

**Excavation of an Early/Middle Saxon Cemetery  
at King's Garden Hostel, Cambridge**

**Natasha Dodwell**

With contributions from R. Ballantyne, A. Clarke, C. Conneller, A. Hall, D. Hall,  
S. Lucy, K. Milek, G. Monteil and M. Knight

Cambridge Archaeological Unit  
University of Cambridge  
Report No. 426

### *Summary*

*An archaeological excavation was undertaken by the Cambridge Archaeological Unit on land next to King's Garden Hostel, West Road, Cambridge. This work was commissioned by King's College in advance of a proposed extension to the Hostel. Twenty-one Saxon burials, believed to date to the 7<sup>th</sup> century, and representing the largest group of this period to be excavated in Cambridge since the end of the 19<sup>th</sup> century, were identified and recorded. The burial group comprised of both male and female adults and immature individuals. The orientations of the graves and the positions of the bodies were diverse. The group included a double burial, two prone burials and burials with accompanying grave goods. Several of the graves had been disturbed by early ploughing. A deep headland which accumulated over the graveyard in the Medieval period, and was perhaps utilised as a causeway/trackway, was identified.*

## Introduction

The site is located on the western side of the City of Cambridge (Figure 1) to the north of West Road and to the west of Queens Road (TL 442 582). The underlying geology is the 1st/2nd gravel terraces of the River Cam. The archaeological excavation was conducted in April and May 2000 in anticipation of the extension of King's Garden Hostel accommodation block, which borders the King's Fellows garden (Figure 2). The area of excavation focused on the footprint of the new building but also extended to the west so that the graves identified in the evaluation of the previous year (Whittaker 1999) could be fully recorded and lifted.

The work was carried out in line with a brief from the Archaeology Section of Cambridgeshire County Council. The project was undertaken by the Cambridge Archaeological Unit on behalf of King's College.

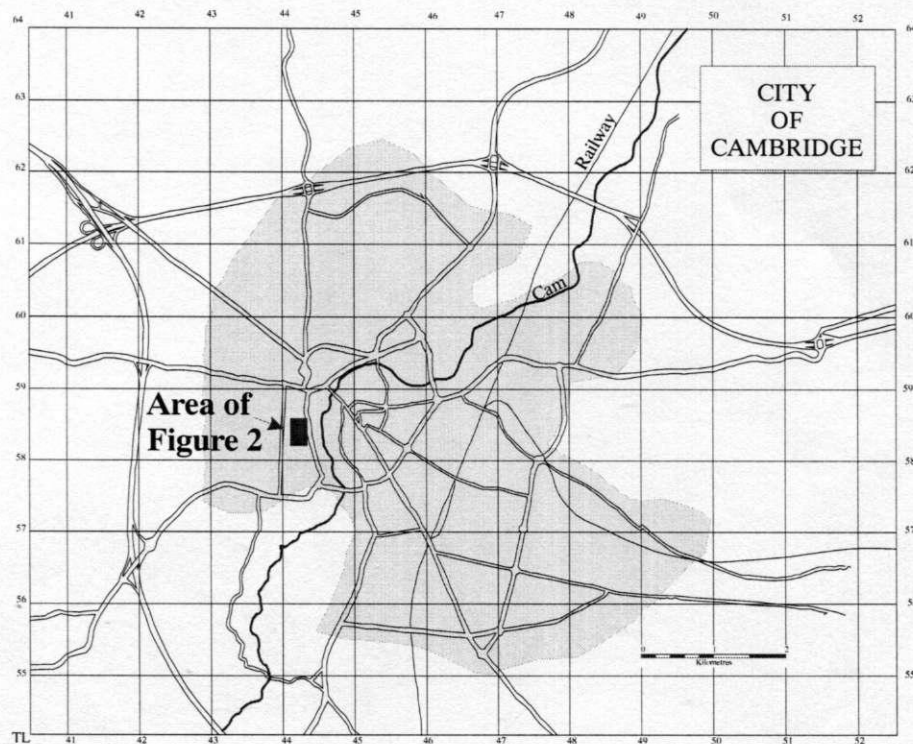


Figure 1: Site Location within Cambridge

## Historical Background and Previous Archaeological Work

The site lies to the north of an area of reported Iron Age and Anglo-Saxon burials at Newnham and to the south of the well-known Anglo-Saxon cemetery at St. John's Playing Field which is dated between the mid 5th and 7th centuries AD (Fox 1923: 242). Building work undertaken along Grange Road and Clarkson Road at the beginning of the 20th century revealed clusters of Roman and Anglo-Saxon finds



(SMR 05049 and 05049A). More recent excavations undertaken within St John's Playing Fields found evidence of Bronze Age features and the corner of a Romano-British field system just east of Akeman Street (the Roman Road is thought to run in a north-east to south-west alignment to the west of the Garden Hostel) (Evans 1991a, 1991b). In 1992 excavations at Burrell's Walk revealed the northern margin of a probable Roman settlement complex, with prehistoric features also present (Gdaniec 1992). However, more recent work in the area at St. Chad's (Whittaker 1998) and at St. John's School (Mortimer 1995) found no archaeological remains. A ditch of probable Iron Age/Romano-British date was found during fieldwork in 1996 in the grounds of the University Library immediately to the north-west (Gibson 1996).

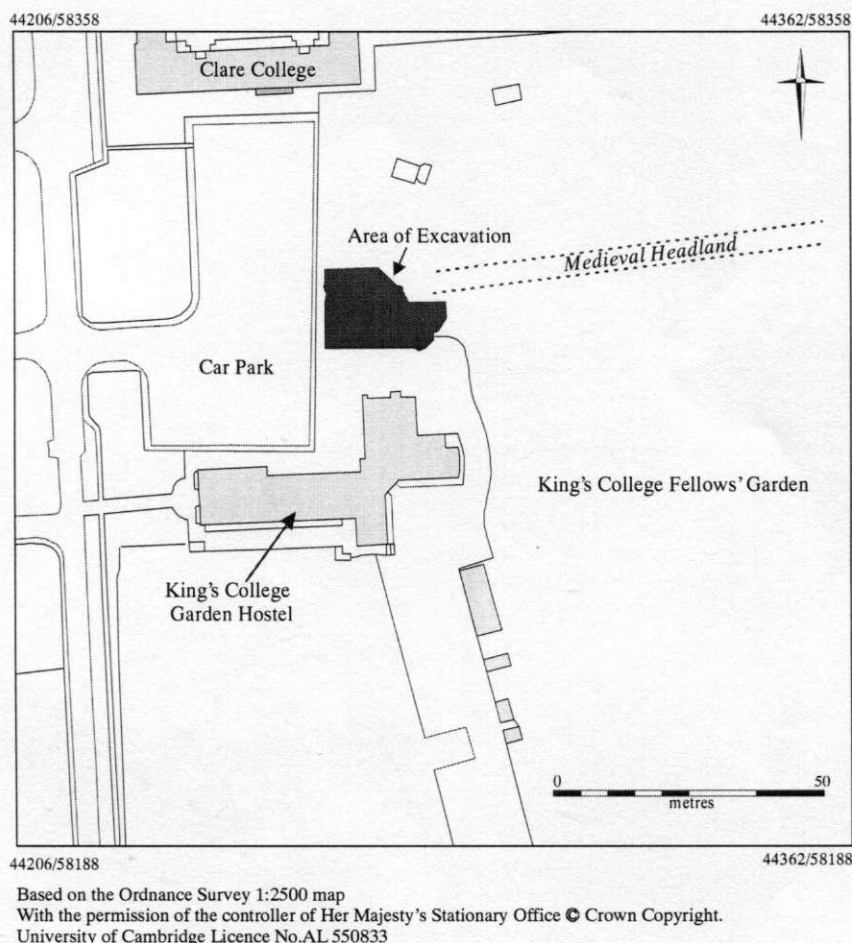


Figure 2: Location of Excavation

In the Medieval period the area was part of an extensive system of open-field agriculture, the West Fields of Cambridge (Hall & Ravensdale 1976). This was a large area extending from Huntingdon Road westwards to Barton Road, separated from the town to the east by a wide stretch of water meadows running alongside the River Cam. The immediate area of the site is seen to underlie a broad west/east aligned headland, leading over the meadows as a trackway and to a bridge over the Cam (Figure 3).





In February 1999 an archaeological evaluation of the Hostel site was undertaken by the CAU (Whittaker 1999). The evaluation consisted of five trenches, totalling 28.7m, in which were identified three inhumations that cut a buried soil and were sealed by a Medieval headland and modern garden soil. The three inhumations, on differing alignments, were partially exposed but in accordance with the archaeological brief they were left *in situ*. The grave goods accompanying two of the individuals were lifted during the evaluation and their subsequent examination dated the burial ground to the Saxon period.

## Methodology

Access to the site was restricted and made problematic by its overall small size, its depth (1.20-1.40m), the imposition of tree preservation orders and the presence of a live cable, which ran through the site. Where trees and shrubs had been removed prior to the excavation and building work their substantial root systems had caused significant disturbance to the archaeology. Difficulties were encountered with the management of machine-excavated spoil and it was necessary to remove it in three stages, backfilling areas once they had been cleared of archaeological remains.

The unit-modified version of the Museum of London recording system was employed throughout (Spence 1990) to locate and record archaeological features. Discrete stratigraphic entities, a grave cut or its fill, were assigned individual context numbers and these are represented in the text within square brackets, e.g. [001]. Feature numbers were assigned to complete archaeological Features, a graves' cut, fill and the body therein (e.g. F1). The skeletons were drawn at 1:10 and sections and base plans were drawn at 1:20 and 1:50 respectively. There is a black and white photographic record supplemented by colour slides and digital images. Environmental bulk samples, soil samples and pollen samples were taken from appropriate contexts.

As the cemetery forms the bulk of this report the methodologies used in the osteological analysis of the human remains is presented here. General methods used are those of Bass (1992), Buikstra and Ubelaker (1994) and Steele and Bramblett (1988). An assessment of age was based on the stages of dental eruption and epiphyseal union, on the degree of dental attrition (Brothwell, 1981) and where possible on changes to the pubic symphysis (Brooks and Suchey, 1990) and the auricular surface. The following age categories are used:

foetus/neonate	<6 months
infant	0-4 years
juvenile	5-12 years
subadult	13-18 years
young adult	19-25 years
middle adult	26-45 years
mature adult	45 years +

There may be overlaps between categories or a broad category, such as adult, where insufficient evidence was present.

The sex of the individual adults was ascertained where possible from sexually dimorphic traits on the pelvis and the skull and from metrical data. No attempt was made to sex immature individuals. No estimate of stature was made for this assessment.

When recording the orientation of the bodies/graves, the position of the head is referred to first.

## **The Excavation Results**

The area of excavation and all the excavated features are shown in Figure 4.

### *Prehistoric Activity*

The earliest feature identified is a late Bronze Age/early Iron Age pit, F.21, close to the centre of the site. The pit is oval and vertical sided (1.27m x 0.97m x 0.40m) and the lower fill [086] contained fifty-four pottery sherds (several of which were decorated), burnt flint, animal bone, including antler, and wood charcoal. The pottery derives from at least 10 separate vessels (Appendix 3).

Prehistoric activity in the vicinity is also evidenced by a small quantity of residual worked flint and pottery which was recovered from the buried soil, several of the grave fills and the later Medieval plough soils.

### *The Buried Soil*

A buried soil, [053], through which the graves were cut, was identified across most of the site. The maximum depth of this layer was only 0.15m and it thinned to nothing in the southeast of the area. The interface between it and the Medieval plough soil above was irregular and difficult to distinguish even in section; the buried soil was, however, paler and less stony. Very few finds were recovered from this deposit, however some worked flint, and pottery sherds from the late Bronze Age/early Iron Age, the Roman and Saxon periods were identified.

### *The Cemetery*

The main focus of the excavation was the Saxon Cemetery originally identified in the evaluation (Figures 4 and 5). Twenty-one individuals (including the three which had previously been identified) were recorded and excavated. Infants, juveniles, sub-adults and adults (male and female) are represented in the burial group. The orientation of the graves is variable; both north-south and east-west. Two prone burials, F10 and F32, and one double burial, F11 (adult and child) were identified. Five of the skeletons had accompanying grave goods; these included iron knives, spindle whorls, bracelets, a bronze bowl, a bone comb and an iron spear.

No boundary to the cemetery was identified although the absence of graves in the south and far east of the site may indicate that it never extended in these directions. It is probable however that it extended/extends to the west (under the university car park); a grave-shaped feature was identified to the south west of grave F3 but as



it extended beyond the limit of excavation and was not threatened by the building work it was not investigated further. It is also possible that the cemetery extends to the northeast.

Three graves (F12, F26 and F29) would appear to have been disturbed by Medieval or possibly earlier ploughing. This phase in the sites chronology will be addressed below (page 30) after the osteological and artefactual section of the text.

As the site consists primarily of a series of inhumations, with and without grave goods, the report will reflect this with the human osteological and artefact information forming the bulk of the text. Only material which has been intentionally buried with the bodies will be discussed here; pottery, flint etc. within grave fills will appear in the Appendices. The burial assemblages have been examined by Sam Lucy and her assessment of the material is directly quoted in the text. Each object, or group of linked objects, is discussed under the relevant Feature and is assigned a unique Small Find number (e.g. SF1).

The Inhumations are presented in Feature Number order within two groups. The five which contained grave goods (Features 1, 2, 28, 31 and 32) comprise the first group, those without (Features 3, 10-16, 19 and 25-27) the second. The following observations are presented in tabular form on page 27.

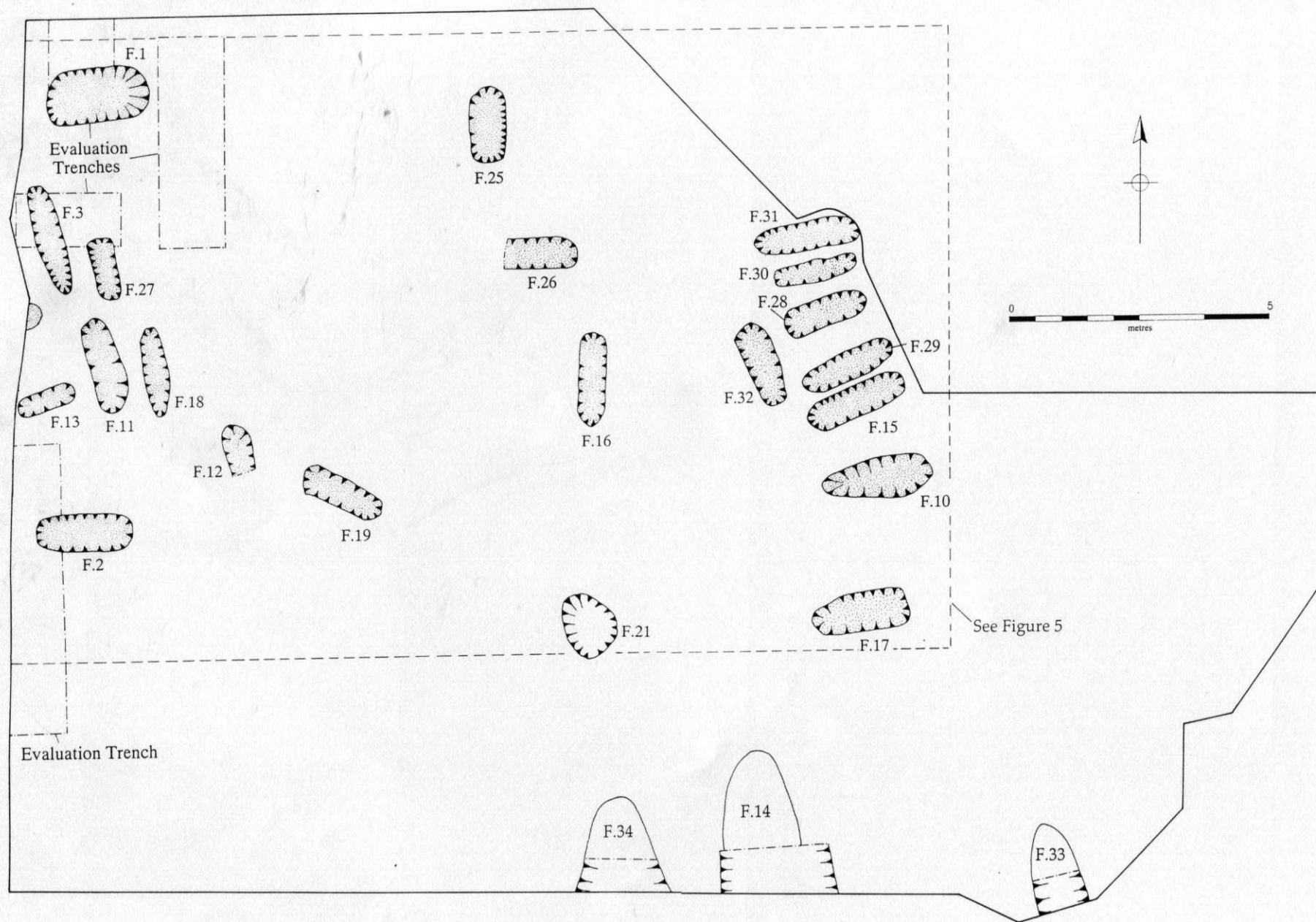


Figure 4: Area of Excavation illustrating all the excavated features (graves are stippled)

