examination of aerial photographic surveys (Air Photo Services 2004 and 2005), a fieldwalking survey (CA 2004) and geophysical survey (Archaeological Surveys 2005).
- 1.6 The aerial photographic survey was undertaken in two stages (Air Photo Services Ltd 2004 and 2005). Stage 1 comprised an appraisal of the aerial photographs within a 1km-wide corridor centred upon the line of the proposed works, and Stage 2 involved the interpretation and mapping of the Stage 1 data. The latter identified 20 sites of archaeological potential along the pipeline route, including possible enclosures, linears and pits. Those sites subjected to further archaeological works are illustrated (Figs 2-4).
- 1.7 The fieldwalking survey (CA 2004) covered the route of the pipeline following lengths of Akeman Street and Aves Ditch. Little artefactual material was recovered that predated the post-medieval period, although a small number of worked flints, and Roman and medieval pottery sherds were collected. Those areas of fieldwalking relevant to the further archaeological work undertaken are illustrated.



- 1.8 The geophysical survey comprised a magnetometer survey of six sections along the pipeline route that had been identified as areas of potential through the preceding surveys (Archaeological Surveys 2005). The areas were each 30m wide, and totalled 8.5ha. The survey concentrated on areas parallel to Akeman Street and adjacent to Aves Ditch following the centreline of the pipeline corridor, and identified the presence of features consistent with prehistoric and Roman rural settlement. In Area 5 two small enclosures were located with internal divisions and pit-like features.

## **2. AIMS AND OBJECTIVES**

- 2.1 The original academic objectives of the programme of archaeological recording were:
- To ensure that a full and detailed archaeological record of the site was compiled;
  - To elucidate the chronology and phasing of the archaeological remains and establish the form, function, character and status of the activity on the sites thus represented;
  - To publish the results in an appropriate manner.

## **3. METHODOLOGY**

- 3.1 A staged programme of archaeological field recording was implemented. Field evaluation was undertaken within three areas on the pipeline route, targeted upon potential features identified during the preceding programme of air photographic and geophysical survey. At each of the areas (Areas 3, 4 and 6) the evaluation comprised the excavation of a single trench along the centreline of the pipeline route by a mechanical excavator equipped with a toothless grading bucket. No further archaeological work was undertaken in Areas 1-2 as the pipeline was subsequently not constructed between Angelinos and Kirtlington. All machining was conducted under archaeological supervision and ceased when the first archaeological horizon or the natural substrate was revealed (whichever was encountered first). In all instances the trench was 1.8m wide; in Area 3 the trench was 450m in length, and centred on NGR SP 5009 2095, in Area 4 330m in length, and centred on NGR SP 5019 2189 and in Area 6 110m in length, and centred on NGR SP 5190 2458. Archaeological

features were identified in Area 6, and this area was subsequently widened to 10m and excavated. Due to the extent of the known archaeology in Area 5 it was deemed appropriate to widen the proposed evaluation area to allow open area excavation (centred on NGR SP 5164 2434). Excavation was undertaken upon a number of anomalies (interpreted as Iron Age settlement/enclosures) identified during the preceding programme of air photographic and geophysical survey. Area 5 was 250m in length and 10m in width. A watching brief was also carried out along the remainder of the pipeline (including a compound and access routes) during topsoil/subsoil stripping, and during the cutting of the pipe trench itself to monitor the presence of archaeological deposits. Significant observations were made on a section of pipeline which cut across Aves Ditch (see below and Fig. 6).

- 3.2 Following machining, all archaeological features revealed were cleaned and planned. Where archaeological deposits were encountered they were excavated by hand in accordance with CA Technical Manual 1: *Excavation Recording Manual* (1996).
- 3.3 Excavation of archaeological deposits focussed on resolving questions identified in Section 2 above. Excavation concentrated on recovering a phased plan of the site, and recovering sealed assemblages which could be related to and date the phased plan. The excavation of human remains was conducted following the regulations of the requisite Home Office licence. Due care was taken to identify deposits that had environmental potential, and where appropriate, these were sampled, processed and assessed for potential in accordance with the CA Technical Manual 2 *The Taking of Palaeoenvironmental and Other Samples from Archaeological Sites* (2003). All artefacts recovered from the excavation were retained in accordance with CA Technical Manual 3: *Treatment of finds immediately after excavation* (CA 1995).

## 4. RESULTS

### ***Fieldwork summary (Figs 2-5)***

- 4.1 Archaeological features and deposits were encountered in Areas 5 and 6 (Fig. 4). The features comprised various pits and ditches representing at least two enclosures as identified from cropmarks and geophysical survey. The excavated features

appeared to be from a single period: Period 1: Mid to Late Iron Age to 1st century AD, within which some phasing was evident.

- 4.2 The larger linear features were excavated in several locations resulting in several context numbers for each feature. For ease of description these features have been allocated generic labels. Artefactual dating evidence was recovered from the majority of excavated features, although in many cases this dating is quite broad. Features from which no dating evidence was obtained have been assigned to particular periods based on their morphological character, location, stratigraphic relationship or proximity to other dated features.
- 4.3 Brief summaries of the fieldwork results and artefactual evidence are discussed by provisional period below.

***Period 1: Mid to Late Iron Age to 1st century AD (Figs 4-5)***

*Area 5*

- 4.4 A group of five circular pits (Pit Group 1) was uncovered towards the north-eastern end of Area 5. Two of these pits (5085 and 5101) were cut by Ditch A1. Pit 5085 was also cut by Pit 5016. The pits measured 1–2m in diameter, and all appeared to have been filled with domestic refuse. The majority contained two fills. Secondary fill 5087 of pit 5085 contained a human adult finger bone which had been slightly burnt. Mid to Late Iron Age pottery was retrieved from all the pits, with animal bone also present within some of the fills.
- 4.5 Cutting across Pit Group 1 was Ditch A1, which appeared to represent part of the south-eastern boundary of Enclosure A, as identified by geophysical survey (above). Ditch A1 appeared to have been dug originally in segments, and had evidence for several episodes of re-cutting. Mid to Late Iron Age pottery was retrieved from several of its fills, as well as animal bone. A single undated posthole, 5030, was cut into the western edge of the ditch, and was filled by the same material, suggesting that it was contemporary.
- 4.6 The northern end of Ditch A1 was cut by Ditch A2. This was a more substantial, steep-sided ditch (5034, Section AA, Fig. 5), which had also been re-cut several times (5038, 5041, 5048). Potsherds recovered dated to the same period as from Ditch A1; although a possibly intrusive 1st-century AD sherd was retrieved from one

of its re-cuts. Animal bone was also retrieved from several of the ditch fills. Like Ditch A1, Ditch A2 seems to have defined part of the south-eastern boundary of Enclosure A.

- 4.7 Close to the centre of Area 5 was Ditch B1. Only a small part of the ditch was exposed during the pipeline construction. As with the Enclosure A ditches, it had been re-cut and contained several fills of similar material. One of the re-cuts contained Burial B, a human neonate. Several animal bones and some Mid to Late Iron Age potsherds were found in association with the burial. Possible former bank material may be represented by a secondary fill (5067) due to its similarity in appearance to the natural substrate. Ditch B1 appeared to be part of the south-eastern boundary of Enclosure B, identified from cropmarks and geophysical survey (above).
- 4.8 The south-western end of Area 5 was crossed by Ditch B2. It too had been re-cut, and was dated by Mid to Late Iron Age potsherds. Ditch B2 appeared to represent a ditch extending southwards from the entrance to Enclosure B. To the west of Ditch B2 was Pit Group 2, comprising a parallel line of four pits cut into the bedrock. They were 1–3m in diameter, and appeared to be similar in character, date, and form to Pit Group 1. Pit 5050 was of particular interest as it was the largest of the group and contained several fills and the remains of another neonate (Burial A, Section BB, Fig. 5). Pit 5050 also yielded some charred seeds.

#### *Area 6*

- 4.9 There were no stratigraphic relationships between any of the features excavated in this area, and all appeared to be broadly contemporary. Ditch C1 (Section CC, Fig. 5) was a large, 3.5m-wide, 1.7m-deep, rock-cut ditch dating to the Late Iron Age. It was orientated north-west/south-east, but the ditch has no direct relationship with any of the plotted cropmarks or geophysical results, as shown on Figure 4. However a series of large pits were identified to the west of Ditch C1, suggesting that the ditch may have functioned as an enclosure/boundary. Animal bone and potsherds were retrieved from the primary and secondary fills of the primary ditch. These fills were dark and silty in appearance, and contained quantities of charcoal compared to the later recuts. One episode of re-cutting was evident (6035). The uppermost fills of the re-cut comprised material almost entirely derived from the natural substrate with no artefactual material. This may indicate that the ditch was deliberately infilled, possibly using material from a bank formed during the original construction of the ditch.

- 4.10 Ditch C2, to the east of Ditch C1, was sinuous in form and undated. It split into a fork at the western end close to Ditch C1, one part of which terminated. Each arm of the ditch had two fills; the primary fills appeared to represent the initial silting of the ditch. The purpose of the ditch was not clear, although some form of agricultural boundary seems the most probable function.
- 4.11 Pit Groups 3 and 4 lay to the west of Ditch C1, possibly indicating the interior of the enclosure suggested by the presence of the ditch. Pit Group 3, at the north-west limit of Area 6, does not relate to any plotted geophysics or cropmark evidence (Fig. 4). This contrasts to Pit Group 4, which appears in part to tie into areas of the geophysical survey in this area, but not cropmark evidence. Pit Group 3 comprised three circular pits varying from 0.9–1.6m in diameter, and 0.15–1m in depth. All of the pits had flat bases and steep sides. Two pits (6005 and 6016) dated to the Mid to Late Iron Age contained animal bone, burnt stones and pottery, indicating that their secondary use was for the disposal of domestic waste. Pit 6016 also contained some articulated sheep bones and disarticulated human juvenile leg bones and fragments of pelvis within tertiary fill 6018. This deposit was very distinctive, consisting mainly of a grey ashy material, also seen in two pits in Pit Group 4 (see below). The uppermost fills of all of the pits were all indicative of natural silting after having been partially filled with waste material.
- 4.12 Pit Group 4 contained four pits (e.g. pit 6025; Section DD, Fig. 5) of very similar form and function to those in Pit Group 3. They each contained between one and five fills, although the artefactual material retrieved was similar in each pit. One slightly larger pit (6002) was rectangular in shape with a rounded base, and contained a dark, silty primary fill with a higher concentration of animal bone and pottery than the other pits, although the material still appeared to have derived from domestic waste from the same period.

*Watching Brief: Aves Ditch, between Areas 5 and 6*

- 4.13 During the excavation of the pipe trench across the road between Areas 5 and 6, the remains of a 5.3m-wide, 1.8m-deep, steep-sided ditch with a rounded base were uncovered (Ditch 15005). The ditch contained two fills, 15006 and 15007, neither of which produced any artefactual material. Both fills of the ditch appeared to have derived from erosion of the natural substrate on the ditch sides, as well as silting. There was no evidence to indicate deliberate backfilling had occurred. The ditch was cut by the existing water main. This ditch represents part of the Late Iron Age

boundary known as Aves Ditch, which exists as an earthwork bank parallel to the line of pipe route in Area 5. The ditch was cut into the natural deposits 15008 and 15009 both mid brown/yellow sandy clay with large brash fragments.

***Stratigraphic record: factual data***

- 4.14 Following the completion of the excavation an ordered, indexed, and internally consistent site archive was compiled in accordance with specifications presented in the *Management of Archaeological Projects* (EH 1991). A database of all contextual and artefactual evidence and a site matrix were also compiled and cross-referenced to spot-dating. The excavation, evaluation and watching brief archives comprise the following records:

	Evaluation	Excavation	Watching Brief	Total
Contexts	6	326	10	342
Plans	15	292		307
Sections	26	394		420
Samples	1	165		166
Monochrome Films	4	18		22
Colour slide Films	6	18		24
Matrices	-	1		1

- 4.15 The survival of intelligible stratigraphy was limited throughout all of the excavated areas to cut features.

