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Assessment Report 1063d.2(1)

Archaeological Assessment of land at North Ridge Community School, Woodlands, Adwick-le-Street, Doncaster, South Yorkshire

December 2008

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North Ridge Community School, Woodlands, Adwick-le-Street, Doncaster, South Yorkshire

National Grid Reference: SE 535 083 (centred)

Archaeological Assessment Report

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OASIS SUMMARY FORM

PROJECT DETAILS		
OASIS identifier	arcus2-52541	
Project title	North Ridge Community School, Adwick-le-Street, Doncaster, South Yorkshire	
Short description of the project	ARCUS undertook archaeological evaluation, excavation and watching brief on a development site at North Ridge Community School. To the north-west of the site were two parallel features interpreted as drainage ditches running along the edge of a probable Romano-British trackway. No finds were recovered to date the features. To the south-east of the site a linear cemetery of probable Anglo-Saxon date was identified. The cemetery comprised 37 burials and 3 empty grave cuts. The graves, orientated northeast-southwest, were arranged in two parallel lines running northwest-southeast over a distance of 50m. The bodies were buried mostly in an extended position with the head pointing south-west. A radiocarbon date of 660-780AD from one of the skeletons is in keeping with grave goods found with two other skeletons, objects which date either from the 7th century AD, or have a wide date range (450-700AD) that encompasses the 7th century AD. Grave goods included two iron knives, a whetstone, a buckle and a ring. The bone was in poor condition. Age and/or sex estimation revealed a lack of neonates and infants, and very few young juveniles in the sample as well as a few middle aged or older adults. One of the pathological conditions observed in this assemblage was a large abscess on an adult female possibly associated with skeletal tuberculosis. With the radiocarbon date and grave goods as a general guide to the date of the cemetery, it stands as the only example of an Anglo-Saxon or early medieval cemetery of its kind in South Yorkshire.	
Project dates	Start 03-12-2007; End 27-02-2008	
Previous/future work	Desk-Based Assessment, Watching Brief	
Monument type and period	Anglo-Saxon cemetery (7th century AD)	
Significant finds (artefact type and period)	Associated grave goods (two iron knives, a whetstone, an iron buckle and a copper alloy ring)	
PROJECT LOCATION		
County/Parish	South Yorkshire/Adwick le Street	
Site address	Village Street, Adwick-le-Street, Doncaster, DN6 7AA	
Site co-ordinates	NGR: SE 535 083	
Site area	c. 15ha	
Height OD	22m-24.8mOD	
PROJECT CREATORS		
Organisation	ARCUS	
Project brief originator	SYAS	
Project design originator	ARCUS	
Project supervisor	Duncan Alexander	
Project manager	Richard O'Neill	
Sponsor or funding body	Doncaster Metropolitan Borough Council	
PROJECT ARCHIVES		
Archive Type	**Location/Accession no.**	**Content (e.g. pottery, metalwork, etc)**
Physical	Doncaster Museum/DONMG:2008.23	Human bone, pottery, metalwork, metalworking residues, flint, misc. items, animal bone, environmental residues
Paper	Doncaster Museum/DONMG:2008.23	Report and site records: registers, context sheets, photo sheets, levels sheets, sample sheets, plans and sections
Digital	SMR	pdf copy of report
BIBLIOGRAPHY		
Title	Assessment report of archaeological investigations at North Ridge Community School, Adwick-le-Street, Doncaster, South Yorkshire	
Report no	1063d.2(1)	
Author	Iwona Kozieradzka and Richard O'Neill	
Date	December 2008	

CONTENTS

LIST OF ILLUSTRATIONS AND PLATES

Illustrations

Plates

NON-TECHNICAL SUMMARY

ARCUS were commissioned by Doncaster Metropolitan Borough Council to carry out archaeological investigations on a development site at North Ridge Community School, Woodlands, Doncaster, South Yorkshire (centred on NGR SE 535 083). The site lies in area of key archaeological significance for the Iron Age, Roman and early medieval periods. Archaeological evaluation works were initially undertaken to document and assess the archaeological potential of the site, and the potential impact of the development on such remains. Further archaeological excavation works were undertaken to mitigate the impact of the development on significant archaeological remains identified by the evaluation. Fieldwork was carried out between December 2007 and February 2008. This document details the results of the evaluation of nine trial trenches and the results of subsequent excavation in two areas. It also incorporates the results of specialist assessment reports on the artefactual and environmental evidence recovered.

Trench 1, later extended into Mitigation Area B, yielded two parallel features, orientated north-northeast to south-southwest, which were interpreted as drainage ditches running along the edge of a trackway, possibly Romano-British in date. A number of sondages were cut across these features. Trenches 2, 5-7 and 9 appeared to be archaeologically sterile, while Trenches 3 and 4 contained recent animal burials.

Within the limits of Trench 8, three inhumations and a later ditch and associated wall were identified. The discovery of the pre-modern human burials prompted the extension of Trench 8 into Mitigation Area B, yielding a further 34 burials and 3 empty grave cuts. The grave cuts, orientated northeast-southwest were arranged in two parallel lines running northwest-southeast over a distance of 50m. The bodies were buried mostly in an extended position with the head pointing southwest. A radiocarbon date of 660-780AD, from the only one of the skeletons to be dated so far, is in keeping with grave goods found with two other skeletons, objects which date either from the 7th century AD, or have a wide date range (450-700AD) that encompasses the 7th century AD. Grave goods included two iron knives, a whetstone, a buckle and a ring. Other dating evidence recovered from grave fills included five heavily abraded sherds of pottery. Four of these were Roman greyware, given a broad 1st-4th century AD date and were almost certainly residual in nature. A fifth sherd was undated but considered pre-Norman in date.

The poor condition of the human bone material has resulted in a lack of detailed information about the population. Age and/or sex estimation however did reveal a lack of neonates and infants, and a very low proportion of young juveniles in the sample as well as a few middle aged or older adults. Nearly half of the 37 individuals in this assemblage were classed as young adults, between the ages of 18 and 25 years. This age profile is unrealistic as a reflection of a total living population although there are potential explanations for this. One of the very few pathological conditions observed in this assemblage was a large abscess on an adult female which may have been associated with skeletal tuberculosis. Dental health could be assessed more fully, although prevalence rates of calculus, caries, abscesses and enamel hypoplasia were low, due in part to poor preservation. Conditions such as periodontal (gum) disease were noted as being occasionally present in the assemblage.

With the radiocarbon date and grave goods as a general guide to the date of the

cemetery, it stands as the only example of an Anglo-Saxon or early medieval cemetery of its kind in South Yorkshire. The lack of associated features suggests an adjacent settlement may yet be discovered in the vicinity of the site. Certainly by the medieval period the focus of burial and settlement appears to have shifted to the north-east.

It is hoped that further dating and analysis will help determine the date range of the cemetery and potentially the geographical origin of the individuals concerned. It is recommended, given the significance of the site, that the results are published in a relevant academic journal, such as Medieval Archaeology or the Yorkshire Archaeological Journal.

1 INTRODUCTION

ARCUS were commissioned by Doncaster Metropolitan Borough Council to carry out archaeological investigations on the development site at North Ridge School, Woodlands, Doncaster, South Yorkshire. The development comprised the construction of a new school building and the relocating of an area of car parking.

A desktop study (Stenton 2006), carried out in advance of the development, identified the site as lying within an area of moderate archaeological potential relating to the Iron Age and Romano-British period, and low potential for the early medieval and medieval periods.

In late 2007, once the exact siting of the new school had been determined, ARCUS were commissioned by DMBC to carry out trial trenching on the site to evaluate its archaeological potential. The location of nine trenches spread across the site was agreed with the South Yorkshire Archaeology Service (SYAS), advisors to the planning authority. This was in line with government guidance as set out in DOE Planning Policy Guidance – Archaeology and Planning (PPG 16 - 1990).

Most of the trenches contained little or no archaeology. However Trench 1 to the northwest and Trench 8 to the southeast provided sufficient archaeological evidence to warrant further investigation. At the request of SYAS, and as a condition of planning consent, these trenches were expanded into larger excavation areas called Mitigation Areas A and B.

This report details the results of the evaluation of the evaluation and subsequent excavation. It also incorporates the results of specialist assessment reports on the artefactual and environmental evidence recovered. Recommendations are made for further analysis and reporting.

1.1 Site location and land use

The site (centred on SE 535 083) is located approximately 6.4km north-west of Doncaster (**Illustration 1**). It is bounded by the A638 at the south, the back gardens of domestic properties at Windmill Balk Lane to the south-east, Tenter Balk Lane to the south-west, Clerks' Court to the north and Village Street to the north-east. The school buildings, the majority of which date from the 1940s and comprise one- and two-storey brick and panel structures, are located centrally within the site. The proposed development area occupies part of the playing field to the south-west of the buildings (**Plate 1**). Ground levels vary throughout the developed areas of the site indicating that landscaping occurred during the various phases of the school's construction. Hedges, shrubs and mature trees are located at various points throughout the site, along with a number of tarmac and concrete roads and paths.

1.2 Geology and soils

The underlying geology of the site is Upper Carboniferous Middle Coal Measures over Upper Magnesian Limestone.

2 ARCHAEOLOGICAL AND HISTORICAL SUMMARY

This section provides a summary of the historical and archaeological background taken from the ARCUS desk-based assessment (Stenton 2006).

2.1 Prehistoric to Roman

The SMR search revealed that there were no prehistoric sites or find-spots within the proposed development site, although a Bronze Age palstave was recovered approximately 100m to the south-west. Further prehistoric activity within the wider area is indicated by an Iron Age, or possibly Romano-British, trackway, field system and circular ditch, possibly a barrow ditch, to the north, and Redhouse Farm, an Iron Age and Romano-British settlement site containing enclosures, trackways, pits and field systems approximately 400m to the north-west.

A Roman coin, an *antoninianus* of Tetricus (270-273 AD) was recovered from within the site itself, in the immediate vicinity of the proposed development area. Precise details of this find's location and the circumstances surrounding its recovery are not recorded, and it is unclear if the coin was recovered before or after the area's development as a school playing field, or indeed, if it may have been recovered during the housing development at Tenter Balk Lane. It is likely that the coin was deposited as a result of casual loss, although this cannot be determined with certainty.

A Roman cemetery was discovered to the north-west during housing development at Lutterworth Road in 1968. Four inhumations, a cremation burial, and a short ditch were recorded, while two other cremations had been disturbed by workmen and were lost. A magnetometer survey conducted at that time identified further potential burials in the immediate area but no archaeological investigation was conducted when this area was developed for housing during 1981-1982. A 3rd-century AE *antoninianus*, probably of Victorinus, was also recovered in this area.

The development site lies approximately 0.9km east of the 'Roman Ridge', the former Roman road between Doncaster and Castleford. This feature is a Scheduled Ancient Monument (SAM no.1179), sections of which were excavated by Diana Greene in 1958.

2.2 Early Medieval

No early medieval sites or find-spots were recorded within the proposed development site.

During the sub-Roman and early Anglo-Saxon periods, the proposal area appears to have been part of the British kingdom of Elmet, which may have been bounded by the River Wharfe in North Yorkshire and the River Sheaf to the south of Sheffield. Elmet was incorporated subsequently into the 7th-century Anglo-Saxon kingdom of Deira and later that of Northumbria. Place-name evidence indicates an Anglo-Saxon presence at Adwick-le-Street, with elements deriving from the Old English *straet*, indicating a paved (typically Roman) road, and the Middle English *wic*, referring to a settlement. However, there was no archaeological evidence of Anglo-Saxon occupation at Adwick-le-Street prior to these investigations.

For administrative purposes, the area was included in the wapentake of Barkston. Organisation into wapentakes rather than hundreds indicates an Anglo-Scandinavian or Viking presence or influence in the region during the period of the Danelaw. This is confirmed by a 9th-century female Viking burial approximately 400m north-west of the development site. The grave had been inserted into the infilled ditch of a Romano-British trackway and contained grave goods including a bronze bowl, a pair of copper

alloy oval tortoise brooches that were found *in situ* on the chest, a knife and a key. This is the earliest female Anglo-Scandinavian burial discovered thus far in Yorkshire. The skeleton was damaged and the grave had been truncated by modern ploughing, perhaps implying that other burials may have been lost. However, there is no evidence of this and the insertion of the grave into the pre-existing ditch may also suggest that the burial was a discrete feature, rather than part of a larger cemetery.

2.3 Medieval

There are no known medieval archaeological sites or find-spots within the proposed development site.

Adwick was recorded, as '*Tatevvicc*', in the 1086 Domesday survey. To the north-east of the site lies the medieval church of St Lawrence, though to have a Norman foundation. An adjacent shrunken medieval village may have been the site of the settlement recorded in Domesday Book, while a moated seignurial site may have been located in the vicinity of the present-day Mill Bridge.

2.4 Sixteenth to Eighteenth Centuries

There are no known 16th- to 18th-century archaeological sites or find-spots within the proposal development site, although it lies immediately south-west of the site of Adwick Hall, which was built in 1673. This may have been constructed to replace the medieval moated site. Adwick Hall was demolished in 1866 and the site, along with an associated 18th-century formal garden, is currently within an ornamental park.

Further post-medieval activity within the wider area is indicated by ridge and furrow to the south-west of the moated site, a late 17th-century barn with a dovecote and a late 18th-century water mill.

The proposal development site does not appear to have been depicted clearly on any surviving 18th-century maps or plans. Thomas Jefferys' 1775 map of Yorkshire marked the area as 'Adwick in the Street' but lacked detail and marked Adwick Hall and the major roads only.

2.5 Nineteenth to Twentieth Centuries

The proposed development site was shown as agricultural land on the 1851 Ordnance Survey map. A small, square building situated between two field boundaries at the centre-north appeared to be the sole structure within the site at that date. With the exception of a small, enclosed area of woodland at the south-west of the central field, the only other features within the site were field boundaries, a number of which were lined with trees.

The first phase of the school had been constructed in the centre of the site by the time of the 1948 Ordnance Survey map. The subsequent decades saw additional buildings and sports facilities constructed on the site. The layout of the site, prior to the current development, was largely the same as depicted on the 1982 OS map.

3 EXCAVATION METHODOLOGY

Archaeological evaluation of the development area took form of nine trenches measuring approximately 2m by 40m. The location of the trenches was agreed in conjunction with SYAS to investigate the preservation of archaeological remains across the site. Further archaeological excavation took place in two areas to the

northwest (Mitigation Area B) and southeast (Mitigation Area A) of the site. Evaluation trenches and excavation areas are shown in **Illustration 2**.

All fieldwork and recording was carried out in accordance with the methodologies outlined in the ARCUS project design (Alexander 2007), with guidelines issued by the Institute of Field Archaeologists (IFA 2008a and 2008b), and with current industry best practice.

The trenches and excavated areas were opened using a machine fitted with a toothless ditching bucket and monitored by a professional archaeologist. The machining stopped at the first archaeological horizon and appropriate recording was undertaken before any further machining continued.

3.1 Aims of the archaeological fieldwork

The archaeological fieldwork was required to obtain information on the extent and preservation of any archaeological deposits.

The general aims of the investigations were:

- To determine the extent, condition, character, importance and date of any archaeological remains present;
- To provide information that would enable the remains to be placed within their local, regional, and national context and to assess the significance of the archaeology of the development site.

More specific aims of the mitigation fieldwork were:

- To determine the extent and date of the possible trackway identified in Trench 1;
- To determine the extent and date of the human remains identified in Trench 8, particularly to determine whether the remains were isolated burials, or formed part of a larger cemetery.

3.2 Fieldwork programme

Fieldwork was undertaken between 3rd December 2007 and 27th February 2008 by ARCUS Project Supervisor Duncan Alexander, Site Assistants R. Samson, T. Smith, J. Wiles, J. Stables, E. Alonso Lopez, Sophie Day, and Project Surveyors T. Sparrow and C. Swales. The project was co-ordinated by ARCUS Project Manager R. O'Neill.

3.3 Recording

All archaeological structures, deposits and features encountered were investigated and recorded using standardised *pro forma* record sheets. A series of context numbers were assigned to individual structures, features and deposits (see **Appendix 1**). Plans, sections and elevations were drawn as appropriate and a comprehensive photographic record was made.

Areas that did not contain any archaeological deposits were photographed and recorded as being archaeologically sterile. The natural stratigraphic sequence within these areas was recorded and representative sections drawn.

Photographs of work in progress and post-excavation of individual and groups of features was taken. This included general views of entire features and of details such as sections as considered necessary. The photographic register comprised 35mm format colour slides and black and white prints. All site photography adhered to

accepted photographic record guidelines.

Registers for contexts, drawings, samples, photographs, levels and recorded finds were kept on current *pro forma* sheets.

3.4 Finds Collection Policy

Artefactual material was collected according to an explicit sampling strategy. Material that was obviously 20th-century in date or derived from unstratified contexts was not kept unless it was of exceptional intrinsic interest. Material discarded as a consequence of this policy was described and quantified in the field. This involved basic analyses such as counting artefacts, and assigning finds to broad categories, e.g. plastics, glass etc. All other finds were retained for further analysis (see **Section 5**), cleaned, marked, catalogued and packed in materials suitable for long-term storage, as detailed in the United Kingdom Institute of Conservation (UKIC 1990) guidelines for finds work.

Finds of particular interest or fragility were retrieved as Small Finds, and located on plans. Other finds, finds within the topsoil, and dense/discrete deposits of finds were collected as Bulk Finds, from discrete contexts, bagged by material type. Dense/discrete deposits had their limits defined on the appropriate plan. Conservation, where required, was undertaken by approved conservators in accordance with the United Kingdom Institute of Conservation (UKIC 1990).

The human remains discovered during the excavation were left *in-situ*, covered and protected, in the first instance. The removal of human remains took place under appropriate Home Office and environmental health regulations.

3.5 The Project Archive

The project archive will be deposited with Doncaster Museum under the assigned Accession Number DONMG:2008.23. The archive will be prepared by the project staff in accordance with the requirements specified in English Heritage (1991) publication *Management of Archaeological Projects* and in accordance with the United Kingdom Institute of Conservation (1990) *Guidelines for the Preparation of Excavation Archives for Long Term Storage*.

4 RESULTS

4.1 Trench 1/Mitigation Area B

Trench 1 was an L-shaped trench initially measuring 21m by 2m (northwest-southeast) and 36m by 2m (northeast-southwest) in two sections. The trench was extended into Mitigation Area B at its north-eastern extent. The trench was located towards the north-western extent of the site (**Illustration 2** and **4**). The central area of the northeast-southwest section of the trench was not available for excavation due to the presence of a modern service. Natural geology was limestone bedrock (1000).

4.1.1 Phase 1: Ditches for trackway (?Romano-British date)

The earliest phase of activity in the trench was represented by two parallel linear ditches, groups [1016] and [1017], running east-north-east to west-south-west (**Illustration 4** and **Plates 2-4**). The ditches were located 7m apart and cut into the natural geology (1000).

The southern ditch [1016] was observed over lengths of 15.80m and 14.60m and

measured up to 1m in width and between 0.26m-0.48m in depth. Four slots [1019], [1003], [1012] and [1014] were excavated through the southern ditch [1016] revealing a steep-sided profile with a concave base (**Illustrations 5a, 5f** and **5d**, **Plate 4**). A single fill (1004), (1008) and (1013) was recorded for three of the slots [1003], [1019] and [1014] respectively, although a fourth slot [1012] (**Plate 3**) contained two deposits (1015) and (1011). No finds were recovered from any of the slots.

The northern ditch [1017] was observed over a length of 12.10m and measured up to 1.1m in width and between 0.40m-0.46m in depth. Two slots [1005] and [1018] were excavated through the northern ditch [1017] revealing moderately sloping sides to the north and more steeply sloping sides to the south, with a flat base (**Illustrations 5b-c**). Slots [1005] and [1018] were both filled by a single deposit, (1006) and (1009) respectively (**Illustrations 5b-c, e**). No finds were recovered from the slots.

The initial interpretation of the ditches was that they were possible drainage ditches for a Romano-British trackway.

4.1.2 Phase 2: Subsoil and topsoil (19th/20th century)

The Phase 1 ditch fills were sealed by a layer of subsoil (1001) (**Illustration 3a**), a mid orange-brown clayish silt, measuring 0.5m in depth. Pottery of 18th- to 19th-century date was recovered from the deposit (1001). The subsoil was in turn overlain by a layer of dark brown topsoil (1010), 0.24m in depth, which was overlain by the surface deposit, a mid-dark brown friable silt (1002), also 0.24m in depth.

4.2 Trench 2

Trench 2 (**Illustration 2**) was located approximately 50m south-east of Trench 1/ Mitigation Area B. The trench measured 40m by 2m and was aligned roughly east to west. The trench appeared to be archaeologically sterile (**Illustration 3b**). Natural limestone bedrock was overlaid by a subsoil deposit, mid-orange-brown friable sandy silt (2001). The deposit (2001) measured up to 0.44m in depth and was in turn overlain by a loose topsoil layer of dark brown silt (2002). The topsoil measured up to 0.30m in depth and was heavily disturbed, presumably by regular maintenance of the playing fields.

4.3 Trench 3

Trench 3 was located approximately 30m south-east of Trench 2. The trench measured 38m by 2m, was orientated north-east to south-west (**Illustration 2**). Natural geology was limestone bedrock (3003) and weathered limestone bedrock (3002) recorded 0.80m below the ground surface.

A probable solution hollow [3009] was identified in the natural weathered bedrock (3002). The hollow had typically smooth sides and was filled by a brown sandy silt deposit (3008) with occasional pebbles (**Illustration 3c**). Immediately overlying the natural geology and sealing the hollow was subsoil deposit (3001) of orange-brown sandy silt measuring up to 0.5m in depth.

Two pits [3005] and [3007] were cut into subsoil (3001). Both features were located in the north-east part of the trench.

Pit [3005] measured 0.26m by 0.24m and up to 0.04m in depth, and was filled with greyish brown sandy silt (3004) which contained a dog burial (SK3010).

Pit [3007] measured 1.17m by 0.42m and up to 0.10m in depth, and was filled by dark brown-orange sandy silt deposit (3006) (**Illustration 3c**).

The pit fills were sealed by a topsoil layer of dark brown silt (3000) up to 0.30m in depth. A metal chisel of 19th/20th century date was recovered from the deposit.

4.4 Trench 4

Trench 4 was located approximately 25m south-east of Trench 3. The trench measured 40m by 2m and was orientated northwest-southeast (**Illustration 2**).