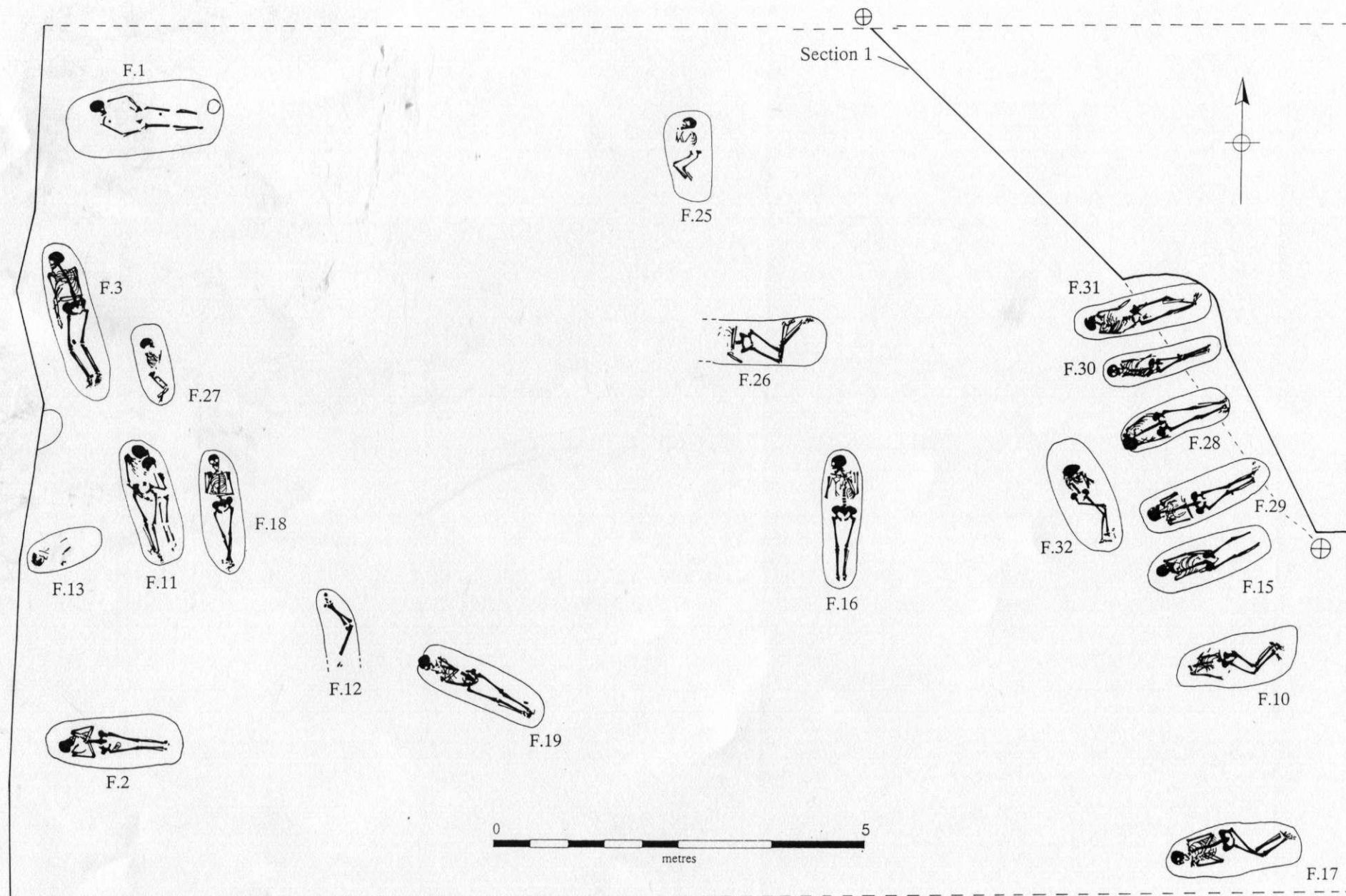


Figure 5: Layout of the Cemetery



## Inhumations With Grave Goods

### Feature 1

This individual was partially uncovered in the evaluation

#### *Skeleton [012]*

Age: young adult (based on the degree of dental wear)

Sex: female

Orientation: west-east

**Position of body:** supine. The legs are extended and the arms are slightly flexed at the elbows (the right more so than the left) with the right hand resting palm down on the hip and the left hand over the pelvis.

**Preservation:** poor; all the long bones have missing/damaged epiphyseal ends, no ribs or vertebrae survive and elements from the hands/feet are missing or survive only as scraps. The surfaces of all the surviving bones are very abraded.

#### Dentition:

8	7	6	5	4	3	2	/	1	2	3	/	5	6	7	8
8	7	6	5	4	3	/	/	/	2	3	4	5	6	7	8

**Dental pathology:** medium deposits of calculus were recorded on the buccal aspects of the left maxillary premolars and molars and on the lingual aspects of the surviving mandibular dentition. Lines of enamel hypoplasia were observed on the surviving incisors, canines and on the maxillary premolars. Although not pathological it should be noted that the degree of dental attrition is uneven; the right side is more heavily worn than the left.

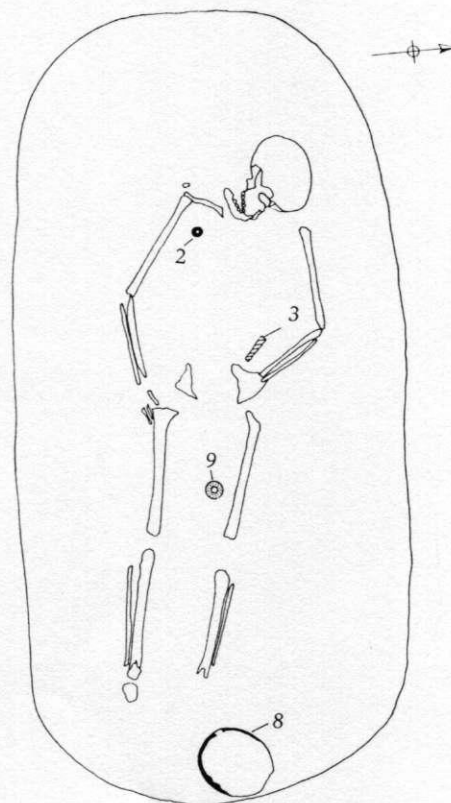
**Pathology:** none observed.

#### Burial Assemblage:

SF2 A white, flattened, circular bead or pendant, possibly of chalk (but identification uncertain), surrounded by a decorated silver band. Resembling a finger-ring, this band is indented top and bottom with small triangular stamps, and is scored roughly around its circumference with a shallow incised line. A groove in the chalk at one place may indicate that it had been suspended, and its position in the area of the upper right chest of the skeleton would support this. This pendant is of extremely unusual form, and is possibly unique. If this is the case, then dating by parallels is obviously difficult, but the use of single pendants has been suggested to be characteristic of seventh century Anglo-Saxon burial (Geake 1997: 41).

SF3 A small, iron knife blade fragment, missing its point, but with parts of the tang remaining. The degree of corrosion makes it hard to tell, but there are indications that it had a straight base and curved back, but no closer dating than that of 5th to 8th century can be assigned. Its position in the area slightly above the left hip is slightly unusual, perhaps suggesting that it was attached to a belt or girdle, rather than suspended from it, as is often the case.

SF8 Small copper alloy bowl, approximate diameter 19-20 cm, in a fragmentary (and unconserved)



condition. A portion of the rim and its connected side does, however, survive intact, and this suggests a shallow bowl, with a decorated out-turned rim. The decoration (to judge from an X-ray) seems to consist of small, evenly spaced indentations impressed from above, although visual inspection of the somewhat corroded rim conflicts with this in resembling small bosses pushed up from below. The shape of the base is impossible to discern from its present condition. The vessel appears not to be a hanging-bowl (as there are no sign of any escutcheons), and appears to be of simple form.

SF9 Small worked stone spindle-whorl, with flat base and a domed top. This was quite thin, with a large central hole. There was no noticeable decoration. Its position between the thighs may indicate suspension from a belt or girdle, rather than its use as a belt-toggle (as suggested by Lethbridge 1931: 76). There is some suggestion that such plano-convex whorls are seventh century in date (see Geake 1997: 59), but little comparative work has been done.

With its silver-banded pendant and bronze bowl, this grave is one of the most richly furnished of the sample, with several indications of a burial date in the seventh century.

## Feature 2

This individual was partially uncovered in the evaluation

*Skeleton [008]*

**Age:** young/middle adult (based solely on dental wear)

**Sex:** ? female

**Orientation:** west-east

**Position of body:** supine with legs extended and arms flexed at elbows so that the left wrist rests on the right in the area of the sternum.

**Preservation:** poor. The surfaces of all surviving bones are extremely abraded/weathered

**Dentition:**

-	-	6	5	4	3	2	1		1	2	3	4	5	6	7	8
U	7	6	5	4	3	2	/		1	2	3	4	5	6	7	8

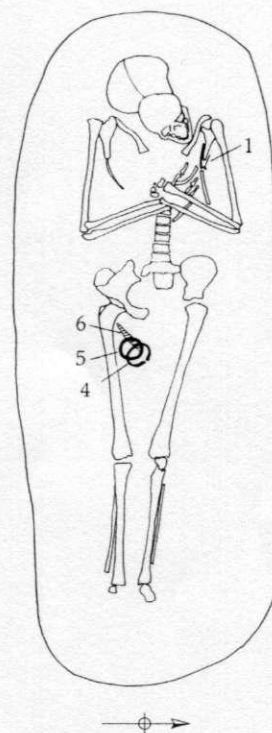
**Dental pathology:** a large (5mm) carious lesion was recorded on the occlusal/lingual aspects of the left 3<sup>rd</sup> mandibular molar. Below this tooth there is a large, deep abscess (16x10x15mm deep), which drains into the mouth and has widened and deepened the socket so that the tooth with caries is extremely loose. There are flecks of calculus on all of the surviving teeth and slight hypoplasias on the canines and 1<sup>st</sup> premolars.

**Pathology:** none observed

**Burial Assemblage:**

SF1 Small copper alloy pin, with a ridged terminal ending in a small dome. The pin is slightly bent and thinned towards the terminal. Its location on the ribs suggests its use as a dress fastening, perhaps for some form of head covering (Geake 1997: 67 - the alternative use as shroud-fastener is ruled out in this instance due to the other grave-goods found). Single pins are, however, difficult to date, as they remain in use for the whole of the period of furnished burial.

SF4 D-section, copper alloy bracelet, widening, then forming a point at the terminals which have





SF5 Heavy plain copper alloy ring of near-circular section. Internal slots and probable mineral-preserved textile suggest its use as a purse-ring, an interpretation which is supported by its location just below the right hip, in conjunction with the bracelet, which it probably contained. The diameter of 69mm falls within the normal range for bag rings (Geake 1997: 80-81). Dating is difficult, as bags are found in graves throughout the period of furnished burial, although their use as containers for small objects may be a seventh- or eighth-century feature (*ibid.*).

The dress pin, knife and bag assemblage are all evidence that this person was buried clothed, and was probably female, as dress pins and bags are more commonly associated with females. If the bracelet is of Roman type, this may represent a curated item or curio being carried in a bag. The items comprising the bag assemblage are illustrated in plate 1a after conservation.

*Skeleton [113]*

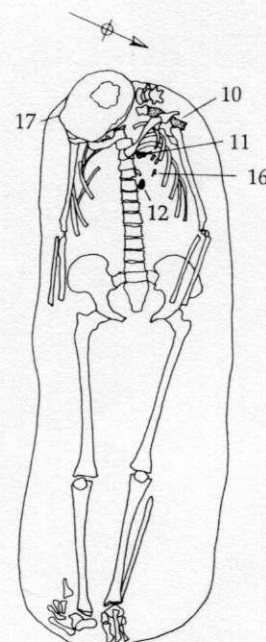
Sex: female

**Position of body:** Supine with arms and legs extended. The head and some of the cervical and thoracic vertebrae have been displaced by earlier activity/ploughing (see discussion below).

Dentition:

-	-	-	-	-	-	-	-	-	-	-	-	-	-
X	X	X	X	/	/	X	X	X	X	X	X	X	X

**Dental pathology:** all bar one of the teeth have been lost ante mortem. The surviving tooth exhibits slight calculus on all aspects, including the occlusal surface.





**Pathology:** Degenerative changes, including an increase in porosity, osteophytes and eburnation (polishing of the bone) were recorded throughout the vertebral column. Similar changes were observed on the superior processes of the sacrum and the costal facets of the ribs.

**Burial Assemblage:**

SF10 Long, slim, double-sided composite bone or antler comb, with almost all its teeth broken (plate 1b). A row of nine iron rivets running along the centre of the comb served to fasten the three plates together. Faint cross-hatch decoration was apparent on both the front and rear attachment plates on one side only, suggesting that similar decoration may once have been present on the other end of the comb. Other decoration may also have once been present. While seventh-century inhumations are sometimes associated with single-sided, humped back composite combs, the popularity of double-sided composite combs does not seem to decline between the fifth and the seventh centuries (Geake 1997: 63). It is therefore difficult to date accurately. Its position underneath the left shoulder may suggest either deliberate placement (rather than forming a part of the dress – Geake 1997: 63), or that it formed part of the bag-assemblage, which may have been disturbed.

SF11 Small copper alloy buckle, single-tongued, with a D-shaped loop and a triangular plate with three rivets at the base and a lobed terminal. Some mineral-preserved fabric is preserved around the tongue. The triangular plate is decorated with incised dots. This, although a small and relatively plain example, is a characteristic seventh-century type (Geake 1997: 76-7). Its position in the chest area suggested that it did not act as a belt-fastening, so it may have fastened a strap, or possibly a bag (or been contained within a bag).

SF12 Probable re-used coin, presumably of Roman date, with a thin rectangular copper alloy plate seemingly attached to one side, forming a wide loop, presumably for suspension. On the other side are some well-preserved textile remains, and the fragmentary remains of a further copper alloy rectangular plate, of uncertain function. This may have been a coin re-used as a pendant, with a crude loop on the rear for suspension, although it is more common for such coins to be pierced or have a loop around the rim instead (Geake 1997: 32). Re-used Roman coins are sometimes found in seventh-century bag assemblages (*ibid.*), although they are also found in earlier graves worn as pendants. Corroded together with the coin was a fragmentary piece of iron, which was presumably once attached to the other corroded piece of iron found next to it, which had a central rod visible. The purpose/function of the iron artefact(s) is uncertain, but it does not appear to form part of the coin pendant, and the whole is not a brooch.

SF16 Small copper alloy hook, with the remains of an iron rivet decayed in its hole, associated with a copper alloy rivet. The shaft of the hook is decorated with three incised bands at either end. Also in the same area were a piece of copper alloy plate and a fragment of unknown material. Exact parallels to the hook and rivet are known from the seventh-century cemetery at Burwell, in Cambridgeshire, in grave nos. 3, 6, 83 and 97 (Lethbridge 1931). While Lethbridge saw these as hook-fastenings for a wooden box or case (*ibid.*: 48), Geake (1997: 81) argues that their association with perforated leather at Bekesbourne and Painsthorpe Wold is evidence for their use with flexible bags or pouches. The position of the hook and rivet in the area of the left breast implies a bag was placed either on the chest of the deceased, or behind the back.