***Stratigraphic record: statement of potential***

- 4.16 A secure stratigraphic sequence is essential to elucidating the form, purpose, date, organisation and development of the various phases of activity represented. This can be achieved through detailed analysis of the sequence and further integration of the artefactual dating evidence. The refined sequence will then serve as the spatial and temporal framework within which other artefactual and biological evidence can be understood. Further analysis is proposed for contexts provisionally assigned to Period 1 and for undated features.

***Artefactual record: factual data***

- 4.17 All finds collected during the excavation have been cleaned, marked, quantified and catalogued by context. Metal artefacts have been examined by a conservator and stabilised where appropriate.

Type	Category	Sherd/frag. Count	Weight (g)
<b>Flint</b>	Worked	11	104
<b>Stone</b>	Burnt	1	
<b>Pottery</b>	Iron Age to Early Roman	705	3574
	Post-medieval	1	1
	<i>Total</i>	<i>706</i>	<i>3575</i>
<b>Fired/burnt clay</b>	Miscellaneous	12	46
<b>Metals</b>	Copper-alloy	1	-
	Iron	5	-

### *Flint*

- 4.18 Worked flint amounted to 11 pieces, all of which appear to be residual. Most comprise unutilised waste flakes and core fragments, which on the basis of observed technology date mainly to the Late Neolithic to Bronze Age periods.

### *Pottery*

- 4.19 The recovered pottery dates almost exclusively to the Middle and Late Iron Age/Early Roman periods. Earliest material was primarily associated with Pit Groups 1-3 and consists of handmade forms in fossil shell-tempered fabrics which are typical of the period from the 4th/3rd century BC to the 1st centuries BC/AD. Smaller quantities of wheelthrown pottery in grog-tempered fabrics, which are typical of the 1st century AD, were recovered primarily from ditches.

### *Fired and burnt clay*

- 4.20 Small quantities of fired clay, unattributable to any class of object or function, were recovered.

### *Metalwork*

- 4.21 A small group of metal items were recovered, comprising four fragmentary items of iron and copper alloy. In no instance could specific function or dating be ascribed.

### **Artefactual record: statement of potential**

#### *Flint*

- 4.22 The small and entirely residual flint assemblage is of no analytical value and no further work is proposed.

*Pottery*

- 4.23 The small pottery assemblage is of some significance as dating evidence and is noteworthy for its association with a settlement form which is not typical for this area. The pottery assemblage has the potential to tighten up the chronological framework for this type of settlement form. This is achievable by characterising the assemblage through its dating and fabric sourcing potential. Recording and reporting of this material is recommended to an appropriate level. Recording should reflect standards issued by the Prehistoric Ceramics Research Group (PCRG 1997). A short report should be prepared with the principal purpose of characterising the assemblage and articulating dating evidence in support of site phasing.

*Fired Clay*

- 4.24 Further analysis is not proposed for this class of material.

*Metalwork*

- 4.25 The small group of iron items associated with Period 1 are the most notable finds among the metalwork. These items have been fully described as part of this assessment. No further work is proposed for this class of material.

***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 for the purposes of this assessment.

Type	Category	Count
Animal Bone	fragments	1066
Human bone	Skeletal individuals	4
Samples	environmental	6

*Human bone*

- 4.27 A total of four individuals, two neonates, one child of between six and twelve years and one adult were represented in this assemblage. An adult hand phalanx was recovered from fill 5087 of pit 5085 of Pit Group 1. Burial A, a neonate less than six months old was recovered from pit 5050 of Pit Group 2. Burial B, a neonate of between six and twelve months of age was recovered from a re-cut of Enclosure Ditch B1. The pelvis and lower legs of a child aged between six and twelve years were recovered from 6018 the third fill of pit 6016 of Pit Group 3. Similar pit burials of neonates have been noted from several sites in the area.



### *Animal Bone*

- 4.28 A total of 1066 fragments from 870 bones weighing 5.5kg were recovered by hand during excavation, of which 146 fragments were identifiable to species. The processed samples yielded a further 659 fragments from 657 bones, weighing 169g. Twenty-nine were identified to species. All of the assemblage showed signs of weathering the surface of the bone being round and furrowed. This did not appear to be the result of weathering in terms of exposure of the bone on the ground surface but rather action within the deposit including damage by the roots of plants and the percolation of slightly acidic water through the deposit. Species identified domestic stock; horse, cattle, sheep/goat, pig and dog. The wild species present are smaller vertebrates, including mice, voles and frogs.

### *Charred Plant*

- 4.29 Only one of the samples produced charred plant material, this was sample <501> context 5055; the second fill of pit 5050 (Pit Group 2). Emmer and spelt wheat grains were identified, as was barley. Chaff from emmer and spelt as well as wild grass were also found. Such material as this is often seen in Iron Age assemblages. The emmer and spelt wheat along with the barley represent cultivated crops whilst the wild grass (probably Brome grass) may have been encouraged to grow amongst the crop to provide fodder for livestock.

### *Charcoal*

- 4.30 Charcoal was examined from three samples from deposits in Pit Group 1 and as well as hand-collected material from three contexts from Pit Group 2 and Ditches A1 and A2 in Area 5. The samples included small fragments of poorly preserved material from a range of taxa including oak (*Quercus* sp.), blackthorn (*Prunus spinosa*), the hawthorn/*Sorbus* group (Pomoideae), and field maple (*Acer campestre*). The hand-collected material included hawthorn/*Sorbus* group (Pomoideae), oak (*Quercus* sp.) and purging buckthorn (*Rhamnus cathartica*). Charcoal was also identified in samples from Pit Group 4 and Ditch C1. The taxa identified included the hawthorn/*Sorbus* group (Pomoideae), blackthorn (*Prunus spinosa*) and field maple (*Acer campestre*). The charcoal was obtained from pits and ditches and is thus likely to represent discarded fuel debris. The taxa identified suggest an environment supporting oak/maple woodland. Open woodland or scrub is implied by the presence of blackthorn, purging buckthorn and the hawthorn group.

### *Mollusca*

- 4.31 Sample 2, from the primary fill 6042 of Ditch C1 is dominated by *Aegopinella nitidula*, *Oxychilus sp.*, *Discus rotundatus* and *Carychium tridentatum*, with lesser quantities of *Cochlicopa sp.*, *Trichia hispida* and *Cepaea sp.* This is a classic shade-loving fauna. The shade is mainly a result of the microclimate from Ditch C1. There are a few *Helicella itala* and a couple of *Pupilla muscorum* that would not tolerate such conditions. A possible explanation could be that the area around Ditch C1 had at least some bear patches. The implications are that when the primary fill 6042 accumulated in the ditch it was not being maintained (*pers. comm.* K. Wilkinson).

### ***Biological Record: Statement of potential***

#### *Human Bone*

- 4.32 Further more detailed analysis would allow a more accurate age to be determined for the two neonates and the juvenile. This would indicate a more reliable age at death and provide potential evidence for death by looking for indicative pathologies. Analysis will rigorously seek out any additional information which can be deduced from the skeletal remains (i.e. nutritional status as an indicator of wealth/poverty). The analysis and recording would be done following recommendations from Brickley and McKinley (2004). Similar pit burials of neonates have been noted from several sites in the area including Yarnton (Hey 1999), Eastfield House (Anthony 2005), Bicester (Boyle 1999) and Woodcote Road (Witkin 2005). The assemblage would be compared with other similar sites to assess the local, regional and national significance.

#### *Animal Bone*

- 4.33 The assemblage comprised over 1000 fragments but only 175 bones are identifiable to element and species. Due to the poor preservation and eroded surface of the bone it is likely that very little additional information would be obtained from further examination of this material. The material is of limited potential and no further detailed analysis is recommended. However given the resource of recently excavated and published sites from the region it is recommended that the results of the assessment are edited for inclusion in the publication along with a more detailed regional discussion.

#### *Charred Plant*

- 4.34 With such a small assemblage the potential to obtain any meaningful material worthy of detailed analysis is poor. Nothing would be gained by more detailed examination

of the material but a summary of this assessment should be included in any publication.

#### *Charcoal*

- 4.35 The samples examined were of limited potential and samples are unlikely to yield any further data it is recommended that no further work should be undertaken.

#### *Radiocarbon dating*

- 4.36 The materials available for AMS dating are the limited quantities of charcoal and charred plant assemblages. Specimens identified to species from secure fills (preferably primary) provide the greatest potential. The charcoal from short-lived species or from the sapwood of longer lived species such as oak would be suitable. The cereal grains identified to species may also be suitable. In selecting material for dating the stratigraphy should be carefully considered and material from upper fills and recuts should be avoided as should deposits which only contain a very few small fragments of charred plant material as these are more likely to have been affected by bioturbation. There is some concern about the calibration curve within the Iron Age, which on occasion is cited as a reason not to seek radiocarbon dates. However, the current research agenda for the period states these problem should not be exaggerated and that the use of multiple dated from the same deposit or sample enable combination via Oxcal in order to increase precision (Hazelgrove *et al.* 2001). The opportunity for radiocarbon dating should be used in conjunction with the charred plant remains and ceramic evidence in order to refine the chronological framework for this type of settlement form, which is still poorly understood. It is proposed that two paired samples, one from oak charcoal and pottery from the primary fill of pit 5101 (Pit Group 1) and one from oak charcoal and charred plant remains from the secondary fill, 5055, of pit 5050 (Pit Group 2).

#### *Mollusca*

- 4.37 The identified Mollusca provided an insight into the likely vegetation in the area around the feature (Ditch C1). No further work is required but a summary of the assessment should be included in the publication.

## 5. STORAGE AND CURATION

- 5.1 Artefactual material, including pottery, worked flint, and fired clay is stable and requires no further treatment for long-term storage. Such material is stored by context in plastic bags within acid-free, brass wire-stitched cardboard boxes. Metal artefacts have been assessed and stabilised by a specialist conservator 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 have been made for transfer of the site archives to Oxfordshire Museum Service under accession number OXCMS 2004/149.

## 6. UPDATED AIMS AND OBJECTIVES

- 6.1 Now that the results of the excavation have been assessed for their potential, the original aims and objectives can be updated to present a set of research questions that outline the appropriate lines of enquiry to be pursued and presented in the final publication.
- 6.2 The excavation has led to the compilation of a full and detailed record of the archaeological site and recovered artefactual and ecofactual material that will assist an interpretative synthesis of the data for dissemination (publication).
- 6.3 The site has the potential to contribute further valuable local and regional information for Oxfordshire for the Iron Age period. The principal objectives remain as per the CA Written Scheme of Investigation: to elucidate the form, function and status of the archaeological remains, to establish their chronology and phasing, and to compile a fully detailed report for publication. To achieve this, the following updated research objectives have been established.
- 6.4 Broader themes which will be considered include:

### *Chronology*

- establish a secure and detailed stratigraphic and chronological sequence for Period 1, so that the maximum information regarding the form, function, organisation and development of the site in this period can be understood;

- the chronology of the Period 1 features will be further addressed by the detailed analysis and characterisation of ceramic form and fabric;
- the ceramic dating may be refined further by radiocarbon dating (AMS) of both carbon residues on ceramics and by dating of associated charcoal, inhumations and or charred plant remains recovered from Period 1 pits and ditches.