Natural deposit recorded in the trench was limestone gravel and fine mid-light brown sand overlying porous limestone bedrock (4000) (**Illustration 3d**).

Overlying natural geology was a deposit of subsoil (4001) formed of mid brown-orange, friable sandy silt, which measured 0.20-0.58m in depth. No finds were recovered from the deposit.

Cut into the subsoil (4001) was an animal burial located 9.5m from the south-eastern limit of the trench. The burial (SK4004) was placed within a sub-circular cutting [4003]. The cutting measured 0.38m by 0.25m, and 0.15m in depth. The skeleton of the dog was placed on its left side and was roughly orientated east-west with the head towards west (**Plate 5**). The burial was most likely recent as a fragment of modern glass was found under the dog's ribs and was discarded. The grave cut was backfilled with a deposit (4005) of mid brown-orange, friable, sandy silt.

Sealing the dog burial was a layer of topsoil (4002), a dark brown clayish silt, measuring 0.30-0.50m in depth. No finds were recovered from the deposit.

4.5 Trench 5

Trench 5 was located immediately south-west of, and perpendicular to, Trench 4 (**Illustration 2**). The trench measured 40m by 2.30m and was orientated southwest-northeast. The trench appeared to be archaeologically sterile.

The natural geology was weathered limestone (5000). A possible palaeochannel (5003), approximately 2.25 wide, was recorded in the south-western part of the trench.

The bedrock was overlain by a subsoil deposit of mid-brown-orange sandy silt (5001), which measured 0.30-0.39m in depth (**Illustration 3e**). Overlying this was a topsoil deposit (5002) of dark brown clayish silt, 0.30-0.35m in depth.

Medieval, post-medieval and recent pottery was recovered from the trench, probably unstratified, but recorded as context (5000).

4.6 Trench 6

Trench 6 was located between and perpendicular to Trenches 5 and 7 (**Illustration 2**). Orientated northwest-southeast, the trench measured 40m by 2m and appeared to be archaeologically sterile. Natural geology was weathered limestone bedrock (6000) overlaid by a lower subsoil deposit (6001) of mid-brown-orange sand, which measured up to 0.60m in depth (**Illustration 3f**). This was overlain by an upper subsoil deposit of dark brown-orange silt (6002), measuring 0.20m in depth. Overlying this was a topsoil deposit (6003) of dark brown silt, measuring 0.35m in depth.

4.7 Trench 7

Trench 7 was located approximately 20m south-east of Trench 6 (**Illustration 2**). The trench measured 42.7m by 2m, was orientated southwest-northeast, and appeared to be archaeologically sterile. The natural geology was limestone bedrock (7000).

The natural was overlain by a subsoil deposit (7001) of dark brown-orange silt, measuring 0.21m in depth. This was in turn overlain by a topsoil deposit of dark brown silt (7002), measuring 0.29m in depth (**Illustration 3g**).

4.8 Trench 8/Mitigation Area A

An initial L-shaped trench (Trench 8), measuring up to 16.5m by 4.5m (north-west to south-east) and 7.5m by 4.5m (north-east to south-west), was extended into Mitigation Area A. The natural geology was limestone bedrock (8000) (**Illustration 7a-b**).

4.8.1 Phase 1: Anglo-Saxon cemetery (7th century AD)

The earliest phase of activity in the trench relates to a cemetery of probable Anglo-Saxon date. Within the limits of Trench 8, three inhumations and a later ditch and associated wall were identified (**Plate 6**). The discovery of the pre-modern human burials prompted the extension of Trench 8 into Mitigation Area A (**Plates 7** and **8**), yielding a further 34 burials and three empty grave cuts. A detailed inventory of the burials is provided in **Appendix 2**.

Altogether, 40 graves were uncovered, 37 of which contained human remains in various stages of completeness and preservation. The grave cuts, predominantly rectangular or sub-rectangular in shape, were arranged in roughly two parallel lines running north-west to south-east (more dispersed to the south-east) over a distance of 50m (**Plates 7** and **8**), with the graves, generally orientated north-east to south-west (grave cut [8100] was orientated east to west). The graves were rock-cut into the underlying geology (8000) (**Illustration 7b** and **Plate 10**).

The bodies were buried in either a supine (face up) extended (**Plate 9, 13, 16, 18** and **19**) or in a semi-flexed position (**Plates 11, 20-21**) with the head located at the south-western extent of the grave. However in two cases, SK2 [8010] and SK29 [8102], the head of the individual was located at the north-eastern extent of the grave. In addition, two of the individuals, SK17 [8063] and SK26 [8093], were placed in a prone position (face down) within the grave. A number of the skeletons (including SK2 and SK37) appeared to have larger stones intentionally placed around the head or over the body (**Plate 20** and **21**). The graves with extended burials measured between 1.50-2.55m in length, 0.39m-1.03m in width and 0.07m-0.80m in depth. Those graves with flexed burials measured between 1.26m-2.62m in length, 0.40m-1.00m in width and 0.11m-0.70m in depth.

Three graves were empty and small in size, possibly for child burials which had since degraded. There was no obvious spatial patterning in the distribution of sexes or ages within the cemetery. The empty graves measured between 1.04m-1.37m in length, 0.38m-0.55m in width and 0.07m-0.20m in depth.

It was considered that the north-western extent of the cemetery was identified; however the cemetery may extend to the south-east beyond the boundaries of the development site. A narrow service trench, on a north-east to south-west alignment, was excavated into this area during the archaeological investigations but no human remains or grave cuts were visible. There was virtually no intercutting between the graves and even in the few cases of graves which appeared to intercut (graves [8040] and [8046], and graves [8104] and [8115]), no stratigraphic relationship could be established between them. This suggests the graves were marked in some way, perhaps with a small earthen and stone mound overlying the skeleton. In this way later grave cuts respected earlier ones.

A radiocarbon date of 660-780AD (**Appendix 6**), from the only one of the skeletons (SK1 [8010]) to be dated so far, is in keeping with grave goods found with two other skeletons, objects which date either from the 7th century, or have a wide date range (450-800AD) that encompasses the 7th century. Few definite grave goods were recovered and the majority were from two individuals. SK1 [8010] had an iron knife and an iron buckle (**Plate 9**), and SK31 [8109] an iron knife, a whetstone and a ring (**Plate 14** and **15**). The only other dating evidence recovered from grave fills were five heavily abraded sherds of pottery. Four of these were Roman greyware, given a broad 1st-4th century AD date and were almost certainly residual in nature. A fifth sherd was undated but considered pre-Norman in date. Fragments of undiagnostic flint in the respective fills (8028) and (8072) of graves [8027] and [8074] were probably residual in nature. A fragment of probable smithing slag (SF6) was recovered from the fill (8049) of grave [8051] and a fragment of burnt coal or fuel ash slag from the fill (8117) of grave [8115]. A fragment of glass in the fill (8092) of grave [8094] was almost certainly intrusive.

4.8.2 Phase 2: Ditch/foundation trench, wall and pig burial (18th to 19th century)

A linear ditch/foundation trench [8013] was observed running northwest-southeast through the south-east extents of the cemetery (**Illustration 6b** and **Illustration 7c**), truncating a number of the Phase 1 graves. The feature measured up to 0.60m in width and 0.27m in depth, and was filled by mid-grey-brown clayish silt (8014), with occasional inclusions of limestone fragments (**Illustration 7a**). Fragments of 17th- to 18th-century pottery were recovered from the deposit (8014). The north-west section of the ditch contained remnants of a dry-stone wall [8015] over the fill (8014). The wall measured up to 0.71m in width and 0.23m in depth. It is assumed that the two features were contemporaneous forming a field or property boundary.

Approximately 8.5m to the south-west of the northern limit of wall [8015] was a sub-rectangular pit [8134] containing a pig burial [8132]. The pit measured up to 1.34m in length, 0.9m in width and 0.55m in depth. Fragments of post-medieval, 18th- to 19th-century (8130) and mid- to late 19th-century (8130) and (8133) pottery were recovered from the basal and upper lime-rich deposits filling the pit. A fragment of flint, a small bladelet likely to be of late Mesolithic or Early Neolithic date, and almost certainly residual in nature, was also recovered from the upper fill (8130).

4.8.3 Phase 3: Brick foundations (20th century)

A deep cutting [8016] for foundations associated with the construction of the school in the 1940s truncated the earlier Phase 1 cemetery and Phase 2 boundary ditch and wall (**Illustrations 6a-b**). The foundations comprised two parallel brick walls, 1.3m apart. The footings ran north-west to south-east across the mitigation area. A deposit (8017) had been backfilled into the cutting following construction of the footings.

4.9 Trench 9

Trench 9 was located approximately 30m south-east of Trench 8 (**Illustration 2**). The trench measured 25.3m by 2m and was orientated northwest-southeast. The trench appeared to be archaeologically sterile. The natural geology was limestone bedrock (9000).

The bedrock was overlain by a subsoil layer of dark brown-orange silt (9001), measuring up to 0.40m in depth. This was in turn overlain by a topsoil deposit of dark brown silt (9002), measuring up to 0.28m in depth (**Illustration 3h**). A service trench [9003] was cut into the topsoil (9002).

4.10 Watching brief

A watching brief was undertaken following the discovery of a well [10000] in a foundation trench located north of Trench 2 (**Illustration 2**; **Plate 22**). The well measured 1.63m in diameter (internally) and at least 4.20m in depth. The lower part of the well was hewn out of the natural limestone bedrock, while the upper 1m section was lined with roughly hewn limestone blocks bonded with off-white lime mortar. The blocks measured on average 0.30m by 0.25m and were laid in uneven courses. A construction cut [10002] for the well was visible, filled with a packing of mottled yellow-brown silty clay with inclusions of limestone fragments (50%) behind the lining.

Four sherds of medieval (11th- to 13th-century) pottery and later (19th- to early 20th-century) pottery were recovered from a service trench [10003].

5 ARTEFACTS

5.1 Human remains *by L. Harvey*

5.1.1 Nature of sample

A total of 37 grave cuts containing human skeletal material were identified during archaeological investigations at Adwick-le-Street, Doncaster in 2008. Three additional features were observed within the cemetery area but were not found to contain any skeletal remains. Graves typically contained a single unfurnished supine inhumation, aligned northeast-southwest. The vast majority of individuals were arranged in two irregular rows and had been buried with heads towards the southwest end of a sub-rectangular rock cut grave.

On the basis of a single radiocarbon date from the evaluation stage of this excavation and several datable grave goods, the excavated remains are likely to date from the 7th or 8th centuries AD and have been assessed in comparison to the early medieval (*c*.410 - *c*.1050 AD) British populations described by Roberts and Cox (2003).

5.1.2 Methods

Skeletal remains were examined macroscopically and data recorded onto paper record forms following both IFA (Brickley and McKinley 2004) and English Heritage standards and guidelines (Mays and Brickley *et al* 2004).

5.1.2.1 Burial survival, orientation and associations

An assessment was made of the state of preservation of the inhumed remains using a six point scale of increasing erosion and abrasion, following McKinley (2004, 16). In this system, human skeletal remains labelled as 'Grade 0' have a 'fresh and unmodified appearance' whilst bone labelled as 'Grade 5+' has extensive penetrating erosion resulting in 'the modification of profile'. A skeletal inventory and estimation of completeness for each inhumation was undertaken and is presented in **Appendix 3**. The inhumations were assessed using site attained information, including skeleton recording sheets, site plans and photographs in order to better contextualise the skeletal material.

5.1.2.2 Age at death

Age at death estimation was based on a number of commonly used aging techniques. The adult sample was aged using epiphyseal fusion data (Schwartz 1995), cranial

suture closure (Meindl and Lovejoy 1985), maxillary suture closure (Mann *et al* 1987), age-related changes of the pubic symphysis and the auricular surfaces of the ilium (Buikstra and Ubelaker 1994, Schwartz 1995) and dental attrition (Brothwell 1981) where appropriate. The age of the sub-adult and neonatal sample was determined using epiphyseal fusion data, dental development (Moorreess *et al* 1963a and 1963b) and length of long bones (Scheuer *et al* 1980) where appropriate. For descriptive purposes, the skeletons were assessed and then assigned to the broad age categories presented in **Appendix 4 Table 1**.

5.1.2.3 Sex estimation

Estimation of sex was only considered appropriate for the adult sample and was based on macroscopic observation of key skeletal landmarks in the cranium, mandible and pelvis. Where present, a number of predetermined sexually diagnostic features were marked on a five point scale as follows: male (M), possible male (?M), intermediate, probable female (?F), and female (F).

5.1.2.4 Stature

The lengths of complete long bones were used to provide an estimate of stature for the adult skeletons. This was calculated using formulae created by Trotter (1970).

5.1.2.5 Metrical data

Where preservation and completeness allowed, measurements were taken of a number of cranial, dental and post-cranial features, using landmarks identified in Brothwell (1981) and Bass (2005).

5.1.2.6 Non-metric traits

Non-metric traits could not be recorded in this sample due to the incompleteness of individuals and the fragmentary state of the skulls.

5.1.2.7 Palaeopathology

Pathological changes were recorded using guidelines set out by the British Association of Biological Anthropologists and Osteologists (Roberts and Connell 2004). Basic pathological information was obtained from Roberts and Manchester (1995), and Roberts and Cox (2003) with additional references as required.

5.1.2.8 Dental pathology

The recording of dental pathology, where dental remains were present, covered five pathological changes: calculus deposits, carious lesions (cavities), hypoplastic defects, periapical lesions (abscesses) and periodontal disease. Each observation was recorded by tooth or tooth position as appropriate and scored for severity according to established schemes presented by Brothwell (1981).

5.1.3 Results

5.1.3.1 Burial survival, orientation and associations

Although most graves appear to have originally contained complete specimens, after lifting and processing the majority of individuals recovered were less than 50% complete and many of these were less than 25% complete (**Appendix 3**).

Towards the southeast end of the cemetery, a post-medieval ditch and wall cutting

had truncated several graves. The bone preservation of skeletal elements was generally extremely poor, with the vast majority of individuals (78%, n=29) rated at preservation grade 5 or 5+ (**Plate 13** and **16**). Heavy erosion by root action had masked the normal surface of most bone elements, long bones in particular. Fragmentation was also considerable, with very few skeletal elements of even the more complete skeletons surviving intact. Fragmentation appears to be primarily due to root action. Several bones displayed cut marks and fragmentation consistent with post-depositional disturbance through machine action and excavation.

The graves were arranged in two irregular rows which were aligned northwest-southeast. A number of graves towards the southeast end were more clustered. The individual grave cuts were aligned northeast-southwest in most cases and each contained the remains of a single inhumation. Very few graves were intercut by others, which may indicate that grave locations were visible or marked in some fashion when subsequent graves were dug. The vast majority of inhumations were supine and extended (65%, n= 24), with extended or flexed arms and extended or slightly flexed legs. Two individuals, young adult male (SK17) and possible adult female (SK26) were prone in their graves (see **Plate 17** for SK17). Another young adult male, SK2 was flexed and supine in body position, but reversed in alignment with the other inhumations at the site, i.e. his head was at the north-east end of the grave cut (**Plate 11**). The majority of graves were unfurnished and only a few artefacts were found within the grave contexts. These included an iron whittle-tanged knife found under the right leg of SK2 (**Plate 12**), a ferrous buckle from under the right arm of SK1, an iron whittle-tanged knife alongside a siltstone whetstone and copper alloy ring from the right hip of SK 31 (**Plates 14** and **15**).

From the positioning of the few grave goods recovered (knives and whetstones at the hip, buckles near the waist), it seems probable that most of the burials at this cemetery were inhumed clothed or shroud wrapped. There was no physical evidence of coffins or other burial structures within the graves, although a number of skeletons were found with a few larger stones 'framing' the body in the grave.

The extent of the cemetery appears to have been determined in most directions, although a number of graves may have been destroyed by the insertion of a concrete and brick foundation towards the centre and north-west of the site, associated with the construction of the school building in the 20th century.

5.1.3.2 Minimum number of individuals

All 37 grave cuts contained individual inhumations. There were no repeated skeletal elements within individual grave cuts.

5.1.3.3 Age at death

The age of death for all 37 individuals could be at least broadly estimated (**Figure 1**). It was possible to attribute an adult age estimation, i.e. over 18 years of age at death, to six individuals (SK10, SK15, SK26, SK27, SK34 and SK35), although it was not possible to identify more accurate age categories for these individuals.

Three individuals were assessed to be less than 18 years of age at death (SK5, SK28 and SK36). The youngest of these was a 4 to 6 year-old child (SK28), the youngest individual recovered at this site. Seventeen individuals were assessed as being 'young adults' between the ages of 18 and 25 years at death. Just three individuals were assigned to the 'middle adult A' category (SK9, SK14 and SK32), five to the 'middle adult B' category (SK11, SK18, SK19, SK21 and SK24), and three to the 'older adult'

category (SK7, SK8 and SK30).

Mortality curves typically follow a characteristic U-shaped curve, the high arms of the curve resulting from a higher probability of death in infancy and old age. In the Adwick assemblage, adult mortality peaks in the 'young adult' category and there is no obvious peak in the neonate, infant or old adult categories. It has been noted by a number of authors that young individuals are often underrepresented in early medieval contexts (Buckberry 2000), either as a result of poor preservation or selective burial procedures which may have removed children from the archaeological record. Furthermore, the lack of old adults is unusual. It is unlikely that the six adults of unknown age can be used to explain this deficit. It is possible, however, since age estimation has been based primarily on tooth wear due to the paucity of post-cranial aging information that this may have underestimated the age of the population.

No spatial patterning of inhumations and age in this cemetery could be identified.

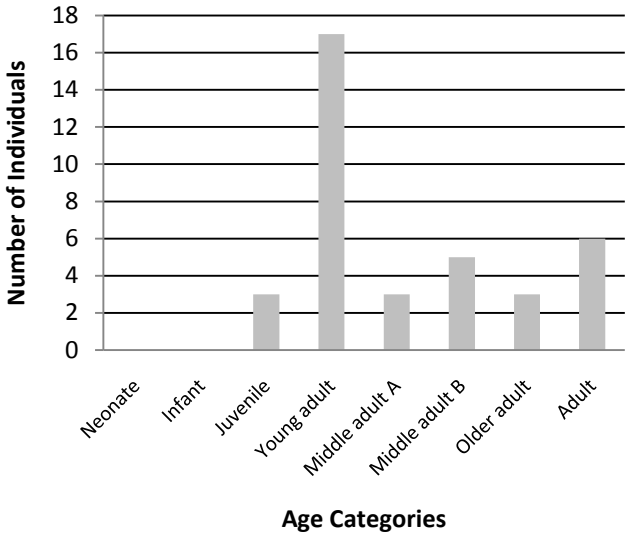

Figure 1: Age Distribution

5.1.3.4 Sex estimation

The biological sex of 24 adult individuals could be estimated to male, female or probable male or female (**Figure 2**). Of these individuals, 14 were male and 10 were female. Due to the poor condition of the bone and truncation of sexually diagnostic skeletal elements, it was not possible to sex 10 adult individuals. Determining the sex of sub-adults is typically highly inaccurate; therefore the sex of the three juvenile individuals was not estimated.

Further dissection of the distribution of the age and sex of the individuals from Adwick shows a possible imbalance in the number of males and females in some age groups (**Figure 3**). The 'middle aged adult' and 'older adult 'categories show a normal distribution of slightly more males than females. However, within the 'young adult' age group, there are twice as many young females as males (n=7 and n=3, respectively) which is unusual; the large number of unknown sex individuals in this category may

account for this skewed result.

No spatial patterning of inhumations and sex in this cemetery could be identified.

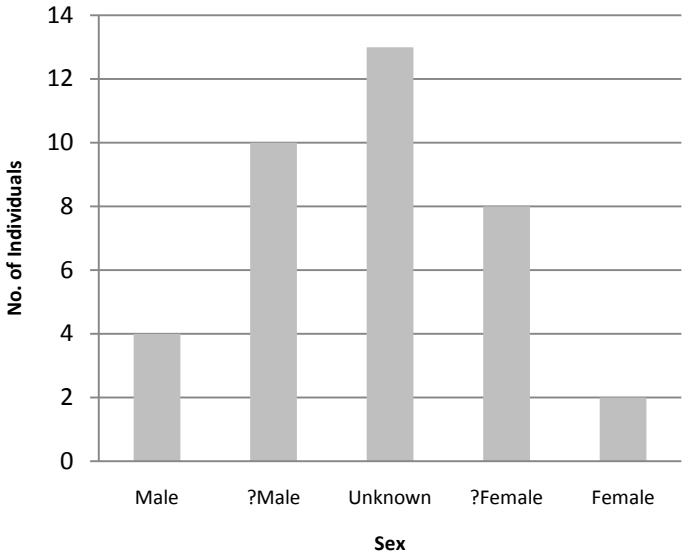

Figure 2: Age Distribution

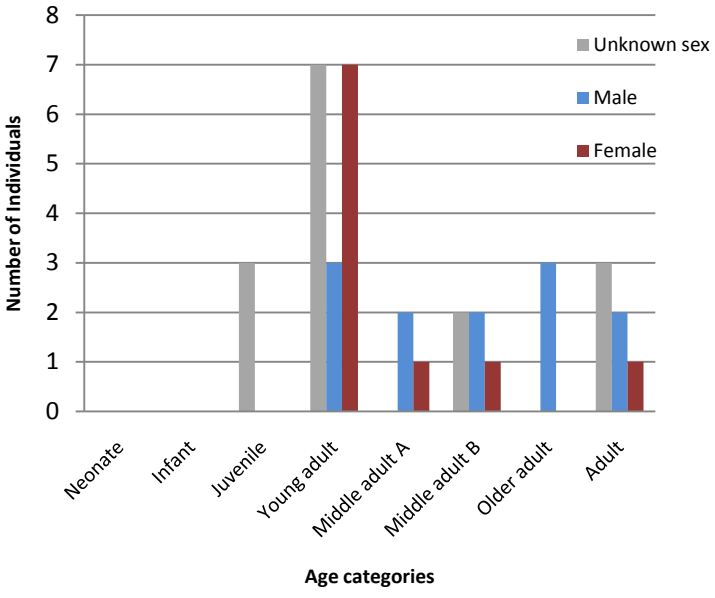

Figure 3: Age and Sex Distribution

5.1.3.5 Stature

It was possible to estimate the height of nine individuals from Adwick using long bone measurements and regression formulae by Trotter (1970) (**Appendix 4 Table 2**).