SF17 Large, flat-based bone spindle-whorl with domed top and circular hole through the centre. No noticeable decoration. Its plano-convex form may suggest a seventh century date (Geake 1997: 59), although this is far from clear. Its position underneath the head is unusual, although it should be noted that the head of the skeleton had been disturbed previous to excavation. The whorl may, therefore, have once formed part of the bag-assemblage.

This grave, although disturbed in the head region, has produced clear evidence for a seventh-century bag or pouch deposit. Probably fastened by the hook and rivet, it presumably contained the re-used coin, the unidentified iron which had corroded onto it, the piece of copper alloy plate associated with the hook, and possibly also the triangular buckle. The comb (plate 1b) found behind the left shoulder, and the spindle-whorl underneath the head may also have once formed part of this deposit, but were disturbed from their original positions.



Plate 1a: Burial Assemblage from Skeleton [008]

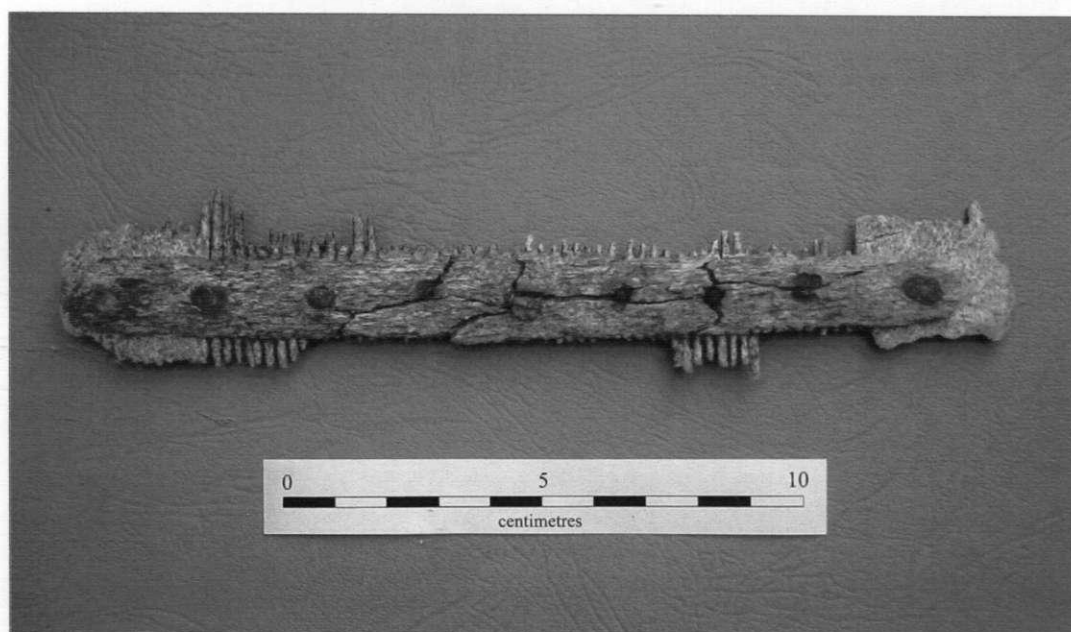


Plate 1b: Bone Comb from Skeleton [113]

Given the lack of other artefacts in this grave, this may represent a bag which was placed in the grave before the interment of the skeleton, rather than, as is more usual, being suspended from the waist.

## Feature 31

*Skeleton [122]*

Age: middle adult

Sex: male

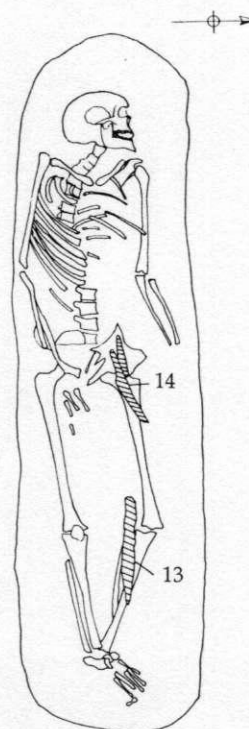
Orientation: west-southwest/east-northeast

**Position of body:** supine and extended. The right hand rests on the inner thigh and the left leg is slightly flexed at the knee.

**Preservation:** moderate. The pubic symphysis is missing and the ends of the long bones are damaged, as are the vertebrae, ribs and digits.

**Dentition:**

8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8
/	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8



**Dental pathology:** slight deposits of calculus were recorded on the buccal and lingual aspects of the surviving dentition.

**Pathology:** extra bone or enthesopathies were noted on the right pelvis, at the superior aspect of the auricular surface, and similarly on the superior margin of the auricular margin of the sacrum. The pelvis and the sacrum would appear to have started to fuse on the right side prior to death. Changes indicative of degenerative joint disease in the spine (osteophytes, Schmorl's nodes and an increase in porosity) were recorded on lower thoracic and upper lumbar vertebrae. An erosive lesion (6mm) was observed on the head of the right talus, where it articulates with the navicular.

### Burial Assemblage:

SF13 Large iron hafted spearhead. This is leaf-shaped, with a split circular haft, and would appear to be an example of Swanton's type C2. There appear to be fragmentary remains still within the shaft, and these are presumably the remains of the wooden spear. The spearhead is intact, including the point, and it has an overall length of approximately 36cm, and maximum blade width of approx. 4cm. Swanton (1974: 10) gives the range of lengths of spearheads of type C2 as between 20cm and 35cm, so this would make this a large example, but it does not appear to fall into the larger type C3, as it does not have the smaller proportion of socket length to blade length of this type. Spearheads of type C2 are found in earlier Anglo-Saxon contexts, but most appear to date to the seventh century or later (ibid.; Geake 1997: 70).

SF14 (a) larger iron knife/seax with straight cutting edge and curving back. Heavily corroded, with possible traces of an organic handle, and the tip broken off.

(b) smaller iron knife, very badly corroded, broken at the tip, but with the tang remaining.

While knives on their own are hard to date accurately, the discovery of two knives together with a spearhead strongly suggests a seventh-century date, as pairs of knives are more common in the seventh century than earlier.



## Feature 32

*Skeleton* [125]

**Age:** older juvenile/young subadult (12 years±30months)

**Sex:** -

**Orientation:** north-northwest/south-southeast

**Position of body:** prone. The head faces east with the chin resting on the grave base. Left arm lies extended below the body, the right arm is flexed so that the hand is beside the right shoulder. The legs are slightly flexed towards the east and the right femur crosses the left.

**Preservation:** good.

**Dentition:**

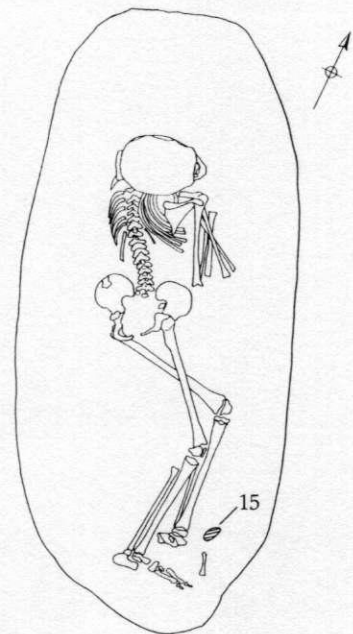
U	7	6	5	4	3	/	/		1	2	3	4	5	6	7	U
E	7	6	5	4	3	2	1		1	2	3	4	5	6	7	E

**Dental pathology:** flecks of calculus were recorded on the lingual aspect of the right mandibular 1<sup>st</sup> molar and lines of enamel hypoplasia were observed on the mandibular canines.

**Pathology:** none observed.

**Burial Assemblage:**

SF15 two fragmented knife blade fragments, which do not adjoin, comprising the tip of a blade and a shaft fragment. The shaft seems relatively straight-sided, but this is difficult to judge, given the degree of corrosion. No tang or handle remains. This is thus difficult to date, other than generally to the period of furnished burial. It is, however, in an unusual position, by the feet of this prone burial, and thus may not have formed part of the dress of the individual buried, but rather been deposited as a separate offering within the grave.



## Inhumations Without Grave Goods

### Feature 3

This individual was originally identified in the evaluation

*Skeleton* [028]

Age: mature adult

Sex: male

Orientation: north-northwest/south-southeast

**Position of body:** supine. Legs extended but slightly flexed. Right arm extended, left arm flexed at elbow, across abdomen with hand resting on right elbow.

**Preservation:** excellent although slight machine damage to skull, left pelvis, femur and humerus.

**Dentition:**

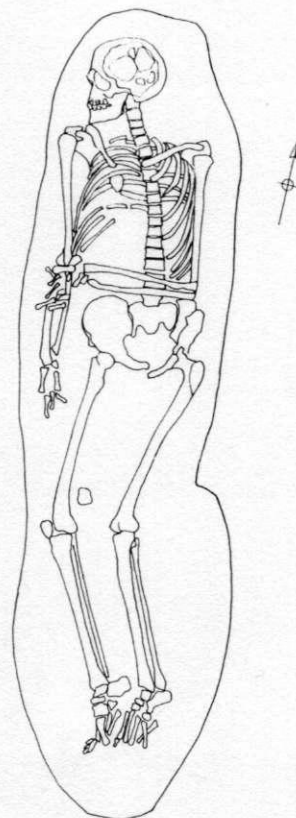
8	7	X	5	/	3	2	1		1	2	3	4	X	X	X	8
8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8

**Dental pathology:** medium/heavy deposits of calculus were recorded on the lingual aspects of both right 3<sup>rd</sup> molars and the left mandibular 2<sup>nd</sup> and 3<sup>rd</sup>. A large caries was noted on the distal surface of the 2<sup>nd</sup> right maxillary molar. Four teeth have been lost antemortem; the sockets of both the left and the right maxillary 3<sup>rd</sup> molars are completely healed indicating that they were lost some time before death, whereas the sockets for the left maxillary 2<sup>nd</sup> premolar and 2<sup>nd</sup> molar are still visible and were lost nearer to death. All the surviving teeth exhibit severe dental wear. Enamel hypoplasias were recorded on seven of the surviving teeth.

**Pathology:** a probable fracture (healed) of the right clavicle was recorded. The clavicle, although slightly damaged is severely foreshortened in comparison to the left (138mm compared to 173mm). The lateral third of the bone has thickened and here there is a plaque of smooth remodelled lamellar bone on the inferior surface. Although the superior surface is damaged there is a small cloacae on the posterior aspect of the bone. The fracture would appear to be in an advanced stage of healing although the cloacae may well be evidence of a secondary infection.

Schmorl's nodes, increased porosity and marginal osteophytes on the bodies of the lower vertebrae (L2-L5) were recorded. These are changes characteristic of degenerative joint disease of the spine.

The metopic suture is still visible; this is a non metric trait rather than a pathology.





## Feature 10

### *Skeleton [051]*

Age: older subadult

Sex: ?

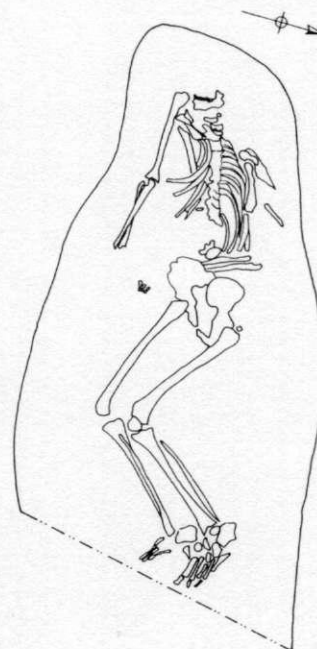
Orientation: west-east

**Position of body:** prone. The head (damaged by the machine) lies on its right side facing south, the right arm is tight against the body and flexed at the elbow so that the hand rests below the pelvis, while the left arm is again tight against the body but extended. The legs are slightly flexed at the knees towards the south/left. The skeleton has been disturbed by animal burrowing particularly in the stomach region.

**Preservation:** moderate, although the surface of many of the surviving bones is abraded.

**Dentition:**

-	7	6	5	4	3	2	/	/	/	/	/	5	6	7	E
U	7	6	5	4	3	2	/	/	2	3	4	5	6	7	E



**Dental pathology:** deposits of calculus were recorded on the buccal and lingual aspects of all the surviving teeth. The severity of the deposits ranged from slight to heavy; almost the entire buccal aspect of the mandibular and maxillary incisor crowns and mandibular canines is covered in mineralised plaque. Smooth, cream lamellar bone with some pitting was recorded above the maxillary molars, premolars and canines, particularly on the left side. Similar changes, but less severe were observed on the mandible. These changes are indicative of periodontal disease which is largely caused by the build up of calculus deposits in the crevices between the teeth and soft tissue and the bone of the jaw. The mandibular premolars exhibit lines of enamel hypoplasia. Although not pathological it should be noted that the wear on the 1<sup>st</sup> molars and the surviving incisors is heavy considering the youth of the individual.

**Pathology:** none observed.

## - Feature 11 - Double Burial

A large fragment of Roman tile rested over the head/shoulder of the child and a large white stone was found over the feet. The two individuals, an adult and a child were buried in the same grave and were recorded together (see skeleton [056]). It is probable that the bodies were interred at the same time although the child rests on the adults arm. i.e. the adult was put in the grave first.

### *Skeleton [055]*

Age: juvenile (8 years±24months)

Sex: ?

Orientation: north-northwest/south-southeast



**Position of body:** almost supine (the upper body is twisted so that the individual is lying slightly on its right side). It lies to the left of skeleton [056] but rests on top of the adult's left humerus, facing him. The left arm is flexed at the elbow so that the lower arm touches the adult pelvis.

**Preservation:** very poor. The vertebrae, the majority of ribs, the right lower arm and most of the extremities do not survive. The surviving bones are fragmentary and their surfaces are abraded. There is evidence of root/animal disturbance.

**Dentition:** the dentition is loose and is a mixture of deciduous and permanent teeth. A total of 19 teeth were recovered.

**Dental pathology:** defects in the enamel (hypoplasias), which appear as transverse lines, were observed on the crowns of the surviving permanent maxillary incisors and on the maxillary and mandibular canines.

**Pathology:** none observed.

### *Skeleton [056]*

**Age:** young/ middle adult

**Sex:** Male

**Orientation:** north-northwest/south-southeast

**Position of body:** supine, head upright (chin on left shoulder) facing the child [055]. The left arm is extended (the child lies on the left humerus) with the hand resting on the right hip and the right arm lies tight against the body, slightly flexed so that the hand lies between the legs. The legs are extended.

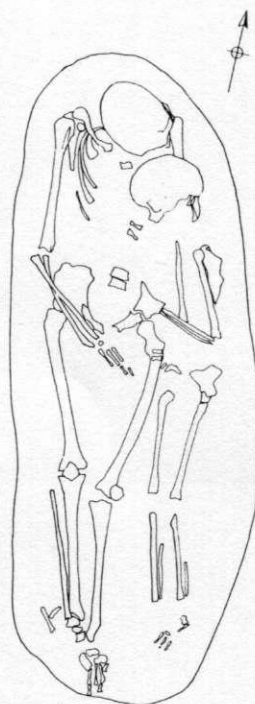
**Preservation:** good although the surfaces of all surviving bones are abraded. The top of the skull has been damaged by the machine and many of the ribs and vertebrae have been displaced by animal/root action or do not survive.

**Dentition:**

U	7	6	5	4	3	2	1		1	2	3	4	5	6	7	E
U	7	6	5	4	3	/	1		1	2	3	4	5	6	7	8

**Dental pathology:** Medium deposits of calculus were recorded on the lingual aspect of the left mandibular molars and on the buccal aspects of the left maxillary canine and 2<sup>nd</sup> molar. Enamel hypoplasias were recorded on the left mandibular canine and on the maxillary canines and left 1<sup>st</sup> premolar. Neither of the right 3<sup>rd</sup> molars are present and an X-ray would be necessary to determine whether they have yet to erupt or if they are congenitally absent. Both of the left 3<sup>rd</sup> molars are present in the jaw, although the maxillary one appears partially impacted. The wear/polishing on the buccal aspects of the mandibular canines and 1<sup>st</sup> premolars and on the lingual aspects of the right maxillary canine and central incisor suggest a near edge-to-edge bite.