#### *Settlements, landscape and people*

- examine the nature, function and status of the pits, enclosures and ditches;
- examine evidence for the economic and agricultural regime of the settlement within its wider context. What can be said about the economic basis of the site and the spatial and seasonal organisation of the landscape beyond it? Examine the site's relationship with its immediate hinterland, compare activity and material culture at both a local and regional level;
- establish absolute dates for the inhumations within the site, and their relationship to the enclosures by using a combination of human bone and associated artefacts such as pottery and metalwork (if present). As Haselgrove *et al.* (2001, 13) note there is a lack of research into the location of Iron Age burials and their relationship with settlement enclosures and boundaries;
- it is recognised that burials form our most direct point of contact with Iron Age people (Haselgrove *et al.* 2001, 5), and therefore the analysis will rigorously seek out any additional information which can be deduced from the skeletal remains (i.e. nutritional status as an indicator of wealth/poverty).

#### *Material Culture*

- to examine the spatial distribution of artefacts and ecofacts for evidence of structured deposition in order to gain an understanding of how individual areas of the site functioned and the religious beliefs and rituals of its inhabitants;
- to undertake detailed scientific examination of the artefacts and understand their manufacture, function, demise and final mode of deposition;
- place the material culture of the site in its wider regional context.

*Regionality*

- seek comparisons with similar sites in the locality and broader region and examine how the site can contribute further in the characterisation of the regional 'identity' for the Iron Age.

*Processes of change*

- seek to identify any evidence for Middle Iron Age activity on the site, particularly in the burial record through selective radiocarbon dating. If activity of this date is present examine the site phasing to look for any differences between activity in the Middle Iron Age and Late Iron Age. Did material culture and ritual practices remain much the same from the Middle Iron Age down to the Early Roman period, or were there distinct changes in the Late Iron Age, as seen in South East England (Haselgrove *et al.* 2001, 28);

**7. PUBLICATION**

- 7.1 It is proposed that a full report be published in *Oxoniensia*.

***Synopsis of Proposed Report***

**Iron Age settlement and burial adjacent to Aves Ditch:  
Excavations during reinforcement of the Angelinos Pumping Station to Ardley  
Reservoir Water Mains Pipeline, 2005**

by Kate Cullen and Annette Hancocks

with contributions by Teresa Gilmore, E.R. McSloy and Sylvia Warman

**Abstract**

Brief summary of main findings of the project 250 words

**Introduction**

Project background, topography and geology 250 words

**Archaeological Background**

This section will briefly summarise relevant previous archaeological interventions in the immediate area, including both published sites and unpublished sites recorded on the Sites and Monuments Record.

1000 words

### **Method**

This section will set out the methods adopted both for the physical excavation and recording of the site, the latter including context recording systems and environmental sampling strategies. Methods for post-excavation analysis will also be presented here.

500 words

### **Excavation Results** (Kate Cullen)

Chronological discussion of the major phases and features of the site

1000 words

### **The Finds**

<b>Pottery</b> (E.R. McSloy)	1800 words
<b>Human Remains</b> (Teresa Gilmore)	1800 words
<b>Animal Bone</b> (Sylvia Warman)	250 words
<b>Charred Plant Remains</b> (Sylvia Warman)	100 words
<b>Radiocarbon Dating</b> (Sylvia Warman)	500 words

### **Discussion** (Annette Hancocks)

This section will present a discussion of the site's development, ordered chronologically, integrating the themes laid out in the Updated Project Design.

1500 words

### **Acknowledgements, footnotes and bibliography**

1500 words

### **TOTAL**

**10,450 words**

**(12 pages)**

### **Illustrations:**

Location of site and topographic setting	1 page
Excavation plan	1 page
Excavation photograph	½ page

Detailed plans and sections	1 pages
Pottery	1 page
	<b>4.5 pages</b>
<b>Tables:</b>	
Pottery:	1 page
Radiocarbon dating:	½ page
Human Bone:	1 page
	<b>2.5 pages</b>
<b>Total Publication Estimate:</b>	<b>19 pages</b>

## 8. PROJECT TEAM

8.1 Management of the project will be carried out by **Annette Hancocks MIFA** (PX Manager), who will co-ordinate the work of the following personnel:

**Kate Cullen AIFA** (Project Officer: PO):

Stratigraphic analysis, draft report preparation, research and archive.

**E.R. McSloy MIFA** (Finds Officer: FO):

Specialist report preparation and liaison, Stratigraphic analysis, archive.

**Sylvia Warman MIFA** (Environmental Officer: EO):

Specialist report preparation and liaison, Stratigraphic analysis.

**Teresa Gilmore** (Finds Supervisor: FS)

Specialist report preparation and liaison

**Peter Moore** (Senior Illustrator: SI):

Production of all site plans, sections and artefact drawings.

8.2 The final publication report will be edited and refereed internally by CA senior management and externally by Dr Tom Moore, Durham University.



## 9. TASK LIST

TASK	PERSONNEL	DURATION
<b>Project Management</b>	PXM	3 days
<b>Stratigraphic Analysis</b>	PO	3 days
	FO	0.5 day
	PXM	0.5 day
<b>Research, comparanda</b>		
	PO	0.5 day
<b>Pottery</b>		
Quantification	FO	2 days
Analysis, research and reporting	FO	2 days
Illustration (10 vessels)	SI	1 day
<b>Human Bone</b>		
Analysis and reporting	FS	1.5 days
<b>Animal bone</b>		
Report Summary	EO	0.5 day
<b>Radiocarbon dating</b>		
Analysis (4 samples)	external	FEE
Liaison/Report preparation	EO	0.5 day
<b>Preparation of publication report</b>		
Abstract and introduction	PO	0.5 day
	SI	0.5 day
Excavation results	PO	2 days
	SI	2 days
Compilation of specialist reports, tables etc.	PXM	1 day
Discussion, conclusions	PXM	1 day
	SI	1 day
Acknowledgements, bibliography	PXM	1 day
Preliminary editing/QA	HP	1 day
<b>Submission to referees</b>		
Editing	PXM	1 day
Revision	PO	0.5 day
Revision of illustrations	SI	0.5 day
<b>SUBMISSION OF PUBLICATION TEXT</b>		
<b>Final editing and proofs</b>	PXM	1 day
<b>Archive</b>		
Research archive completion	FS	0.5 day
Microfilm	external	FEE
Deposition	museum	FEE
<b>Publication</b>		
Printing	Journal	FEE

## 10. TIMETABLE

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

## 11. REFERENCES

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**APPENDIX 1: STRATIGRAPHIC ASSESSMENT BY K. CULLEN****Quantification**

342 contexts were recorded during the course of the evaluations and excavations.

<b>Period</b>		<b>Evaluation</b>	<b>Excavation</b>	<b>Watching Brief</b>
	Geology	2	2	2
1	Iron Age	-	311	3
2	post-medieval	2	-	-
3	modern	2	3	5
4	Undated	-	10	-
	<b>Total</b>	<b>6</b>	<b>326</b>	<b>10</b>

**Potential for further analysis**

Further analysis is proposed for contexts provisionally assigned to period 1 and for undated features, totalling 324 contexts. Period 2 comprised a post-medieval plough furrow, and Period 3 comprised modern topsoils and subsoil. None of these contexts require further analysis.

Stratigraphic Analysis:

Project Officer 3 days

**APPENDIX 2: WORKED FLINT BY E.R. McSLOY**

A small group of 11 worked flint pieces (104g) was recovered. All derived from Iron Age/Early Roman or topsoil horizons and can be considered re-deposited (Table 1). A single piece exhibits evidence for secondary working (abrupt retouch) and probably represents a broken scraper. The remainder consists of waste removals and cores.

Condition is for the most part poor: two flakes and one core are broken and all pieces show slight to moderate post-depositional edge damage. All material excepting a core and one flake from topsoil were heavily patinated, resulting in an overall pale grey or white appearance. There are few indications of source for raw material. Patination has obscured original colour in most instances and most removals are secondary or tertiary with cortex fully or mostly absent. A single primary flake exhibits worn, buff-coloured cortex probably from a secondary (gravel) source.

*Chronology*

A single small bladelet core and a blade-like removal, both from the topsoil, are probable indicators of probable Mesolithic dating. The remainder comprising a multi-platform core, and flake removals (one is retouched) exhibiting broad, squat proportions are most typical of flintworking of the Late Neolithic and Bronze Age periods.

**Statement of Potential and Requirements for Further Analysis**

The worked flint represents a small group, which is residual in Iron Age or later deposits. Recording and reporting undertaken as part of this assessment is considered adequate for purposes of the archive and further work on this material is not proposed.

Table 1: Worked flint summary by Area/Period

Period	Area	Context	Context description	Count	Wt(g)	type
1	5	5033	Fill of Ditch 5031.	1	1	flake (w pat)
1	5	5039	Fill of Ditch 5038.	1	1	broken flake
1	5	5058	Fill of Pit 5057.	1	1	flake (w pat)
1	5	5079	Fill of Ditch 5077.	2	14	1 flake (w pat); ret. flake (w pat)
1	5	5098	Fill of Ditch 5096.	1	1	flake (w pat)
2	-	304	Fill of furrow 303.	1	7	flake (w pat)
3	-	301	Topsoil	3	76	small core (w pat); large core; flake
3	5	5000	Topsoil	1	3	blade-like flake (w pat)

### APPENDIX 3: POTTERY BY E.R. McSLOY

Pottery amounting to 706 sherds (3575g), primarily dating to the Middle Iron Age and Late Iron Age/Early Roman periods was recovered (Table 2). Most pottery, 606 sherds (3461g) was recovered by hand during the course of the excavations. Remaining material was derived from soil samples. The condition of the pottery was good with surfaces well-preserved and calcareous and other fabric inclusions surviving well. Average sherd weight for hand-collected material (5.7g) is moderately low. This appears at least partially to be the result of fragmentation at the time of or shortly following recovery. For the purposes of assessment, pottery was quantified by sherd count and weight. All material was scanned by context and note made of fabric types and forms present.

#### *Range and variety* (Table 2)

The majority of the pottery consists of handmade material of Middle Iron Age type. Typically for the region, fabrics consist mainly of fossil-shell tempered types of varying coarseness and a smaller quantity characterised by quartz sand inclusions. There are no indications that any of this material was manufactured outside of the locality. Forms appear to be restricted to slack-shouldered and barrel-shaped jars, which compare closely to examples from similarly dated assemblages from the wider region, including the Upper Thames Valley. A single example of a countersunk handle, a feature of some Middle Iron Age vessels, was noted. Decoration is entirely absent from pottery of this type however a small number of vessels exhibit finely executed surface burnish.

A smaller portion of the assemblage, approximately 120 sherds or 17%, comprises wheelthrown pottery of Late Iron Age or Early Roman date. Fabrics consist of grog-tempered types which are characteristic for this period throughout south-central and south-eastern England (Thompson 1982). Represented forms are restricted to necked jars, one of which (from ditch fill 5061) features a raised cordon at the base of its neck. Decoration or surface treatments of any kind were not noted.

#### *Chronology*

The handmade Middle Iron Age pottery which dominates the assemblage is representative of a long-lived tradition, extending between the 4th/3rd to the 1st centuries BC/AD. The succeeding tradition is shorter-lived, characterising the period between c. 50 BC to c. AD 80 and possibly restricted to the 1st century AD.

There is limited evidence for chronological separation on the basis of the structural evidence: the earlier ceramic tradition was exclusively present in Pit Groups 1-3, where material amounted to 394 sherds or 55.8% of the assemblage. Pottery of the later, wheelthrown group derived primarily from ditch fills associated with Enclosures 1 and 2. Occurrence of handmade (MIA) material within these features suggests that 'use' may span the Middle to Late Iron Age transition in the 1st centuries BC/AD. At context level however there is limited co-occurrence of the two ceramic traditions and no material which might be described as 'transitional'.