Stature in early medieval Britons is typically between 170-182cm for males and between 152-170cm for females, with mean heights of 172cm (*c*. 5ft 7¾in) and 161cm (*c*. 5ft 3½in), respectively (Roberts and Cox 2003, 195).

Five males or probable males, three probable females and an individual of unknown sex were assessed for stature. The range of stature in the male individuals was between 166-180cm, with a mean stature of 173cm or approximately 5ft 8in. The range of stature in female individuals was between 156.5-165.5cm, with a mean stature of 162cm or approximately 5ft 3¾in. Therefore, whilst the males at Adwick are more variable in height than might be expected, the average height of those assessed is just slightly greater than other males of this period. The female population at Adwick fits within the national range and is similarly a little higher than the national average. It seems likely on the basis of height that SK22 is male.

5.1.3.6 Metrical data

Metrical data, including long bone lengths and dental metrics for all articulated individuals, were collected where preservation allowed and have been stored within the paper archive.

5.1.3.7 Palaeopathology

Very few pathological conditions and no clear examples of trauma were observed in this assemblage. This is likely to be a result of the high degree of fragmentation and surface bone erosion within the assemblage. The only skeletal pathology of note was found in the pelvis of SK17, an adult female. A large lesion, with a sequestrum (area of dead bone) was observed on the lateral aspect of the right ilium, located above the greater sciatic notch (**Plate 23**). This is likely to be a 'Brodie's abscess' (Aufderheide and Rodrigues-Martin 1998, 178) and is potentially an unusual example of skeletal tuberculosis of the ilium in an archaeological population (Andrew Chamberlain, *pers. comm.*). Tuberculosis is a hazard of keeping animals as domesticates and occurs in around 0.4 to 3.7% of individuals from sites of this period in Britain (Roberts and Cox 2003, 184).

In four individuals (around 10% of the assemblage) there was evidence of pathological change in the articulations of the spine. This was expressed as slight porosity and slight or moderate osteophytic growth around joint surfaces. SK11, SK24 and SK37 appear to have been affected in the thoracic or lumbar regions, whilst SK17 exhibited these changes in the top two cervical vertebrae. These pathological changes are degenerative in nature and are often associated with osteoarthritis, a condition common in antiquity (Roberts and Manchester 1995). Osteoarthritis can be caused by many factors, including advancing age and occupation, as well as genetic predisposition or obesity. Since two of the affected individuals here are 'young adults' (SK17 and SK37), it seems likely that occupation or repetitive movement, rather than advancing age alone, was responsible for the changes.

5.1.3.8 Dental pathology

Parts of the dentition survived in 31 individuals and 16 of them exhibited some kind of dental pathology. These pathologies included calculus deposits, dental caries (cavities), enamel hypoplasia and periapical abscesses. In most cases the maxilla, and to a lesser extent, the mandible had been destroyed through erosion and fragmentation, which meant that it was impossible to securely diagnose and assess prevalence rates for periodontal disease in the assemblage. A total of 675 teeth were recovered, many of which were not *in situ*.

Of the 675 teeth recovered, 59 had calculus deposits adhering - a prevalence rate of 8.7%. The prevalence rate of calculus in the early-medieval period in Britain is typically much higher at around 39.2% (Roberts and Cox 2003, 193). Whilst the low rate of calculus at Adwick may be a reflection of relatively good dental hygiene, it is possible it is simply a consequence of post-depositional erosion. Although most of the calculus deposits observed were 'slight' in nature, the calculus observed on the right side of the dental arcade in SK2 were 'medium' to 'considerable' in appearance (Brothwell 1981). Interestingly, these deposits covered the occlusal surface of the molars as well as the buccal and lingual surfaces. In addition to this, the cusps of each tooth from the canine to the third molar were unworn. The corresponding teeth on the left side were worn and upper and lower rows appeared to occlude normally. This condition may be the result of a developmental defect such as a unilateral cross bite or of a traumatic event to the right side of the face in childhood (Nicolas Martin, *pers. comm.*). In either case, it is clear that the right side of the mouth had never been used in normal mastication by this individual.

Dental caries were observed in seven individuals, on a total of 15 teeth. This presents a true prevalence rate of 2.2% in this assemblage. Roberts and Cox (2003, 191) quote an average prevalence rate of 4.2% in this period in Britain. Again, it is likely that poor preservation is in part to blame for the low frequency in this assemblage. Although coronal and interstitial caries were easy to identify in this assemblage, caries positioned at the cemento-enamel junction and on the root may have been missed due to the preferential erosion observed in these locations, which may have obscured genuine carious lesions.

A single periapical abscess was identified in the mandible of SK8, below the mandibular right first molar. This single example indicates a prevalence rate of around 0.12% in this assemblage, which is very low compared to an average absolute frequency rate of 2.8% in other early medieval populations (Roberts and Cox 2003, 192). This is almost certainly a reflection of the lack of bony material around teeth in which abscesses are typically visible.

A single incidence of enamel hypoplasia was observed on the left mandibular canine of SK16. This single example indicates a prevalence rate of around 0.12% in this assemblage. Hypoplasia is typically associated with poor nutrition or stress in childhood and is typically present on around 7.4% of the teeth recovered from archaeological sites of this period (Roberts and Cox 2003, 188). Again, it is likely that poor preservation is to blame for the low prevalence rate in this assemblage.

5.1.4 Discussion

A radiocarbon date taken from SK1 during the evaluation stage of this excavation returned a calibrated date of 660-780 AD. This date is in keeping with artefacts found with SK2 and SK31, which have been attributed a probable 7thcentury origin. With this as a general guide to the date of the cemetery, it stands as the only example of an Anglo-Saxon or early medieval cemetery of its kind in South Yorkshire (Dawn Hadley, *pers. comm.*). This cemetery appears to be in keeping with a national 'unfurnished' burial tradition seen in the 7th and 8th centuries. Typically, these more structured and less furnished burials are associated with the spread of Christianity and abandonment of Pagan burial practices (Laing and Laing 1979).

Unfortunately, the poor condition of the material, caused by acidic soil conditions and proliferate root action, has resulted in a lack of detailed information about the population. Age and/or sex estimation has been possible for most individuals. This has revealed an absence of neonates and infants, very few young juveniles in the sample

as well as few middle aged or older adults. Nearly half of the 37 individuals in this assemblage were classed as young adults, between the ages of 18-25 years.

This age profile is unrealistic as a reflection of a total living population. However, a similar pattern has been observed on a 6th-century cemetery in Peterborough (Patrick *et al* 2007, 231) where around 45% of the assemblage consisted of 25-35 year olds. There are three potential explanations for this peak; methodological errors in age estimation of poorly preserved skeletons, missing burials that may have redressed the imbalance or different burial treatment for varying age groups. These possibilities hold true at this cemetery too, where all of these factors may have played a role in creating the skewed age at death profile.

Very few pathological conditions were observed in this assemblage. Of note was a large abscess in the ilium of an adult female (SK17) which may have been associated with skeletal tuberculosis. It is likely this would have caused severe discomfort during life (Trikha *et al* 2005) but is unlikely to have been fatal. The only other pathological condition observed was slight osteophytic growth and porosity in the vertebral joint surfaces in SK11, SK17, SK24 and SK37. Dental health could be assessed more fully, although prevalence rates of calculus, caries, abscesses and enamel hypoplasia were low, due in part to poor preservation. Conditions such as periodontal (gum) disease were noted as being occasionally present in the assemblage, but not quantifiable due to the lack of bony material (i.e. the maxilla or mandible) surrounding teeth.

There were no unequivocal examples of trauma in this assemblage, which also appears to be a result of poor preservation and high fragmentation. It is possible that the calculus deposits observed unilaterally in SK2 are a result of childhood injury, although it is also possible that a developmental condition was responsible for the lack of occlusion or cross bite between the upper and lower dental arcade on the right side.

Perhaps the most interesting individuals in this assemblage are those who were excluded from the burial norm at this cemetery. The young adult male, SK2, was buried on a reverse alignment, in an undersized grave cut, potentially weighted down with large rocks. The dental problems suffered by this individual may have been developmental or traumatic in nature, but were present from a young age and probably visible to others. Hadley (2008b) notes that adult males with a 'physical impairment' of some sort were often buried outside the 'normal mode' of burial. Another young adult male, SK17, was buried in a prone, extended position. His left arm was behind his back, whilst his back was bent over in the thoracic region. Whilst it is tempting to classify this as a so called 'live burial' due to the uncomfortable position of the individual, caution must be exercised in attributing a hasty or untoward explanation to the burial. This may not always be the case however, since prone burial appears to be a 'marker of some status' (Hadley 2008b) in some areas in the 8th century.

Finally, it is worth noting that there may have been a building or monument near to this cemetery, which could have been the guide for the alignment of the inhumations. The burials are more orderly towards the northern end of the cemetery. It can be hypothesised from this that a building towards the north or north-east might have existed. This should be kept in mind if further development of the area takes place.

5.1.5. Recommendations

To further characterise and understand this cemetery, it is recommended that four bone samples, from skeletons positioned at the ends of the two rows (i.e. SK25, SK14 and SK16) and one in the clustered area toward the south-east end (i.e. SK 12) are

sent for AMS radiocarbon dating, in order to determine how long the cemetery had been in use. As population movement is thought to be prevalent in this time period, dental samples from two skeletons should be sent for chemical analysis to determine geographic origin of the individuals tested. This is possible through oxygen isotope analysis. Since SK2 and SK17 had clearly been treated unusually in death, it is recommended they be used for this purpose. A well-preserved, normally aligned, adult such as SK23 should also be tested in this manner.

It is further recommended that skeletal elements and bone fragments recovered during soil sample processing are added to the bulk of the skeletal remains and the skeletal data and report updated to reflect this.

5.2 Pottery *by Dr C. G. Cumberpatch*

5.2.1 Introduction

Two groups of pottery recovered during the excavation at Adwick-le-Street were examined. The first group consisted of a total of five small, heavily abraded sherds in quartz tempered sandy fabrics, details of which are presented below (section **5.2.2**). The second group consisted of 34 sherds of medieval and later pottery, details of which are summarised in **Appendix 4 Table 3**.

5.2.2 Pottery group 1

SF 10, context (8049), grave cut [8051]: a small unglazed body sherd weighing 2g in a pale grey reduced fabric containing abundant fine quartz grains. The sherd was part of a wheel-thrown vessel but no other diagnostic traits survived to indicate the form more precisely.

SF 12, context (8064), possible grave cut [8065]: a small fragment of fired clay, weighing 3g, in a soft fabric with irregular dull orange oxidised margins and a black reduced core. The range of inclusions was difficult to determine, even with the aid of a microscope, but appeared to include occasional angular quartz grains and slightly commoner, but unidentified, non-crystalline rock fragments. One side of the sherd might represent the inner surface of a pottery vessel but the opposite surface was in much poorer condition with prominent striations. In fact there must be some doubt as to whether this fragment was once part of a pottery vessel or whether it should be considered to be 'fired clay', a fragment of some other object or even a piece of an oven or similar structure.

SF 16, context (8043), grave cut [8045]: a small, abraded body sherd in a soft, sandy textured brown fabric, weighing 2g. The sherd contained abundant fine angular and sub-angular quartz grit and similar non-crystalline grains. Abrasion of the surfaces has exposed these inclusions and this has given the sherd its distinctive sandy appearance. Both surfaces survived in spite of the abrasion and it appeared that the vessel was wheel thrown.

SF 26, context (8096), grave cut [8095]: two small sherds, probably originally one, in a fine sandy textured pale grey reduced fabric weighing approximately 1g. The fine inclusions appeared to be principally quartz, but others might be detectable at a higher magnification. As with the other sherds discussed in this catalogue, diagnostic traits were largely absent.

Discussion

Of the four sherds recovered from the grave fills, those given small find numbers (SF) 10, 16 and 26 all appeared to be greyware sherds of Roman date. Local production

spanned the 2nd to 4th centuries AD but earlier production elsewhere saw greywares in use in the 1st century AD. Given the size and lack of diagnostic features, a broad date range spanning the 1st to 4th centuries AD would seem appropriate (R. Leary, pers. comm.).

One sherd, SF 12, was very unlikely to be of Roman date and was also unlike local late prehistoric pre-Roman sherds (R. Leary, pers. comm.). Post-Roman pottery is extremely rare in South Yorkshire and no precise (or even close) parallels are known for this sherd. While this does not entirely rule out a post-Roman date, the sherd cannot be relied on as a means of dating the context from which it was recovered. At present it must be regarded as undated, but most probably pre-dating the Norman Conquest.

5.2.3 Pottery group 2 – medieval to recent wares

The unstratified pottery and that from the topsoil was dominated by utilitarian wares, the earliest appearing to be the pancheon base and pot disc from the topsoil deposits. The pot disc seemed unlikely to post-date the early 19th century and was more probably of mid- to later 18th-century date. The stonewares from the topsoil were somewhat later, spanning the mid- to late 19th- or perhaps even early 20th-century in date.

The unstratified pottery included a sherd of tableware, part of a sponge printed mug, most probably post-dating the period between 1830 and 1840. The remaining pottery from the unstratified contexts consisted of utilitarian wares dating to the later 19th or early 20th century.

The pottery from the stratified contexts was somewhat more diverse than that from the unstratified contexts and from the topsoil. Medieval pottery was present in contexts 5000 and 10003, with the latter context producing only one later sherd, the rim of an unglazed earthenware vessel, probably part of a horticultural vessel of recent date. The medieval sherds included Doncaster Hallgate type wares but the sherd of White Gritty ware could be a West Yorkshire type. The Coarse Orange Sandy ware sherd, although probably broadly contemporary with the remainder of the medieval wares, was of an unidentified type and unknown origin. The sherd of reduced sandy ware from context 5000 was probably a piece of a Hallgate A type ware vessel as there appears to be a reduced version of the familiar Hallgate A ware (Cumberpatch, n.d.) which occurs alongside the commoner oxidised wares.

Post-medieval pottery (*c*.1450-*c*.1600) was entirely absent from the assemblage. In contrast, early modern (*c*.1700-*c*.1830) and recent (*c*.1830-*c*.1900) wares were present in a number of contexts, together with sherds which may date to the latter part of the 17th century. The utilitarian wares (Brown Glazed Coarseware, Redware and Unglazed Red Earthenware) remained difficult to date precisely, as indicated in **Appendix 4 Table 3**, but tablewares, both formal and vernacular, which have narrower date ranges, were also present, though in small quantities. The types and their date ranges are listed and described in **Appendix 4 Table 3**. It is unclear, in the absence of any context information, whether these sherds were likely to have reached the site thorough the use of urban waste as fertiliser (a practice documented in the case of Sheffield from where waste was shipped as far as Lincolnshire for use by farmers) or whether there was occupation in the vicinity of the site in the early modern period. If the latter is the case, then a local source might be suggested for these sherds.

5.3 Glass *by L. Harvey*

A fleck of amber glass (SF41), the only glass find on the site, was recovered from Trench 8, context (8092), a fill of grave [8094], which contained SK26 [8093]. Due to its very poor preservation and small size (2mm x 3mm), the fragment remained undated. Considering its colour, it could be stated that the glass fleck was most probably intrusive from a beer bottle.

5.4 Worked flint *by Dr B. Chan*

Three pieces of worked flint were recovered from three separate contexts (**Appendix 4; Table 4**).The pieces were undiagnostic except the small bladelet, which was likely to be of late Mesolithic or Early Neolithic date. The context and small number of the finds strongly suggests that they are residual in nature. Given this, there is no potential for further analysis of the material.

5.5 Stone finds *by Dr P. Buckland*

A total number of 584 stone finds were recovered from 11 contexts in Trench 8. A detailed summary is presented in **Appendix 4 Table 5**.

Small rounded pebbles of vein quartz, the largest being an elongate piece 30mm long, were scattered in many of the graves in Trench 8. Several were reddened in fracture zones, betraying their ultimate origin in the Sherwood Sandstone Group of the Trias, formerly known as the Bunter Pebble Beds.

There are few pebbles in the Sandstone north of Doncaster, and the Adwick site lies on the Permian Wetherby Formation (formerly Upper Magnesian Limestone) west of the Triassic outcrop; the Triassic is largely concealed beneath the deposits of pro-glacial Lake Humber to the east (Gaunt 1994). To the south outcrops beneath Bentley and the Doncaster ridge are unlikely to have provided the pebbles and the most likely source is in Quaternary deposits derived from the south. A scatter of such pebbles occurs in both temporary exposures and on the surface of ploughed fields around Adwick, and they have no archaeological significance, although their position within the local Quaternary has yet to be defined.

A perforated lenticular hone (SF 43), measuring 145 mm in length, and rectangular in section (19 mm by 15 mm in maximum section) with rounded edges, was recovered from a fill (8107) of grave [8109] in Trench 8. The find identified as a whetstone, possibly attached to a belt, was found at the distal end of the left forearm of the skeleton (8108). The rock was a very fine grained micaceous siltstone, light olive grey (5Y 5/2) in colour towards the perforated end and greyish orange (10YR 7/4) at the distal end, with the surface much stained with iron deposition from the soil and with iron corrosion around the suspension hole. In the absence of a thin section, it is uncertain whether the rock, which shows no evidence of bedding or lineation, is a sedimentary siltstone or a metasediment. Although the relative hardness would suggest a Palaeozoic origin, the rock cannot be matched with a source.

5.6 Grave goods *by Dr K. Leahy*

A total of five grave goods were uncovered in association with human burials in Trench 8, and were given separate small finds numbers (SF).

SF1, context (8006), grave cut [8004] (**Plate 12**): remains of an iron, whittle-tanged, knife. While corrosion made it difficult to determine the shape of the blade with certainty, it appeared that this knife had a straight cutting edge and a back which curved down to a point, allowing it to be placed in Evison's Type 4, which she dated,

on the basis of her own work and the work of Böhner in the Rhineland, to the 7th century AD (Evison 1987, 113; Böhner 1958, 215-25). The radiograph revealed a line down the length of the blade, which is likely to show where a steel cutting edge had been added to the wrought iron blade.

Overall length: 108 mm

Blade length: 68 mm

Blade width: 14 mm

SF9, context (8006), grave cut [8004]: oval hoop from an iron buckle with a buckle tongue, which appeared to have expanded as it encircles the hoop. This buckle can be fitted into Marzinzik's Type 1 10 bi (2003), which she placed in the broad date range of 450-700 AD.

Width: 26 mm

Length: 16 mm

SF42, context (8107), grave cut [8109] (**Plate 15**): remains of an iron whittle-tanged, knife. While corrosion made it difficult to determine the shape of the blade with certainty, it appeared that both the back and cutting edge of the blade are curved towards the point. This would allow the knife to be placed in Evison's Type 1, a form that she dated to 450-700 AD (Evison 1987).

Overall length: 110 mm +

Blade length: 100 mm

Blade width: 19 mm

Härke (1989, 144-8) argued that the 7th century saw an increasing use of large knives, which is not altogether in keeping with both of the Adwick-le-Street finds, which can be placed in his 'medium' Class 2-knives with blades of 100-129 mm in length and widths of 14 – 23. The increasing use of large knives was, however a trend, not a rule and figures quoted by Härke (1989, 145) show that 47.3% of his 7th-century blades were 'small'.

SF43, context (8107), grave cut [8109] (**Plate 14**): whetstone made from a fine grained micaceous siltstone, as described above by Dr Buckland. The whetstone had a skewed, rectangular section tapering, in all directions, towards the ends. At each of its ends the edges were faceted making each of the end faces almost circular. Through one end of the whetstone was a 4.6 mm diameter, parallel sided, hole around which was a concentration of iron corrosion products suggesting the presence of an iron suspension ring. Whetstones are known from early Anglo-Saxon cemeteries such as Cleatham, North Lincolneshire (Leahy 2007, 202 -2), where both its shape, and the use of a fine grained micaceous siltstone can be paralleled. It appears that whetstones were not perforated in the early Anglo-Saxon period, supporting the later date of the Adwick-le-Street find.

Length: 145 mm

Section: 0.2 – 15.4 mm

SF44, context (8107), grave cut [8109] (**Plate 14**): copper alloy ring, made from wire bent around to form an oval, joint not closed, ends tapering. Rings are common finds in Anglo-Saxon graves and are likely to have fulfilled a range of functions. This object is unusual in that it is not closed, making it, in effect, penannular. It is best dated by the context in which it was found.

Diameters: 19 mm x 12mm

Wire diameter: 3.5 mm (but tapering)

Commentary

The finds from the Adwick-le-Street cemetery form a small, but interesting, group. Where they can be dated, objects date either from the 7th century, or have a wide date range that encompasses the 7th century. The description of the graves as being aligned northeast-southwest and laid out in rows is similar to what is seen in Anglo-Saxon burials of the 7th century 'Final Phase' (Boddington 1990, 177-99). The dearth of grave goods is also a feature of these cemeteries, although it must be recognised that even by the standards of the Final Phase, Adwick is a poor cemetery, which is likely to reflect its late date. It must be remembered that 700 AD represents the general end of accompanied burials in England, after which it is difficult to date graves, many of which may be later.

5.7 Archaeometallurgical assessment of residues *by Dr R. MacKenzie*

The metals and process residues recovered from the site have been examined to assess their archaeometallurgical significance and potential to provide further information about the site. The results of the assessment are summarised in **Appendix 4 Table 6**.

5.7.1 Discussion of results

Initial visual examination suggested that the metalliferous fragment recovered from context (8049) (SF6) might be a piece of heavily oxidised iron rather than slag. It is possible that the fragment is a part of a heavily corroded iron object.

The fragment of material from context (8117) appeared to be a piece of partially burnt coal or fuel ash slag. This piece probably originated from a 'domestic' hearth or fire.

5.7.2 Statement of potential and recommendations for further work

It is recommended that the fragment of material from context (8049) (SF6) is X-rayed to determine whether it is a piece of corroded iron or slag (see Section 5.8 below).

The fragment of material from context (8117) is of very limited archaeological potential and it can be disposed of in the usual manner.

5.8 Conservation assessment of metal finds *by J. Jones*

5.8.1 Quantification and condition

Four iron and one copper alloy objects were received for conservation assessment and X-radiography. All five objects were found to be highly corroded. Four were found to be stable when examined, with one iron object (SF42) showing signs of active corrosion. Two of the iron objects (SF1 and SF42) had fresh breaks.

Highly corroded metallic material is defined as having both the form and the surface detail of the object obscured by corrosion, and/or having little or no metal remaining in its core.

5.8.2 X-Radiography

The objects were briefly visually examined to assess their condition and stability, to determine the material from which they were made, and to look for surface and technological detail. They were X-radiographed in plan and/or side view as

appropriate.

