

**ARCHAEOLOGICAL INVESTIGATIONS AT  
THORNE GRAMMAR SCHOOL,  
THORNE, SOUTH YORKSHIRE**

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**PRE-CONSTRUCT ARCHAEOLOGY**

**Archaeological Investigations at Thorne Grammar School,  
Thorne, South Yorkshire**

**Central National Grid Reference: SE 692 135**

**Site Code: TGS 03**

**Commissioned on behalf of EC Educational Services Limited, by:**

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## 1. NON-TECHNICAL SUMMARY

- 1.1 This report details the results and working methods of a programme of archaeological investigations co-ordinated and undertaken by Pre-Construct Archaeology on land at Thorne Grammar School, Thorne, South Yorkshire. The central National Grid Reference of the site is SE 692 135.
- 1.2 The project was commissioned by Cundall Johnston & Partners, on behalf of EC Educational Services Limited, who intend to develop the site as a new educational institution. The work was undertaken 2<sup>nd</sup>–3<sup>rd</sup> February and 24<sup>th</sup> February–17<sup>th</sup> March 2004.
- 1.3 The school grounds occupy an irregular shaped unit of land that covers c. 13 hectares and are situated at the eastern edge of the town. The site is bounded by residential housing to the north, by Church Balk to the south, by St. Nicholas Road to the west and by the ground of Thornensians RUFC to the east; this bounded to the east by Coulman Street.
- 1.4 The higher, western part of the site is occupied by the buildings of Thorne Grammar School, with associated playgrounds, including tennis courts, car parks, access routes, and some areas of lawn and garden. The eastern part of the site is lower lying and is occupied by the school playing fields.
- 1.5 The site lies immediately to the east of Peel Hill motte, a Scheduled Ancient Monument, and to the north-east of the medieval Parish Church of St. Nicholas. A desk-based assessment of the archaeological potential of the site concluded that the potential for prehistoric remains at the site was considered low to moderate. The potential for Roman and Saxon remains was considered low. The potential for medieval remains was considered moderate to high. The potential for post-medieval remains was considered low.
- 1.6 A geophysical survey was undertaken at the site prior to a trial trenching field evaluation. The geophysical survey was carried out in two areas, covering a total of c. 4.64 hectares. The results of the survey indicated that the majority of the anomalies detected were associated with modern and/or known features such as goal posts, services and former field boundaries. The survey recorded traces of the former use of the site as agricultural land; groups of parallel linear anomalies reflecting ridge and furrow ploughing, some of which still survive as slight undulations across the site. Other linear anomalies were interpreted as components of a former field system, traces of which can be seen on the 1<sup>st</sup> edition Ordnance Survey map of 1853. Pit-like anomalies were detected in the survey area and it was thought that these were most likely to have been of recent origin. The geophysical survey report concluded that the site contained limited archaeological potential.
- 1.7 In part, the subsequent trial trenching evaluation confirmed the results of the geophysical survey. Evidence for medieval and post-medieval agricultural use of the land, in the form of plough furrows, field boundaries and land drains, was recorded across the school playing fields. However, more significant archaeological remains, comprising pits and probable linear features dating from the 17<sup>th</sup>–18<sup>th</sup> century, were recorded towards the south-western corner of the site in Trench 13. In addition, a possible dew pond of the same period was recorded to the east, in the school playing fields.

- 1.8 Fifteen evaluation trenches were investigated during the fieldwork, located within the boundary of the development site. These trenches were positioned to both investigate features identified through the geophysical survey, and to provide a random sample of the archaeological potential of the site.
- 1.9 No archaeologically significant remains were encountered in Trench 1, 5, 8 and 9, where turf and topsoil overlay the natural sub-stratum.
- 1.10 In Trench 2A, two NE-SW aligned features, possibly plough furrows of medieval origin, were recorded extending across the trench.
- 1.11 Three approximately parallel NE-SW aligned features were recorded in Trench 2B. These may represent a succession of field boundaries or possibly a series of obsolete land drains. Five possible postholes were encountered at the southern end of the trench, which may have formed part of a fenceline along the edge of the southernmost linear feature. The features recorded in this trench are considered to be of later post-medieval origin.
- 1.12 A substantial pit was encountered in the south-eastern half of Trench 3. The function of the pit is uncertain, although it may have been a dew pond, dug as a watering hole for animals. Dating evidence indicates that the feature infilled during the 17<sup>th</sup>-18<sup>th</sup> century. A second, far shallower, pit was located to the north-west, however, its function is uncertain. At the south-eastern end of the trench, the edge of a possible palaeochannel, aligned approximately NE-SW, was recorded.
- 1.13 Two possible plough furrows of 17<sup>th</sup>-18<sup>th</sup> date were recorded in Trench 4, aligned approximately NNE-SSW. A small amount of dating evidence suggests that these represent agricultural activity during the 17<sup>th</sup>-18<sup>th</sup> century.
- 1.14 A group of linear of features was encountered in Trench 6, all aligned approximately north-south; the earliest of these may have been a palaeochannel. Later features included two possible plough furrows of post-medieval date, two possible field boundaries or obsolete drains and a field drain.
- 1.15 A NE-SW aligned plough furrow was recorded at the south-eastern end of Trench 7. Further to the north, a pit of uncertain function was encountered, adjacent to the eastern section of the trench. These features may have been of post-medieval origin.
- 1.16 In Trench 10, a single posthole was encountered in the central area of the trench.
- 1.17 A number of field drains were recorded in Trench 11. The most southerly of these truncated an earlier linear feature, possibly a field boundary ditch. Two small postholes were also recorded within the trench. All of these features are considered to be post-medieval in origin.
- 1.18 A ditch delimiting a NE-SW aligned field boundary was encountered at the south-western end of Trench 12. This boundary was a continuation of the present boundary delineating much of the eastern boundary of the site. The ditch had been truncated by a substantial field drain, to the south-west of which was the edge of a linear feature, probably a plough furrow. In the central portion of the trench a group of small circular features of post-medieval date appeared to form a double line of posts. A short, slightly curved, linear feature was truncated by three of the postholes, and this may have marked the position of a former hedge-line. It is probable that this feature and the postholes were related.