**Pathology:** none observed.



## Feature 12

### *Skeleton* [059]

Age: Adult

Sex: ?male (based solely on the femoral bicondylar width)

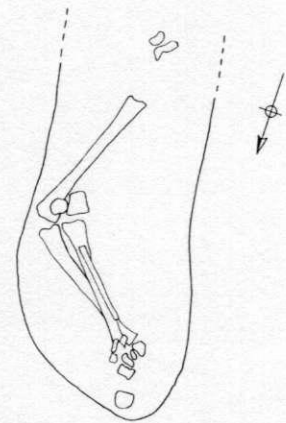
Orientation: south-southeast/north-northwest

**Position of body:** from the position of the legs, the body would have been lying on it's right side or supine with the legs twisted. The legs are flexed at the knees with the left lying over the right and the lower legs and feet are higher than the rest of the surviving body.

**Preservation:** good, although only the legs and feet survive *in situ*. The rest of the body was initially believed to have been machined away however it is now believed to have been truncated/disturbed by earlier activity (see discussion below).

**Dentition:** none available

**Pathology:** extra and enlarged facets were recorded on the left talus and navicular suggesting that the articulating foot may have been everted (twisted outwards). Enthesophytes on the talus and porosity on the deformed joint surface of the navicular may be connected to this deformity. Raised plaques of striated new bone were recorded on the distal third of the lower legs.



## Feature 13

### *Skeleton* [62]

Age: infant (4 years±12months.)

Sex: -

Orientation: west-southwest/east-northeast

**Position of body:** supine

**Preservation:** very poor; only the skull, the femur shafts, the left humerus and scraps of rib survive.

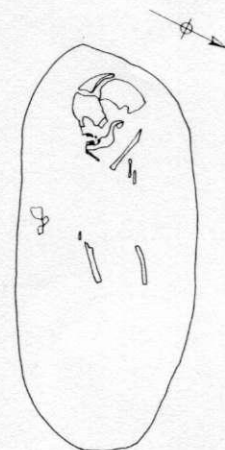
**Dentition:**

-	-	-	-	a		/	/	c	d	-
-	d	c	b	a		a	b	c	d	-

The mandibular 1<sup>st</sup> permanent molars are present.

**Dental pathology:** none observed.

**Pathology:** none observed.





## Feature 15

*Skeleton* [069]

**Age:** middle adult

**Sex:** male

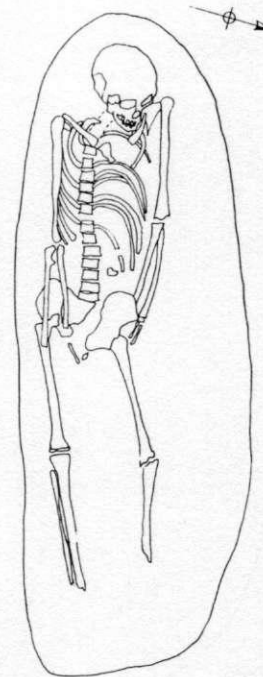
**Orientation:** west-southwest/east-northeast

**Position of body:** supine with arms extended and hands resting on thighs. The legs are extended, although the left leg is splayed slightly laterally.

**Preservation:** good although the ribs and vertebrae are very poorly preserved.

**Dentition:**

8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8



**Dental pathology:** the dentine is exposed on all the incisors and all the canines but the molars are relatively unworn. Flecks of calculus were recorded the buccal surfaces of all the dentition and on the lingual aspects of all 2nd and 3rd molars.

**Pathology:** lesions, characteristic of bone infection (osteomyelitis) were recorded on the left pelvis and left side of the sacrum. Three abscesses with smooth remodelled edges were located on the pelvis in the area of the attachment for gluteus maximus (between the posterior gluteal line and the posterior superior iliac spine). Within the bone these diverge into smaller abscesses. On the sacrum, just inferior and lateral to the left 2<sup>nd</sup> dorsal sacral foramen, an area of new bone and another possible abscess was recorded. The left pelvis and sacrum were fused in life by small spicules of new bone at the sacro iliac joint (unfortunately these broke as the skeleton was lifted). The lesions represent bone destruction and puss formation, and simultaneous bone repair. They may be caused by the introduction of bacteria locally i.e. from an adjacent wound or infected soft tissue or via the bloodstream from an infection site elsewhere in the body.

The ribs, particularly those on the right exhibit degenerative changes; osteophytes and increased porosity on the articular and non-articular facets of the tubercles and on the articular facets of the heads. The 1<sup>st</sup> costal cartilage is ossified.

Although not pathological many of the muscle attachments on the arms (pectoralis major, teres major, brachioradialis and extensor carpi radialis longus), particularly on the right arm are enlarged.



## Feature 16

*Skeleton* [072]

**Age:** older middle/younger mature adult

**Sex:** female

**Orientation:** north-south

**Position of body:** supine with legs extended, both arms flexed at the elbows and both hands rest on the right clavicle.

**Preservation:** excellent, although the feet and the right lower arm were damaged by the machine.

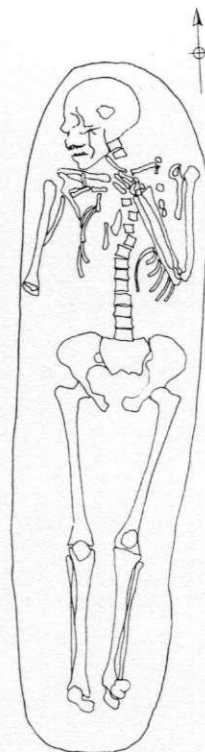
**Dentition:**

X	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8
8	/	/	5	4	3	2	1		X	2	X	4	5	X	X	X

**Dental pathology:** Six teeth have been lost prior to death. The remaining teeth exhibit severe wear; the central maxillary incisors and left lateral incisor are only pegs/roots only. Moderate deposits of calculus were recorded on the lingual surfaces of the dentition. Two carious lesions were also recorded, one on the occlusal surface of the 2<sup>nd</sup> right maxillary molar, the other on the occlusal surface of the right 3<sup>rd</sup> mandibular molar.

**Pathology:** Enthesophytes, new bone formations at tendinous/ ligament insertions, were recorded on the pelvis. These bony spurs are located superior to the auricular surfaces, close to the insertions of the iliolumbar ligaments and they extend 8mm from the bone surface.

An additional facet was recorded on the medial side of the proximal 1<sup>st</sup> metatarsal (right). Although not pathological, several of the muscle attachments on the humeri are enlarged.



## Feature 17

*Skeleton* [075]

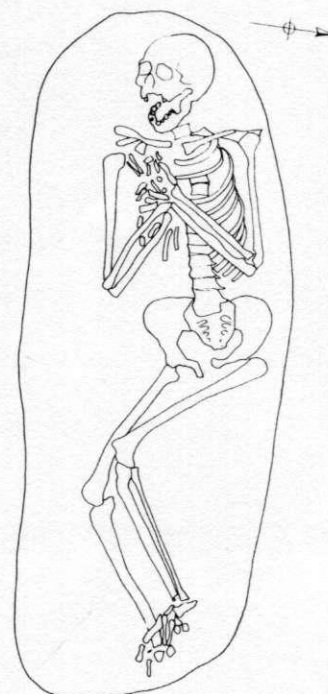
**Age:** mature adult

**Sex:** male

**Orientation:** west-east

**Position of body:** supine. The arms are tight against the body, flexed at the elbows, right over left so that the hands cross the chest. The legs are slightly bent over to the right and the left leg lies over the right.

**Preservation:** excellent



#### Dentition:

X	X	X	X	4	3	/	1	/	X	X	X	X	X	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

**Dental pathology:** a total of nine teeth, all from the maxilla have been lost prior to death. None of the sockets are visible although the alveolar bone is still rough and pitted suggesting that bone remodelling was still in process at death. There are heavy deposits of calculus on the buccal aspects of all the surviving mandibular molars and premolars, and on the lingual aspects of all the mandibular dentition.

The wear on all the surviving teeth is extremely severe; that the mandibular dentition opposing the maxillary teeth lost ante mortem is also severe, suggests that the tooth loss occurred not long before death. The mandibular incisors and canines are worn on the buccal aspect not only through the crown exposing the dentine but also the upper part of the root. Similarly the wear on the left 2<sup>nd</sup> and 3<sup>rd</sup> molars and the right 1<sup>st</sup> molar of the mandible is unequal and the mesial / buccal aspects being worn to the root. Conversely the surviving maxillary dentition is worn down through the dentine and the root on their lingual aspects.

**Pathology:** Degenerative changes were recorded throughout the body. Osteophytes, increased porosity, eburnation and Schmorl's nodes were observed throughout the vertebral column and these changes were more severe on the right side. On both clavicles the morphology of the sternoclavicular joints has been altered by marginal osteophytes and porosity. Marginal osteophytic lipping was recorded on the left distal ulna and distal 1<sup>st</sup> metacarpal. The ossification of the thyroid, of costal cartilage and the ossification and fusion of the xiphoid process are all associated with increased age.

The 4<sup>th</sup> and 5<sup>th</sup> lumbar vertebrae are ankylosed (the inferior articular facets of the 4<sup>th</sup> lumbar vertebra are fused to the superior articular processes of the 5<sup>th</sup> lumbar and the bodies are also fused). The vertebral arch of the 5th lumbar is separated from the body; this spondylolysis is genetic and/or traumatic.

A septal aperture (non metric trait) was recorded on the left humerus.

#### Feature 18

*Skeleton [78]*

Age: middle/mature adult

Sex: female

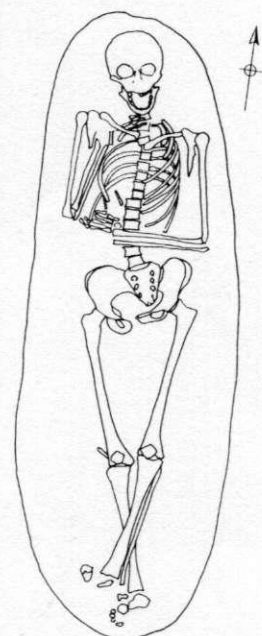
Orientation: north-south

**Position of body:** supine with arms tight against the body and the cut. The left arm was flexed so that the lower arm crossed the waist, the right arm was also flexed so that the hand rested on the right clavicle. The legs were extended and crossed (left over right).

Preservation: excellent

Dentition:

8	7	6	5	4	3	/	/	1	2	3	4	5	6	7	/
8	7	6	5	4	3	2	/	/	/	3	4	5	6	7	8





**Dental pathology:** medium to heavy deposits of calculus were recorded on all aspects (except occlusal) of the surviving teeth. Three large (6mm) carious lesions were recorded on the mandibular dentition; one on each of the left molars at the junction of the enamel and the roots. The alveolar bone below these teeth has resorbed.

**Pathology:** the left wrist exhibits changes that are characteristic of osteoarthritis; eburnation and porosity were recorded on the trapezoid, the hamate and the lunate. The vertebral column also exhibits degenerative changes. The 3<sup>rd</sup> and 4<sup>th</sup> cervical vertebrae are fused (at the bodies, the articular processes and the lamina). The cervical vertebrae exhibit porosity, osteophytes and in some cases eburnation mainly on the superior and inferior articulating facets. With the exception of T1 the thoracic vertebrae are hardly affected. The articular facets of the lower three lumbar exhibit osteophytes and porosity and on the 5<sup>th</sup> there is also an area of eburnation on the inferior articular facets. This corresponds to the changes on the superior articular facets of the sacrum. The heads of both 1<sup>st</sup> ribs and three of the left exhibit increased porosity and marginal osteophytes (the left 1<sup>st</sup> rib also exhibits eburnation).

Slight marginal osteophytes were recorded on the joint margins of both distal femora and around the head of the right humerus.

A small septal aperture (non metric trait) was recorded on the right distal humerus.

## Feature 19

*Skeleton [083]*

**Age:** younger middle adult (25-35 years)

**Sex:** ? male

**Orientation:** northwest-southeast

**Position of body:** supine. The arms are flexed at the elbows with both hands resting on the right shoulder, and both legs are fully extended.

**Preservation:** moderate although the surfaces of many of the surviving bones are extremely abraded.

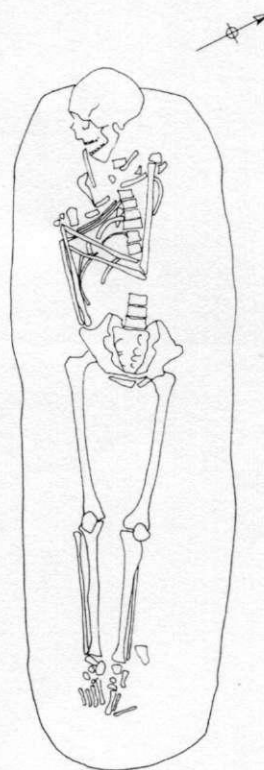
**Dentition:**

8	7	6	5	4	3	/	/	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

**Dental pathology:** flecks of calculus were recorded on all of the surviving teeth; slightly more severe deposits were observed on the buccal aspects of the mandibular incisors and canines.

**Pathology:** the distal ends of the left tibia and fibula exhibit severe erosive lesions which are associated with simultaneous bone formation and repair. The distal 100mm of the fibula is completely deformed and there is evidence of an abscess on the medial aspect of the shaft. These lesions are typical of osteomyelitis and it is possible that the tibia and fibula were fused in life by a small spicule of new bone.

Plaques of grey/brown woven new bone were observed on both sides of four sternal rib ends and these lesions may have resulted from a chest infection which was still active at death.





## Feature 25

### *Skeleton [103]*

Age: juvenile (8 years  $\pm$  24 months)

Sex: ?

Orientation: north-south

**Position of body:** flexed, lying on right side and facing west with both arms flexed at the elbows so that the hands (not present) would have lain below the mandible.

**Preservation:** poor. None of the long bones are complete, neither of the hands or feet survive and the vertebrae are represented only by the atlas. The surviving skeletal elements are fragmentary.

#### Dentition:

Permanent

Deciduous

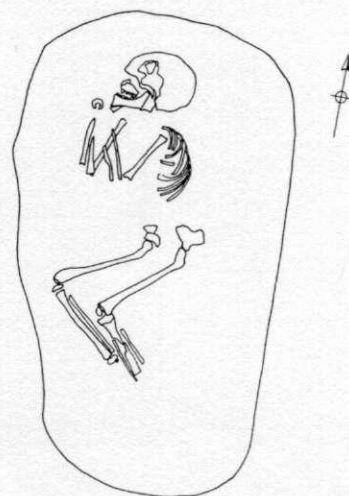
U	E	6	U	U	U	2	1		1	2	U	U	U	6	E	U
U	E	6	U	U	U	2	1		1	2	U	U	U	6	E	U

e	d	x	x	x		x	x	x	d	e
e	d	x	x	x		x	x	x	d	e

Plus 1 loose deciduous canine

**Dental pathology:** lines of enamel hypoplasia were recorded on the permanent dentition.

**Pathology:** none observed



## Feature 26

### *Skeleton [107]*

Age: older juvenile/young subadult

Sex: ?

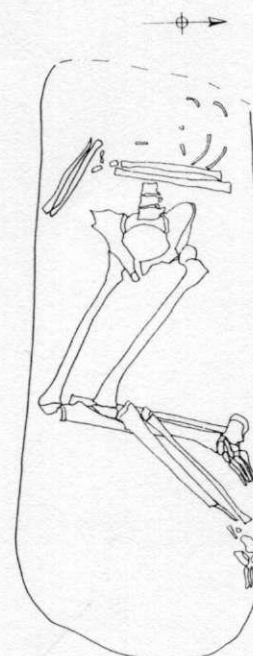
Orientation: west-east

**Position of body:** supine with legs flexed at knees (left over right). The right arm is extended and the left arm crosses the stomach area. The upper body is missing/disturbed by ploughing.

**Preservation:** the upper body (skull, shoulder girdle, humeri, and the cervical and thoracic vertebrae) is missing

**Dentition:** not present

**Pathology:** none observed



## Feature 27

### *Skeleton [110]*

**Age:** infant (3 years±12months)

**Sex:** ?

**Orientation:** north-northwest/south-southeast

**Position of body:** flexed lying on its left side facing east with its knees slightly bent and its arms flexed so that the hands (not present) would have rested below the chin.

**Preservation:** poor. None of the long bones are complete, neither of the hands survives and the vertebrae only survive as scraps.

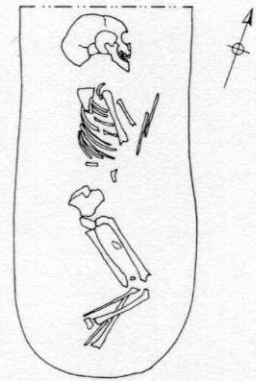
**Dentition:**

e	d	c	/	/	/	b	c	d	e
e	d	c	b	a	/	b	c	d	e

The permanent crown of the 1<sup>st</sup> left maxillary molar was also recovered and several of the unerupted permanent teeth could be seen in the damaged jawbones.