Details of the artefacts were entered into a database (**Appendix 4 Table 7, Appendix 5**) which includes the context and small finds number, identification of the material and of the object, where possible, the condition of the object when examined, its XR plate number, and any technological or other observations.

When viewing the XR plate, it should be orientated with the bright spot (a lead marker) in the top left hand corner, to correspond to the annotated XR sleeve.

5.8.3 Results

X-radiography revealed two of the iron objects (SF1 and SF42) to be knives. Another iron object (SF9) was found to be a buckle. The remaining iron fragment (SF6), which was partly vesicular both on its surface and internally, as revealed by the X-radiograph, appeared to be a small piece of fairly dense industrial residue, probably from ironworking. The copper alloy object appeared to be a penannular, broken wire or buckle.

5.8.4 Recommendations

SF1 iron knife: investigative conservation and selective corrosion removal could define the form and surface detail. Mineralised organic material is visible below the overlying soil on the blade and also possibly the tang. This could be revealed, consolidated and possibly identified.

SF6 industrial residue: no further conservation work is recommended.

SF9 iron buckle: investigative conservation and selective corrosion removal could define its form and surface detail. Mineralised organic material may be present, and this could be revealed, consolidated and possibly identified.

SF42 iron knife: investigative conservation and selective corrosion removal could define the form and surface detail. There is possible mineralised organic material is below the overlying soil on the blade. This could be revealed, consolidated and possibly identified.

SF44 copper alloy ring: investigative conservation and selective soil/corrosion removal could define the form and surface detail. There is mineralised organic material on the surface and inside the wire loop, visible below the soil cover. This could be revealed, consolidated and possibly identified.

5.8.5 Storage

The objects should be packed with protective materials and stored in an airtight container at a stable temperature and below 40% RH, to inhibit further corrosion. The RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

5.9 Animal bone *by S. Bell*

The animal bone was rapidly identified and assessed to consider the potential of the assemblage on the basis of Schmid (1972) and using the reference collections in the Department of Archaeology, University of Sheffield. No attempt was made to discern the differences between sheep (*Ovis aires*) and goat (*Capra hircus*).

5.9.1 Assemblage recovered during evaluation stage

A total of 281 fragments of animal bone (274 mammal and 7 avial) were recovered, with the majority 265 of fragments recovered from a single context (4005), the fill of

grave cut [4003]. These were all identified as coming from a single individual of dog (*Canis lupus*). The majority of the long bones were present along with ribs, vertebrae, molars, scapulae and various smaller bones. All the elements had unfused epiphyses, with the exception of the phalanges, indicating that the individual was younger than 13 months in age. No fragments of pelvis were present, which would have indicated that the individual was older or younger than 6 months.

Two sheep/goat fragments were identified: an almost complete femur recorded as unstratified, and a tibia from the topsoil layer. The tibia bore cut marks on the surface of the distal end of the shaft. This was probably a modern fragment.

Two fragments were recovered from context [5000]. These were a skull fragments and a rib fragment from a sheep/pig-sized mammal.

A topsoil layer [8002] contained a further 12 fragments. Seven of these were avian and three were small mammal ribs. The two remaining fragments were identified as a sheep humerus which had been sawn across the shaft and an unfused dog radius.

The assemblage is fairly small with the majority of fragments coming from a single individual, and is of little archaeological significance. No further analysis is, therefore, recommended.

5.9.2 Assemblage recovered during mitigation stage

A total of 311 fragments of animal bone were recovered. The majority of the assemblage (259 fragments) was recovered from a single context as SK [8132]. These were all identified as coming from a single individual of pig (*Sus scrofa*). All the long bones were present with the exception of the right humerus. A large number of metapodials and phalanges were also recovered, although some were missing indicating that one lower limb had not been recovered. In addition, 27 ribs and 23 vertebrae were counted with various smaller bones also present. Most of the countable elements had fused as well as unfused epiphyses. These indicated that the individual was between 2½ and 3 years in age. The skull was also present as an almost complete element with all mandibular molars and pre-molars *in-situ*.

A further pig metacarpal was recovered from context [8130] along with a vertebra from a medium-sized animal.

Context (3004) contained 50 fragments of bone, three of which were identified as dog (*Canis lupus*) (SK 3010). The remaining vertebrae and small fragments were consistent in size with a dog-sized animal.

Recommendations

The assemblage is fairly small with the majority of fragments coming from a single individual and subsoil layers. The assemblage is of little archaeological significance and no further analysis is, therefore, recommended. It is recommended, however, that the almost complete pig individual is retained as part of any reference collection.

5.10 Miscellaneous items *by L. Harvey*

Several miscellaneous items recovered during the excavation included fragments of ferrous and non-ferrous metal and galvanised rubber. The ferrous and non-ferrous grave goods recovered on-site were excluded from this assemblage, which comprised six items from three contexts (**Appendix 4 Table 9**).

5.10.1 Methodology

All objects were individually examined for the purpose of this assessment.

Information regarding the type of the material, dimensions and any other relevant data were catalogued accordingly and presented in **Appendix 4 Table 9**.

5.10.2 Summary and recommendations

The miscellaneous items presented here were post-medieval in date, such as the gas lamp fitting from topsoil [1002], or undiagnostic, such as the unstratified corroded nails. The unstratified vulcanised rubber bottle stopper was marked with 'TOWER TABLE WATERS', which was the name of a mineral water works operating in Leeds in the early part of the 20th century. No further work is recommended on this assemblage; however the items marked in **Appendix 4 Table 9** should be retained for the site archive.

5.11 Environmental remains *by E. Simmons*

5.11.1 Sampling and recovery

Ten soil samples from the backfill of ten grave cuts were assessed for the presence of charred plant remains and wood charcoal (**Appendix 4 Table 10**). The samples were processed by wet sieving using a 500µm mesh and the remaining residues were air dried. The fractions bigger than 2mm of each soil sample residue were sorted for charred plant remains and wood charcoal as well as bone fragments and artefacts. The fractions smaller than 2mm of each residue were scanned using a low power microscope (x7-x45) and the abundance of wood charcoal fragments, as well as the main classes of charred plant material, were recorded where present. The data is presented in **Appendix 4 Tables 10** and **11**.

5.11.2 Material represented

No charred plant remains were found to be present in the samples of grave backfill material. Wood charcoal fragments were present in the majority of samples, although at relatively low densities. Vitrified charcoal fragments were also present in all of the samples but, again, at relatively low densities.

5.11.3 Conclusions and recommendations for further work

The quantity of wood charcoal fragments present in these samples would not be sufficient for wood charcoal analysis. It is also possible that, as the material was recovered from the backfill of grave cuts, the wood charcoal fragments are not contemporary with or related to the burials. The quantity of wood charcoal fragments in these samples would also not be suitable for radiocarbon dating.

No further analysis of the material in these samples is therefore recommended.

6 CONCLUSIONS AND RECOMMENDATIONS

The archaeological evaluation and mitigation indicated that the earliest features on the site were two parallel ditches, possibly Romano-British in date, found on the north-west side of the site. At the south-west end, a linear cemetery of 40 grave cuts was identified, with 37 containing burials.

The grave cuts, orientated northeast to southwest were arranged in roughly two parallel lines running northwest to southeast over a distance of 50m. There were no associated features (field ditches or trackways) to indicate that the cemetery was respecting existing boundaries, although the alignment does lie perpendicular to the

potential Romano-British trackway identified in Trench 1/Mitigation Area B. The bodies were buried mostly in an extended position with the head at the southwest extent of the grave. Two of the individuals however appeared to have been treated differently in burial.

A radiocarbon date of 660-780AD, from the only one of the skeletons to be dated so far, is in keeping with grave goods found with two other skeletons, objects which date either from the 7th century AD, or have a wide date range (450-700AD) that encompasses the 7th century AD. The grave goods included two iron knives, a whetstone, a buckle and a ring. Other dating evidence recovered from grave fills included five heavily abraded sherds of pottery. Four of these were Roman greyware, given a broad 1st- to 4th-century AD date and were almost certainly residual in nature. A fifth sherd was undated but considered pre-Norman in date.

The poor condition of the human bone material has resulted in a lack of detailed information about the population. Age and/or sex estimation however did reveal a lack of neonates, infants and very few young juveniles in the sample, as well as a few middle aged or older adults. Nearly half of the 37 individuals in this assemblage were classed as young adults, between the ages of 18 and 25 years. This age profile is unrealistic as a reflection of a total living population although there are potential explanations for this. Very few pathological conditions were observed in this assemblage. Of note was a large abscess on an adult female which may have been associated with skeletal tuberculosis. Dental health could be assessed more fully, although prevalence rates of calculus, caries, abscesses and enamel hypoplasia were low, due in part to poor preservation. Conditions such as periodontal (gum) disease were noted as being occasionally present in the assemblage.

With the radiocarbon date and grave goods as a general guide to the date of the cemetery, it stands as the only example of an Anglo-Saxon or early medieval cemetery of its kind in South Yorkshire (Dawn Hadley, *pers. comm.*). The description of the graves as being aligned northeast-southwest and laid out in rows is similar to what is seen elsewhere in Anglo-Saxon burials of the later 7th century AD. This cemetery appears to be in keeping with a national 'unfurnished' burial tradition seen in the 7th and 8th centuries. Typically, these more structured and less furnished burials are associated with the spread of Christianity and abandonment of Pagan burial practices (Laing and Laing 1979). There was no evidence prior to these investigations of activity in Adwick during the post-Roman and Anglo Saxon periods. During this time the area appears to have formed part of the British kingdom of Elmet, subsequently incorporated into the 7th-century Anglo-Saxon kingdom of Deira and later that of Northumbria. The name Adwick Le Street itself suggests an Anglo-Saxon presence; with elements deriving from Old and Middle English.

It is hoped that further dating and (phosphate, oxygen and strontium isotope) analysis of the human bone will help determine the date range of the cemetery and potentially the geographical origin of the individuals concerned. Dating samples from the spatial extents of the cemetery may assist in determining a date range. Analysis of samples from at least three individuals of the population may assist in determining whether this was a migrating population which settled in Adwick, or whether it was a local population which assimilated Anglo-Saxon cultural items and burial practices.

In addition to the Anglo-Saxon cemetery a small number of artefacts provide ephemeral evidence for prehistoric, Romano-British and medieval activity on, or in the vicinity of, the site. It is recommended that given the significance of the site, the results are published in a relevant academic journal, such as *Medieval Archaeology* or the *Yorkshire Archaeological Journal*.

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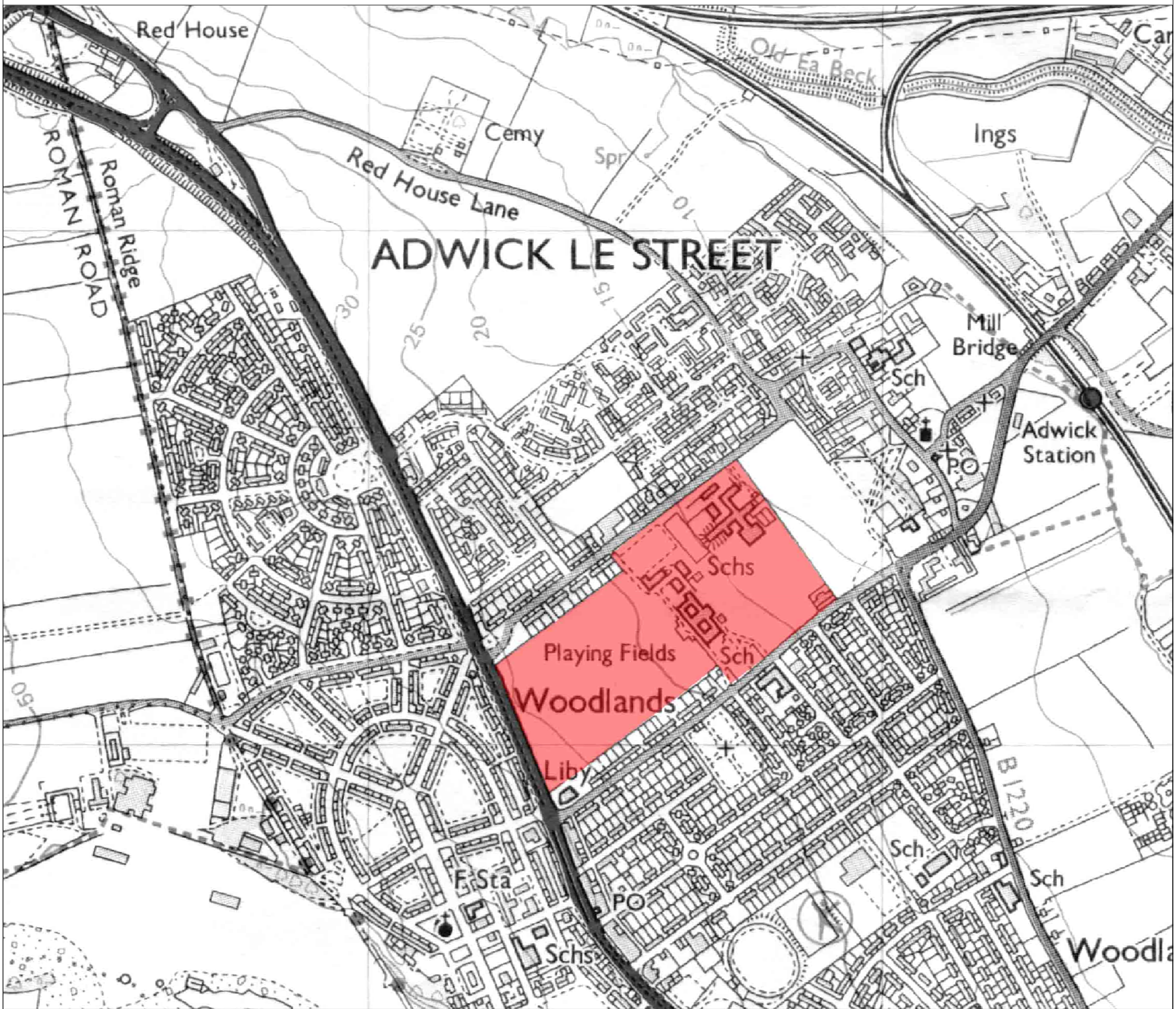
9 ILLUSTRATIONS



N	Project: **North Ridge Community School, Adwick le Street, Doncaster**	Scale 1:12500	Date October 2008
ARCUS		NGR SE 535 083	Drawn K.Speight
Unit R6, Riverside Block Sheaf Bank Business Park Prospect Road Sheffield, S2 3EN Tel: 0114 2225106 Fax: 0114 2797158	Title **Site Location Map**	Project No. **1063 c&d**	Illustration No. **1**

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Evaluation Trench

Mitigation Area

Area of New Build and Car Parking

0 50m

N

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Tel: 0114 2225106 Fax: 0114 2797158

Project:
North Ridge Community School, Adwick le Street, Doncaster

Title
Site Plan

Scale	Date
1:1000	October 2008
NGR: SE 535 083	Drawn: K.Speight
Project No.: **1063 c&d**	Illustration No.: **2**

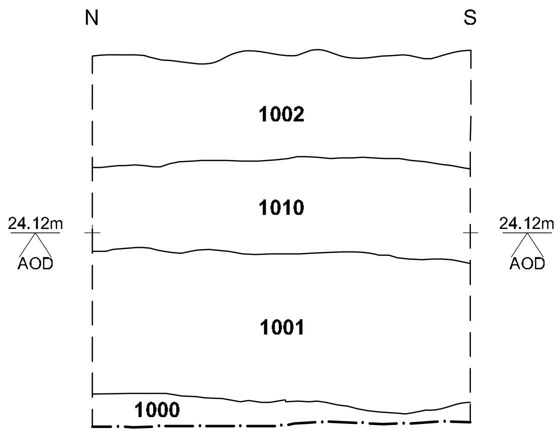

Illustration 3a
Trench 1: West facing representative section

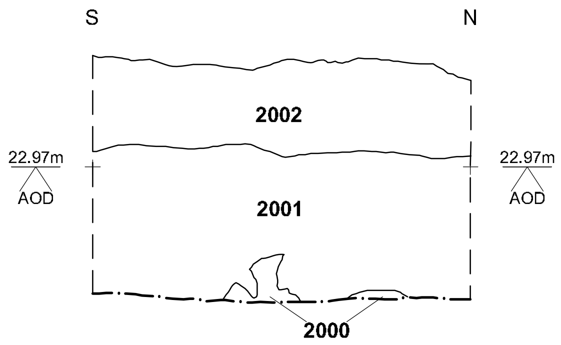

Illustration 3b
Trench 2: East facing representative section

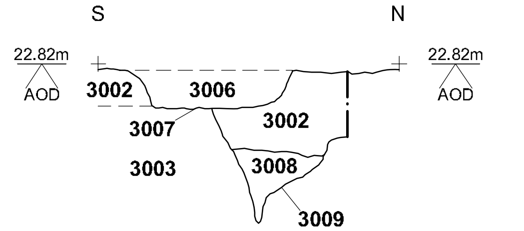

Illustration 3c
Trench 3: East facing section of Cuts 3007 & 3009

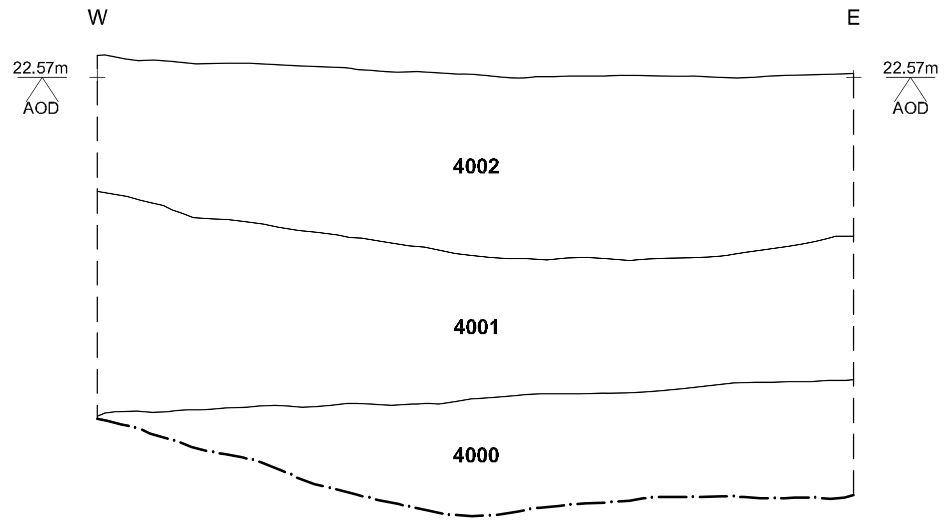

Illustration 3d: Trench 4: South facing representative section

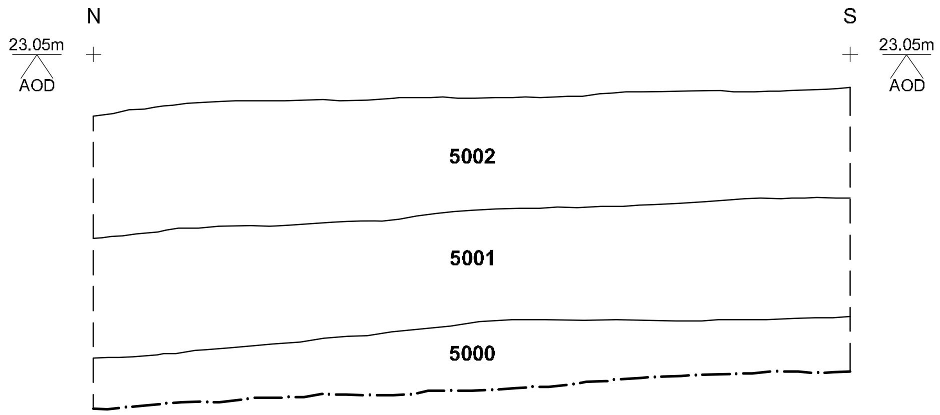

Illustration 3e: Trench 5: West facing representative section

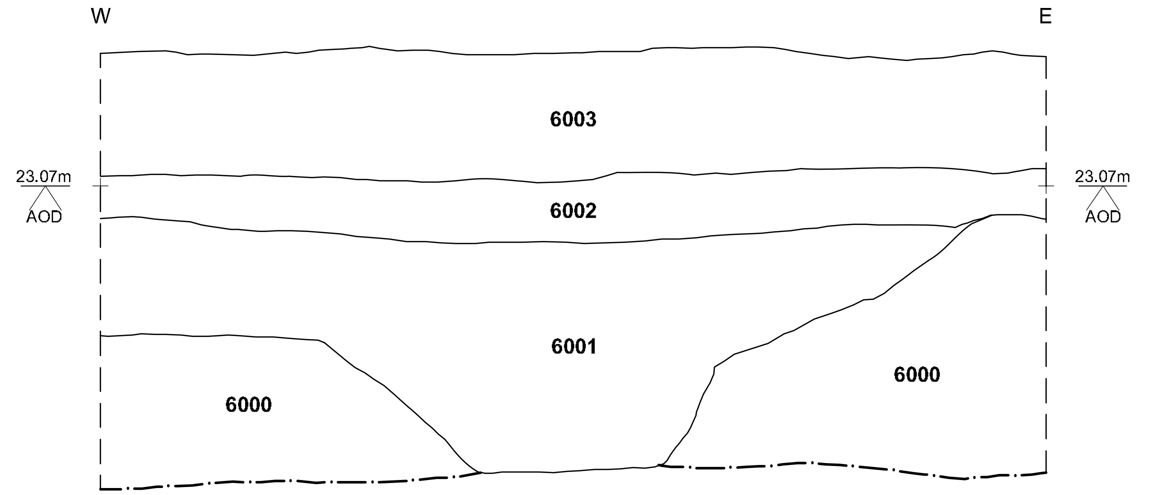

Illustration 3f: Trench 6: South facing representative section

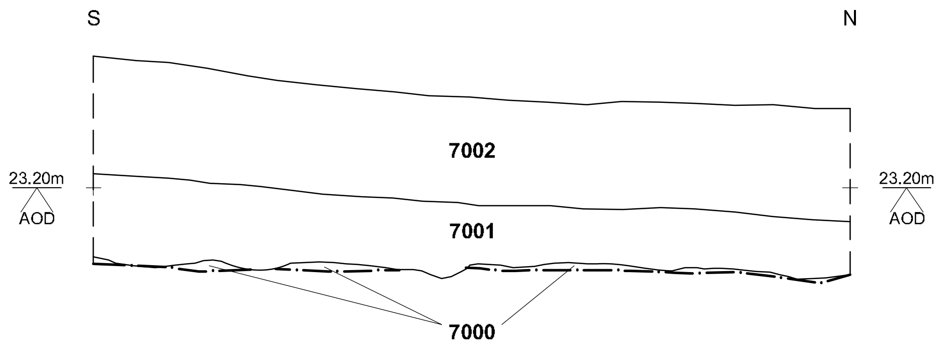

Illustration 3g: Trench 7: East facing representative section

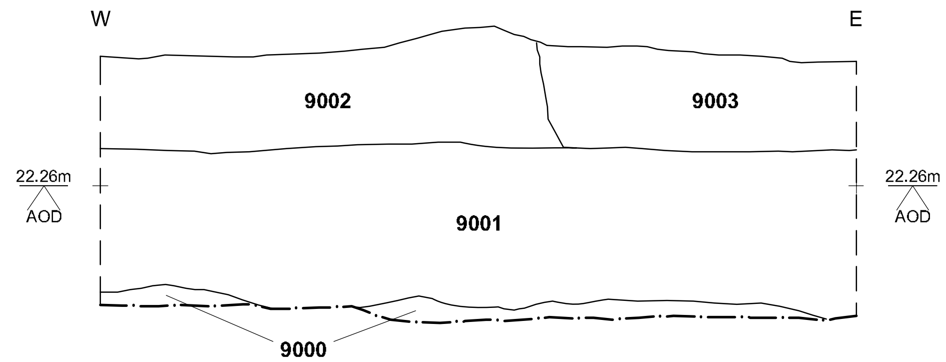

Illustration 3h: Trench 9: South facing representative section

0 1m

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Project: **North Ridge Community School, Adwick le Street, Doncaster**		Scale 1:20	Date October 2008
		NGR SE 535 083	Drawn K.Speight
Title **Evaluation Sections** (Orientated to Site North)		Project No. **1063 c&d**	Illustration No. **3**