#### **Statement of Potential and Requirements for Further Analysis**

The pottery represents a small and restricted assemblage which provides broad dating evidence to assist in the interpretation of the site. Although unexceptional intrinsically, the pottery assemblage is noteworthy for its association with a settlement form which is not typical for this area. To adequately characterise the assemblage and to enhance dating and fabric sourcing potential, recording and reporting of this material is recommended to an appropriate level. Recording should reflect standards issued by the Prehistoric Ceramics Research Group (PCRG 1997).

A short report should be prepared with the principal purpose of characterising the assemblage and articulating dating evidence in support of site phasing. Comparisons to assist in interpretation may be drawn from published groups from the area and more expansive Thames basin assemblages, for example those from Gravelly Guy, Oxon (Duncan *et al.* 2004) and Ashville, Oxon (De Roche 1978). A small and representative selection of the pottery (max. 10 vessels) should be drawn for publication.

#### **Time estimates for further work**

Recording	2 days (FO)
Research and Reporting	2 days (FO)
Drawing (max 10 vessels)	1.5 days (SI)

Table 2: Pottery provenance, dating and quantification

Group	Pot date	Count	Wt(g)	Fabrics *	Formst†
<i>Period 1</i>					
Pit Group 1	MLIA	21	82	ms	
Pit Group 2	MLIA	247	1120	fs, ms, cs	jss, jbr, jbar
Pit Group 3	MLIA	26	211	fs, qz	jbar
Pit Group 4	MLIA	100	339	fs, qz	jbr
Ditch B2	MLIA	17	23	fs	
Ditch C1	MLIA	63	133	fs, qz	jsev
	C1	5	113	gr	
Ditch A1	C1	22	109	gr	jn
	MLIA-C1	94	758	cs, gr	
	MLIA	11	52	fs, ms	jss
Ditch A2	C1	3	36	gr	jn
	MLIA-C1	2	34	fs, gr	
	MLIA	26	152	fs, ms	
Ditch B1	MLIA	35	131	fs	jbr
	MLIA-C1	16	160	gr	jncor
<i>Period 2</i>					
Furrow	P/M	1	1	gre	
<i>Period 3</i>					
Unstratified/ topsoil	MLIA	8	22	fs, ms	
	C1	9	94	gr	
<b>Totals</b>		<b>706</b>	<b>3575</b>		

\* fs = fine shell; ms = medium shell; cs = coarse shell; qz = sandy; gr = grog; glazed earthenware  
† jss = slack-shouldered jar; jbr = neckless jar with bead rim; jbar barrel-shaped jar; jn = necked jar; jncor = necked, cordoned jar



#### **APPENDIX 4: FIRED CLAY BY E.R. McSLOY**

A small quantity of fired clay, 12 fragments weighing 46g was recovered. All derived from Period 1 (Mid-Late Iron Age) contexts.

The bulk of material consists of small amorphous fragments. Two pieces preserve smoothed surfaces, however in no instance is it possible to establish function. Most fragments are of similar inclusionless fabric. Exceptions are fragments from pit fills 5055 (Pit Group 2) and 6018 (Pit Group 3), which are characterised by white calcareous inclusions and from ditch fill 5098 (Ditch A2), distinguished by linear voids, indicating abundant organic inclusions.

#### **Statement of Potential and Requirements for Further Analysis**

None of the recovered fired clay preserved features allowing original function to be determined. Recording/reporting with regard to this material is considered adequate for archive purposes and further work is not required.

## APPENDIX 5: METALWORK BY E.R. McSLOY

Five objects of iron and a single item of copper-alloy were recovered. All items were examined by a specialist conservator and x-rayed (Plate x-1441). Iron objects are corroded, although not excessively so and have been stabilised thorough archival-standard storage.

A single small and irregular fragment of copper-alloy sheet was recovered from Period 1 (Mid to Late Iron Age), fill 5047 of Ditch A2. A further three objects, each of iron, were retrieved from Period 1, and are described below. None of these items can be ascribed a specific function, however, the rounded form of Ra. 1 and its shallow V-shaped section, suggest use as edge-binding for a rounded object.

Additional items of iron, consisting of a large flat-headed nail and a nail shaft fragment were recovered from topsoil contexts, and are likely of post-medieval date.

### *Catalogue descriptions*

- |         |   |
|---------|---|
| Ra. 1   | Area 5, Period 1. Pit Group 1, fill 5010. Iron strip. Curving with shallow V-shaped section. Two joining fragments. Total length 59mm; width 11mm; thickness 2mm. |
| Ra. 100 | Area 6, Period 1, Pit Group 4, fill 6004. Iron strip. Total length 63mm; width 9mm; thickness 2mm.  |
| Ra. 101 | Area 6, Period 1, Pit Group 4, fill 6003. Iron binding strip fragment. 1 rivet <i>in situ</i> . Total length 63mm; width 21mm; thickness 2mm.                     |

### **Statement of Potential and Requirements for Further Analysis**

Items of metalwork have been adequately described for the purposes of the archive. Further analysis work or illustration is not required.

## APPENDIX 6: THE HUMAN REMAINS BY TERESA GILMORE

### Introduction

A total of four individuals were assessed for the potential of further analysis and to establish a Minimum Number of Individuals, ages, sexes and any obvious pathological changes from excavations at Areas 5 and 6. The observations noted below are provisional and subject to change when further, more detailed, skeletal analysis is undertaken.

Of the four individuals, two were from discrete burials and two were disarticulated material. Provisional dating is inferred by associated ceramics (see pot report). Bone preservation was generally in moderate condition with root etching on the bone surface and poor survival of the cortex.

### Method

Sex was determined on adult remains only using standard criteria (Brothwell 1981; Buisktra and Ubelaker 1994; Schwartz 1995). Juvenile age was assessed using dental eruption (Hillson 1996) and epiphyseal fusion (Schwartz 1995) Pathological features were determined by macroscopic inspection, using criteria in Manchester and Roberts (1995) and Schwartz (1995).

### Results

#### Area 5 Mid to Late Iron Age

An adult hand phalanx was recovered from pit 5085 (fill 5087, part of Pit Group 1) as disarticulated material. It demonstrated signs of burning and probably submitted to a temperature of between 600 – 700 degrees Celsius.

Burial A, a neonate less than six months old was recovered from the fourth fill (5053) of pit cut 5050, Pit Group 2. Approximately 25% of the skeleton is present. The disarticulated neonatal petrous portion from the fifth fill 5052 of the same feature probably belongs to Burial A.

Burial B, a neonate of between six and twelve months of age was recovered from fill 5071 of recut 5060 from Enclosure Ditch B1. Approximately 75 to 100% of the skeleton is present and is in reasonable condition apart from the diaphyseal ends being eroded.

#### Area 6 Mid to Late Iron Age

The pelvis and lower legs of a child aged between six and twelve years were recovered from the third fill 6018 of pit 6016 of Pit Group 3. The right and left ilia, distal femora, proximal tibiae are present along with the distal femoral epiphyses. Bone preservation was better with this individual with the surface and epiphyseal surfaces surviving with minimal damage.

### Statement of potential

A total of four individuals, two neonates, one child of between six and twelve years and one adult were represented in this assemblage. Further more detailed analysis will rigorously seek out any additional information which can be deduced from the skeletal remains (i.e. nutritional status as an indicator of wealth/poverty). This analysis would allow for any pathology to be noted and diagnosed. No further analysis is required for the disarticulated adult phalanx.

Due to the lack of formal burial rite in the Iron Age in the Oxfordshire area, these individuals are worthy of further full investigation. Similar pit burials of neonates have been noted from several sites in the area including Yarnton (Hey 1999), Eastfield House (Anthony 2005), Bicester (Boyle 1999) and Woodcote Road (Witkin 2005). The human bone assemblage from this site is worthy of more detailed analysis because of the deposition of burials within several pits. The spatial distribution of this material within the pits and the potential for refining the Iron Age sequence by using the material for dating purposes is of significance as much as the recognition of the burial rite itself.

### Recommendations

The analysis and recording would be done following recommendations from Brickley and McKinley (2004). The assemblage would be compared with other similar sites to assess the local, regional and national significance.

Time required: 2 days (1 day for analysis and 1 day for report production).

## APPENDIX 7: ANIMAL BONE BY S. WARMAN

### Introduction

The animal bone was collected during the excavation of Areas 5 and 6. This assessment considers both the hand collected animal bone and that recovered from processed samples.

### Material

Animal bone was recovered from Period 1 features in Areas 5 and 6. In terms of feature types animal bone was present in both pits and ditches. The animal bone filled one standard museum storage box. The bone was generally in fairly poor condition with noticeable weathering to the surfaces of the bones having been partially eroded.

### Methods

The assessment conforms to the guidance on best practice as described by English Heritage (2002). The animal bone was rapidly scanned and recorded at context level using a Microsoft Access database. Information recorded included; number of bones, number of fragments, weight of bones in grams, number of bones identifiable to species, fragmentation and preservation, numbers of mandibles, epiphyses and whole bones, species and body parts identified, age and state (including modifications such as butchery, burning, gnawing etc).

### Results

A total of 1066 fragments from 870 bones weighing 5.5kg were recovered by hand during excavation. Of these 146 fragments were identifiable to species. Whilst the processed samples yielded 659 fragments from 657 bones weighing 169g, 29 bones were identified to species. The results are presented by area and context in the accompanying Tables 3 and 4.

#### Area 5

Animal bone was recovered from deposits dating to Period 1. Pit Group 1 produced animal bone identified as sheep/goat or sheep-sized. The sampled material included rodent teeth. Within Ditch A1, horse, cattle, sheep/goat and pig were present but a possible chicken limb bone was also found. The bulk of the animal bone recovered from Area 5 was from Ditches A2 and C1, Ditch B2 and Pit Group 2. Horse, cattle, sheep/goat, pig are present as is dog for the first time, and from the sieved material small mammal and frog bones were recovered.

#### Area 6

The features which contained animal bone were all dated to Period 1 and comprised Pit Groups 3 and 4 and Ditch C1. Horse, cattle sheep/goat, and pig are present. The animal bone from the samples included vole, frog, rodent and small mammal in addition to cattle and sheep/goat.

#### Condition

All of the assemblage showed signs of weathering the surface of the bone being rough and furrowed. This did not appear to be the result of weathering in terms of exposure of the bone on the ground surface but rather action within the deposit including damage by the roots of plants and the percolation of slightly acidic water through the deposit. This meant that other changes to the bone surfaces were harder to see, although gnawing by dogs was seen occasionally. Signs of butchery were also hard to identify in this material but some bones had been completely chopped through. Pathological changes may well have been obscured by the poor condition of the bone surface; none were noted in the assemblage. A few bones showed signs of burning these were present in deposits from both pits and linear features.

#### Age at death

Most of the animal bone was from specimens of adult or sub adult age at death. However a small number of bones from very young specimens were identified. Context 5070, a primary fill of Ditch B1 contained several limb bones from a piglet. An upper limb from a sheep or goat infant was found in context 5015, primary fill of Pit 5016 Pit Group 1. Another infant sheep/goat long bone was found in context 5114, the fill of recut ditch 5113, from Ditch A2. The number of mandibles and epiphyses present (see Table 3) would allow more accurate estimates of age at death to be made in any future analysis.

### Discussion

The animal bone assemblage is dominated by domestic stock with horse, cattle, sheep/goat, pig and dog present. The only wild species present are the smaller vertebrates; mice, voles and frogs, which would have lived commensally rather than as domesticates. The animals are largely adult but a few infant specimens seem to indicate that some livestock were born on or near the site. The condition of the bone surface means that modifications are hard to see although bones which have been chopped right through have been identified. The presence of a sheep hyoid bone in context 6020, the primary fill of Pit 6016 in Pit Group 3 is interesting as this bone is small and held in place during life by soft tissue only thus when this was deposited it must have been at least partially articulated. In terms of body parts a range are present from most species with both meat-bearing and non meat-bearing parts present. It would seem that this assemblage is not purely primary or secondary butchery waste but a mixture of these and domestic or table waste.