**Dental pathology:** none observed

**Pathology:** small holes and worm- like lesions in the roof of the surviving right orbit were recorded. These orbital lesions or cribra orbitalia, were active at death and are indicative of anaemia.



## Feature 29

### *Skeleton [116]*

**Age:** middle adult

**Sex:** male

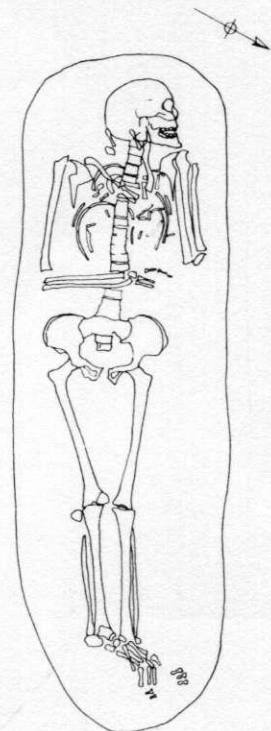
**Orientation:** west-southwest/east-northeast

**Position of body:** supine. The right arm is bent so that the lower arm crosses the stomach region, the left arm is flexed upwards so that the hand rests on the left shoulder. The legs are fully extended.

**Preservation:** Moderate although the surfaces of the surviving bones are abraded.

**Dentition:**

U	7	6	5	4	3	2	1		1	2	3	4	5	6	7	U
U	7	6	5	4	3	2	1		1	2	3	4	R	X	7	U





**Dental pathology:** a large (5mm) caries was recorded on the distal aspect of the 2<sup>nd</sup> right maxillary molar. On the mandible, a large (11mm) external draining abscess was observed below the 2<sup>nd</sup> left mandibular premolar, which survives only as a rotten stub/root. Posterior to this the 1<sup>st</sup> molar has been lost ante mortem and its socket had begun to heal over but is still visible. Slight to medium deposits of calculus were recorded on the buccal aspects of most of the surviving dentition.

**Pathology:** changes indicative of osteoarthritis were recorded in both hands. Osteophytes were recorded around the proximal joint margin of the left 1<sup>st</sup> metacarpal. The joint itself exhibited increased porosity and eburnation. Similar changes were recorded on the right trapezium where it articulates with the 1<sup>st</sup> metacarpal (missing). Degenerative changes were also noted on the cervical and lumbar vertebrae.

### Feature 30

*Skeleton* [119]

**Age:** young subadult

**Sex:** -

**Orientation:** west-southwest/east-northeast

**Position of body:** supine

**Preservation:** moderate. Many of the bones from the hands and feet are missing

**Dentition:**

U	7	6	5	4	3	2	1	/	/	3	4	5	6	7	U
U	7	6	5	4	3	2	1	1	2	3	4	5	6	7	U

**Dental pathology:** lines of enamel hypoplasia were recorded on the right central incisors and on the right mandibular premolars, canine and lateral incisor. Flecks of calculus were recorded on the buccal aspects of the right lateral incisor and canine. Despite the young age of this individual the teeth are heavily worn; the dentine is exposed on the surviving incisors.

**Pathology:** none observed



### The Cemetery: Discussion and Conclusions

In terms of Saxon Cambridge these skeletons represent a relatively large and well preserved group; whilst cemeteries of a similar date are known to have existed at St. John's playing fields and in Newnham, the skeletal material and any contextual information was never reported in any detail and the present whereabouts of the non artefactual material is unknown. Meaningful statistical inferences, however, cannot be attempted on a group of twenty-one individuals and from a burial ground whose extent and boundaries are unknown. Despite this some general comments can be made (the results are summarised in the following table).



Feature	Skeleton	Age	Sex	Orientation *	position	Grave goods	Pathology
1	012	young adult	F	w-e	supine	yes	Calculus, hypoplasias
2	008	young/ middle adult	?F	w-e	supine	yes	Caries, abscess, calculus, hypoplasias
3	028	mature adult	M	nnw-sse	supine		Calculus, caries, AMTL, hypoplasia, ?healed fracture, osteoarthritis of spine
10	051	older subadult	-	w-e	prone		Calculus, periodontal disease
11	055	juvenile	-	nnw-sse	supine		hypoplasias
	056	young/ middle adult	M	nnw-sse	supine		hypoplasias, calculus
12	059	adult	?M	sse-nnw	supine		NSPI, abnormal facets on foot
13	062	infant	-	ws-w-ene	supine		
15	069	middle adult	M	ws-w-ene	supine		Calculus, osteomyelitis and ankylosis (pelvis/sacrum)
16	072	older mid/ younger mature adult	F	n-s	supine		AMTL, calculus, caries
17	075	mature adult	M	w-e	supine		AMTL, calculus, osteoarthritis of spine, ankylosis and spondylolysis of vertebrae
18	078	middle/ mature adult	F	n-s	supine		Calculus, caries, osteoarthritis of hand, ankylosis of vertebrae,
19	083	younger middle adult	?M	nw-se	supine		Calculus, osteomyelitis and ankylosis in tibia/fibula
25	103	juvenile	-	n-s	flexed		hypoplasias
26	107	older juvenile/ young subadult	-	w-e	supine		
27	110	infant	-	nnw-sse	flexed		Cribra orbitalia
28	113	mature adult	F	ws-w-ene	supine	yes	AMTL, calculus, osteoarthritis of spine
29	116	middle adult	M	ws-w-ene	supine		Calculus, caries, abscess, AMTL, osteoarthritic changes to both hands
30	119	young subadult	-	ws-w-ene	supine		Calculus, hypoplasias
31	122	middle adult	M	ws-w-ene	supine	yes	Calculus, osteoarthritis of spine
32	125	older juvenile/ young subadult	-	nnw-sse	prone	yes	Calculus and hypoplasia

\* Position of the head is referred to first

AMTL = ante mortem tooth loss

NSPI=Non specific infection

#### Summary Table

## *Demography*

Of the twenty-one individuals examined thirteen adults (61.9%) and eight immature individuals were identified.

Immature					Adult					
neonate	infant	juvenile	juvenile/ subadult	subadult	young	young/ middle	middle	middle/ mature	mature	adult
0	2	2	2	2	1	2	4	2	3	1

In a 'normal' cemetery population one would expect a high proportion of deaths to occur in infancy, either at or around birth or in early childhood. Similarly one would expect a relatively high proportion of deaths amongst mature individuals. Here, with the exception of the single young adult, [012] and the four middle adults [015], [069], [116] and [122] there is an even spread of ages at death. The absence of neonate burials is not unusual; their small, fragile bones are often absent or under represented in archaeological assemblages. Amongst the thirteen adult skeletons both females and males were identified; including those that were provisionally sexed, five females (38.5%) and eight males (61.5%) were identified. It should be stressed here that the limits of the cemetery are unknown and that these twenty-one individuals are almost certainly part of a larger group.

There appears to be no obvious relationship between the age and/or sex of an individual and the burial rite afforded them, e.g. orientation, body position or if they were buried with grave goods.

## *Pathology*

The degree of disturbance or truncation, the condition of the bone and, as importantly, which skeletal elements survive, not only effects the potential for determining the age and sex of individuals but also of recognising pathological conditions. Although the assemblage was in relatively good condition the surfaces of many of the bones were abraded and root damaged. This is likely to have led to an under diagnosis of conditions such as periostitis. Similarly the damage/absence of many of the epiphyseal ends of long bones and the many missing extremities is likely to have affected the number of cases of joint disease recognised.

Arthritic changes involving the spine were recorded on five of the adult individuals. These were all middle or mature aged individuals and the degenerative changes would be a result of increased age and general wear-and-tear on the skeleton. Osteoarthritic changes were recorded on the hand(s) of skeletons [078] and [116].

Dental diseases were the most commonly recorded pathologies in the small group. The dentition of 19 individuals was examined (skeletons [059] and [107] being headless). Of these 17 (89.5%) displayed one or more dental pathologies. Calculus, caries, abscesses, ante-mortem tooth loss, periodontal disease and enamel hypoplasia were all recorded. Further study would be necessary to establish the prevalence of these diseases so that they could be compared to other contemporary sites such as Barrington (Malim and Hines 1998). However, initial observations

suggest that dental hygiene was not a high priority amongst this group with even young individuals having heavy deposits of mineralised plaque on their teeth (e.g. the subadult [051] has calculus almost entirely covering the crowns of its anterior teeth). Defects in the enamel, known as enamel hypoplasias, appear quite common; they were recorded on the teeth of eight individuals and are indicative of nutritional stresses or severe feverish illnesses during childhood.

The degree of dental wear is quite severe and even several of the immature individuals have dentine exposed on the permanent dentition. This is not unusual in the Saxon period when diet and methods of food preparation are believed to have accelerated dental attrition. One slight concern is that this may have led to the over aging of some individuals.

Whilst initial observations suggest that the degenerative changes observed in this group and the degree of dental disease recorded is not unusual, the incidence of ankylosis (fusion of bone) and osteomyelitis (infection in the bone) does appear relatively high and will deserve further examination.

#### *Dating of the Burials* S. Lucy

While only three of the five furnished graves can be assigned a date in the seventh century (F1, F28 and F31), there seems to be little evidence from the cemetery as a whole, which would point to an earlier date. There are no brooches, beads or weapons other than the seax and spearhead (F31), and no goods can be definitely assigned to the fifth or sixth centuries. We are thus dealing here with a relatively sparsely furnished cemetery of the seventh century, and possibly later. Eighth century and later graves are notoriously hard to date, given their characteristic scarcity of grave-goods, and it is entirely possible that this cemetery, and others like it, carry on in use after the traditional cut-off point of AD700. This issue could be resolved by radiocarbon dating a few of the skeletons within this cemetery, to ascertain possible date ranges.

However, given that the dateable seventh-century graves are not concentrated into one area of the site, with F1 on the western edge of the excavated area and F28 and F31 on the eastern edge, it is possible that use of this cemetery was just restricted to the seventh century. This might be supported by the rather variable orientation of the graves, and the variations in body position which were observed. Flexed burials, and burials on their side tend to become rare after the seventh century (Lucy 1998), and orientation tends to become more uniform.



### *Disturbance of the Graves*

Three graves F12, F26, and F28 have been disturbed (it is probable that F10 has also been disturbed). Initially it was feared that over zealous machining was the cause, but careful examination of the machined spoil did not produce any disarticulated material and recording of the skeletons in the ground revealed that the bodies had been disturbed, probably by ploughing in the Medieval period or earlier. The proximal ends of the surviving bones of skeleton [059] showed old post mortem breaks as well as recent ones. Although the upper body of the juvenile/subadult [107] was missing the surviving ribs were fragmented and not in their correct anatomical position. The most convincing example of this disturbance is the skeleton of the mature female [113] whose head and vertebrae have been dragged from their anatomical position (plate 2). The machine clipped the top of her skull as the Medieval plough soil was being removed. No grave cut was seen at this level and hand excavation revealed that the skull had been displaced so that it was approximately 15cm higher than the top of the truncated grave cut. In addition five displaced but still articulating cervical/thoracic vertebrae were identified in the area of the left shoulder. Although it is not possible calculate when this disturbance/early ploughing commenced, that the vertebrae and indeed the skull and the mandible still articulate suggests that they were displaced before the complete decomposition of the ligaments, soft tissue etc.

Undoubtedly all the graves have been truncated to a greater or lesser degree. The maximum depth of the grave cuts ranges from only 0.06m (F13 and F26) to 0.48m (F17) although the majority fall between 0.20 and 0.30m in depth. The tops of the truncated grave cuts were recorded at between 8.43 and 8.72m O.D. (F19 and F25 to F11 respectively)

Three shallow, wide, flat bottomed features (F14, F33 and F34) were recorded at the southern end of the site, jutting out of the section (Figure 4). Their relationship with the overlying build-up of plough soil is uncertain but a sherd of 13<sup>th</sup> century pottery was recovered from F14 and they have tentatively been interpreted as early furrows. Similar features were recorded in the evaluation.



Plate 2: Skeleton [113], arrow indicates displacement of vertebrae and skull.



Plate 3: Carefully laid out graves in the northeast of the site (from left to right F 29, F 28, F 30 and F 31 with juvenile F 32 behind them)



### *The Medieval Headland*

A substantial accumulation of Medieval plough soil, [092] and [093] that sealed the cemetery was recorded in section (Figure 6). Its depth varied across the site from c.0.40m in the south to c.0.90m in the north and has been interpreted as a probable headland associated with the Medieval ridge and furrow system.

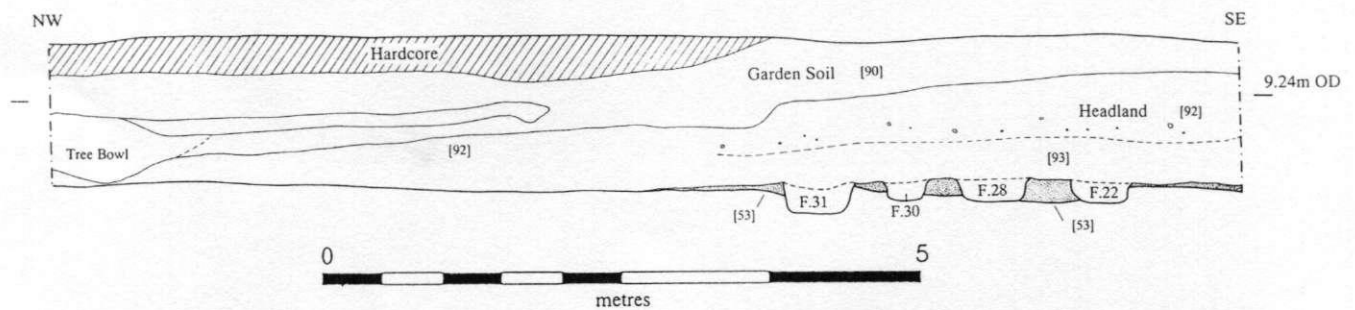


Figure 6: Southwest facing section showing the headland, grave cuts and the buried soil.

Its lower horizon is made up of the clods of the buried soil, which have been worked into the medieval layers above, and probably represents an early phase of ploughing possibly contemporary with the truncation of the cemetery. The interface between this and the dark greyish brown loam above it is irregular. The build up of soil contained sherds of prehistoric and Saxon pottery and had increasing amounts of gravel in its upper half. Although no Medieval pottery was recovered from the sections, 13<sup>th</sup> century sherds were identified in these layers during the evaluation.

Both the Medieval headland and the buried soil [053] which the Saxon graves cut were sampled for pollen and soil micromorphology (the samples were taken from the southwest facing section, figure 6). No pollen was recovered from the samples (pers. com. R. Scaife) and this may be due to extensive modern root disturbance and also the slightly acidic soil. The results of the soil assessment are presented in Appendix 7.

## Discussion

The earliest remains on the site are represented by an apparently isolated late Bronze Age/early Iron Age pit containing a quantity of domestic wares, animal bone and worked flint. Residual prehistoric pottery and worked and burnt flint were also recovered from the buried soil, the grave fills and indeed the Medieval plough soil. A truncated buried soil, disturbed by early ploughing and sealed by the Medieval headland, was recorded across most of the site.

Twenty graves of differing orientations and containing the skeletons of twenty-one individuals were recorded cutting through the buried soil. The grave goods accompanying five of these burials date the burial ground to the 7<sup>th</sup> century. Both sexes and adult and immature individuals were identified. Whilst it is possible that the excavation has established the southern limit of the cemetery, the northern, eastern and certainly western limits are not defined. The bodies appear to be carefully laid out (plate 3) and the lack of intercutting suggests that the graves may have been marked. That the graves were disturbed and/or truncated by early activity, probably ploughing is certain, but how early or at what point the use of the land changed from being a burial ground to arable land is not known.