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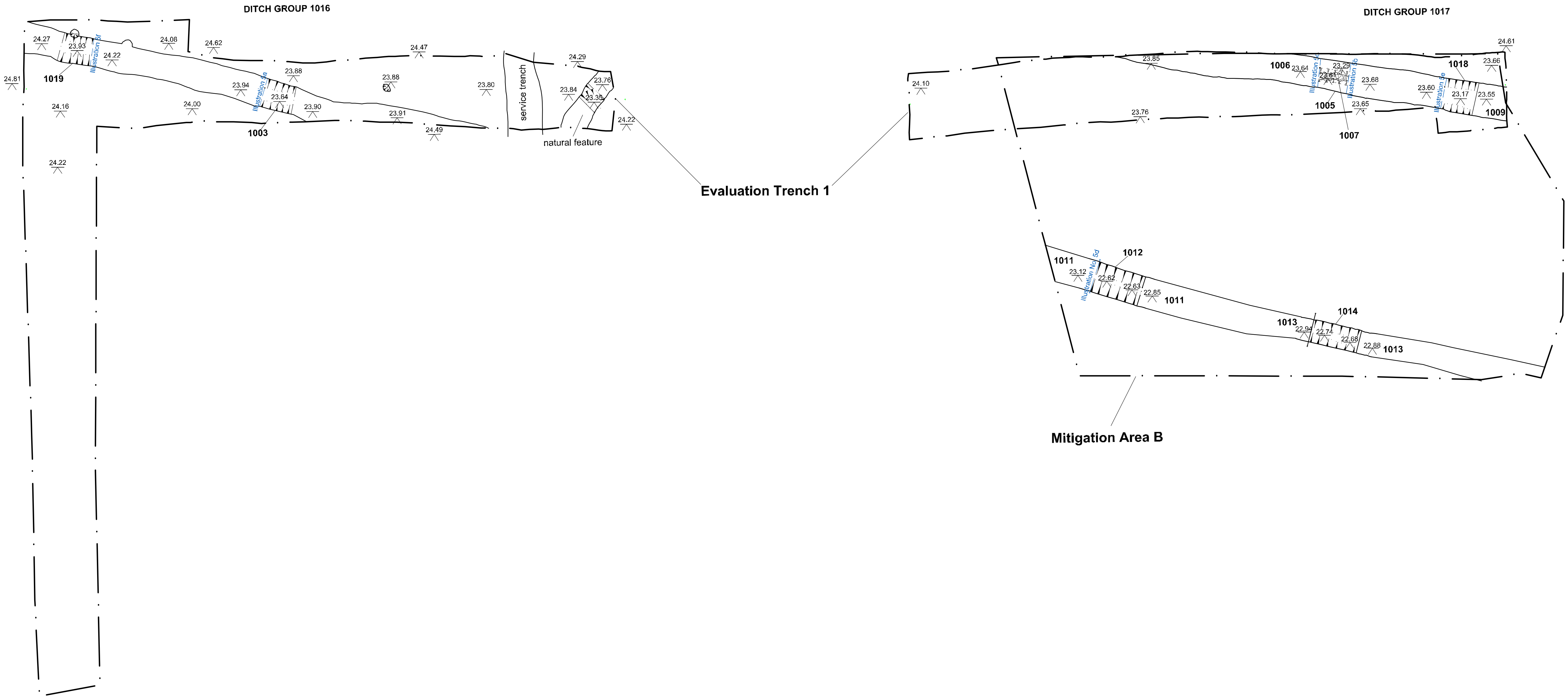

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Project: North Ridge Community School, Adwick le Street, Doncaster		Scale 1:125	Date October 2008
		NGR SE 535 083	Drawn K.Speight
Title	Plan of Evaluation Trench 1 & Mitigation Area B	Project No. 1063 c&d	Illustration No. 4

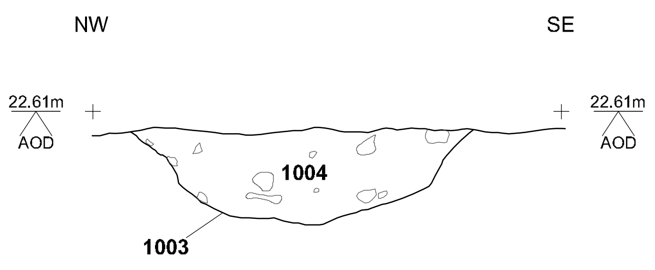

Illustration 5a: Trench 1: Northeast facing section of Cut 1003

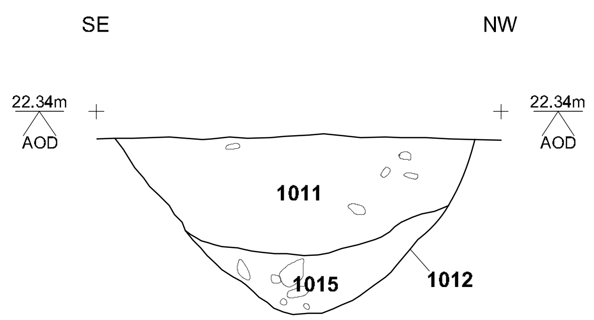

Illustration 5d: Mitigation Area B: Northeast facing section of Cut 1012

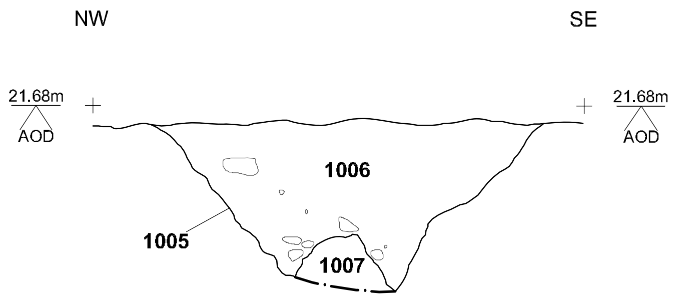

Illustration 5b: Trench 1: Southwest facing section of Cut 1005

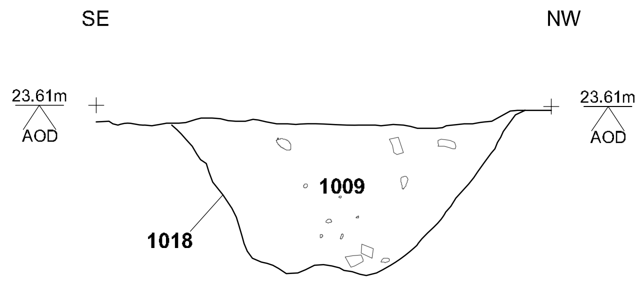

Illustration 5e: Trench 1: Northeast facing section of Cut 1018

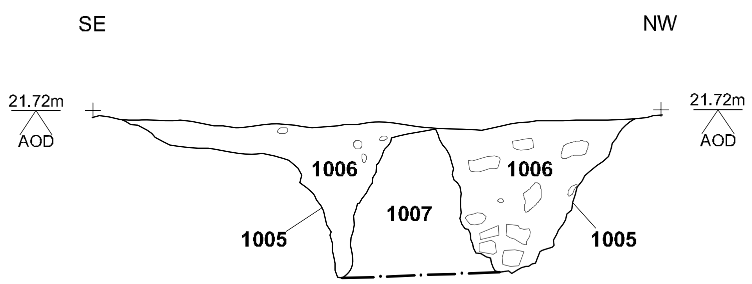

Illustration 5c: Trench 1: Northeast facing section of Cut 1005

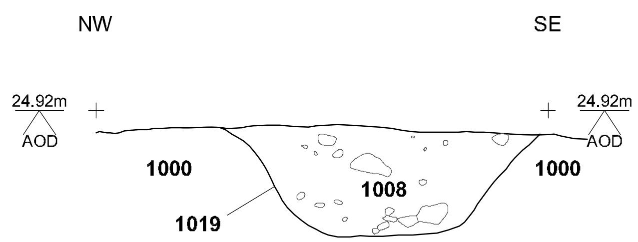

Illustration 5f: Trench 1: Southwest facing section of Cut 1019

0 1m

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Project: **North Ridge Community School, Adwick le Street, Doncaster**	Scale 1:20	Date October 2008
	NGR SE 535 083	Drawn K.Speight
Title **Sections of Evaluation Trench 1 & Mitigation Area B**	Project No. **1063 c&d**	Illustration No. **5**

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Female	YA	Young Adult	18-25 years
Male	MAA	Middle Adult 'A'	26-35 years
Juvenile	MAB	Middle Adult 'B'	36-45 years
Unknown (<18 years)	OA	Older Adult	46 years +
	A	Adult	over 18 years

N

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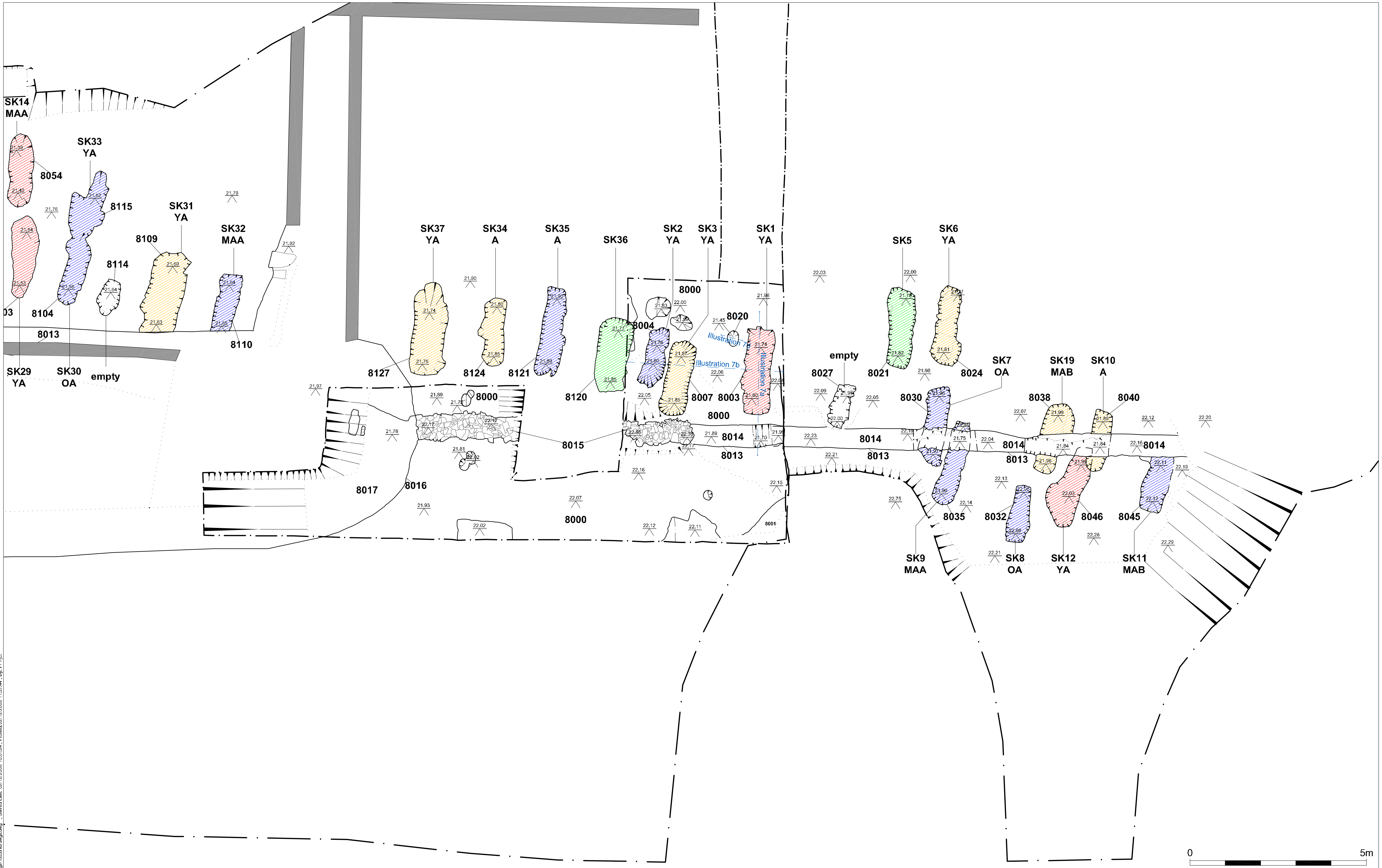
Project:

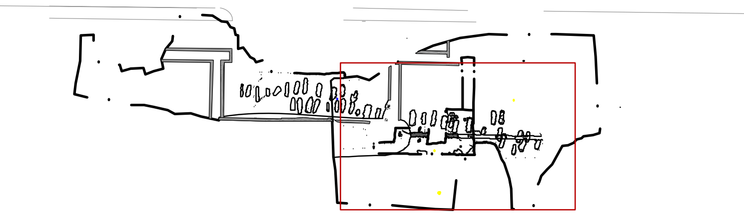
North Ridge Community School, Adwick le Street, Doncaster

Title

Trench 8 & Mitigation Area A Plan

Scale 1:100	Date October 2008
NGR SE 535 083	Drawn K.Speight
Project No. **1063 c&d**	Illustration No. **6a**





Female	YA	Young Adult		18-25 years
Male	MAA	Middle Adult	'A'	26-35 years
Juvenile	MAB	Middle Adult	'B'	36-45 years
	OA	Older Adult		46 years +
Unknown (<18 years)	A	Adult		over 18 years

N

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Project:
North Ridge Community School, Adwick le Street, Doncaster

Title
Trench 8 & Mitigation Area A Plan

Scale: 1:100	Date: October 2008
NGR: SE 535 083	Drawn: K.Speight
Project No.: 1063 c&d	Illustration No.: 6b

10 PLATES

Plate 1: Pre-excavation shot of southern extents of development site, looking north

Plate 2: Trench 1 - general shot of ditch group [1017], looking south-west

Plate 3: Trench 1/Mitigation Area B - ditch slot [1012], looking south-west

Plate 4: Trench 1/Mitigation Area B - ditch slot [1018], looking north-east

Plate 5: Trench 4 - dog skeleton [4004]

Plate 6: Trench 8 - general excavation shot of skeletons SK1 (right), SK2 (left) and SK3 (centre), looking north-east

Plate 7: Trench 8/ Mitigation Area A - general shot of south-eastern extents of cemetery, looking west

Plate 8: Trench 8/ Mitigation Area A - general shot of north-western extents of cemetery, looking east

Plate 9: Trench 8/ Mitigation Area A - skeleton SK1 [8009], looking south-west

Plate 10: Trench 8/ Mitigation Area A - rock cut grave of SK1 [8009], looking west

Plate 11: Trench 8/ Mitigation Area A - skeleton SK2 [8010], head at northeast extent of grave, photo looking north-east

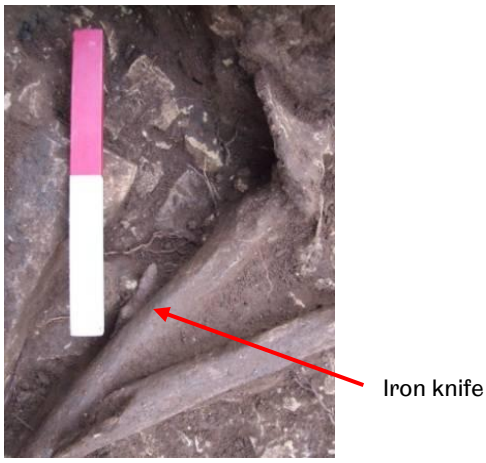


Plate 12: Trench 8/ Mitigation Area A - skeleton SK2 [8010], showing in-situ position of iron knife (SF1) under right femur

Plate 13: Trench 8/ Mitigation Area A - skeleton SK31 [8108], looking south-west

Plate 14: Trench 8/ Mitigation Area A - skeleton SK31 [8108], showing (top) in-situ detail of whetstone (SF43) and copper ring (SF44) and (bottom) **Plate 15** - iron knife (SF42)

Plate 16: Trench 8/ Mitigation Area A - skeletons SK5 [8022] and SK6 [8025] showing poor preservation of bone, looking south-west

Plate 17: Trench 8/ Mitigation Area A – upper part of skeleton SK17 [8063] lying prone, looking south-west

Plate 18: Trench 8/ Mitigation Area A - skeleton SK15 [8056], looking south-west

Plate 19: Trench 8/ Mitigation Area A - skeleton SK16 [8062], looking south-west

Plate 20: Trench 8 – skeleton SK37 [8128] partially covered by limestone blocks (8135), looking south-west

Plate 21: Trench 8 – skeleton SK37 [8128] after removal of stone deposit (8135), looking south-west

Plate 22: Watching Brief - Well [10000]

Plate 23: Pelvis fragment from SK17 [8063], showing large abscess and sequestrum

11 APPENDICES

Appendix 1: Context inventory

Site code	Site sub-division	Context number	Context type	Description
1063c	T1	1000	Natural	Natural bedrock
1063c	T1	1001	Deposit	Subsoil
1063c	T1	1002	Deposit	Topsoil
1063c	T1	1003	Cut	Cut of linear at S end of Trench 1
1063c	T1	1004	Deposit	Fill of linear [1003]
1063c	T1	1005	Cut	Cut of linear at S end of Trench 1
1063c	T1	1006	Deposit	Fill of linear [1005]
1063c	T1	1007	Natural	Natural deposit, same as (1000)
1063c	T1	1008	Deposit	Fill of [1003] in furthest S slot
1063c	T1	1009	Deposit	Fill of [1005] in furthest N slot
1063c	T1	1010	Deposit	Undisturbed topsoil
1063d	T1	1011	Deposit	Fill of linear [1012]
1063d	T1	1012	Cut	Cut of linear
1063d	T1	1013	Deposit	Fill of linear [1014]
1063d	T1	1014	Cut	Cut of linear north of [1012]
1063d	T1	1015	Deposit	Primary fill of [1012]
1063d	T1	1016	Group	Group for N/S linear, parallel to 1017
1063d	T1	1017	Group	Group for N/S linear, parallel to 1016
1063d	T1	1018	Cut	Ditch 1017 slot, filled by (1009)
1063d	T1	1019	Cut	Ditch 1016 slot, filled by (1008)
1063c	T2	2000	Natural	Natural weathered limestone
1063c	T2	2001	Deposit	Orangey brown subsoil
1063c	T2	2002	Deposit	Topsoil
1063c	T3	3000	Natural	Topsoil
1063c	T3	3001	Deposit	Orange subsoil
1063c	T3	3002	Deposit	Weathered limestone
1063c	T3	3003	Deposit	Limestone bedrock
1063c	T3	3004	Deposit	Brown soil fill of [3005]
1063c	T3	3005	Cut	Cut for animal burial SK [3010]
1063c	T3	3006	Deposit	Brown soil deposit, fill of cut [3007]
1063c	T3	3007	Cut	Cut
1063c	T3	3008	Deposit	Brown soil fill of [3008]
1063c	T3	3009	Cut	Cut on bedrock, probable solution hole
1063c	T3	3010	Skeleton	Dog skeleton in cut [3005]
1063c	T4	4000	Natural	Natural bedrock
1063c	T4	4001	Deposit	Subsoil
1063c	T4	4002	Deposit	Topsoil
1063c	T4	4003	Cut	Grave cut for dep. of a dog SK [4004]
1063c	T4	4004	Skeleton	Dog skeleton
1063c	T4	4005	Deposit	Backfill of [4003]
1063c	T5	5000	Natural	Natural
1063c	T5	5001	Deposit	Subsoil
1063c	T5	5002	Deposit	Topsoil
1063c	T5	5003	Cut	Linear cut, filled by subsoil
1063c	T6	6000	Natural	Weathered bedrock
1063c	T6	6001	Deposit	Subsoil
1063c	T6	6002	Deposit	Subsoil
1063c	T6	6003	Deposit	Topsoil
1063c	T7	7000	Natural	Limestone bedrock
1063c	T7	7001	Deposit	Subsoil
1063c	T7	7002	Deposit	Topsoil