A large number of small and medium-sized assemblages have been recovered from sites of a similar antiquity in Oxfordshire. The animal bone assemblage from Coxwell Road, Farringdon, although larger, shows a similar range of domestic species (Hamilton-Dyer 2005). Most comparable Iron Age animal bone assemblages from the area are in a much better state of preservation than the animal bone from this project. However one site at Hatford produced animal bone in a similarly poor state (Evans 2005), so the poor condition of this assemblage is not unique. A number of small and medium-sized assemblages recently published from this area provide a context in which this assemblage, although small and poorly preserved, can be considered. Comparison of the this assemblage with these other assemblages will enhance current understanding of the use of domestic stock during the Iron Age in Oxfordshire.

### **Recommendations**

Given the fact that this assemblage is around the 1000 fragment mark in terms of quantity it would qualify for further work based on Maltby's criteria (Maltby 1996) but when the poor preservation and eroded surface of the bone is taken into account it is likely that very little additional information would be obtained from further examination of the material. However given the resource of recently excavated and published sites from the region it is recommended that the results of the assessment are edited for inclusion in the publication along with a more detailed regional discussion.

Summary for publication

0.5 day (EO)

**Table 3: Hand collected animal bone recovered from Areas 5 and 6, Period 1 by Phase group and context**

Area	Phase	context	Group	Spot-date	no of frags/ pcs	no of bones	weight	Number of bones id	mandibles	epiphyses	species/part	state	age
5	1	5104	Pit Group 1	MLIA	1	1	1	0			SSZ(LB)	WE	
5	1	5014	Pit Group 1	MLIA	11	10	13	1			O/C(MTP) SSZ(LB)	WE RT MB	
5	1	5015	Pit Group 1	IA+	3	1	17	1	1		O/C(H,UL)	WE RT MB	A I
5	2	5018	Ditch A1	LIA-C1ST	61	38	385	7	3	1	E(H) B(H,V) O/C(H,P) CSZ(UL,LB) SSZ(LB) CHSZ(LB)	WE TR MB	A
5	2	5025	Ditch A1	IA	61	35	443	3	1	3	E(LL) B(H,P) CSZ(LB)	WE RT MB	A
5	2	5027	Ditch A1	LIA-C1ST	50	39	271	11	2	3	B(H,V,P) O/C(H,UL,LL) S(H) CSZ(UL,LB) SSZ(LB)	WE RT MB GN	A, J
5	2	5079	Ditch A1	MLIA+	9	9	20	1			B(H) SSZ(LB)	WE RT MB	A
5	2	5081	Ditch A1	MLIA	1	1	2	0			SSZ(LB)	WE RT	
5	2	5082	Ditch A1	LIA-C1ST	42	41	73	2			B(LL) CSZ(R,F) SSZ(LB)	WE RT MB	A
5	2	5100	Ditch A1		3	2	7	0			CSZ(LB) SSZ(R)	WE RT	
5	2	5106	Ditch A1		4	3	17	0			CSZ(LB)	WE TR MB	A
5	2	5107	Ditch A1	MLIA	4	3	24	2		1	E(H) O/C(LL) CSZ(R)	WE RT MB	A
5	2	5089	Ditch A1	MLIA	3	1	20	1			S(H)	WE	A
5	2	5109	Ditch A1	C1ST	4	4	79	3			B(H,UL) O/C(LL) UNID(F)	WE RT MB BT	A
5	3	5006	Pit Group 2	MLIA	30	27	106	5	1		B(H) O/C(H) CSZ(LB) SSZ(LB,R) UNID(F)	WE RT ,B	A
5	3	5007	Pit Group 2		10	8	46	2		1	B(H) S(LL) CSZ(LL,LB) UNID(F)	WE RT MB BT	A
5	3	5012	Pit Group 2	IA	18	14	61	2	1	1	B(UL) O/C(H) CSZ(LB) SSZ(LB)	WE RT BN	A
5	3	5013	Pit Group 2		16	11	342	3		2	B(H,V,UL) SSZ(LL,MTP,LB) UNID(F)	WE MB BN BT	A
5	3	5051	Pit Group 2	LIA	47	40	154	7			B(H,LL) O/C(H) S(H) CSZ(UL,LB) SSZ(LB)	WE , RT MB BT BN	A
5	3	5052	Pit Group 2	MLIA	145	143	815	11		3	B(H,UL,MTP) O/C(UL) S(H) CSZ(V,R,LL,LB) SSZ(LB,R)	WE BT RT MB GN	A SA
5	3	5053	Pit Group 2	MILA	54	44	58.5	1		3	B(H,HC) CSZ(LB) SSZ(LB,R) CTSZ(R)	WE RT BT BN MB	A
5	3	5055	Pit Group 2	MIA	30	26	118	4	1		O/C(H,LL) CSZ(LB,R) SSZ(LB)	WE RT BN BT	A
5	3	5056	Pit Group 2	MLIA	6	2	28	1	1		O/C(H) CSZ LB)	MB	A

Area	Phase	context	Group	Spot-date	no of frags/ pcs	no of bones	weight	Number of bones id	mandibles	epiphyses	species/part	state	age
5	3	5037	Ditch A2		1	1	24	1			B(V)	GN	A
5	3	5039	Ditch A2	MLIA	2	2	39	0			CSZ(LL,R)	RT BT GN	A
5	3	5042	Ditch A2	MLIA	8	8	7	0			SSZ(LB,R)	WE TR BT	
5	3	5049	Ditch A2	MLIA	12	7	53	0			CSZ(LL) O/C(LL) UNID(F)	WE RT BT MB BN	A
5	3	5092	Ditch A2		2	1	14	0			SSZ(LB)	MB WE RT	A
5	3	5094	Ditch A2		13	12	208	3	1		B(UL) O/C(H) CSZ(FB) SSZ(LB)	BN WE RT GN	A
5	3	5095	Ditch A2	MLIA	3	2	44	0		1	CSZ(UL,LB)	WE RT BT MB	A
5	3	5098	Ditch A2	MLIA	13	12	504	5	2		E(H) O/C(H,LL) CSZ(LB) SSZ(LB)	WE RT MB	A
5	3	5111	Ditch A2	MLIA- C1ST	50	4	270	4	1	1	E(UL) B(H,LL) O/C(LL)	WE RT MB	A
5	3	5112	Ditch A2		17	17	108	3			B(H) CSZ(LB) UNID(F)	BT MB WE	A
5	3	5114	Ditch A2	C1ST	39	39	84	3		1	E(UL) B(H,HC) O/C(LB) CSZ(LB) SSZ(LB)	WE RT MB	A, I
5	3	5061	Ditch B1	MLIA- C1ST	15	6	103	4	1	2	B(UL) O/C(H,UL,P) SSZ(LB,V)	WE RT MB	A
5	3	5067	Ditch B1	MLIA	3	3	19	1			O/C(H) CSZ(LB)	WE MB	A
5	3	5069	Ditch B1	MLIA	2	2	3	0			SSZ(LB)	WE RT	
5	3	5070	Ditch B1	MLIA	17	9	63	5	1	5	D(H) S(LL,V) O/C(H) SSZ(LB) CTSZ(R)	WE RT BT	A, I/J
5	3	5070	Ditch B1	MLIA	2	1	70	1			B(UL)	WE RT BT MB	A
5	3	5070	Ditch B1	MLIA	1	1	54	1			B(UL)	RT BT MB	SA
5	3	5070	Ditch B1	MLIA	20	11	187	7	1	5	D(H) B (UL) S(LL,V) O/C(H) SSZ(LB) CTSZ(R)	RT BT MB PA WE	A I
5	3	5073	Ditch B2		3	1	68	1		1	E(LL)	WE RT BT? MB	A
5	3	5076	Ditch B2	MLIA	32	32	43	0			CSZ(LB)	WE RT MB	

Area	Phase	context	Group	Spot-date	no of frags/ pcs	no of bones	weight	Number of bones id	mandibles	epiphyses	species/part	state	age
6	1	6013	Pit Group 3	MLIA	14	13	90	2			B(H,LL) CSZ(LB)	WE RT MB	A
6	1	6018	Pit Group 3	MLIA	48	46	39	7		2	B(H) O/C(UL,LL,MTP) CSZ(LB,R) SSZ(LB,R) CTSZ(R) UNID(LB)	WE RT GN	A
6	1	6020	Pit Group 3		1	1	0.5	1			O/C(HYD)		
6	1	6003	Pit Group 4	MLIA	49	45	160	14	1	2	B(H,HC,P) O/C(H,P) S(MTP) CSZ(V,R,LB) SSZ(LB)	WE RT BN BT	A, J
6	1	6004	Pit Group 4	MLIA	12	8	44	3	1	1	B(HC) O/C(H,UL) SSZ(LL,LB)	WE TR MB	A
6	1	6022	Pit Group 4	MLIA	1	1	9	1			CSZ(LB)	WE	A
6	1	6029	Pit Group 4	MLIA	42	42	67	6		1	B(LL) O/C(H,LL) S(MTP) CSZ(LB) SSZ(UL, LB,R)	WE RT GN BT	A
6	1	6032	Pit Group 4	MLIA	18	18	25	3	1		O/C(H,UL) CSZ(LB,R) SSZ(UL,LL,LB,R)	WE RT MB BT	A, I
6	1	6041	Ditch C1	C1ST	2	2	126	1		1	E(LL) CSZ(LL)	WE RT MB	A
6	1	6042	Ditch C1	MLIA	31	31	82	8			B(H) O/C(H,V) CSZ(LB) SSZ(LL,LB,R)	WE RT MB	A

**Table 4: Sieved animal bone recovered from Areas 5 and 6 by phase group and context**

Area	Phase	context	Group	Spot-date	sample	no of frags/ pcs	no of bones	weight	Number of bones id	species/part	state	age
5	1	5102	Pit Group 1	MLIA	504	25	25	2.5		SSZ(LB) ROD(H) UNID(F)	WE RT	
5	3	5055	Pit Group 2	MIA	501	85	85	5.5		SSZ(LB) UNIB(LB) UNID(F)	BN	
5	3	5056	Pit Group 2	MLIA	502	1	1	0.25		UNID(F)	BN	
5	3	5056	Pit Group 2	MLIA	502	11	11	1		SSZ(LB)	WE	
5	3	5056	Pit Group 2	MLIA	502	12	12	0.25		UNID(F)		
5	3	5007	Pit Group 2		503	187	186	17	1	O/C(H) CSZ(R) SSZ(LB) FR(V,UL,LL) SM(LB,V) UNID(F)	MB BN WE	A
6	1	6003	Pit group 4	MLIA	1	237	237	5	6	B(UL,LL,P) O/C(H) VSP(H) ROD(H) SM(V) FR(LL) CSZ(LB,R) SSZ(H,LB,R) UNID(F)	BT WE RT BN MB	A J
6	1	6041	Ditch C1	MLIA	2	101	101	35.5	5	FR(UL,LL) SM(F) CSZ(LB) SSZ(UL,LL,LB,R,V) UNID(F)	WE BT BN	A

**Key to codes used in tables**

Species; E = *Equus caballus* (Horse), B = *Bos taurus* (cow), C = *Capra hircus*, O = *Ovis aries* (sheep) (goat) O/C *Ovis/Capra* (sheep/goat), S = *Sus scrofa* (pig), D = *Canis familiaris* (dog), VSP = vole species, FR – *Rana temporaria* (frog), ROD = rodent, CSZ = cow-sized, SSZ = sheep-sized, CTSZ = cat-sized, SM small mammal (mouse-sized), CHSZ = chicken-sized UNID = unidentified Parts; H = head, HC = horncore, HYD = hyoid, V = vertebra, R = rib, UL = upper limb, LL = lower limb, MTP metapodial, P = phalange, FB = flat bone, LB = long bone, F = fragment.