Very little settlement evidence from the Saxon period has been found in Cambridge but it is believed that the areas of settlement were focused around Market and Peas Hill, Castle Hill and possibly Newnham. In 1910 two inhumations were found in the garden of Croft Lodge, Newnham, thought to be no later than 6th century in date. Two large cremation urns were also found in this area and spearheads labelled as 'Barton Road 1893' in the Cambridge Museum are possibly from the same site (Fox 1923:244). The largest cemetery identified in Cambridge is thought to be that 500m to the north within St John's Playing fields. At least 100 cremation urns and 30 skeletons were observed at this site, though it is thought that many graves had already been destroyed prior to any investigation (Fox 1923:242). Unfortunately as most of the reported graves or burials in the locality were found at the end of the 19th century, little information is available regarding the actual skeletal material and related archaeology. The cemetery identified at King's Garden Hostel therefore offers a unique resource for further study.

The Medieval headland/bank can be seen today as an earthwork running broadly east-west on the northern side of the King's Fellows Gardens (it has been landscaped on its northern side to form a croquet lawn). Verification of the location of this headland is seen on Ravensdale & Hall's map of the West Fields which is based on their work on the 'Corpus Terrier', a document listing all the titheable lands belonging to Corpus Christi College in c. 1360 (Ravensdale and Hall 1976). The map, reproduced as Figure 3, depicts the area when it was in use as arable lands in the 14<sup>th</sup> century and shows the headland to be separating two furlongs in the Carm Field area (labelled 10 and 12). The location of the development area in King's Fellow Garden can be approximated from the location of 'Long Baulk' which adjoins Carm Field and which today forms the line of Grange Road.

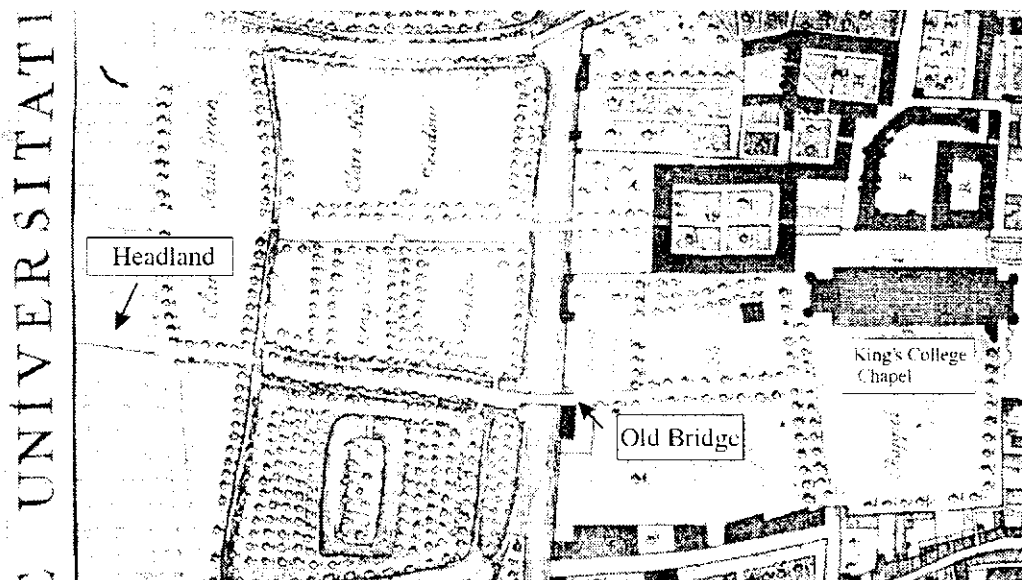


Figure 7: Extract from Loggan's map of Cambridge, 1688.

It is possible that as the headland developed it was used as a causeway/trackway through the West Fields. The headland can be seen as a probable trackway amidst depictions of ridge and furrow at the far western limit of Loggan's plan of Cambridge dated to 1688 (Figure 7), and Custance's plan of 1798. It follows the same alignment and appears to join the causeway/avenue formally known as King's College Way (Ravensdale & Hall 1976:155). This raised causeway/avenue, through the meadows to the west of the Cam, used to cross the river into King's College and is seen on various maps from the 16th century through to the early 19th century. It is known that a bridge was built at the end of this causeway (to the north of its present position) as early as 1472-73 soon after the College was founded. This bridge was replaced a number of times until the river crossing was relocated to the present site in 1819/20 with a new adjoining avenue (Willis & Clark 1886: 567-8). The footings to the 17th century stone bridge were found in 1991 in the same area depicted in the early maps and plans (Evans 1991c). The old causeway was partly left *in situ* in the form of mounds still seen today due to the direction of Rev. Simeon, a fellow of the college who helped fund the building of the new bridge (Willis & Clark 1886: 573-4).

#### Acknowledgements

The site was excavated by Kerry Harris, Emma Beadsmoore, Jen Bredenberg, David Hall and Nick Armour. Norma Challands processed the finds and Andrew Hall produced both the computer-aided illustrations and the inked-up drawings. The project manager was Chris Evans.

Many thanks for the assistance and hospitality on site of Geoff (Head Gardener) and his staff at the King's Fellows Garden. King's College funded the project.



## Appendix 1: Context and Feature Descriptions

### *Prehistoric*

**F.21** [085], [086] fills, [086] cut. The pit is oval in plan with near vertical sides and a flat base, which slopes gently towards the south-east (1.27m x 0.97m x 0.40m). The upper 0.17m of the fill, which may represent a natural silting up of the pit, is a mid yellowish grey sandy silt with occasional small rounded stones and rare flecks of charcoal. The primary fill is 0.23m deep and is a mid/dark grey sandy silt with frequent small angular stones, and charcoal flecks and fragments. Worked and burnt flint, animal bone and 54 sherds of late Bronze Age/early Iron Age pottery were recovered from this fill. There are many intrusive roots.

### *Buried Soil/subsoil Layer*

[053] Mid grey brown sandy silt mottled with patches of orange, yellow natural sand. Rare flecks of charcoal and small stones. Only a few sherds of pottery (prehistoric, Roman and Saxon) and worked flint were recovered from this layer, and then only from the sections and cleaning around the graves. The Saxon graves cut this layer which has been interpreted as a truncated buried soil and is probably the same as [031] in the evaluation. The layer did not appear to exist in the far east of the site. Also given numbers [095] and [096] in the east and south facing sections.

### *The Saxon Graves*

Details pertaining to the skeletons and any grave goods appear in the main text

**F.1** [010]cut, [011]fill, [012]skeleton. The western end of the grave was identified in the evaluation but the skeleton was not lifted. A wide, sub rectangular cut, aligned east-west, with steeply sloping sides and a flat base. The dimensions are: length 1.90m, width 1.10m and depth 0.27m. The skeleton lies in the northern half of the grave. The grave was backfilled with a mid brown grey sandy silt with rare gravel and moderate flecks of charcoal. Finds included sherds of prehistoric and early Saxon pottery, worked flint and fragments of animal bone.

**F.2** [007]cut, [009]fill, [008]skeleton. The western end of the grave was identified in the evaluation but the skeleton was not lifted. Well defined, sub rectangular cut, aligned east-west with rounded ends, near vertical sides and a flat base. The dimensions are: length 1.80m, width 0.70m and depth 0.35m (max.). The grave was backfilled with a mid- dark brown grey sandy silt with occasional small stones and rare flecks of charcoal. Finds included Roman pottery sherds, worked flint and animal bone fragments.

**F.3** [027]fill, [028]skeleton, [105]grave cut. The Grave was identified in the evaluation but the skeleton was not exposed. The long, narrow cut was sub rectangular in plan with rounded ends and steeply sloping sides and a flat base. The cut was aligned north-northwest to south-southeast. The dimensions are: length 2.15m, width 0.51m (max) and depth 0.18m. The fill was a mid grey brown sandy, silt with occasional small subangular gravel inclusions.

**F.10** [050]fill, [051]skeleton, [052]grave cut. Very ill defined, wide cut, aligned east-west, ovoid in plan with gently sloping sides. The dimensions are: length 0.90m, width 0.90m and depth 0.18m. The area has been greatly disturbed by large roots. The fill is a soft light mid grey/brown sandy silt with patches of yellow sand. Lots of animal and root disturbance. A sherd of 2<sup>nd</sup> century Roman pottery was recovered from the fill.

**F.11** Double Burial. [054]fill, [055]. juvenile skeleton, [056]adult skeleton, [057]grave cut. The sub rectangular cut is aligned north northwest-south southeast and has rounded ends and steeply sloping sides. The dimensions are: length 1.70m, width 0.65m and depth 0.33m. The fill is a mid grey sandy silt with rare small stones and occasional charcoal flecks. There is much root disturbance. Prehistoric and Roman pottery were recovered from the fill.

**F.12** [058]fill, [059]skeleton, [060] grave cut. The cut is aligned south southeast-north northwest and is heavily truncated in the southeast. The dimensions are: 1.30m long (min), 0.50m wide and 0.13m deep (max). The fill is a pale/mid grey sandy silt with rare small stones.

**F.13** [061]fill, [062]skeleton, [063]grave cut. The cut is aligned east northeast-west southwest is ovoid in plan with gently sloping sides and a flat base. The dimensions are: length 1.04m, width 0.44m and depth 0.06m. The fill is a soft mid grey/brown silty sand with rare small stones.

**F.15** [068] fill, [069] skeleton, [070] grave cut. The cut is aligned east northeast-west southwest, is oval in plan with steeply sloping sides and a base which slopes down to the west. The dimensions are: length 1.75m, width 0.62m and depth 0.22m. The fill is mid grey silty sand with moderate small stones and occasional flecks of charcoal. Lots of root disturbance. A sherd of Roman pottery was recovered from the fill.

**F.16** [071] fill, [072] skeleton, [073] grave cut. The cut is aligned north-south and is sub rectangular in plan, with rounded ends, near vertical sides and a flat base. The dimensions are: length 1.70m, width 0.50m, depth 0.12m. The fill is a moderately compact mid-brown silt with occasional small, subangular stones. A cow's molar was recovered from the fill.

**F.17** [074] fill, skeleton [075], [076] grave cut. The cut, aligned east-west, is sub rectangular with rounded ends and near-vertical sides. The dimensions are: length 1.70m, width 0.75m (max.), depth 0.40m (max.). The fill is a dark grey sandy silt with frequent small stones and occasional flecks of charcoal. The stones become more frequent towards the base and at the eastern end, around the feet they are concreted with iron panning. A fragment of Roman tile was recovered from the fill.

**F.18** [077] fill, [078] skeleton, [079] grave cut. Elongated oval grave, aligned north-south with well defined edges, vertical sides and flat base. The dimensions are: length 1.70m, width 0.57m (max.), depth 0.20m (max). The fill is a grey sandy silt with moderate flecks of charcoal and occasional small stones. An iron Fe pin or nail was recovered c.5cm above the right knee.

**F.19** [082] fill, [083] skeleton, [084] grave cut. Sub rectangular cut, aligned northwest-southeast with rounded ends, near vertical sides and a flat base. The dimensions are: length 1.95m, width 0.60m, depth 0.34m (max). The fill is a moderately compact mid brown silty sand with occasional small stones. Sherds of prehistoric and Saxon pottery, a Roman tile fragment and a worked flint were recovered from the fill.

**F.25** [104] fill, [103] skeleton, [102] grave cut. A wide, sub rectangular cut, aligned north-south with rounded ends and near vertical sides. The dimensions are: length 1.28m, width 0.70m, depth 0.21m. The fill is a mid brown, sandy loam with moderate small and medium angular flints. Lots of root disturbance.

**F.26** [108] fill, [107] skeleton, [106] grave cut. A sub rectangular cut, aligned east-west with well defined edges and base, rounded corners and steep sides. The western part has been completely truncated. The dimensions are length 1.70m, width 0.60m, depth 0.06m. The fill is a pale brown/grey sandy silt with yellow mottling and moderate flecks of charcoal. Very compact at the western end.

**F.27** [111] fill, [110] skeleton, [109] grave cut. Sub rectangular cut, aligned north northwest-south southeast with rounded ends, near vertical sides and flat base. The dimensions are: length 1.15m, width 0.52m, depth 0.17m. The fill is moderately compact mid brown sandy silt with rare sub angular flints.

**F.28** [112] grave cut, [113] skeleton, [114] fill. Sub rectangular in plan with rounded corners, near vertical sides and aligned east northeast-west southwest. The dimensions are: length, 1.50m, 0.50m, depth, 0.22m. The fill was a mid grey sandy silt with occasional patches of pale yellow sand, small sub angular stones and flecks of charcoal. Frequent roots.

**F.29** [117] fill, [116] skeleton, [115] grave cut. A sub rectangular cut, aligned east northeast-west southwest, with rounded ends, concave sides and a flat base. The dimensions are: length 1.82m, width 0.52m, depth 0.29m. The fill was a mid brown silty sand with patches of orange sand and hard pale sand. Moderate inclusions of small sub angular gravel stones and rare charcoal flecks. Frequent roots.

**F.30** [120] fill, [119] skeleton, [118] grave cut. A narrow sub rectangular cut with diffuse, irregular edges and aligned east northeast-west southwest. The dimensions are: length 1.65m, width 0.40m, depth 0.13m. The fill is a mid grey/brown sandy silt with moderate flecks of charcoal and occasional small stones. Frequent roots.

**F.31** [123] fill, [122] skeleton, [121] grave cut. A sub rectangular cut, aligned east northeast-west southwest, with rounded ends, near vertical sides and a flat base. The dimensions are: length 1.90m, width 0.50m, depth 0.30m. The fill is mid/dark sandy silt with moderate small flint stones and occasional charcoal flecks. Frequent roots.

**F.32** [126] fill, [125] skeleton, [124] grave cut. The cut is ovoid in plan with near vertical sides and is aligned north northwest-south southeast. The dimensions are: length 1.60m, width 0.70m wide depth 0.20m. The fill is a moderately compact, mid brown sandy silt with occasional sub-angular flints

#### *Possible Early plough Furrows*

These three features were all recorded jutting out of the southern section (Figure 4). Although they cut the buried soil their relationship with the plough soil above was uncertain. It is likely that they are associated. Similar features were recorded in the evaluation trenches.

**F.14** A possible n-s running furrow/ditch butt end jutting out of the southern section. [064] cut, [065] fill. Linear in plan, with a near flat base and with an indistinct but rounded butt end. The dimensions are: 2.27m long (min.), 1.00m wide and c. 0.15m deep. Interface with medieval plough soil, [066] is difficult to see. The fill is a loose to moderate mid-dark brown silty sand with frequent flint gravel inclusions and patches of orange sand. A 13<sup>th</sup> century pot sherd was recovered from the fill.

**F.33** A possible n-s running furrow/ditch butt end, jutting out of the southern section. [127] cut, [128] fill. Linear in plan with distinct edges (not seen in the plough soil) and a rounded northern end with a gentle slope. The east and west sides are steep and the base is flat. The dimensions are: length 1.75m (min.), width 0.90m, depth 0.15m. The fill is a dark grey brown, moderate to loose silty sand with moderate gravel and patches of orange/yellow sand.

**F.34** A possible n-s running furrow/ditch butt end, jutting out of the section. [129] cut, [130] fill. Linear in plan with indistinct edges (not seen in the plough soil) and a rounded northern end with a gentle slope. The east and west sides are steep and the base is flat. The dimensions are: length 1.80m (min.), width 1.20m and c. 0.20m deep.

#### *Tree bowls (not illustrated in Figure 4)*

**F.20** tree bowl/pit [081] cut, [080] fill. Sub circular feature with steep sides and a rounded base, jutting out of the southern section to the east of F.14. The dimensions are 0.80m x 0.90m (min.) x 0.46m (depth). The fill is a mid yellowish grey sandy silt with frequent small angular stones and occasional



flecks of charcoal. There is considerable root disturbance; in fact a large shrub/small tree survived above this feature. A small fragment of Cu alloy and some scraps of animal bone were recovered.

**F.22** tree bowl/pit. [088] cut, [089] fill. This tree bole is cut by grave F.19. Sub circular cut with sharply sloping sides, and near flat sides. The dimensions are: 1.00m x 0.60m x 0.27m. The fill is a mid brown/grey sandy silt with purple mottling. No inclusions and no finds.

**F.23** tree bowl/pit. [097] cut, [098] primary fill, [099] secondary fill . The relationship with F.24 is uncertain. Sub circular feature with irregularly, stepped sides and a flat base. The dimensions are: 1.60m x 1.10m x 0.50m. The primary fill is c. 0.10m deep and is a loose, yellow/brown silty sand. Above this the fill is a light brown sandy silt with occasional small stones. One fragment of 13<sup>th</sup> century pottery was recovered.