Site code	Site sub-division	Context number	Context type	Description
1063c	T8	8000	Natural	Natural bedrock
1063c	T8	8001	Deposit	Subsoil
1063c	T8	8002	Deposit	Topsoil
1063c	T8	8003	Cut	Cut of isolated burial
1063c	T8	8004	Cut	Cut of SK8009's grave
1063c	T8	8005	Deposit	Primary fill of [8003]
1063c	T8	8006	Deposit	Primary fill of [8004]
1063c	T8	8007	Cut	Cut of SK8011's grave
1063c	T8	8008	Deposit	Primary fill of [8007]
1063c	T8	8009	Skeleton	Skeleton in cut [8003]
1063c	T8	8010	Skeleton	Skeleton in cut [8004]
1063c	T8	8011	Skeleton	Skeleton in cut [8007]
1063c	T8	8012	Deposit	Limestone chunks on SK [8010]
1063c	T8	8013	Cut	Cut for E/W running gully
1063c	T8	8014	Deposit	Fill of [8013]
1063c	T8	8015	Structure	Limestone wall foundations above (8014)
1063c	T8	8016	Cut	Cut for 20th-century footings
1063c	T8	8017	Deposit	Fill of [8016]
1063c	T8	8018	Deposit	Silty first fill of [8020]
1063c	T8	8019	Deposit	Clay second fill of [8020]
1063c	T8	8020	Cut	Natural feature in limestone bedrock
1063d	T8	8021	Cut	Grave cut for SK [8022]
1063d	T8	8022	Skeleton	Skeleton in [8021]
1063d	T8	8023	Deposit	Backfill of [8021]
1063d	T8	8024	Cut	Grave Cut
1063d	T8	8025	Skeleton	Skeleton in [8024]
1063d	T8	8026	Deposit	Backfill of [8024]
1063d	T8	8027	Cut	Grave cut, contains no skeleton
1063d	T8	8028	Deposit	Fill of [8027]
1063d	T8	8029	Deposit	Fill of grave [8030]
1063d	T8	8030	Cut	Grave cut for SK8031
1063d	T8	8031	Skeleton	Skeleton in [8030]
1063d	T8	8032	Cut	Grave cut contains SK [8034]
1063d	T8	8033	Deposit	Fill of [8032]
1063d	T8	8034	Skeleton	Skeleton in [8032]
1063d	T8	8035	Cut	Grave cut, contains SK [8037]
1063d	T8	8036	Deposit	Fill of [8035]
1063d	T8	8037	Skeleton	Skeleton in [8035]
1063d	T8	8038	Cut	Grave cut- E cut of W pair
1063d	T8	8039	Deposit	Fill of cut [8038]
1063d	T8	8040	Cut	Grave cut for SK [8041]
1063d	T8	8041	Skeleton	Skeleton in grave [8040]
1063d	T8	8042	Deposit	Backfill of [8040]
1063d	T8	8043	Deposit	Fill of grave of SK [8044]
1063d	T8	8044	Skeleton	Skeleton lying on right side
1063d	T8	8045	Cut	Cut for grave of SK [8044]
1063d	T8	8046	Cut	Grave cut adjoining S end [8038]
1063d	T8	8047	Skeleton	Skeleton in grave [8046]
1063d	T8	8048	Deposit	Fill of [8046]
1063d	T8	8049	Deposit	Fill of grave [8051] for SK [8050]
1063d	T8	8050	Skeleton	Skeleton in grave [8051]

Site code	Site sub-division	Context number	Context type	Description
1063d	T8	8051	Cut	Grave Cut for SK [8050]
1063d	T8	8052	Deposit	Fill of grave [8054] for SK [8053]
1063d	T8	8053	Skeleton	Skeleton in grave [8054]
1063d	T8	8054	Cut	Grave cut for SK [8053]
1063d	T8	8055	Deposit	Fill of grave [8057] for SK [8056]
1063d	T8	8056	Skeleton	Skeleton in grave [8057]
1063d	T8	8057	Cut	Grave cut for SK [8056]
1063d	T8	8058	Cut	Grave cut, E of [8066]
1063d	T8	8059	Deposit	Fill of [8058]
1063d	T8	8060	Cut	Grave cut, W of [8058]
1063d	T8	8061	Deposit	Fill of [8060]
1063d	T8	8062	Skeleton	Skeleton in [8060]
1063d	T8	8063	Skeleton	Skeleton in grave [8058]
1063d	T8	8064	Deposit	Fill of cut [8065], same as (8087)
1063d	T8	8065	Cut	Possible grave cut, same as [8086]
1063d	T8	8066	Deposit	Backfill of [8068]
1063d	T8	8067	Skeleton	Skeleton in [8068]
1063d	T8	8068	Cut	Grave for SK [8067]
1063d	T8	8069	Deposit	Fill of [8071]
1063d	T8	8070	Skeleton	Skeleton in [8071] SK#4
1063d	T8	8071	Cut	Grave for SK [8070]
1063d	T8	8072	Deposit	Fill of grave cut
1063d	T8	8073	Skeleton	Skeleton in grave [8074]
1063d	T8	8074	Cut	Grave cut for SK [8073]
1063d	T8	8075	Cut	Grave cut
1063d	T8	8076	Deposit	Fill of [8075]
1063d	T8	8077	Cut	Grave Cut for SK [8078]
1063d	T8	8078	Skeleton	Skeleton in grave [8077]
1063d	T8	8079	Deposit	Fill of grave [8077]
1063d	T8	8080	Cut	Grave cut
1063d	T8	8081	Deposit	Fill of grave cut [8080]
1063d	T8	8082	Skeleton	Skeleton in grave [8080]
1063d	T8	8083	Deposit	Fill of grave [8085]
1063d	T8	8084	Skeleton	Skeleton in grave [8085], SK#23
1063d	T8	8085	Cut	Grave cut for SK [8084]
1063d	T8	8086	Cut	Grave cut for SK [8088]
1063d	T8	8087	Deposit	Fill of [8086]
1063d	T8	8088	Skeleton	Skeleton in [8086]
1063d	T8	8089	Cut	Grave cut for SK [8091]
1063d	T8	8090	Deposit	Fill of grave [8089]
1063d	T8	8091	Skeleton	Skeleton in grave [8089]
1063d	T8	8092	Deposit	Fill of grave [8094]
1063d	T8	8093	Skeleton	Skeleton in grave [8094]
1063d	T8	8094	Cut	Grave for SK [8093]
1063d	T8	8095	Cut	Grave cut for SK [8097]
1063d	T8	8096	Deposit	Backfill of grave [8095]
1063d	T8	8097	Skeleton	Child skeleton in grave [8095]
1063d	T8	8098	Deposit	Backfill of grave [8100]
1063d	T8	8099	Skeleton	Skeleton in grave [8100], SK#27
1063d	T8	8100	Cut	Grave for SK [8099]
1063d	T8	8101	Deposit	Backfill of grave [8103]
1063d	T8	8102	Skeleton	Skeleton in grave [8103], SK#29

Site code	Site sub-division	Context number	Context type	Description
1063d	T8	8103	Cut	Grave for SK [8102]
1063d	T8	8104	Cut	Grave cut for SK [8106]
1063d	T8	8105	Deposit	Fill of grave [8104]
1063d	T8	8106	Skeleton	Skeleton in [8104], SK#30
1063d	T8	8107	Deposit	Fill of grave [8109]
1063d	T8	8108	Skeleton	Skeleton in grave [8109]
1063d	T8	8109	Cut	Grave cut for SK [8108]
1063d	T8	8110	Cut	Grave cut for SK [8111]
1063d	T8	8111	Skeleton	Skeleton in grave [8110]
1063d	T8	8112	Deposit	Backfill of grave [8110]
1063d	T8	8113	Deposit	Fill of grave [8114]
1063d	T8	8114	Cut	Cut of grave, no skeleton
1063d	T8	8115	Cut	Grave cut for SK [8116]
1063d	T8	8116	Skeleton	Skeleton in grave [8115]
1063d	T8	8117	Deposit	Fill of [8115]
1063d	T8	8118	Deposit	Fill of grave [8120]
1063d	T8	8119	Skeleton	Skeleton in grave [8120]
1063d	T8	8120	Cut	Grave cut for SK [8119]
1063d	T8	8121	Cut	Grave cut for SK [8122]
1063d	T8	8122	Skeleton	Skeleton in grave [8121]
1063d	T8	8123	Deposit	Fill of grave [8121]
1063d	T8	8124	Cut	Grave cut for SK [8126]
1063d	T8	8125	Deposit	Backfill of grave [8124]
1063d	T8	8126	Skeleton	Skeleton in grave [8124]
1063d	T8	8127	Cut	Grave cut for SK [8128]
1063d	T8	8128	Skeleton	Skeleton in grave [8127]
1063d	T8	8129	Deposit	Backfill of grave [8127]
1063d	T8	8130	Deposit	Upper fill of [8134]
1063d	T8	8131	Deposit	Lime-rich deposit over SK [8132]
1063d	T8	8132	Skeleton	Pig skeleton
1063d	T8	8133	Deposit	Lime-rich deposit in base of [8134]
1063d	T8	8134	Cut	Cut for pig burial SK [8132]
1063d	T8	8135	Deposit	Stones laid in grave [8127], and on SK [8128]
1063d	T8	8136	Skeleton	Fragments of skeleton in grave [8039]
1063c	T9	9000	Natural	Weathered bedrock
1063c	T9	9001	Deposit	Subsoil
1063c	T9	9002	Deposit	Topsoil
1063d	WB	10000	Structure	Well
1063d	WB	10001	Deposit	Fill of construction cut [10002]
1063d	WB	10002	Cut	Construction cut for well [10000]
1063d	WB	10003		Service trench

Appendix 2: Burial inventory

SKELETON NO.	SK CONT. NO.	GRAVE CUT NO.	FILL NO.	ORIENTATION	DIMENTIONS LxBxD (m)	DESCRIPTION	ASSOCIATED FINDS
1	8009	8003	8005	NE-SW	2.30x0.70x0.24	Grave: Rectangular cut into natural limestone bedrock; shorter sides very irregular, flat base; filled by brown sandy silt with inclusions of limestone fragments; Skeleton: aligned NE-SW, the head pointing SW and facing NW; supine; the left arm flexed on the chest, the hand flexed in the wrist pointing down, the right arm flexed on abdomen; the legs extended, the feet pointing SE	Small quartz pebble (SF8)found in close proximity to the right humerus of the skeleton
2	8010	8004	8006	NE-SW	1.64x0.60x0.20	Grave : Sub-rectangular cut into natural limestone bedrock; irregular sides and base; the cut intercuts with grave cut [8007]; filled by mid-redish brown silty clay containing occasional limestone fragments, in greater density closer to the skeleton; Skeleton: aligned NE-SW, the head pointing NE and facing NW; upper body supine with the arms flexed and hands crossed over the pelvis; the legs semi-flexed; a large limestone block (8012) placed directly on top of the skeleton's chest, smaller fragments found overlying the skull	Iron knife (SF1); iron buckle (SF9) at the right femur of the skeleton
3	8011	8007	8008	NE-SW	2.10x0.65x0.22	Grave: Sub-rectangular cut into natural limestone bedrock; irregular sides and base; filled by mid-orange-brown clayish silt containing limestone fragments and charcoal; Skeleton: aligned NE-SW on its left side, head pointing SW facing SE; the right arm extended along the body, the left arm flexed, hand flexed and rested on the abdomen; the legs extended	Quartz pebble (SF13)
4	8070	8071	8069	NE-SW	2.11x0.60x0.19	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; irregular sides and base; filled by mid-grey-brown clayish silt containing limestone fragments; Skeleton: aligned NE-SW, the head pointing SW and facing NW; probably the upper body supine with the arms extended (hands not preserved); the legs semi-flexed on the left side	-

SKELETON NO.	SK CONT. NO.	GRAVE CUT NO.	FILL NO.	ORIENTATION	DIMENTIONS LxBxD (m)	DESCRIPTION	ASSOCIATED FINDS
5	8022	8021	8023	NE-SW	2.22x0.77x0.27	Grave: Sub-rectangular cut into natural limestone bedrock; very steep vertical sides and flat base; filled by mid-redish-brown silty clay containing limestone fragments; Skeleton: aligned NE-SW on its left side, the head pointing SW and facing NW; the arms flexed; the legs (?)semi-flexed	-
6	8025	8024	8026	NE-SW	2.24x0.65x0.27	Grave: Sub-rectangular cut into natural limestone bedrock, broader at SW-end; near vertical sides, uneven base; filled by mid-redish-brown silty clay containing limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing NW; supine; partially preserved; the legs slightly flexed	-
7	8031	8030	8029	NE-SW	2.24x0.64x0.14	Grave: Sub-rectangular cut into natural limestone bedrock, broader at SW-end; very steep vertical sides and flat base; filled by mid-greyish-brown clayish silt containing limestone fragments; grave cut truncated by [8013] ; Skeleton: aligned NE-SW, the head pointing SW; supine; partially preserved; the legs only slightly flexed	-
8	8034	8032	8033	NE-SW	1.70x0.60x0.25	Grave: Sub-rectangular cut into natural limestone bedrock, narrower at NE-end (0.40m); sides 'stepped in' due to natural, flat base; filled by light brown sandy clay containing limestone fragments and charcoal; Skeleton: aligned NE-SW, the head pointing SW and facing central; supine; the right arm flexed and placed below the chest, the left arm and hand over the right pelvis; the right leg slightly flexed, the left lower leg over the right lower leg	-
9	8037	8035	8036	NE-SW	2.28x0.58x0.25	Grave: Sub-rectangular cut into natural limestone bedrock; sharp vertical sides and flat base; cut broader at SW-end; mid-large fragments of limestone placed around edges, particularly on NW side of the grave; towards SW part truncated by ditch [8013], filled by brown silty clay containing limestone fragments; Skeleton: aligned NE-SW, the head pointing SW and facing SE; supine; the arms extended along the body; the legs extended; the skeleton truncated at the level of mid lower legs by later gully [8013]	Pebble (SF11)

SKELETON NO.	SK CONT. NO.	GRAVE CUT NO.	FILL NO.	ORIENTATION	DIMENTIONS LxBxD (m)	DESCRIPTION	ASSOCIATED FINDS
10	8041	8040	8042	NE-SW	1.83x0.60x0.24	Grave: Sub-rectangular cut into natural limestone bedrock; vertical sides and flat base; truncated by grave cut [8046] at its SW-end and gully [8013] through its middle part; filled by mid-orange-brown clayish silt containing limestone fragments: Skeleton: severely truncated by gully [8013]; only calvarium (top of the skull) and the left lower leg present; aligned NE-SW with the head pointing SW, probably in semi-flexed position on its left side	-
11	8044	8045	8043	NE-SW	1.80x0.77x0.20	Grave: Rectangular cut, NE-end truncated by gully [8013]; vertical sides and flat base (with some solution holes); filled by dark brown silty sand containing limestone fragments; Skeleton: aligned NE-SW, head pointing SW and facing SE; on its right side; the right arm flexed and placed in front of the face, the left arm slightly flexed resting over the pelvis; the legs semi-flexed	Pottery sherd (SF16)
12	8047	8046	8048	NE-SW	2.00x0.99x0.22	Grave: Sub-rectangular cut into natural limestone bedrock; very steep sides and flat base; truncated grave cut [8040] at its SW-end; truncated by gully [8013] at its NE part; filled by mid-redish-brown silty clay containing occasional limestone fragments; Skeleton: aligned NE-SW, the head pointing SW and facing NW; supine; the arms extended along the body; the legs extended with the left leg crossed over the right leg beneath the knee	-
13	8050	8051	8049	NE-SW	1.98x0.96x0.19	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; nearly vertical sides, flat base slightly raised at SW end; filled by mid-greyish brown clayish silt containing frequent limestone fragments; Skeleton: only the skull and the legs present; aligned NE-SW, the head pointing SW, facing NW; the legs extended and crossed at the ankles	A single fragment of slag (SF6); pottery sherd (SF10)
14	8053	8054	8052	NE-SW	2.12x0.68x0.10	Grave: Elongated oval cut into natural limestone bedrock; near vertical sides, flat but slightly uneven base; filled by mid-orange-brown clayish silt containing occasional limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing SE; supine on the right side; the right arm extended along the body, the left arm flexed and placed over the abdomen; the left leg crossed over the right leg	-

SKELETON NO.	SK CONT. NO.	GRAVE CUT NO.	FILL NO.	ORIENTATION	DIMENTIONS LxBxD (m)	DESCRIPTION	ASSOCIATED FINDS
15	8056	8057	8055	NE-SW	2.20x0.52x0.80	Grave: Sub-rectangular cut into natural limestone bedrock , steep breaks of slope/vertical sides to a flattened base; filled by redish mid-brown silty clay with occasional limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing NW; supine; the right arm flexed and placed over the pelvis, the left arm extended along the body; the right leg extended, the left leg semi-flexed	Quartz pebbles (SF3) between the clavicles of the skeleton
16	8062	8060	8061	NE-SW	2.00x0.60x0.18	Grave: Elongated rectangular cut into natural limestone bedrock; sides cut sharply to flat base; filled by greyish brown silty clay containing limestone fragments; Skeleton: aligned NE-SW, head pointing SW, facing central; the arms extended and hands placed over the pelvis; the legs extended but crossed over at the ankles	-
17	8063	8058	8059	NNE-SSW	2.55x0.85x0.30	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; SSW end narrower (0.75m), sides slightly concaved, flat base; filled by mid- brown sandy silt containing occasional limestone fragments; Skeleton: aligned NE-SW; the head pointing SW, facing SE; prone on the right side; the right arm under the rib cage protruding towards the left side of the body, the left arm fully flexed, the spine bent in thoracic region, the legs extended	-
18	8067	8068	8066	NE-SW	2.15x0.66x0.16	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; NE end narrower (0.56m), vertical sides, flat base; filled by mid-orange-brown clayish silt containing occasional limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing NW; on the left side; the right arm flexed and hand resting on the left arm extended along the body, the left hand over the pelvis; the right leg semi-flexed over the left extended leg	Pink (SF17) and white (SF18-20) quartz pebbles
19	8136	8038	8039	NE-SW	1.95x0.86x0.20	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; sides slightly concaved, flat base; truncated by gully [8013] through its middle part; filled by redish-mid-brown silty clay with moderate inclusion of limestone fragments. Only several fragments of the skull recovered; the grave truncated by gully [8013]; Skeleton: only several fragments of the skull recovered from the grave fill	-

SKELETON NO.	SK CONT. NO.	GRAVE CUT NO.	FILL NO.	ORIENTATION	DIMENTIONS LxBxD (m)	DESCRIPTION	ASSOCIATED FINDS
20	8073	8074	8072	NE-SW	2.54x0.60x018	Grave: Elongated rectangular cut into natural limestone bedrock, rounded corners; near vertical sides, slightly sloping base; filled by mid-orange-brown clayish silt with frequent fragments of limestone; Skeleton: aligned NE-SW, the head pointing SW, facing central; supine; the arms slightly flexed and hands placed over the pelvis; the right leg semi-flexed over the left extended leg	Quartz pebbles (SF4, 38-40); a flint (SF23)
21	8078	8077	8079	NEE-SWW	2.40x0.73x0.11	Grave: Elongated sub-rectangular cut into natural limestone bedrock, rounded corners; vertical sides and flat base; filled by redish brown silty clay with occasional limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing NW; supine; the arms semi-flexed and crossed over the pelvis; the legs extended	4 quartz pebbles (SF4, 5, 14, 15) found along lateral side of the left leg of the skeleton
22	8082	8080	8081	NNE-SSW	2.11x0.50x0.27	Grave: Elongated rectangular cut into natural limestone bedrock; vertical sides and flat base; filled by mid-brown sandy clay with inclusions of stones; Skeleton: aligned NE-SW, the head pointing SW, facing central; supine; the arms semi-flexed and hands placed over the pelvis; the legs extended	Pebble (SF 21)
23	8084	8085	8083	NE-SW	2.25x0.70x0.28	Grave: Sub-rectangular cut into natural limestone bedrock; near vertical sides, base flat and even; filled by mid-orange-brown clayish silt with frequent limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing SE; supine; the both arms fully flexed (forearms reaching shoulders); the legs extended	-
24	8088	8086	8087	NE-SW	2.38x0.51x0.32	Grave: Elongated sub-rectangular cut into natural limestone bedrock; vertical sides and near flat base; filled by redish-mid-brown clayish silt with occasional limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing central; supine; the arms semi-flexed and hands placed over the pelvis; the legs extended	2 quartz pebbles (SF29 and 37), 2 red stones (SF27, 28), human teeth on lower body (SF 30-33)
25	8091	8089	8090	NE-SW	1.88x0.68	Grave: Possible deposition of the skeleton in subsoil rather than in a grave cut into natural bedrock; the skeleton deposited and covered by subsoil – mid-orange-brown clayish silt with frequent limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing NW; supine (only upper body); the right arm semi-flexed and hand placed over the left pelvis, the left arm extended along the body; the legs semi-flexed on the left side	Quartz pebbles (SF 24-25)

SKELETON NO.	SK CONT. NO.	GRAVE CUT NO.	FILL NO.	ORIENTATION	DIMENTIONS LxBxD (m)	DESCRIPTION	ASSOCIATED FINDS
26	8093	8094	8092	NE-SW	2.05x0.39x0.09	Grave: Elongated sub-rectangular cut into natural limestone bedrock, rounded corners; near vertical sides, slightly concaved base; filled by mid-orange-brown clayish silt with inclusions of limestone fragments; Skeleton: aligned NE-SW, only lower body present, the legs extended pointing NE, prone	2 pebbles (SF34, 35), a flint pebble (SF36), amber glass (SF41)
27	8099	8100	8098	W-E	1.50x0.85.0.07	Grave: Sub-rectangular cut into natural limestone bedrock, irregular sides and uneven base; truncated by machine at its SW end; filled by mid-orange-brown clayish silt with moderate inclusions of limestone fragments; Skeleton: aligned W-E; only lower body present, the legs extended pointing E	-
28	8097	8095	8096	NE-SW	1.28x033-0.56 x0.25	Grave: Rectangular cut into natural limestone bedrock, vertical sides and flat base; truncated by machine at its SW end; filled by mid-orange-brown clayish silt with inclusions of limestone fragments; Skeleton: aligned NE-SW, the head pointing SW; only a few fragments of the skull, 1 fragment of the left humerus and several fragments of femora preserved	Single pottery sherd (SF26)
29	8102	8103	8101	NE-SW	2.15x0.50x0.25	Grave: Sub-rectangular cut into natural limestone bedrock, vertical sides and flat base; filled by mid- brown silty clay with occasional inclusions of limestone fragments; Skeleton: aligned NE-SW, head pointing NE, facing SE; on the left side; the arms flexed and hands beneath the head; the right leg flexed over the left leg and the left lower leg over the right lower leg	-
30	8106	8104	8105	NE-SW	1.92x0.63x0.22	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; vertical sides and flat base; intercut at its NE end with grave cut [8115]; filled by mid-orange-brown silty clay with occasional inclusions of limestone fragments; Skeleton: aligned NE-SW, head pointing SW, facing central; supine; the right arm extended along the body, the left arm flexed and placed over the pelvis; the legs extended, the lower right leg over the lower left leg at the ankles	-