Ageing data; epiphyses = simple count, mandibles = simple count

State; WE = weathered, BT = butchery marks, BN = burnt, GN = gnawed, RT = root etching, MB = modern break, PA = pathology. Age; F/N = foetal/neonatal, I = infant, J = juvenile, SA = sub-adult, A = adult, O = old adult.



## APPENDIX 8: CHARRED PLANT MATERIAL BY S. WARMAN AND ELIZABETH PEARSON

### Processing Methods

10 litres of each sample was processed by flotation for the purposes of assessment. 0.25mm and 1mm flots were collected and the mesh size for the residue was 1mm. Dried residues were sorted to remove all artefacts and ecofacts.

### Material assessed

Only one of the samples processed by flotation produced charred plant material. Sample <501> from context 5055 the second fill of pit 5050 (Pit Group 2). The material appeared to be mostly cereal grains. The material was examined under a light microscope and identifications were confirmed by Liz Pearson of WHEAS.

### Results

From the residue two grains of *Triticum dicoccum* (emmer wheat) were identified and one of wheat *Triticum sp.* Four grains of *Triticum spelta* (spelt wheat). One grain of *Hordeum vulgare* (barley), one emmer/spelt type as well as cereal grains unidentified to species. From the flots came a wheat grain *Triticum sp.* Some chaff was also recovered from including one spelt glume base, two emmer/spelt glume bases and one glume base from a grass Gramineae sp. possibly brome grass. Material such as this is often seen in Iron Age assemblages. The quantities present are too small to comment on the importance of any particular crop; but the emmer and spelt wheat along with the barley represent cultivated crops whilst the wild grass (?Brome) may have been encouraged to grow amongst the crop to provide fodder for livestock.

### Recommendations

With such a small assemblage nothing would be gained by more detailed examination of the material but a summary of this assessment should be included in any publication. The material identified to species would be suitable for radiocarbon dating.

Summary for Publication

EO (1hour)

## APPENDIX 9: CHARCOAL BY ROWENA GALE

### Introduction

Features were recorded in Areas 5 and 6, close to Aves Ditch (thought to be an Iron Age territorial boundary). Small samples of charcoal dated to the Iron Age (Period 1) were collected from ditch and pit fills in Areas 5 and 6, and a few fragments of charcoal were collected by hand. The origin of the charcoal is unknown but it probably represents dumped fuel debris. This report assesses the potential of the charcoal to provide environmental data and evidence of the economic use of woodland resources.

### Methods

The assessment is based on observation of the overall character of each sample and the identification of three randomly selected fragments from each sample. The processed samples contained small fragments of poorly preserved charcoal. The hand collected samples contained larger fragments, some of which were partially vitrified.

The charcoal for identification was prepared using standard methods (Gale and Cutler 2000). Anatomical structures were examined using incident light on a Nikon Labophot-2 compound microscope at magnifications up to x400 and matched to prepared reference slides of modern wood. When possible, the maturity of the wood was assessed (i.e., heartwood/ sapwood).

### Results

The taxa identified are shown on Table 5.

#### Area 5

Charcoal was examined from sample 501, from the secondary fill of pit 5050 and sample 503, from the primary fill of pit 5007 both from Pit Group 2; and sample 504, from the primary fill of pit 5101 from Pit Group 1. These samples included small fragments of poorly preserved material from a range of taxa including oak (*Quercus* sp.), blackthorn (*Prunus spinosa*), the hawthorn/ *Sorbus* group (Pomoideae), and field maple (*Acer campestre*) (Table 5). Hand-collected samples were obtained from contexts 5010 and 5051 from Pit Group 2, 5027 from Ditch A1, and 5042 from Ditch A2. The taxa identified included hawthorn/*Sorbus* group (Pomoideae), oak (*Quercus* sp.) and purging buckthorn (*Rhamnus cathartica*).

#### Area 6

Samples 1 and 2, from the primary fills of pit 6003 from Pit Group 4 and Ditch C1 were both dated to the Mid-Late Iron Age. Both samples were small, with little potential for identification. The taxa identified included the hawthorn/*Sorbus* group (Pomoideae), blackthorn (*Prunus spinosa*) and field maple (*Acer campestre*).

### Discussion

The charcoal was obtained from pits and ditches and is thus likely to represent discarded fuel debris. On this assumption, the samples examined indicated that firewood/ fuel consisted of wood gathered from a range of species, including oak (*Quercus* sp.), blackthorn (*Prunus spinosa*), the hawthorn/ *Sorbus* group (Pomoideae), field maple (*Acer campestre*) and purging buckthorn (*Rhamnus cathartica*). The charcoal fragments were too small to assess whether the wood included stem material obtained from managed woodland.

The taxa identified suggest an environment supporting oak/maple woodland. Open woodland or scrub is implied by the presence of blackthorn, purging buckthorn and the hawthorn group.

### Recommendations

The samples examined were of limited potential and samples are unlikely to yield any further data it is recommended that no further work should be undertaken.

Table 5: Angelinos Pumping Station – charcoal from Period 1 contexts in Areas 5 and 6  
Quantity. X = <10 fragments; XX = 10 – 20 fragments Material in bold type is suitable for radiocarbon dating

Sample	Context	Description	Date	Quantity	Taxa identified	Potential	Comments and recommendations
Area 5							
501	5055	Secondary fill of pit 5050 Pit Group 2	MIA	XX	<b>1 x oak (<i>Quercus</i> sp.) sapwood;</b> <b>1 x blackthorn (<i>Prunus spinosa</i>);</b> <b>1 x hawthorn/ <i>Sorbus</i> group</b> <b>(Pomoideae)</b>	Nil	Small fragments. No further work
503	5007	Primary fill of pit 5005 Pit Group 2	-	XX	<b>1 x field maple (<i>Acer campestre</i>),</b> <b>2 x oak (<i>Quercus</i> sp.) heartwood</b>	Nil	No further work
504	5102	Primary fill of pit 5101 Pit Group 1	MLIA	X	<b>1 x oak (<i>Quercus</i> sp.) sapwood;</b> <b>2 x blackthorn (<i>Prunus spinosa</i>)</b>	Nil	No further work
	5051	Sixth fill of pit 5050 Pit Group 2	-	X	<b>1 x hawthorn/ <i>Sorbus</i> group</b> <b>(Pomoideae)</b>	Nil	Single hand collected fragment. No further work
	5010	Secondary fill of pit 5008 Pit Group 1	-	X	<b>1 x purging buckthorn (<i>Rhamnus cathartica</i>)</b>	Nil	Single hand collected fragment. No further work
	5027	Secondary fill of ditch 5026 Ditch A1	-	X	1 x oak ( <i>Quercus</i> sp.) heartwood	Nil	Two hand collected fragments, partially vitrified. 1 too degraded to id. No further work
	5042	Primary fill of ditch 5041 Ditch A2	-	X	<b>hawthorn/ <i>Sorbus</i> group</b> <b>(Pomoideae)</b>	Nil	Single hand collected fragment. No further work
Area 6							
1	6003	Primary fill of pit 6002 Pit Group 4	MLIA	XX	<b>2 x hawthorn/ <i>Sorbus</i> group</b> <b>(Pomoideae);</b> <b>1 x field maple (<i>Acer campestre</i>)</b>	Nil	Small fragments. No further work.
2	6042	Primary fill of ditch 6038 Ditch C1	MLIA	X	<b>3 x blackthorn (<i>Prunus spinosa</i>)</b>	Nil	No further work

## APPENDIX 10: MOLLUSCS BY S. WARMAN AND KEITH WILKINSON

### Method

Molluscs were recovered in small quantities from all six samples. Sample 2 from Area 6, 6042, the primary fill of Ditch 6038 (Ditch C1) was particularly rich as molluscs not only present in the residue but were also numerous in the flot. This sample being from a ditch was suitable for molluscan analysis thus the assessment focuses solely on this sample. The molluscs were identified using a reference collection and the identifications were confirmed by Keith Wilkinson. Material was identified to species wherever possible and quantification is based on counts of the number of apices present.

### Results

#### Sample 2 mollusca picked out from residue

Lots of *Discus rotundus* – strips very apparent on many quant = 31 with apex present

Larger specimens all *Cepaea* sp. (*hortensis*) 6 with apex complete

*Trichia hispida* 13 with apex

*Helicella itala* 2 with apex

*Aegopinella nitidula* 5 with apex

*Cochlicopa* sp 3 with apex

*Oxychilus/Aegopinella* 63 with apex

#### Sample 2 mollusca from 1mm flot

*Discus rotundus* 49 with apex

*Clausilidae* 4 with apex

*Trichia hispida* 15 with apices

*Aegopinella nitidula* 1 with apex

*Helicella itala* ?

*Cochlicopa* sp? 32

*Cecilioides acicula* 1 with apex

*Oxychilus/Aegopinella* 68

*Pupilla muscorum* 2 with apex

#### Sample 2 mollusca from 0.25mm flot

*Carychium* sp. 97 with apices

*Vallonia* sp /*zonitids* 42 with apices

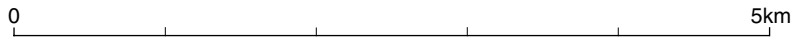
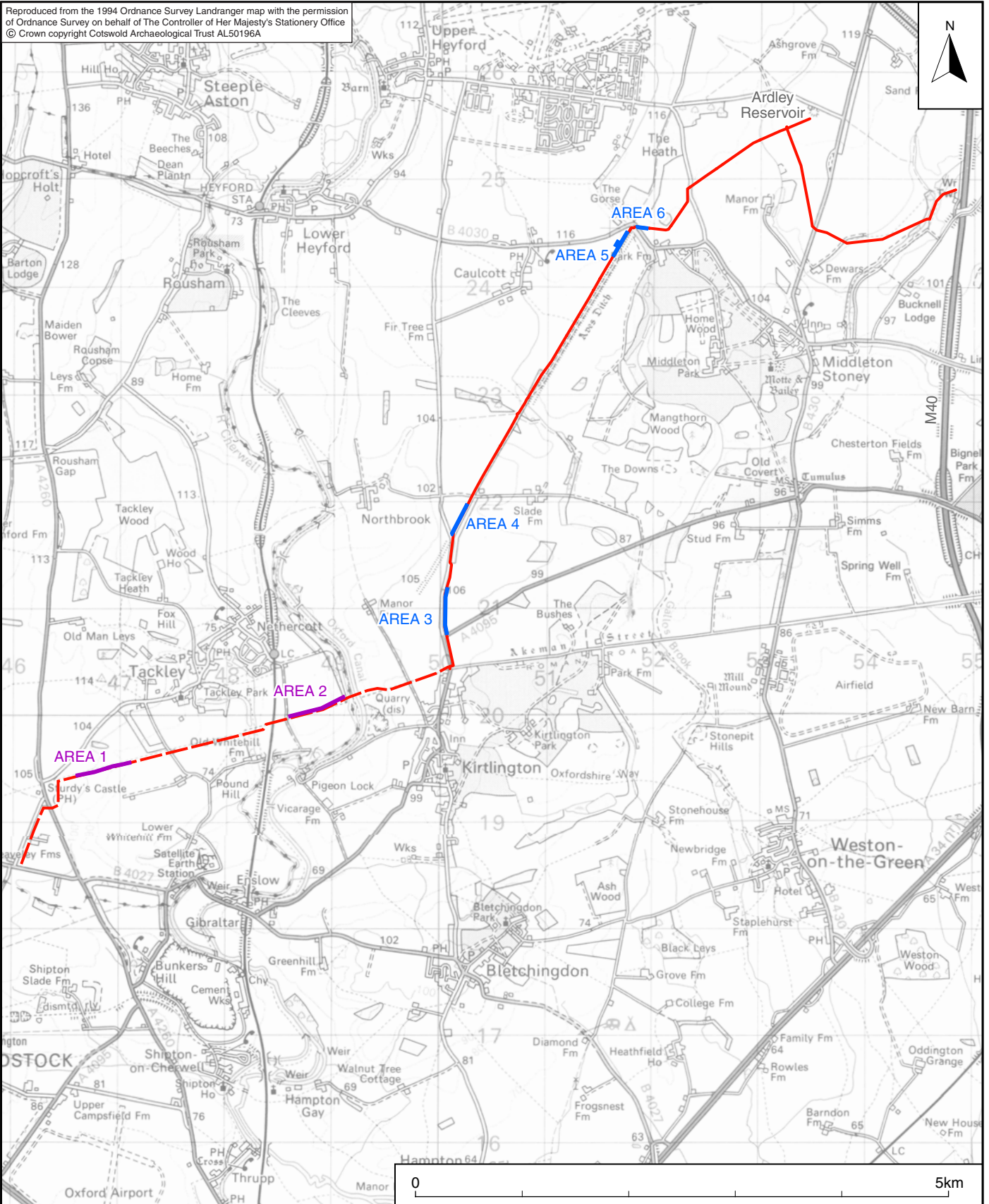
*Oxychilus/Aegopinella* plus *Cochlicopa* sp.