**F.24** tree bowl/pit. [100] cut, [101] fill. Relationship with F23 is uncertain. Sub circular feature, smooth sided and flat bottomed. The dimensions are 1.30m x 1.20m x 0.50m. The fill is a moderately compact light brown sandy silt with occasional small stones.

#### *The Medieval Plough soil*

Because the area was machined in three stages this layer was given several numbers. Sherds of pottery dated to the late Bronze Age/early Iron Age and the 13<sup>th</sup> century were recovered, together with worked flints and fragments of cow bone.

[092] and [093] in the southwest facing section; a dark greyish brown sandy clay loam with occasional gravel and charcoal flecks. The lower part of it is mixed with mid grey patches of sandy silt which are probably clods of the buried soil. Higher up the section the layer contains more gravel. Maximum depth c. 0.90m. Lots of root disturbance

[066] in the north facing section; a mid to dark brown sandy silt with occasional small and medium subangular flint stones. Maximum depth c.0.65m. Lots of root disturbance.

#### *Modern-Post Medieval Layers*

Context numbers were not allocated to the tarmac and gravel paths, or to the foundations of the green house. Only the modern garden soil was recorded in detail any detail;

[067] in north facing section, [090] in south west facing section. Mid-dark brown slightly clayey silt with moderate small and medium stones and lots of root disturbance. 18<sup>th</sup> century pottery sherds, 17th century clay pipe and modern bricks were recovered from this deposit of modern garden soil.

## Appendix 2: The Catalogue of Finds (evaluation and excavation)

### Abbreviations:

PT	Pottery	TL	Tile	ST	Stone
BN	Bone	BR	Brick	WS	Worked stone
FL	Flint	BT	Brick/tile	BS	Building stone
BF	Burnt Flint	BC	Burnt clay		
MT	Metal	TP	Tobacco pipe		

Cat. No.	Context	Feature	Mat	No.	Location	Notes	S.F. No.	Wt.
013	011	1	BN	1	grave fill-evaluation; Tr 2	Butchered, sheep/ pig sized femur shaft		12
014	011	1	FL	1	grave fill-evaluation; Tr 2	Hinged flake		<1
015	011	1	PT	5	grave fill- evaluation; Tr 2	Saxon, pre-850, incl. 1 v. fine rim		39
050	011	1	PT	3	grave fill	Saxon		31
051	011	1	BN	13	grave fill			28
052	011	1	TL	1	grave fill	decor.?		13
053	011	1	BF	2	grave fill			6
054	011	1	FL	1	grave fill			3
055	011	1	OT	1	grave fill	nut?, wood,? - charred		1
016	012	1	MT	1	evaluation; Tr 2	Ag + calcareous mat. bead	2	
017	012	1	MT	2	evaluation; Tr 2	Fe blade frags 2=1	3	
036	012	1	MT			Cu alloy bowl	8	
043	012	1	WS	1		spindle whorl	9	9
103	012	1	BN			Human skeleton		
124	007	2	PT	1	grave fill	by disarticulated toes		3
125	007	2	BN	1	grave fill	animal by disarticulated toes		2
007	008	2	MT	1	evaluation; Tr 3	Cu Alloy pin	1	
028	008	2	MT	1		Cu alloy bracelet	4	24
029	008	2	MT	1		Cu alloy purse ring	5	55
040	008	2	MT	4		Fe knife	6	43
104	008	2	BN			Human skeleton		
008	009	2	PT	1	evaluation; Tr 3	14thc Ely		<1
009	009	2	BN	2	evaluation; Tr 3	Surface; cattle sized tibia shaft, butchered 2=1		23
010	009	2	BF	3	evaluation; Tr 3	Upper fill of grave; unworked		6
011	009	2	FL	1	evaluation; Tr 3	Upper fill of grave; debitage		<1
012	009	2	ST	1	evaluation; Tr 3			815
044	009	2	PT	2	gravefill	Roman		15
045	009	2	BN	10	S. Evaluation - Finds contaminated			6
046	009	2	TP	1	S. Evaluation - Finds contaminated	stem		1
047	009	2	FL	2	S. Evaluation - Finds contaminated			3
048	009	2	BF	2	S. Evaluation - Finds contaminated			2

Cat. No.	Context	Feature	Mat	No.	Location	Notes	S.F. No.	Wt.
049	009	2	OT	1	S. Evaluation - Finds contaminated	clinker - discarded		3
105	028	3	BN			Human skeleton		
025		4	BN	1	evaluation; Tr 2	Human skull frag. found during cleaning around F 4		3
024	026	5	TL	1	evaluation; Tr 2	Handmade, poss. late Med.		31
056	050	10	PT	1	v. top of grave fill	Roman - abraded		27
057	050	10	PT	1	grave fill	prehistoric? Bronze Age?		3
106	051	10	BN			Human skeleton (prone)		
063	054	11	PT	3	grave fill	1 Saxon, 1 Roman - rim, 1 prehistoric		16
064	054	11	TL	1	grave fill			477
065	054	11	BS	1	grave fill	limestone - not dressed		2500
126	054	11	BN	1	gravefill	animal from grave fill		2
107	055	11	BN			Human skeleton (juvenile buried with [056])		
108	056	11	BN			Human skeleton (adult buried with [055])		
109	059	12	BN			Human skeleton		
110	062	13	BN			Human skeleton		
066	065	14	PT	1	furrow/butt end of ditch	13th century		2
067	068	15	PT	1	grave fill	Roman - C.C.		2
068	068	15	BR	1	grave fill			5
111	069	15	BN			Human skeleton		
089	071	16	BN	1	grave fill	animal tooth		4
112	072	16	BN			Human skeleton		
090	074	17	TL	1	grave fill	? Roman		79
091	074	17	FL	2	grave fill			4
113	075	17	BN			Human skeleton		
114	078	18	BN			Human skeleton		
041	079	18	MT	2	5cm above right knee	Fe nail/pin	7	6
092	079	18	PT	4	grave fill			8
093	079	18	FL	1	grave fill			17
094	082	19	PT	2	grave fill			5
095	082	19	FL	2	grave fill			4
096	082	19	TL	2	grave fill			38
115	083	19	BN			Human skeleton		
030	080	20	MT	1	pit/tree bowl	Cu alloy frag.		<1
069	080	20	BN	1	pit/tree bowl			1
070	086	21	PT	54	Pit	Late Bronze Age/early Iron Age		513
071	086	21	OT	2	Pit	charcoal		5
072	086	21	BC	3	Pit			8
073	086	21	BN	43	Pit	butchering, 5 antler ( with cutmarks?), 1 burnt		530
074	086	21	FL	5	Pit			51
076	086	21	PT	2	Pit	18thc glazed (residual)		38
075	090	21	BF	5	Pit	all worked		100
087	099	23	PT	1	Tree bowl/pit	prob. 13thc		4
116	103	25	BN			Human skeleton		
117	107	26	BN			Human skeleton		



Cat. No.	Context	Feature	Mat	No.	Location	Notes	S.F. No.	Wt.
097	011	27	PT	2	grave fill			8
118	110	27	BN			Human skeleton		
031	113	28	MT	1		Cu alloy buckle	11	3
032	113	28	MT	2		Fe frags.	11	3
033	113	28	MT	4		Cu alloy hook	16	2
035	113	28	MT	4		Cu alloy coin with loop	12	16
037	113	28	BN	1		spindle whorl	17	31
042	113	28	BN	1		double sided composite comb	10	
119	113	28	BN			Human skeleton		
098	115	29	BN	1	grave fill	Resting on human tibia [116] - animal jaw		4
120	116	29	BN			Human skeleton		
121	119	30	BN			Human skeleton		
038	122	31	MT	1		Fe spear head	13	
039	122	31	MT	2		Fe knives x2	14	
122	122	31	BN			Human skeleton		
099	123	31	BN	2	grave fill	Refit animal		12
100	123	31	BT	1	grave fill			12
034	125	32	MT	2		Fe knife blade fragments	15	13
123	125	32	BN			Human skeleton (prone)		
101	126	32	BT	1	grave fill			3
102	126	32	MR	1	grave fill	cream, soft		5
001	003		PT	2	evaluation; Tr.1	1 base, 2=1, 17thc. G.R.E.		109
002	003		TL	1	evaluation; Tr.1	Post-Med, 19thc. machine made		180
003	004		TL	2	evaluation; Tr.1	2=1		27
004	004		BN	2	evaluation; Tr.1	1 Butchered		132
005	004		TP	1	evaluation; Tr.1	Stem		2
006	006		PT	2	evaluation; Tr1	Depth 1.32m, base of trench; 15thc.		3
018	020		PT	1	evaluation; Tr 2	From E. facing section; unidentifiable		<1
019	020		TL	1	evaluation; Tr 2			30
020	020		MT	1	evaluation; Tr 2	Fe object		33
021	021		PT	1	evaluation; Tr 3	13th/14thc		<1
022	021		BN	1	evaluation; Tr4	Animal		
023	021		ST	1	evaluation; Tr 3	Burnt		35
026	031		FL	1	evaluation; Tr4	Nat/sub soil, base of Tr 4; flake		4
058	053		PT	3	buried soil	1 Roman, 1 Saxon, 1 frag.		19
059	053		FL	1	buried soil			15
060	053		PT	4	cleaning of buried soil	1 hard gritty decor. prehistoric - B.A.?, 1 Roman, 1 flint gritty prehistoric - B.A.?, 1 red flake - 17thc or later		29
061	053		FL	2	cleaning of buried soil			2
062	053		BF	1	cleaning of buried soil			17
077	090		BN	1	garden soil (s.facing section)			27

Cat. No.	Context	Feature	Mat	No.	Location	Notes	S.F. No.	Wt.
078	090		TP	1	garden soil (s.facing section)	bowl		17
079	090		BR	4	garden soil (s.facing section)	20thc - with mortar - discarded		386
080	092		PT	2	headland (s.facing section)	Saxon		4
081	092		FL	1	headland (s.facing section)			10
082	093		PT	1	headland (s.facing section)	Saxon		7
083	093		BN	1	headland (s.facing section)			4
084	093		FL	3	headland (s.facing section)			20
085	094		FL	1	headland (s.facing section)			2
086	095		PT	1	buried soil (s.facing section)	Saxon		14
088	053 / 093		MT	1	buried soil, close to skeleton [051]	Cu alloy - coin, MD Find: Valentinian I or II or Valens, Obv. DNVAL [....?], draped and pearl diademed bust, right, Rev. [GLORIA ROMANORUM], Victory to left, holding wreath and palm, Mint Mark illegible, minted 365-378		2
027			BC	1	evaluation; Tr4	Unstrat., found cleaning base of Tr 4		2

### Appendix 3: The Pottery

D. Hall, G. Monteil and M. Knight

A small, and relatively abraded and fragmentary pottery assemblage was recovered from the site. Only one feature, a Late Bronze Age/Early Iron Age pit, contained a sizeable assemblage. From the two phases of trench assessment and excavation combined, a total of 101 sherds of pottery were recovered, weighing 900 grams. The table below sets out the quantities currently assigned to each phase.

Date	No.	Wt. (grams)
LBA/EIA	56	530
BA/IA *	21	82
Roman	9	77
Saxon	6	53
13 <sup>th</sup> C.	2	6
14 <sup>th</sup> C.	2	2
15 <sup>th</sup> C.	1	3
17 <sup>th</sup> C.	2	109
18 <sup>th</sup> C.	2	38
Total	101	900

\* This category includes a few small undiagnostic prehistoric sherds along with Bronze Age, PDR and Iron Age pieces. Due to the difficulty in differentiating later IA pottery from Early Saxon in a small and fragmentary assemblage it is possible that a few Saxon sherds are included.

A brief overview of the pottery is given below by David Hall. This is followed by more in-depth reports on the LBA/EIA and Roman material by Mark Knight and Gwladys Monteil. The twelve sherds recovered from the initial trench assessment were spot-dated by David Hall for the assessment report and do not feature in the discussions below.

#### Pottery Overview (D. Hall)

Context [086] contains a large number of sherds in a dark, hard fabric containing a little fine sand. From the form and decoration of two rims, the material is late Bronze Age or early Iron Age. This is further supported by the presence of well formed flat bases, which do not occur on Saxon vessels. The remaining body sherds from this group are similar to the hand-made sherds from other contexts.

Many of the remainder of the sherds from of the assemblage are Roman - these are discussed below. The non-Roman hand-made pieces are all likely to be prehistoric rather than Saxon. They have a dark and hard fabric containing a little sand and with no readily visible igneous component. This contrasts with known Saxon sites around Cambridge which have a significant content of crushed igneous rock. Sherds were found in [011], [053], [054], [092], [093] and [095]. This last, the buried soil, may possibly be Saxon.

Contexts [065] and [099] contained 13<sup>th</sup> century sherds, likely to derive from Medieval manured ploughsoil. Two sherds of 18<sup>th</sup> century date (one white wear and one Staffordshire slip-decoration) came from [090], the modern garden soil.

#### Later Prehistoric Pottery (M. Knight).

56 sherds (530 grams) of later prehistoric pottery came two contexts, 54 from an isolated pit feature F. 21, and 2 sherds from general cleaning [53]. The sherds represent a coherent assemblage of Late Bronze Age/Early Iron Age domestic wares comprising fragments of angular bowls, jars and cups. At least 10 separate vessels are present within the assemblage including decorated and undecorated, fine and coarse wares. The clay used in the making of these vessels was probably derived from the same



source as regardless of temper all had the same sparkly appearance caused by tiny fragments of mica. The assemblage can be separated into 3 fabric types:

Fabric 1 Coarse, with dissolved calcareous filler.

Fabric 2 Smoothed (as opposed to burnished), with small to very small flint inclusions, black interior surfaces and brownish red exterior surfaces.

Fabric 3 Very fine, with reddy brown exterior surfaces (possibly as an applied slip) and minute voids caused by dissolved calcareous filler.

The decoration is almost exclusively confined to the rim or shoulder parts of the vessels comprising mainly either multiple diagonal finger-tip/finger-nail impressions or horizontal/diagonal incised lines. One body sherd from F.21 had a single finger-tip impression. Two rim sherds contained complex designs: a small fine wear cup (Fabric 3) from F.21, and the rim of a jar (Fabric 2) from [53]. The cup had an everted rim with faintly incised 3-line bars in a chevron pattern above the shoulder. The jar sherd was decorated with incised horizontal and diagonal lines in separate bands. The horizontal incisions were superimposed by a single finger-tip impression. The plain vessels appeared to be smallish straight sided and angular jars. Of the rim/shoulder sherds there appeared to be a roughly 50/50 division between decorated and plain forms.

The assemblage has immediate parallels with the material collected by Wyman Abbott (Hawkes and Fell 1945) from Fengate, Peterborough during the early part of the 20<sup>th</sup> century. Originally dated to the Iron Age, more recent work has attributed this material to the Post Deverel-Rimbury tradition as defined by Barrett (1980). Located in the first half of the first millennium BC this particular type of pottery has also been separated into mainly plain wear (early) and mainly decorated (late) phases (ibid). This temporal division has however been questioned due to a lack of securely stratified assemblages, particularly within the East Anglian context (e.g. Needham 1996). Recent excavations around Fengate and the Flag Fen embayment have produced some new and stratigraphically secure PDR assemblages. At Tower Works, Fengate (Lucas 1997), Hill has identified undecorated but fine tripartite forms which he suggests could represent early types of the decorated phase – c. 900-700BC – whereas the plain, coarse wear dominated assemblages from the adjacent Whittlesey Island site at King's Dyke West (Knight 1999, 2000) are perhaps earlier – c. 1000BC. Whilst recognising the urgent need for radiocarbon dates for this region's ever growing assemblages of PDR material, using Hill's approach perhaps we can for the moment place the decorated forms from the King's Garden Hostel site after the Tower Works assemblage - c. 700-500BC.

### **The Roman pottery (G. Monteil)**

A small assemblage of Roman pottery was recovered from the excavations. The assemblage comprises nine small and very abraded sherds with a total weight of 77 g. It consists of two fragments of black-slipped sandy wear ([009] and [068]), four sherds of probably local grey wears ([050], [053] and [054]), one base fragment of a relatively fine grey wear ([054]), one burnished sandy red wear ([009]) and one coarse red wear ([053]). They all seem to suggest a date in the 2<sup>nd</sup> century AD.