SKELETON NO.	SK CONT. NO.	GRAVE CUT NO.	FILL NO.	ORIENTATION	DIMENTIONS LxBxD (m)	DESCRIPTION	ASSOCIATED FINDS
31	8108	8109	8107	NE-SW	2.26x1.03x0.19	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; vertical sides and flat base; truncated at its SW end by foundation associated with the construction of the school in 1940s; filled by mid-orange-brown silty clay with occasional inclusions of limestone fragments; Skeleton: Aligned NE-SW, the head pointing SW; supine; only the skull and bones of extremities present; the right arm extended, the left arm flexed and placed over the pelvis; the legs extended	Iron knife (SF42), whetstone (SF43), copper alloy ring (SF44)
32	8111	8110	8112	NE-SW	1.62x0.68x0.33	Grave: Rectangular cut into natural limestone bedrock; vertical sides and flat base; truncated at its SW end by construction of a corridor leading to a Second World War bomb shelter; filled by mid-orange-brown silty clay with occasional inclusions of limestone fragments; Skeleton: aligned NE-SW; body partially preserved, the legs pointing NE; supine on the right side; the right arm fully flexed, the left arm semi-flexed and placed over the pelvis; the legs extended, the left leg over the right leg at the ankles	-
33	8116	8115	8117	NE-SW	1.26x0.40x0.70	Grave: Sub-rectangular cut into natural limestone bedrock; vertical sides and uneven base; intercut at its SW end with grave cut [8104]; filled by redish-mid-brown silty clay with moderate inclusions of limestone fragments; Skeleton: aligned NE-SW, head pointing SW, facing NW; on the left side; the arms semi-flexed pointing towards the upper body; the legs flexed	A single piece of slag (SF45) laterally to left arm of the skeleton
34	8126	8124	8125	NE-SW	2.00x0.74x0.19	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; vertical sides and flat base; filled by mid-orange-brown silty clay with frequent inclusions of limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing NW; possibly on the left side, the legs flexed; only fragments of the skull and femora present	-
35	8122	8121	8123	NE-SW	2.52x0.75x0.11	Grave: Sub-rectangular cut into natural limestone bedrock; steep sides and flat base; filled by redish-mid-brown silty clay with moderate inclusions of limestone fragments Skeleton: aligned NE-SW, the head pointing SW, facing NW; on the left side; the arms and legs semi-flexed; only fragments of the skull and extremities present	-

SKELETON NO.	SK CONT. NO.	GRAVE CUT NO.	FILL NO.	ORIENTATION	DIMENTIONS LxBxD (m)	DESCRIPTION	ASSOCIATED FINDS
36	8119	8120	8118	NE-SW	2.22x0.93x0.22	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; vertical sides and flat base; filled by mid-brown silty clay with occasional inclusions of limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing central; supine; the arms semi-flexed with hands placed over the pelvis; the legs extended	-
37	8128	8127	8135; 8129	NE-SW	2.62x1.00x0.23	Grave: Sub-rectangular cut into natural limestone bedrock, rounded corners; vertical sides and flat base; filled by mid-orange-brown clayish silt with occasional inclusions of limestone fragments; Skeleton: aligned NE-SW, the head pointing SW, facing NW; on the left side; the right arm extended, the left arm fully flexed; the legs semi-flexed; intentionally covered by limestone blocks (8135)	-
-	-	8027	8028	NE-SW	1.21x0.55x0.07	Grave: Sub-rectangular cut into natural limestone bedrock, shallower at its SW end; vertical sides and flat base; filled by mid-redish-brown silty clay with occasional inclusions of limestone fragments; No human remains recovered from the grave	Medial portion of a burnt and broken retouched flake (SF7)
-	-	8075	8076	NNE-SSW	1.37x0.38x0.13	Grave: Elongated rectangular cut into natural limestone bedrock, rounded corners, NNE end narrower (0.30m); near vertical sides, flat base; filled by mid-orange-brown sandy clay with occasional inclusions of limestone fragments; No human remains recovered from the grave	-
-	-	8114	8113	NE-SW	1.04x0.55x020	Grave: Irregular oval cut into natural limestone bedrock; steep sides and flat base; filled by mid-redish-brown silty clay with occasional inclusions of limestone fragments; No human remains recovered from the grave	-
TOTAL	**37**	**40**				**Human remains recovered from 37 graves; 3 grave cuts produced no skeletal remains; total number of graves - 40**	

Appendix 3: Skeletal Inventory

SKELETON NO.	CONT. NO.	PRES.	COMPLETENESS	ALIGNEMENT	AGE	AGE GROUP	SEX	STATURE	PATHOLOGY AND TRAUMA	NOTES
SK1	8009	4	c.75% Fragmentary skull, all long bones represented but none intact. Rib and vertebral fragments; some ankle and hand bones.	NE-SW	18-25	YA	F	-	None observed.	Cal AD 660 - 780
SK2	8010	5	c. 60% Highly fragmentary skull, all long bones represented. Pelvis, vertebral and hand bones present but fragmentary.	NE-SW	18-20	YA	♀M	-	Right side of dental arcade, from third molars to canines have moderate to severe buccal, lingual and occlusal calculus deposits.	Aligned NE-SW, with head at NE end of cut; in contrast to all other individuals excavated.
SK3	8011	5+	c.60% Highly fragmentary and eroded; skull fragments and all long bone fragments represented.	NE-SW	18-20	YA	♀♀	-	None observed.	-
SK4	8070	5+	c. 50% Highly fragmentary skull, most long bones represented.	NE-SW	18-20	YA	♀F	-	None observed.	M3 not present, lower unerupted.
SK5	8022	5	c.40% Highly fragmentary, most long bones represented.	NE-SW	12-18	J	♀♀	-	None observed.	Possibly female.

SKELETON NO.	CONT. NO.	PRES.	COMPLETENESS	ALIGNEMENT	AGE	AGE GROUP	SEX	STATURE	PATHOLOGY AND TRAUMA	NOTES
SK6	8025	5	c. 40% Highly fragmentary, most long bones represented.	NE-SW	18-20	YA	♀♀	-	None observed.	-
SK7	8031	5	<25% Skull and long bone fragments.	NE-SW	50+	OA	♀M	-	Teeth worn; one M2 with pulp exposed and possible caries.	-
SK8	8034	3	c. 60% Skull fragments, all long bones represented	NE-SW	40-50	OA	♀M	171cm *(c.5'7")*	Teeth worn; calculus and caries present.	Ulnae curved at distal end; exostosis on fovea capita
SK9	8037	5	c. 30 %	NE-SW	30-36	AA	♀M	-	Teeth worn.	Left humerus strong deltoid attachment and left ulna with strong pronator teres attachment. Lower legs truncated by post-medieval ditch.
SK10	8041	5+	<25% Few skull and left leg fragments, no teeth or torso.	NE-SW	Adult	Adult	♀	-	None observed.	Severely truncated in torso area by post-medieval ditch.
SK11	8044	4	c. 40% Highly fragmentary.	NE-SW	34-40	AB	M	-	Porosity and osteophytic growth on two vertebral articular surfaces; calculus on several teeth. Possible shoulder trauma or infection.	Feet truncated by post-medieval ditch. Left femur and pelvis missing due to machining.
SK12	8047	3	c. 60% Fragmentary skull, some vertebral and pelvis fragments, all long bones represented.	NE-SW	22-26	YA	♀F	156.5cm *(c.5'1")*	Caries and calculus present.	Feet truncated by post-medieval ditch.

SKELETON NO.	CONT. NO.	PRES.	COMPLETENESS	ALIGNEMENT	AGE	AGE GROUP	SEX	STATURE	PATHOLOGY AND TRAUMA	NOTES
SK13	8050	5+	<25% Skull and femur/ tibia fragments.	NE-SW	18-24	YA	♀F	-	None present.	-
SK14	8053	5	c. 60% Fragmentary skull, some vertebral and pelvis fragments, all long bones represented.	NE-SW	28-32	AA	F	-	Large abscess on posterior pelvis, possibly associated with tuberculosis. Some antemortem tooth loss and severe wear.	-
SK15	8056	4	c. 50% Cranial fragments, no mandible, all long bones represented.	NE-SW	Adult	Adult	♀M	166cm *(c.5'5")*	None observed.	-
SK16	8062	4	c.50% Fragmentary skull, some vertebral and pelvis fragments, all long bones represented.	NE-SW	18-20	YA	♀M	-	Slight calculus on several teeth.	Face truncated by machining.
SK17	8063	5	c. 60% Fragmentary skull, some vertebral and pelvis fragments, all long bones represented.	NE-SW	18-22	YA	M	173cm *(c.5'8")*	Caries on two teeth.	Unerupted or absent M3 lower left. Prone in grave, upper body twisted with spine bent in the thoracic region. Left arm behind back.
SK18	8067	5+	c. 40% Skull fragments; most long bones represented.	NE-SW	36 - 46	AB	♀♀	-	Slight calculus in single canine.	-

SKELETON NO.	CONT. NO.	PRES.	COMPLETENESS	ALIGNEMENT	AGE	AGE GROUP	SEX	STATURE	PATHOLOGY AND TRAUMA	NOTES
SK19	8136	5+	<25% Few skull and mandible fragments, with several loose teeth. Few possible long bone and shoulder area fragments.	NE-SW	36-38	AB	♀♀	-	None observed.	Severely truncated by post-medieval ditch.
SK20	8073	5	c. 40% Skull fragments; most long bones represented.	NE-SW	18-20	YA	♀F	-	Slight calculus on two teeth.	-
SK21	8078	5+	c. 40% Few skull and mandible fragments, most long bones represented.	NE-SW	36-40	AB	♀F	164cm *(c.5'4")*	Caries on one tooth.	-
SK22	8082	5+	c. 40% Skull fragments; few pelvis, most long bones represented.	NE-SW	20-25	YA	♀♀	177cm *(c.5'9")*	Calculus and caries on lower anterior teeth.	-
SK23	8084	5	c. 60% Skull fragments; few pelvis, all long bones represented and few hand/feet bones.	NE-SW	18-20	YA	M	180cm *(c.5'10")*	None observed.	-

SKELETON NO.	CONT. NO.	PRES.	COMPLETENESS	ALIGNEMENT	AGE	AGE GROUP	SEX	STATURE	PATHOLOGY AND TRAUMA	NOTES
SK24	8088	4	c. 70% Skull fragments; few pelvis, vertebrae, all long bones represented and few hand/feet bones.	NE-SW	36-40	AB	M	175cm *(c.5'8")*	Slight porosity and osteophytosis in thoracic and lumbar regions of spine; calculus and caries present in molars, some teeth heavily worn.	Unerupted/partially erupted lower M3s; clearly older adult however. Upper incisors (probably belonging to this individual) found as small finds in abdomen area of grave.
SK25	8091	5	c. 40% Skull fragments; few pelvis, most long bones represented.	NE-SW	22-25	YA	♀F	-	Small amount calculus on two molars.	-
SK26	8093	5+	<25% Several lower teeth; long bone, vertebrae and pelvis fragments.	NE-SW	Adult	Adult	♀F	-	None observed.	Badly preserved in grave cut.
SK27	8099	5+	<25% Highly fragmentary long bone (lower limb) fragments.	E-W	Adult	Adult	♀♀	-	None observed.	Truncated.
SK28	8097	5+	<25% Skull fragments, few postcranial fragments.	NE-SW	4-6 years	J	-	-	None observed.	-
SK29	8102	5	c. 50% Skull, majority of left pelvis, all long bones represented and a few hand bones.	NE-SW	20-22	YA	♀F	165.5cm *(c.5'5")*	None observed.	-
SK30	8106	5+	c.40% Mandible, pelvis and most long bone shafts.	NE-SW	50+	OA	♀M	-	Severely worn teeth; several with calculus and evidence of antemortem tooth loss and resorption.	-

SKELETON NO.	CONT. NO.	PRES.	COMPLETENESS	ALIGNEMENT	AGE	AGE GROUP	SEX	STATURE	PATHOLOGY AND TRAUMA	NOTES
SK31	8108	5+	<25% Highly fragmentary skull; few long bone fragments.	NE-SW	22-25	YA	♀♀	-	Slight calculus on single mandibular M1.	Whetstone, Fe blade and copper objects on right hip. Badly preserved in grave cut.
SK32	8111	5	c. 30% Pelvis, leg and forearm fragments.	NE-SW	30-39	AA	♀M	-	None observed.	Severely truncated by post-medieval ditch.
SK33	8116	5+	<25% Skull fragments, right humerus, ulna, radius and femur fragments.	NE-SW	22-25	YA	♀M	-	Slight calculus on mandibular premolars.	-
SK34	8126	5+	<25% Fragments of cranium and right and left femur.	NE-SW	Adult	Adult	♀♀	-	None observed.	Badly preserved in grave cut.
SK35	8122	5+	<25% Very fragmentary cranium and long bone shaft fragments.	NE-SW	Adult	Adult	♀M	-	None observed.	-
SK36	8119	4	c. 40% Skull fragments; most long bones represented.	NE-SW	14-18	J	-	-	None observed.	Possibly female
SK37	8128	5	c.40% Skull, partial pelvis, long bone fragments and few hand bones.	NE-SW	20-24	YA	♀♀	-	8 of 31 vertebral joint surfaces show signs of slight porosity or osteophytic action.	Unerupted lower M3s.

Appendix 4: Tables

Table 1: Age codes

Description	Age range
Neonate	< 1 year and *in utero*
Infant	< 3 years
Juvenile	< 18 years
Young adult	18-25 years
Middle adult A	26-35 years
Middle adult B	36-45 years
Older adult	>46 years

Table 2: Stature estimation

Skeleton	Sex	Stature (cm)	Stature (ft/in)
SK8	?Male	171	5ft 7in
SK15	?Male	166	5ft 5in
SK17	Male	173	5ft 8in
SK23	Male	180	5ft 10in
SK24	Male	175	5ft 8in
SK12	?Female	156.5	5ft 1in
SK21	?Female	164	5ft 4in
SK29	?Female	165.5	5ft 5in
SK22	Unknown	177	5ft 9in

Table 3: Summary of the pottery – group 2 (medieval – 20th century in date)

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
1001	Redware type	2	370	1	Rim & handle	Pancheon	Clear glaze internally	C18th - C19th	Heavy overhanging rim and lateral handle with patches of glaze ext
5000	Brown Salt Glazed Stoneware	1	23	1	Rim	Dish/bowl	Two thin incised lines externally	LC18th - C19th	
5000	Brown Salt Glazed Stoneware	1	14	1	Rim	Bowl	Brown ext, grey internally	LC18th - C19th	Rounded clubbed rim
5000	Creamware	1	1	1	BS/Flake	Flatware	U/Dec	c.1740 - c.1820	
5000	Late Blackware	1	6	1	BS	Hollow ware	Black glaze internally and externally	C18th	Hard, fine even red fabric
5000	Reduced Sandy ware	1	3	1	BS	Hollow ware	Green glaze externally	C13th - EC14th	?Hallgate type
5000	Redware type	3	32	3	BS	Dish/bowl	Clear glaze internally	C17th - EC18th	
5000	Slipware	1	2	1	BS	U/ID	White slip on one surface under clear glaze, white glaze on other side	Recent	Odd sherd; bright orange body
5000	Unidentified	1	2	1	BS/Flake	U/ID	U/ID	Recent	Oxidised earthenware with both int & ext surfaces missing
8014	Redware type	4	81	1	BS	Pancheon/bowl	Clear glaze internally & partially externally	C17th - C18th	Knife trimmed ext
8130	Brown Glazed Coarseware	1	23	1	Rim	Jar	Brown glaze internally & externally	C18th - C19th	Flat topped rim
8130	Whiteware	1	3	1	BS	Hollow ware	U/Dec	M - LC19th	
8133	TP Bone China	1	1	1	Rim	Cup/bowl	Dark blue floral design internally & externally	M - LC19th	
10003	Coarse Orange Sandy ware	1	15	1	BS	Hollow ware	Patch of green glaze externally	LC11th - C13th	Heavily abraded with abundant sub-angular quartz and occasional rounded red grit
10003	Reduced Sandy ware	1	3	1	BS	Hollow ware	Green glazed externally	C13th	Probably a reduced Hallgate type

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
10003	Reduced Sandy ware	1	11	1	BS	Hollow ware	Dark green glaze externally	C13th	A fine reduced fabric with abundant fine angular quartz; probably a Hallgate ware
10003	Unglazed Red Earthenware	1	33	1	Rim	U/ID	U/Dec	C19th - EC20th	
10003	White Gritty ware	1	10	1	Rim	Jar/cooking pot	Round topped, profiled rim	LC11th - EC13th	Resembles Hillam type ware but with larger and more abundant red grit; cf HaC but a white firing clay
Topsoil	Brown Glazed Coarseware	1	20	1	Base	Pancheon	Brown glaze internally	C18th - C19th	Heavily abraded and chipped
Topsoil	Brown Glazed Fineware	1	6	1	BS	Hollow ware	Brown glaze internally & externally	C18th - EC19th	Part of a pot disc
Topsoil	Brown Salt Glazed Stoneware	1	28	1	BS	Hollow ware	Rouletted band ext	C19th	Brown externally, green internally
Topsoil	Brown Salt Glazed Stoneware	1	12	1	BS	Hollow ware	U/Dec	C19th	Brown externally, green internally
Topsoil	Stoneware	2	51	1	Rim & shoulder	Jar	Impressed lines on shoulder	MC19th - EC20th	
U/S	Sponge Printed ware	1	22	1	Rim	Hollow ware	Elaborate diamond frieze around rim	c.1840+	
U/S	Stoneware	1	34	1	Rim & shoulder	Bottle	Grey stoneware	MC19th - EC20th	
U/S	Unglazed Red Earthenware	1	55	1	Rim	Hollow ware	U/Dec	MC19th - EC20th	Probably part of a large horticultural vessel
U/S	Unglazed Red Earthenware	1	36	1	Base	Hollow ware	U/Dec	MC19th - EC20th	Probably part of a large horticultural vessel
	Total	**34**	**897**	**29**					

Table 4: Worked flint

Context No.	Small Finds No.	Description
8028	7	Medial portion of a burnt and broken retouched flake.
8072	23	Small chip.
8130	46	Medial portion of a bladelet.

Table 5: Stone finds

Context No.	No. of finds	Description
8005	8	Small pebble of vein quartz
8008	13	Small pebble of vein quartz
	1	Sub-angular (?)chert, yellowish-brown in colour with wind polished surface
8036	11	Small pebble of quartzite
8055	3	Small pebble of quartzite
8066	17	Small pebble of vein quartz
	18	Sub-angular pebble of quartzite
	19	Small pebble of vein quartz
	20	Small pebble of vein quartz
8072	38	Small pebble of sandstone ?Millstone Grit
	40	Small pebble of vein quartz
	1	Sub-rounded chip of haematite
	22	Small pebble of vein quartz
	39	Small pebble of vein quartz
8079	4	Small pebble of vein quartz
	5	Small pebble of vein quartz
	14	Small pebble of vein quartz
	15	Small pebble of vein quartz
8081	21	Small pebble of vein quartz
8087	28	Angular/sub-angular fragment ?haematite/limonite
	27	Small pebble of vein quartz (?burnt)
	29	Fragment of small pebble of quartzite
	37	Small pebble of quartzite
8090	24	Small pebble of vein quartz
	25	Small pebble of vein quartz
8092	34	Sub-angular chert, yellowish-brown in colour, light grey in the core with wind polished surface
	35	Small pebble of vein quartz
	36	Small pebble of vein quartz
TOTAL	**584**	

Table 6: Summary of residues

Context No.	Small find no. (SMF)	No. of pieces	Description	Weight
8117	45	1	Fragment of burnt coal/possible fuel ash slag	*c.*5g
8049	6	1	Possible fragment of heavily oxidised, concreted iron. Note for text – could be fragment that's fallen off iron object or a piece of metalliferous iron rich slag – further analysis required (see Table 7 below).	*c.*8g

Table 7: Summary of conservation assessment

Context No.	SF no.	Material	Object	Condition	XR	Notes
8006	1	Fe	Knife	highly corroded/stable	5702	mineralised orgs
8049	6	Fe slag	Fragment	highly corroded/stable	5702	
8006	9	Fe	Buckle	highly corroded/stable	5702	
8107	42	Fe	Knife	highly corroded/cracking	5702	mineralised orgs?
8051	44	CuA	Ring	highly corroded/stable	5702	mineralised orgs

Table 8: Summary list of environmental samples

Sample No.	Grave No.	Context No.	Sample Type	Volume	Notes
27	8021	8023	General Backfill	7	Bag 1 of 3
27	8021	8023	General Backfill	4	Bag 2 of 3
27	8021	8023	General Backfill	5	Bag 3 of 3
28	8021	8023	Skull	1.2	1 of 2
28	8021	8023	Skull	3	2 of 2
29	8021	8023	Stomack	2	
30	8021	8023	Pelvis	0.8	1 of 2
30	8021	8023	Pelvis	1.8	1 of 2
31	8021	8023	Hands	2.4	
32	8021	8023	Feet	2	
34	8024	8026	Skull	3	
35	8024	8026	Ribs	0.2	
36	8024	8026	Pelvis	1.2	
36	8024	8026	Pelvis	1	
38	8024	8026	Feet	2	
39	8027	8028	General Backfill	10	Bag 1 of 3
39	8027	8028	General Backfill	8	Bag 2 of 3
39	8027	8028	General Backfill	8	Bag 3 of 3
40	8030	8029	General Backfill	6	Bag 1 of 3
40	8030	8029	General Backfill	8	Bag 2 of 3
40	8030	8029	General Backfill	7	Bag 3 of 3
41	8030	8029	Feet	2.5	
42	8030	8029	Pelvis	3	
43	8030	8029	Skull	5	
44	8038	8039	General Backfill	9	Bag 1 of 3
44	8038	8039	General Backfill	8	Bag 2 of 3
44	8038	8039	General Backfill	8	Bag 3 of 3
45	8040	8042	General Backfill	6	Bag 1 of 3
45	8040	8042	General Backfill	6	Bag 2 of 3
47	8040	8042	Feet	2	
50	8045	8043	Hands	0.8	
52	8045	8043	General Backfill	9	Bag 1 of 3