*Cecilioides acicula* 1 with apex

*Oxychilus/Aegopinella* 2 with apex

The assemblage is dominated by *Aegopinella nitidula*, *Oxychilus* sp., *Discus rotundatus* and *Carychium tridentatum*, with lesser quantities of *Cochlicopa* sp., *Trichia hispida* and *Cepaea* sp. This is a classic shade loving fauna. However, given the context of the sample, the shade is mainly a result of the ditch microclimate. There are a few *Helicella itala* and a couple of *Pupilla muscorum* that wouldn't tolerate such conditions. A possible explanation could be that the area around the ditch had at least some bear patches. The implications are that when the primary fill accumulated the ditch was not being maintained (*pers. comm.* K. Wilkinson). No further work is recommended.

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- pipeline route constructed
- - - pipeline route not constructed
- area of geophysical survey
- area of geophysical survey (abandoned)



**COTSWOLD ARCHAEOLOGY**

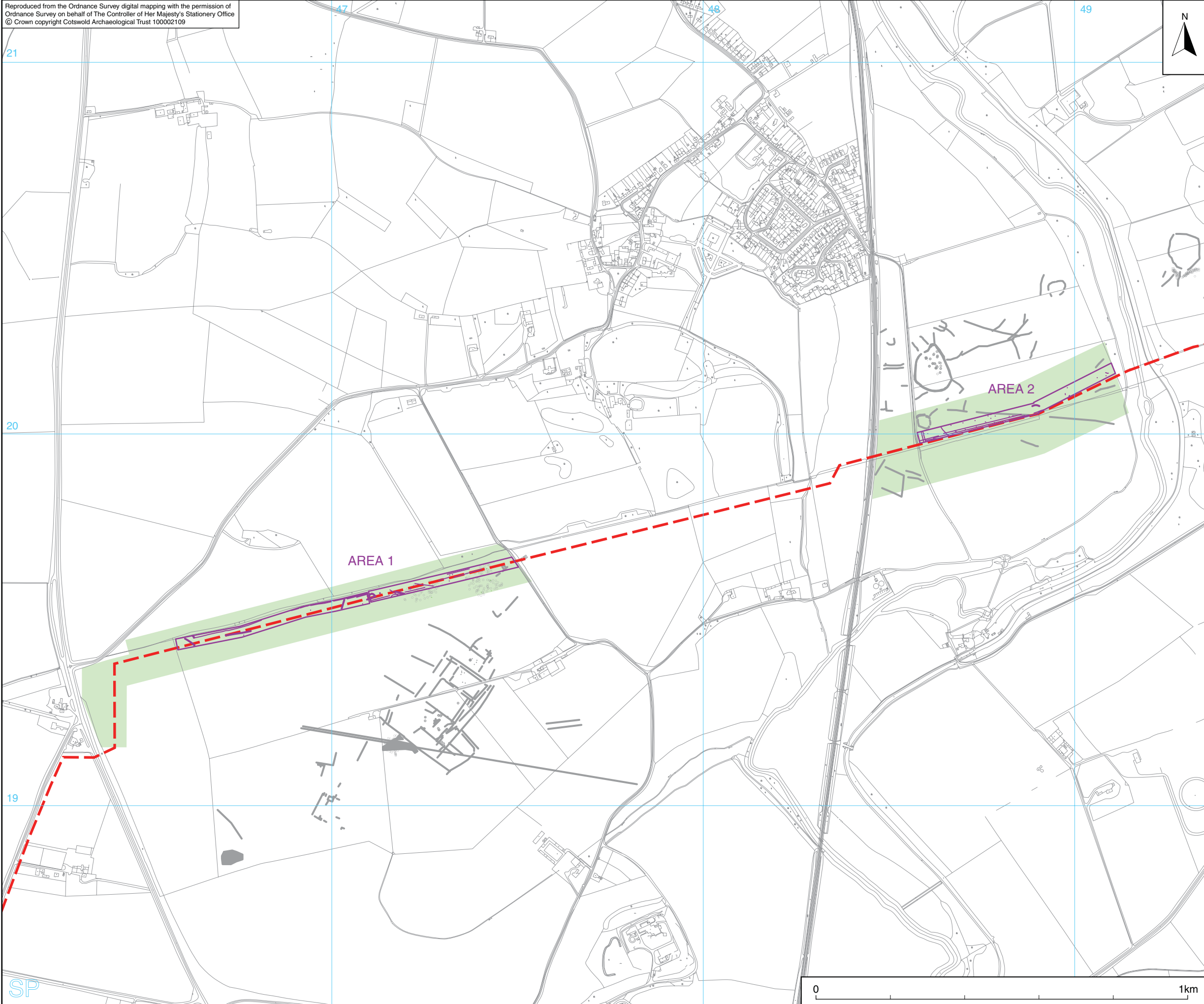
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FIGURE TITLE  
**Site location plan**


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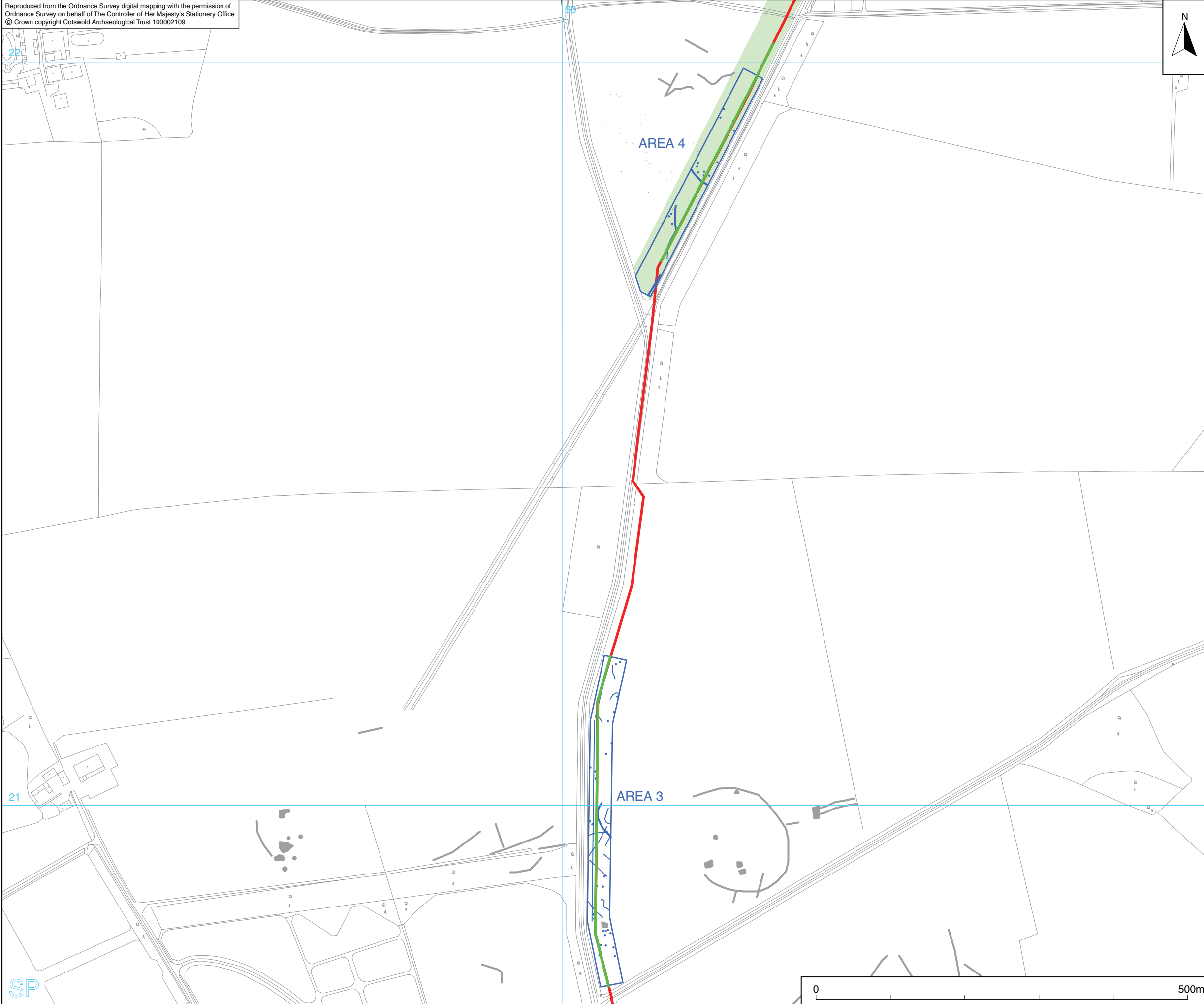
PROJECT NO.  
**9028**

FIGURE NO.  
**1**




- pipeline route not constructed
- ▨ area of geophysical survey (abandoned)
- area of fieldwalking
- ~ cropmarks