#### **Appendix 4: The worked flint**

Chantal Conneller

This is a small assemblage consisting of 20 pieces of worked flint and 9 pieces of burnt flint. The majority of the pieces recovered appear Late Bronze Age/Early Iron Age in date. Though no formal tools are present, 3 crude multi-platform cores were recovered. These pieces lack platform preparation and were worked with a hard hammer; one bears incipient cones, indicative of poorly controlled flaking. Flakes tend to be squat with broad butts, again lacking preparation. Occasional exceptions to this technological system exist; a fine flake and a blade fragment recovered from [009] are likely to predate the Bronze Age, as does a large patinated blade from [093]. This latter piece appears to have been reworked, bearing notched retouch at its distal end. Such exploitation of an earlier piece is consistent with Late Bronze Age/Early Iron Age technical economies.

Worked and burnt flint was recovered from patches of relict buried soil, from the medieval headland and from later features. However a large proportion of the assemblage (5 worked flint and 5 burnt flints) was recovered from a Bronze Age pit, F.21. 2 cores (of which 1 had been burnt), 5 flakes and 3 unmodified pieces of burnt flint were recovered from this feature.

## Appendix 5: The environmental bulk samples

Rachel Ballantyne

Nine samples were examined from a variety of graves, two fills of a possible Bronze Age pit, and two indeterminate features. The graves contain low amounts of small charcoal, which is often vitrified, and fragments of charred concretion. Occasional charred grains are of breadwheat and hulled barley where identifiable. The plant remains are probably surface debris from nearby burning events, which became incorporated during the infilling of the graves. The Bronze Age pit solely contains wood charcoal and one barley grain.

Preservation conditions at the site may have been poor, due to the abrasive, sandy soil, and the burning conditions, which appear to have been intense where vitrified charcoal and concretion are present. The nature of activity at the site, particularly its use as a cemetery, will also have reduced the likelihood of charred plant remains.

### *Methodology*

All samples were processed by hand using bucket flotation. The flots were collected using a 300µm sieve, and the residues washed over 1mm mesh. Both flots and residues were dried prior to their scanning under a low-power binocular microscope. Where used, plant nomenclature follows Stace (1997).

### *Preservation*

Only limited charred plant remains were recovered, which may be a function of the nature of the site itself as well as preservation conditions. Those grains that were present were often of poor surface condition, which might be linked to the sandy soil. The high amounts of vitrified charcoal and fragments of charred concretion relative to non-vitrified charcoal suggest that burning conditions were of intense temperature. Such charring could have caused the loss of more fragile plant components, such as seeds, chaff or even cereal grains.

No mineralised or waterlogged plant remains were recovered. There are numerous intrusive roots of a horsetail species (*Equisetum* sp.) within all the samples, and also occasional intrusive seeds and land molluscs. Occasionally possible archaeological mollusc shells are present, but they are not of sufficient quantity for environmental reconstruction.

### *Results*

*Bronze Age pit* [85] and [86], F.21

Moderate amounts of wood charcoal, which appears to be primarily of oak (*Quercus* sp.), are present within the flots, with slightly more in [86]. One poorly preserved barley grain was present in [85], and a wheat or barley grain (*Triticum/Hordeum* sp.) in [86]. Scanning of the residue produced several sherds of pottery from [86].

*Grave fills, and other features* [101] F.24, [50] F.10, [11] F.1, [27] F.3, [104] F.25, [71] F.16, [128] F.33.

Whilst there are some differences in composition between features, the fills can be broadly characterised as almost devoid of charred plant remains. There are low amounts of small charcoal, much of which is vitrified, and also fragments of charred concretion. As previously noted, these remains suggest intense burning conditions. In some contexts a few cereal grains are also present. One grain of a free-threshing wheat (*Triticum aestivum sensu lato*) was identified in [71] F.16; this wheat type has been commonly cultivated in England from the early Mediaeval period onwards. In [27] F.3 two barley grains were recovered, one of which appears to be hulled (*Hordeum* sp.). The residues produced no significant material, although numerous very small fragments of bone were present – as might be expected from a grave fill.

### *Conclusions*

It is difficult to conclude much about the charred plant remains given their poor representation, which might be due both to activities and preservation conditions at the site. The Bronze Age pit clearly contains charred debris associated with human activity, but little other information is present.



The grave fills and other features contain low amounts of 'background' charred material, which probably relates to some form of human activity nearby. Given the degree of reworking of soils likely within a cemetery, it is not possible to determine whether the charred debris would even have been contemporary with the period of interments.

No further work is therefore recommended from the environmental bulk samples.

### Results table

sample number		<1>	<2>	<3>	<4>	<5>	<6>	<7>	<8>	<9>
context		[85]	[86]	[101]	[50]	[11]	[27]	[104]	[71]	[128]
feature		F.21	F.21	F.24	F.10	F.1	F.3	F.25	F.16	F.33
description		pit fill	pit fill	pit fill	grave fill	grave fill	grave fill	grave fill	grave fill	cut
phase/date		?B.A.	?B.A.	?	7th Cent	7th Cent	7th Cent	7th Cent	7th Cent	?modern
sample volume/ litres		12	10	6	7	6	8	4	5	9
fraction examined		1/2	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
hulled <i>Hordeum</i> sp. grain	hulled barley grain						1			
<i>Hordeum</i> sp. grain	barley grain	1					1			
<i>Triticum aestivum</i> s.l. grain	free-threshing wheat grain								1	
<i>Triticum/Hordeum</i> sp. grain	wheat/barley grain						1	1		
cereal grain indet.							1		1	
charcoal fragments										
small charcoal (<2mm)		+++	+++	+++	+++	+++	+++	+++	+++	+++
med. charcoal (2-4mm)		+++	+++	+++	++	+++	++	++	++	+++
large charcoal (>4mm)		++	++	+	+	++	+	+	+	+
- vitrified charcoal		+		+++		++	++	+++	+	+++
- large <i>Quercus</i> sp. charcoal	oak wood	+	++							
charred concretion		+		++	+	++	+	++		++
?spheroid/slag							1		1	
bone fragments						+++				
small bone										
intrusive insect remains										
intrusive roots		+++	+++	+++	++		+			+++
uncharred seeds, probably intrusive		-			+		+		++	
<i>Vallonia</i> sp.										
<i>Trichia</i> sp.	catholic					+	+			
<i>Cepaea</i> sp.				- modern			+	-		

### KEY:

'u' uncharred, probably modern

'-' 1 or 2 cases

'+' less than 10 cases

'++' 10 to 50 cases

'+++' greater than 50 cases

## Appendix 6: The Faunal Remains

A. Clarke

### *Quantity and Provenance of Material*

A small assemblage of animal bone was recovered through excavation by hand, producing a total of 93 bone fragments. The features that produced the assemblage consist of four human burials (Features F.1, F.16, F.29 & F.31) and a Bronze Age pit (Feature F.21). The remaining bone in the assemblage was retrieved from various upper stratigraphic layers of the site dating from the Medieval period, and the 18<sup>th</sup> to the 20<sup>th</sup> Centuries.

### *Method of Analysis*

Due to the small size of the assemblage it was possible for all the bone material to be inspected. This was carried out in order to identify the species present within the assemblage and to highlight any patterns evident in element distribution, age profiles, butchery and spatial distribution. All bone was identified using Schmid (1972) and the Cambridge Archaeological Unit reference collection.

### *Condition of Material*

The assemblage is on the whole, in a very good state of preservation. However, it is evident that the bone has suffered from a high degree of pre-depositional damage. It is for this reason that the majority of the bone (78.4%) is unidentifiable. Naturally, this situation combined with the small size of the assemblage severely limits amount of useful interpretative data that can be inferred.

### *Range and Variety of Material*

As can be seen from Table 1 below, the range of species within the assemblage is limited; only fragmentary remains of two of the major domestics (cow and ovicaprid) were recovered together with a fragment of antler from a Roe Deer. These remains come from features that range from the Bronze Age, the Saxon period and from the 18<sup>th</sup> to 20<sup>th</sup> Centuries.

Species	NISP
Cattle	13
Ovicaprid	5
Roe deer	1
Unidentifiable	74
Total	93

Table 1: Number of identified specimens by species (NISP).

The Bronze Age pit (F.21) provided the most amounts of faunal data on the site. The bone takes the form of fragmented limb bones (such as the distal humerus and metapodials), and broken skulls fragments, i.e. those bones carrying the least amount of meat and as such are suggestive of domestic waste originating from primary butchery. A fragment of Roe deer antler was also recovered. This had been naturally shed rather than cut off the animal and was limited to the base and lower beam area. Evidence of several small cut marks were observed, which may suggest that the missing portion of this antler was removed, possibly to be worked, leaving the remainder i.e. the part found on site, as waste.

The bone from the Saxon phase of the site amounts to only 8 fragments, recovered from the fills of four human burials (F.1, F.16, F.29 & F.31) 50% of which was unidentifiable. The remaining identifiable bones are very fragmentary and limited to loose ovicaprid and cow molars and phalanges. It was a common practice in Saxon times to inter humans and animals together, and it is possible that the faunal assemblage represents the remains of whole or partly whole animals, which have been eroded due to the depth of time. However, the good condition of the human remains from the site, suggests that a more likely explanation is that the inclusion of this small amount of animal bone within the grave fills is accidental or intrusive.

The only other phases of the site that produced faunal remains were later stratigraphic layers interpreted as Medieval plough soil and 'garden soil' from the 18<sup>th</sup> to 20<sup>th</sup> Centuries. These phases produced only a small amount of bone. From the Medieval phase 4 fragments of cow were recovered along with 23 bones that were unidentifiable. The 18<sup>th</sup> to 20<sup>th</sup> Century phase produced only 2 fragments of unidentifiable bone.

*Statement of Potential*

Faunal remains were recovered from the Bronze Age and Saxon phases of the site. However, the potential information that can be obtained is very limited. The assemblage is too small and too fragmentary to provide any useful interpretative data, be it economic or ritual, that would extend the findings of this report beyond a species list and aide in the reconstruction of the activities carried out at the site. A full analysis of the faunal assemblage recovered from King's Garden Hostel is not recommended.



## Appendix 7: Soil Assessment

K. Milek

### *Introduction*

An assessment was made of the sequence of soils associated with and sealing the Anglo-Saxon cemetery at the King's Garden Hostel site, Cambridge. A segment of the large south west facing section (Figure 6 in the main text) was drawn and described, and four undisturbed soil samples were taken for micromorphological analysis (Figure 1, below). The buried soil associated with the graves was topped by a very thick A horizon, including, at the very top of the sequence, the organically enriched 'garden soil' associated with the more recent use of the site. Although the analysis of the micromorphology samples is unlikely to alter or make a significant contribution to the archaeological interpretation of the site, it does have the potential to provide supplementary information that may be of interest to the excavators.

### *Preliminary Results*

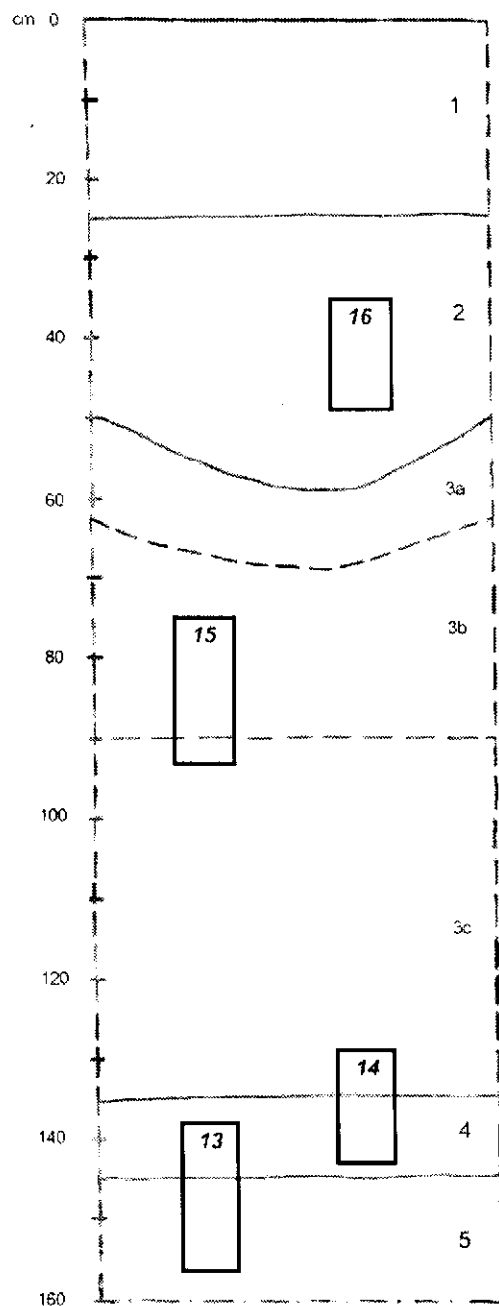
The Anglo-Saxon burials were found to have been cut into a weathered B horizon (horizon 5, Figure 1), a silty clay loam with abundant iron mottling. Iron nodules are formed by the periodic wetting and drying of the soil by a fluctuating water table, which leaches 'free' iron from the soil under waterlogged conditions, and causes it to reprecipitate in the form of reddish-brown concretions under dry, oxidizing conditions. Since Bronze Age / Iron Age pottery was found within this horizon, Anglo-Saxon graves were cut into it, and clods of it had been worked into the deep anthropogenic top soil above it, its burial and subsequent gleying can be attributed to the Roman and Anglo-Saxon periods.

Above the weathered B horizon was a deep man-made top soil that reached a maximum thickness of c. 85 cm in the area above the burials, probably representing a type of ridge or headland (horizon 3, Figure 1). This dark greyish brown sandy clay loam contained increasing amounts of gravel in its upper half, and had been leached of fine organic material in its upper 12cm. The thickness of the horizon can only be the result of artificial thickening by the intentional movement and deposition of soil from elsewhere, a mode of formation that also explains the variability of its pottery assemblage. The presence of clods of the underlying weathered B horizon mixed into the lower portion of the thick anthropogenic soil may be a product of ploughing or some other type of mechanical disturbance. This lends further evidence to the tentative interpretation that the deep man-made top soil represents some form of headland, possibly associated with a Medieval ridge and furrow system.

The *in situ* soil sequence was topped by a 25 cm-thick, black, humic, loamy top soil that contained modern artefacts. This horizon was formed by the enrichment of the soil with organic matter during the recent use of the site as a garden by King's College.

### *Conclusion*

Although it is unlikely that the analysis of the micromorphology samples would drastically alter the interpretation of the site, it could provide supplementary information on soil type, pedogenic processes, and characteristics produced by human activity. The analysis of the weathered B horizon (samples 13 and 14) associated with the Anglo-Saxon burials would give an indication of the nature of the original soils and their genesis (e.g. whether they were a brown forest soil, etc.). The analysis of the deep anthropogenic top soil (samples 14 and 15) would provide information about the organic and anthropogenic materials used to improve agricultural soils in the Medieval period, and the mode of formation of the artificially thickened A horizon. If this soil had indeed been ploughed, there is a chance that microscopic features related to the mechanical disturbance of the soil by ploughing will be visible in thin section. The analysis of the garden soil (sample 16) would permit the characterisation of the organic and anthropogenic materials used to enrich this horizon. This deep sequence of man-made and natural soils therefore has the potential to provide an interesting short student project, and the micromorphology samples could be processed at cost for this purpose.



- 1 'Demolition layer': mixed soil, sand and gravel. Abrupt boundary with:
- 2  $A_h$  horizon: humic A horizon, attributed to a modern 'garden soil': Black (10YR 2/1) very organic medium sandy loam, containing abundant roots, c. 5% gravel, 1-2% charcoal flecks and modern artefacts. Clear boundary with:
- 3a  $A_1$  horizon: upper A horizon, as 3b (below), but light greyish brown due to the leaching of fine organic material. Clear, undulating boundary with:
- 3b  $A_2$  horizon: lower A horizon; a deep anthropogenic soil; very dark greyish brown (10YR 3/2) fine to medium sandy clay loam, with c. 5% gravel, <1% charcoal flecks and pottery of mixed date. Diffuse boundary with:
- 3c As 3b (above), with only 2% gravel. Diffuse, irregular boundary with:
- 4 Transition layer: clods of 5 (below) mixed with 3c (above).
- 5  $B_{ws}$  horizon: weathered B horizon, with abundant iron mottling; brown (10YR4/3) silty clay loam, containing c. 20% iron nodules and prehistoric pottery.

Figure 1. East section, showing the location of micromorphology samples

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