Sample No.	Grave No.	Context No.	Sample Type	Volume	Notes
52	8045	8043	General Backfill	4	Bag 2 of 3
52	8045	8043	General Backfill	8	Bag 3 of 3
53	8035	8036	General Backfill	5	Bag ? of 3
54	8035	8036	Pelvis	1.2	
55	8035	8036	Skull	1.8	
56	8035	8036	Feet	1.2	
57	8032	8033	General Backfill	10	
58	8032	8033	Feet	8	
59	8032	8033	Skull	4	
60	8032	8033	Pelvis	6	
61	8032	8033	Pelvis	4	
62	8046	8048	General Backfill	10	Bag 1 of 3
62	8046	8048	General Backfill	8	Bag 2 of 3
63	8046	8048	Feet	1.4	
64	8046	8048	Skull	1	
65	8046	8048	Pelvis	0.8	
66	8046	8048	Stomach	1.2	
67	8046	8048	Hands	2	
69	8057	8055	General Backfill	10	Bag 1 of 3
69	8057	8055	General Backfill	9	Bag 2 of 3
69	8057	8055	General Backfill	9	Bag 3 of 3
71	8057	8055	Stomach	4	
74	8057	8055	Feet	2	
75	8051	8049	General Backfill	10	Bag 1 of 3
75	8051	8049	General Backfill	7	Bag 2 of 3
75	8051	8049	General Backfill	8.5	Bag 3 of 3
76	8051	8049	Skull	2	
77	8051	8049	Chest	1.6	
78	8051	8049	Pelvis	1.6	
79	8051	8049	Feet	2	
80	8054	8052	General Backfill	8	Bag 1 of 3
80	8054	8052	General Backfill	4	Bag 2 of 3
80	8054	8052	General Backfill	7	Bag 3 of 3
82	8054	8052	Hands	1	
83	8054	8052	Stomach	1.2	
84	8054	8052	Pelvis	1.2	
85	8054	8052	Skull	2	1 of 2
85	8054	8052	Skull	1.4	2 of 2
86	8060	8061	General Backfill	6	Bag ? of 3
88	8060	8061	Pelvis	1.6	
90	8058	8059	General Backfill	10	Bag 1 of 3
90	8058	8059	General Backfill	8	Bag 2 of 3

Sample No.	Grave No.	Context No.	Sample Type	Volume	Notes
90	8058	8059	General Backfill	7	Bag 3 of 3
91	8058	8059	Skull	3	
92	8058	8059	Pelvis	3	
93	8058	8059	Chest	2.2	
93	8058	8059	Feet	1	
94	8071	8069	General Backfill	7	Bag 1 of 3
94	8071	8069	General Backfill	7	Bag 2 of 3
94	8071	8069	General Backfill	7	Bag 3 of 3
95	8074	8072	General Backfill	8	Bag 1 of 3
95	8074	8072	General Backfill	9	Bag 2 of 3
95	8074	8072	General Backfill	8	Bag 3 of 3
96	8074	8072	Feet	0.8	1 of 2
96	8074	8072	Feet	0.8	2 of 2
97	8074	8072	Pelvis	2.4	
99	8074	8072	Skull	2	
100	8075	8076	General Backfill	8	Bag 1 of 3
101	8077	8079	General Backfill	9	Bag 1 of 3
101	8077	8079	General Backfill	8	Bag 2 of 3
101	8077	8079	General Backfill	8	Bag 3 of 3
102	8077	8079	Skull	2.5	
103	8077	8079	Stomach	2	
104	8077	8079	Pelvis	2	
105	8077	8079	Hands	0.8	
106	8077	8079	Feet	3	
107	8071	8069	Skull	1.6	
108	8071	8069	Pelvis	1.6	
109	8071	8069	Feet	1.6	
110	8068	8066	General Backfill	7	Bag 1 of 3
110	8068	8066	General Backfill	9	Bag 2 of 3
110	8068	8066	General Backfill	4	Bag 3 of 3
111	8068	8066	Feet	1	
112	8068	8066	Hands	1	
113	8068	8066	Stomach	2.5	
114	8068	8066	Pelvis	2.5	
115	8068	8066	Skull	1.4	
116	8080	8081	General Backfill	8	Bag 1 of 3
116	8080	8081	General Backfill	9	Bag 2 of 3
116	8080	8081	General Backfill	8	Bag 3 of 3
117	8080	8081	Skull	2	
118	8080	8081	Pelvis	1	
119	8080	8081	Feet	2.5	
120	8085	8083	General Backfill	6	Bag 1 of 3

Sample No.	Grave No.	Context No.	Sample Type	Volume	Notes
120	8085	8083	General Backfill	6	Bag 2 of 3
120	8085	8083	General Backfill	6	Bag 3 of 3
121	8086	8087	General Backfill	8	Bag 1 of 3
121	8086	8087	General Backfill	11	Bag 2 of 3
121	8086	8087	General Backfill	10	Bag 3 of 3
124	8086	8087	Pelvis	0.8	
125	8086	8087	Hands	0.4	
126	8086	8087	Feet	2.4	
127	8085	8083	Skull	2.2	
128	8085	8083	Stomach	1.8	
129	8085	8083	Pelvis	1.6	
130	8085	8083	Feet	2	
131	8095	8096	General Backfill	8	Bag 1 of 3
132	8089	8090	General Backfill	10	Bag 1 of 3
132	8089	8090	General Backfill	8	Bag 2 of 3
132	8089	8090	General Backfill	11	Bag 3 of 3
135	8089	8090	Feet	2	
137	8095	8096	Pelvis	1.2	
138	8095	8096	Stomach	1.6	
140	8094	8092	General Backfill	6	Bag 1 of 3
140	8094	8092	General Backfill	10	Bag 2 of 3
140	8094	8092	General Backfill	6	Bag 3 of 3
141	8094	8092	Feet	2.5	
142	8094	8092	Pelvis	2.2	
148	8100	8098	Pelvis	1.2	
149	8100	8098	Feet	0.8	
150	8103	8101	General Backfill	6	Bag 1 of 3
150	8103	8101	General Backfill	8	Bag 2 of 3
150	8103	8101	General Backfill	5	Bag 3 of 3
152	8104	8105	Skull	2.4	
153	8104	8105	Pelvis	2	
154	8104	8105	Feet	1.4	
155	8109	8107	General Backfill	7	Bag 1 of 3
155	8109	8107	General Backfill	8	Bag 2 of 3
155	8109	8107	General Backfill	7	Bag 3 of 3
156	8109	8107	Feet	2	
157	8109	8107	Pelvis	1.4	
158	8109	8107	Chest	1.8	
159	8109	8107	Skull	1.2	
160	8103	8101	Feet	1.6	
161	8103	8101	Pelvis	1.2	
161	8103	8101	Pelvis	2.4	2 bags of this

Sample No.	Grave No.	Context No.	Sample Type	Volume	Notes
163	8103	8101	Skull	1.4	2 of 2
164	8110	8112	General Backfill	5	Bag 1 of 3
164	8110	8112	General Backfill	8	Bag 2 of 3
164	8110	8112	General Backfill	6	Bag 3 of 3
165	8115	8117	General Backfill	9	Bag 1 of 3
165	8115	8117	General Backfill	7	Bag 2 of 3
165	8115	8117	General Backfill	8	Bag 3 of 3
166	8115	8117	Skull	0.4	
167	8115	8117	Stomach	0.8	
168	8115	8117	Pelvis	1.8	
169	8115	8117	Hands	0.6	
170	8115	8117	Feet	3	
171	8114	8113	General Backfill	10	
172	8110	8112	Feet	1.8	
173	8110	8112	Pelvis	1	
175	8110	8112	Hands	1.3	
177	8120	8118	General Backfill	8	Bag 1 of 3
177	8120	8118	General Backfill	7	Bag 2 of 3
177	8120	8118	General Backfill	7	Bag 3 of 3
178	8120	8118	Feet	0.8	
179	8120	8118	Pelvis	2	
180	8120	8118	Stomach	2	
182	8121	8123	General Backfill	9	Bag 1 of 3
182	8121	8123	General Backfill	8	Bag 2 of 3
182	8121	8123	General Backfill	9	Bag 3 of 3
183	8121	8123	Skull	2	
184	8121	8123	Stomach	1.6	
185	8121	8123	Pelvis	0.6	
186	8121	8123	Hands	0.4	
187	8121	8123	Feet	1.2	
189	8124	8125	Skull	2	
191	8124	8125	Pelvis	2	
192	8124	8125	Feet	2	
193	N/A	1013	General Backfill	7	Bag 1 of 3
193	N/A	1013	Linear	7	Bag 2 of 3
193	N/A	1013	General Backfill	7	Bag 3 of 3
195	8127	8129	Hands	0.2	
196	8127	8129	Feet	0.8	
197	8127	8129	Pelvis	1	
198	8127	8129	Stomach	2.4	
199	8127	8129	Skull	0.4	
200	N/A	10000		0.2	

Table 9: Miscellaneous items

Context	Material type	No. frags	Date range	Description and measurements
Unstrat	Fe metal	3	19/20 C	1 bent 6" nail, round flat head; 1 bent 5" nail, round flat head. 1 probably pipe hook or similar.
3000	Fe metal	1	19/20 C	Chisel with 4" blade and square tang. Straight sides and flat cutting edge.
1002	Non-Fe metal	1	?19 C	Cylindrical copper alloy ?gas lamp fitting with remains of glass bulb adhering.
Unstrat	Rubber	1	19/20 C	Vulcanised rubber threaded bottle stopper. Has 'TOWER TABLE WATERS' lettering and a centralised 'T' logo. Possible brand or place name obscured by chipped edge.*
TOTAL		**6**		

* = indicates item to retain

Table 10: Preliminary assessment of charred plant remains

Sample No.	Context No.	Volume (litres)	> 1mm flot fraction ranking*		Main sample contents	>300um flot fraction ranking*		Main sample contents	Overall ranking*		Retain flots? (Yes √ No X)
			Crop elements	Wild plant seeds		Crop elements	Wild plant seeds		Crop elements	Wild plant seeds	
44	8039	21	-	-	Wood charcoal, vitrified charcoal	-	-	Wood charcoal, vitrified charcoal	-	-	X
48	8043	2	-	-	Wood charcoal, vitrified charcoal	-	-	Wood charcoal, vitrified charcoal	-	-	X
66	8048	1.2	-	-	Vitrified charcoal	-	-	Wood charcoal, vitrified charcoal	-	-	X
87	8061	2	-	-	Wood charcoal, vitrified charcoal	-	-	Wood charcoal, vitrified charcoal	-	-	X
91	8059	3	-	-	Wood charcoal, vitrified charcoal	-	-	Wood charcoal, vitrified charcoal	-	-	X
96	8072	0.8	-	-	Vitrified charcoal	-	-	Wood charcoal, vitrified charcoal	-	-	X
123	8087	2	-	-	Vitrified charcoal	-	-	Wood charcoal, vitrified charcoal	-	-	X
139	8096	2	-	-	Vitrified charcoal	-	-	Vitrified charcoal	-	-	X
145	8098	19	-	-	Vitrified charcoal	-	-	Vitrified charcoal	-	-	X
155	8107	23	-	-	Wood charcoal, vitrified charcoal	-	-	Wood charcoal, vitrified charcoal	-	-	X

* Number of items of charred plant material - = none noted 1 = < 5, 2 = > 5, 3 = > 30, 4 = > 50, 5 = >100

Table 11: Preliminary assessment of wood charcoal fragments

			Charcoal Fragments						
Sample Number	**Context Number**	**Sample Volume (litres)**	**> 4mm**	**2 - 4 mm**	**< 2mm**	**vitrified**	**Suitable for wood ID? (Y √/N X)**	**Suitable for radiometric C14 dating? (Y √/N X)**	**Suitable for AMS C14 dating (Y √/N X)**
44	8039	21	+	+	+	++	X	X	X
48	8043	2	+	-	+	++	X	X	X
66	8048	1.2			-	++	X	X	X
87	8061	2	-	-	+	-	X	X	X
91	8059	3			+	-	X	X	X
96	8072	0.8			-	++	X	X	X
123	8087	2	-	-	+	-	X	X	X
139	8096	2			+	-	X	X	X
145	8098	19	+	-	++	++	X	X	X
155	8107	23	-	+	+	+	X	X	X

Key: '-' 1 or 2 items, '+' < 10 items, '++' 10 - 30 items, '+++' > 30 items, '++++' > 100 items.

Appendix 5: Conservation records

SF No : 1	Context 8006, SK 8010	X-radiograph No : 5702

Object : Knife	Material : Fe	Photography : Digital pix bc&ac

Description :

Small complete iron knife, 109mm long, tang broken. The blade is 10mm wide max, the back curved and the cutting edge straight. The rectangular-sectioned tang is 7x4.5mm. The X-radiograph shows the blade to be highly corroded and also suggests that the cutting edge was welded on separately. The tang has discontinuous mineralised wood, too thin for species identification. On the blade are traces of mineralised leather and wood, both too discontinuous and ephemeral to determine a relationship between the materials. It is likely, however, that both were components of a knife sheath.

Condition :

Highly corroded and fragile with uneven surfaces and some lamination of the corrosion products.

Conservation Treatment :

- Obscuring loose corrosion and soil selectively removed using air abrasion.
- Consolidated with 8% Paraloid B72 (an ethyl methacrylate copolymer) in acetone.
- Repaired using Paraloid B72 adhesive.

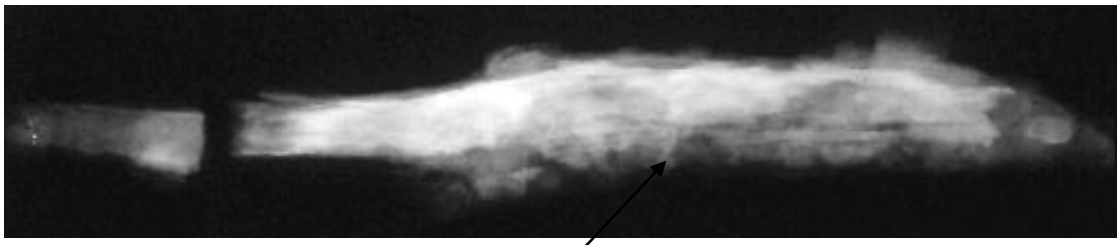
Analysis :

Mineralised materials identified under X16 magnification.

Storage :

Should be stored in an airtight container at a stable temperature and below 20% RH, to inhibit further corrosion. The RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

Knife after conservation



X-radiograph showing welded cutting edge

Mineralised leather fragment on blade

Mineralised wood on tang

SF No : 6Δ	**Context 8049, SK 8050**	**X-radiograph No : 5702**

Object : Industrial residue	**Material : Iron-rich slag**	**Photography : Digital pix bc&ac**

Description :

Small flake of iron-rich industrial residue, 7.8g in weight, 32mm long. The interior is dense and very dark in colour with only slight evidence of layering and very little vesicularity. The outer surfaces have a thin layer of semi-vitrified material – its thickness and appearance suggesting vitrification of the ground surface rather than the remains of a hearth lining. Though quite dense, this is probably a fragment of smithing slag.

Condition :

Stable

Conservation Treatment :

Obscuring soil removed using air abrasion.

Analysis :

Surface EDXRF (energy dispersive X-ray fluorescence) analysis detected mainly iron and silica – consistent with identification as iron working slag.

Levels of elements detected in surface corrosion should be regarded as being qualitative only, as they do not accurately reflect the quantitative composition of the original alloy.

Storage :

Should be stored in an airtight container at a stable temperature and below 20% RH, to inhibit further corrosion. The RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

SF No : 9Δ	Context 8006, SK 8010	X-radiograph No : 5702

Object : Buckle	Material : Iron	Photography : Digital pix bc&ac

Description :

Small complete oval iron buckle and tongue, 26mm long, 15mm wide max, made from sub-circular bar 3.5mm diam. The tongue terminates in a loop which passes over the buckle bar to hold it in place. There are traces of mineralised leather on the tongue loop.

Condition :

Highly corroded with uneven surfaces and corrosion blisters.

Conservation Treatment :

- Obscuring loose corrosion and soil selectively removed from the front of the buckle using air abrasion. Corrosion was retained on the back.
- Consolidated with 8% Paraloid B72 (an ethyl methacrylate copolymer) in acetone.

Analysis :

Surface EDXRF (energy dispersive X-ray fluorescence) analysis detected only iron.

Levels of elements detected in surface corrosion should be regarded as being qualitative only, as they do not accurately reflect the quantitative composition of the original alloy.

Storage :

Should be stored in an airtight container at a stable temperature and below 20% RH, to inhibit further corrosion. The RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

Mineralised leather on tongue loop

SF No : 42Δ	Context 8107, SK 8108	X-radiograph No : 5702

Object : Knife	Material : Fe	Photography : Digital pix bc∾ X16 detail

Description :

Part of an iron knife, 108mm long, tang missing, blade tip received detached. The blade is 19mm wide max, its back slightly curved and the cutting edge straight. The remains of the rectangular-sectioned tang are 8.5x4mm.

No traces of the handle survive, but both surfaces of the blade and also its back edge have discontinuous fragments of mineralised wood, with the direction following the length of the blade. This is likely to be the remains of a wooden knife sheath. This material was too thin and fragmentary for species identification. There is also a fragment of mineralised textile on the back edge of the blade which may derive from a nearby object.

Condition :

Highly corroded with uneven surfaces and corrosion blisters.

Conservation Treatment :

- Obscuring loose corrosion and soil selectively removed using air abrasion.
- Consolidated with 8% Paraloid B72 (an ethyl methacrylate copolymer) in acetone.
- Repaired using Paraloid B72 adhesive.

Analysis :

Mineralised materials identified under x16 magnification.

Storage :

Should be stored in an airtight container at a stable temperature and below 20% RH, to inhibit further corrosion. The RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

Mineralised wood on blade

Mineralised textile fragment on blade back

SF No : 44Δ	Context 8107, SK 8081	X-radiograph No: 5702/5717

Object : Ring	Material : CuA	Photography : Digital pix bc∾ X16 detail

Description :

Penannular CuA ring, complete but now in three pieces. Both ends, which can be seen on the X-radiograph, right, have rounded points. The ring is oval, *c*. 20mm long and made from sub-circular wire c4mm diam.

The objects is very highly corroded and fragile, and its centre is filled with part of a folded and bunched mineralised textile, which was probably originally drawn through the ring. The textile has been preserved partly by the biocidal effects of the copper in the ring, and partly through 'replacement' of its structure by iron salts drawn either from nearby iron objects of from the surrounding iron-rich soil. There is no iron component to the artefact.

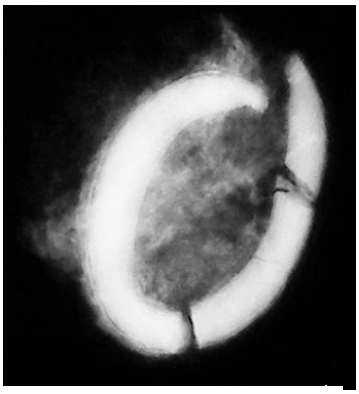
The threads and weave of the textile fragment are no longer visible to the naked eye, and only traces can be seen in a few places under x16 magnification, but the small folds in the material can be seen on both sides of the ring. Traces of the weave are visible on the XR, however. During conservation, small tufts of non-mineralised fibre were observed. This were sampled, mounted, examined and identified as flax, confirming that the textile was made from linen.

Condition :

Highly corroded and fragile with little/no metal remaining. Because of the presence of mineralised material, the full extent of the ring could not be revealed.

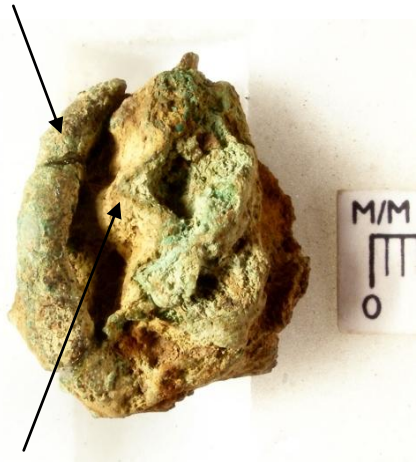
Conservation Treatment :

- Surface soil and loose obscuring corrosion products removed mechanically under X16 magnification.
- Consolidated using 8% Paraloid B72 (an ethyl methacrylate copolymer) in acetone.
- Joins between the ring fragments made with Paraloid adhesive.



X-radiograph showing the ring's pointed terminals

Ring



Copper-preserved textile with folded edges

Analysis :

Surface EDXRF (energy dispersive X-ray fluorescence) analysis found the ring to be made from a leaded bronze. Levels of detected tin suggest that it may originally have been tinned.

Levels of elements detected in surface corrosion should be regarded as being qualitative only, as they do not accurately reflect the quantitative composition of the original alloy.

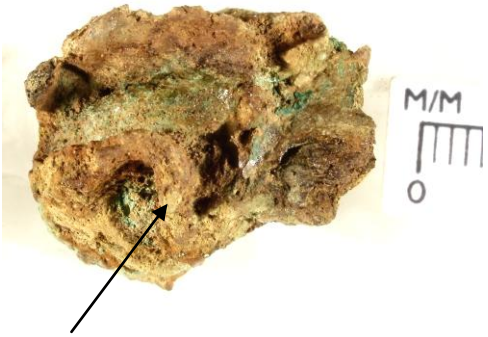
Storage :

Should be stored in an airtight container at a stable temperature and below 40% RH, to inhibit further corrosion. The RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

HANDLE WITH CARE

Conserved ring in same orientation as XR above

Twisted mineralised thread (X16 image)



Iron 'replaced' textile on the other side of the ring, also showing folds

Non-mineralised fibre tuft among copper corrosion products (X16 image)

Appendix 6: Radiocarbon dating

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 242666 SAMPLE: 1063c/SK8009 ANALYSIS: AMS-Standard delivery MATERIAL/PRETREATMENT: (bone collagen): collagen extraction: with alkali 2 SIGMA CALIBRATION: **Cal AD 660 to 780 (Cal BP 1290 to 1160)**	1220 +/- 40 BP	-20.5 o/oo	1290 +/- 40 BP

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-20.5:lab. mult=1)

Laboratory number:	**Beta-242666**
Conventional radiocarbon age:	**1290±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal AD 660 to 780 (Cal BP 1290 to 1160)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal AD 690 (Cal BP 1260)
1 Sigma calibrated result: (68% probability)	Cal AD 670 to 770 (Cal BP 1280 to 1180)