 COTSWOLD ARCHAEOLOGY		
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FIGURE TITLE Areas 1 and 2		
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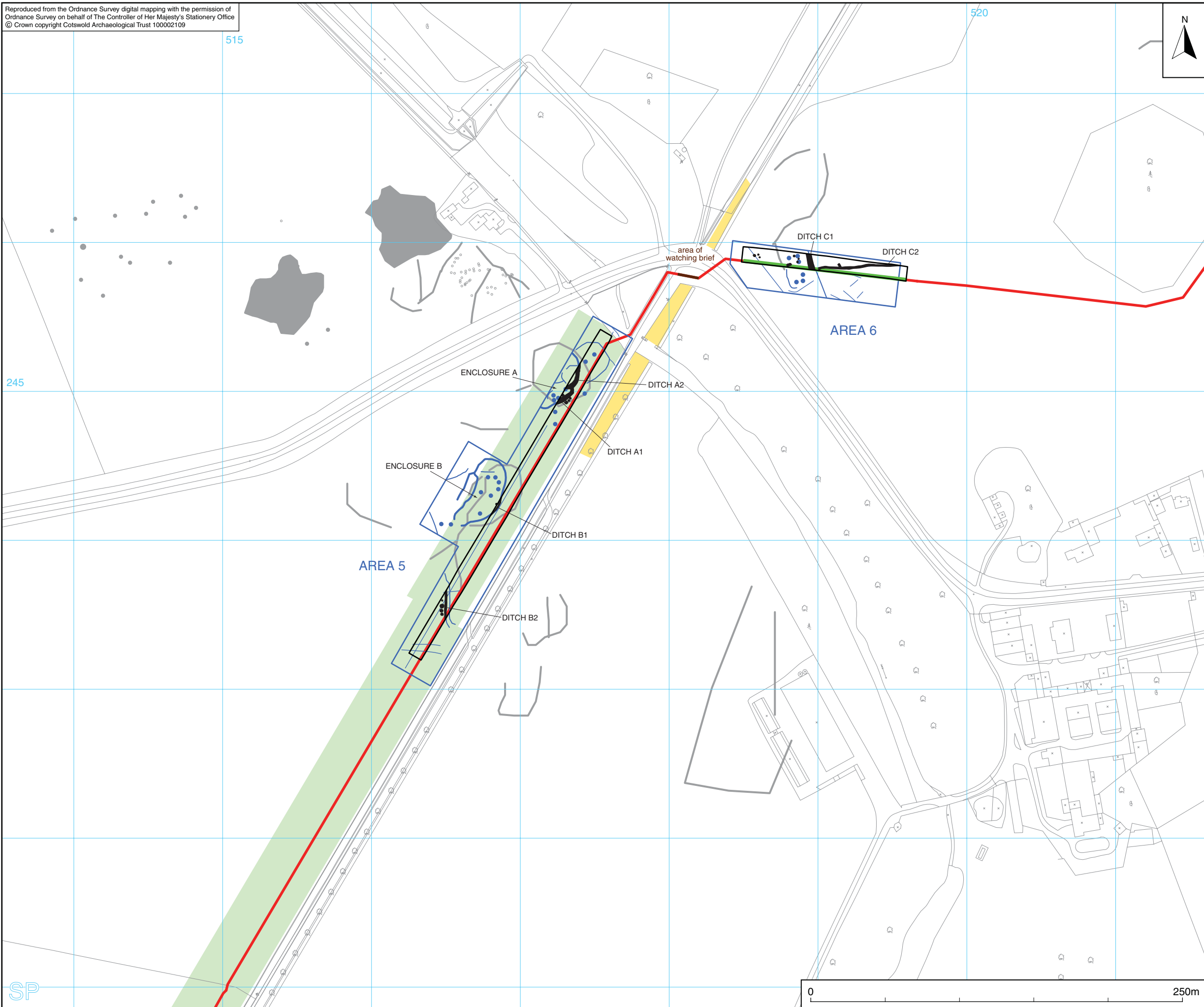
- pipeline route
- evaluation trench
- area of geophysical survey
- area of fieldwalking
- cropmarks




 **COTSWOLD ARCHAEOLOGY**


PROJECT TITLE  
Angelinos Pumping Station to Ardley Reservoir

FIGURE TITLE  
**Areas 3 and 4**

SCALE 1:5,000@A3	PROJECT NO. 9028	FIGURE NO. <b>3</b>
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-  pipeline route
-  excavation area
-  evaluation trench
-  watching brief
-  area of geophysical survey
-  area of fieldwalking
-  cropmarks
-  Aves Ditch

 **COTSWOLD ARCHAEOLOGY**

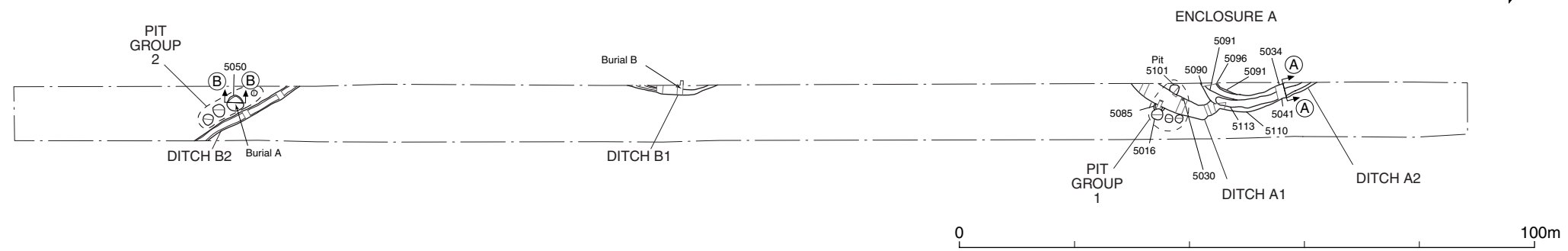
PROJECT TITLE  
**Angelinos Pumping Station to Ardley Reservoir**

FIGURE TITLE  
**Areas 5 and 6**

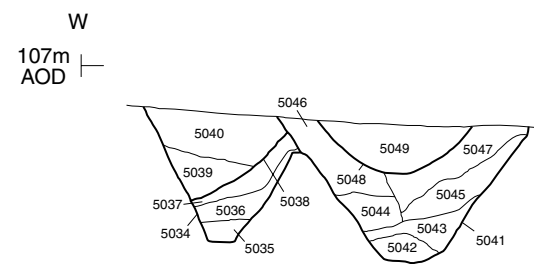
SCALE 1:2500@A3	PROJECT NO. 9028	FIGURE NO. <b>4</b>
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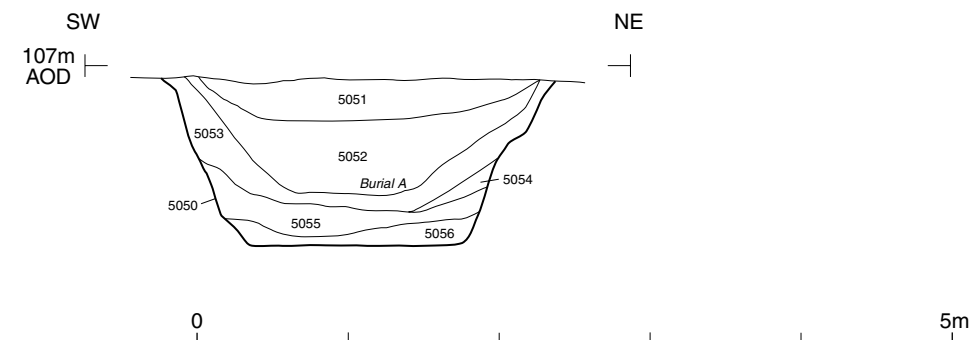
Area 5; Plan



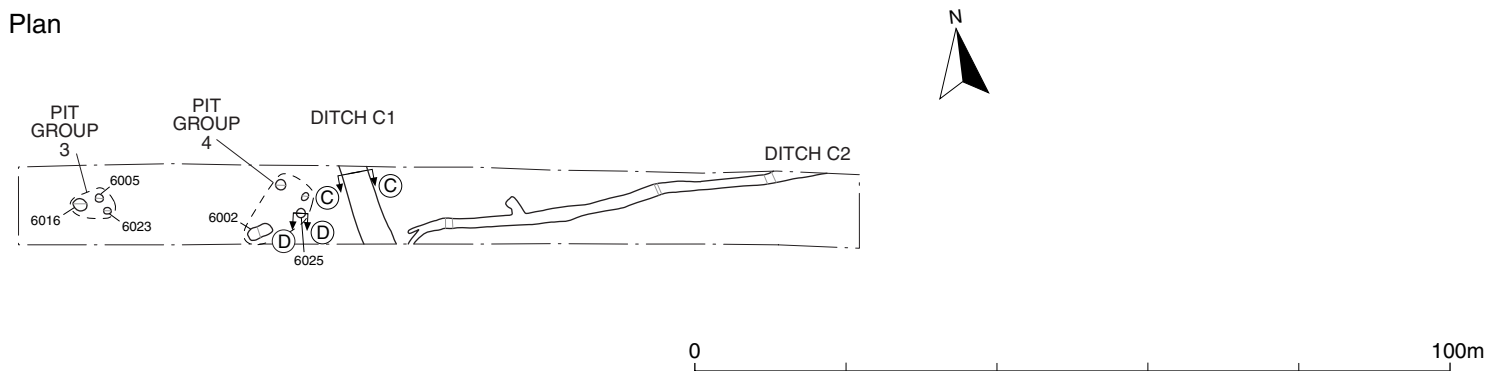
Section AA: Ditch A2



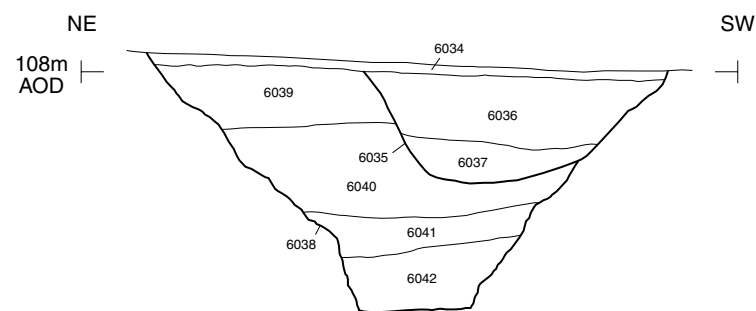
Section BB: Pit 5050, Pit Group 2



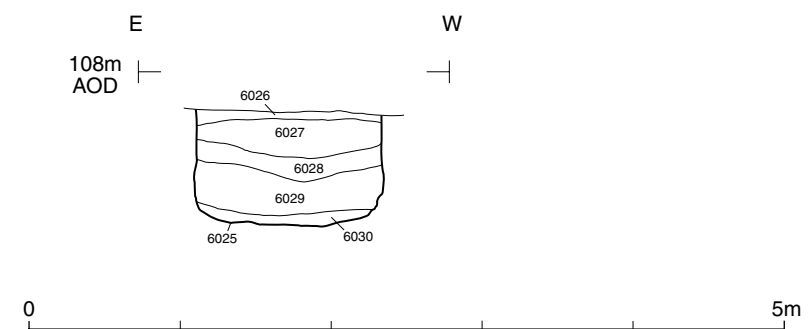
Area 6; Plan

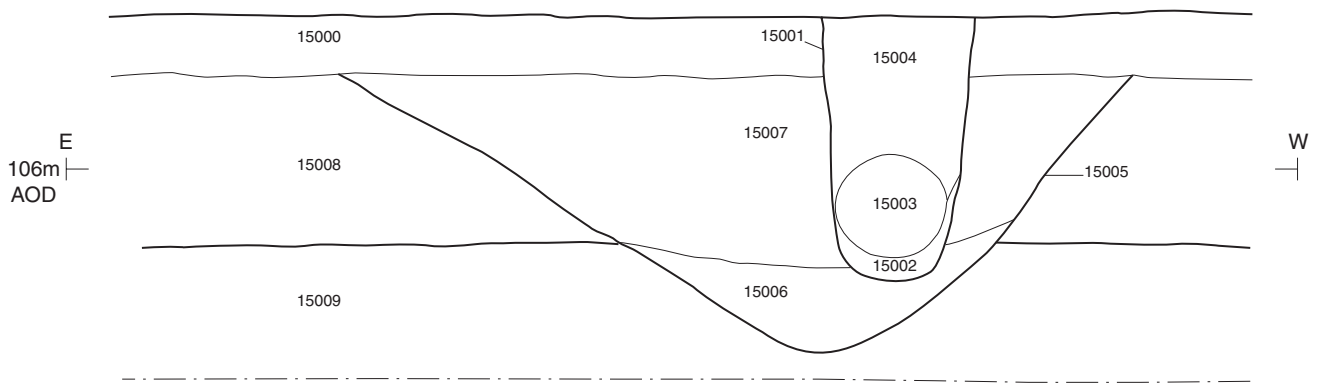


Section CC: Ditch C1



Section DD: Pit 6025, Pit Group 4





**COTSWOLD ARCHAEOLOGY**

PROJECT TITLE

**Angelinos Pumping Station to Ardley Reservoir**

FIGURE TITLE

**Section across Aves Ditch**

DRAWN BY

JAE

SCALE

1:50@A4

PROJECT NO.

9028

FIGURE NO.

**6**