- 1.19 In Trench 13, a group of features representing activity dating to the 17<sup>th</sup>-18<sup>th</sup> century was recorded. A possible plough furrow was encountered, extending on a NW-SE alignment. A parallel linear feature has been interpreted as a boundary or drainage ditch. Both the ditch and the furrow were truncated by a substantial pit, which was similar to another large pit located a short distance to the north-east. These could have been refuse pits, possibly associated with occupation in the vicinity, perhaps centred on the remains of Peel Hill motte to the west.
- 1.20 In Trench 14, several discrete features were recorded which probably represent part of a NW-SE aligned fenceline of post-medieval or modern date.

## 2. INTRODUCTION

- 2.1 This report details the results of a archaeological investigations co-ordinated and undertaken by Pre-Construct Archaeology Limited (hereinafter PCA) on 2<sup>nd</sup>-3<sup>rd</sup> February and 24<sup>th</sup> February-17<sup>th</sup> March 2004, in advance of a proposed development of land at Thorne Grammar School, Thorne, South Yorkshire. The development site covers an area of approximately c. 13 hectares and is centred at SE 692 135 (Figure 1).
- 2.2 The archaeological investigation was commissioned by Cundall Johnston & Partners (hereinafter the Client), on behalf of EC Educational Services, who intend to redevelop the site of Thorne Grammar School as 'Doncaster City Academy'. The evaluation fieldwork was undertaken under the supervision of Gavin Glover and project management of Robin Taylor-Wilson, both of PCA.
- 2.3 The site occupies an irregular shaped parcel of land, widening to the east, with a rectangular extension to the north. It covers an area of c. 13 hectares and measures c. 165m north-south in the west, up to c. 450m north-south in the east and up to c. 480m east-west (Figure 2).
- 2.4 To the north, the site is bounded by residential housing. To the south, it is bounded by Church Balk, formerly the Thorne and Crowle Road, on the south side of which are graveyards and residential housing. To the west, the site is bounded by St. Nicholas Road, on the western side of which is the ancient earthwork, Peel Hill motte, and residential housing. To the east, the site is bounded by the ground of Thornensians RUFC, which is itself bounded to the east by Coulman Street.
- 2.5 The western portion of the site is occupied by the existing buildings of Thorne Grammar School, with the main brick ranges, constructed c. 1930, being the focus. Since the 1930's, various ancillary buildings have been added, generally to the north of the main building, and with a western range added to the main building in the 1960's. To the south of the main building are grass and hard tennis courts, with an undulating garden with numerous shrubs and trees occupying the south-western corner of the site. Around the school buildings are access routes, car parks and playgrounds. The eastern portion of the study site is given over to extensive school playing fields.
- 2.6 An archaeological desk based assessment of the development site was undertaken prior to the fieldwork. <sup>1</sup> This was followed by a geophysical survey of two areas located on the school playing fields.<sup>2</sup>
- 2.7 A specification for the fieldwork was prepared by PCA,<sup>3</sup> following a recommendation by the South Yorkshire Archaeological Service (SYAS) that a pre-determination field evaluation be undertaken.

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<sup>1</sup> PCA, 2003a.

<sup>2</sup> PC Geophysics, 2004.

<sup>3</sup> PCA, 2003b.

- 2.8 The archaeological evaluation comprised fifteen trial trenches, covering an area of c. 900m<sup>2</sup>. The main purpose of the field evaluation was to determine, as far as reasonably possible, the horizontal and vertical extent, character, condition and quality of archaeological deposits within the site, thereby allowing precise details of any additional archaeological mitigation strategy to be formulated.
- 2.9 The project archive comprising written, drawn and photographic records and artefacts is, at the time of writing, stored at PCA's Northern Office, Unit N19a Tursdale Business Park, Durham DH6 5PG. Ultimately the project archive will be deposited with Doncaster Museum under the site code TGS 03.

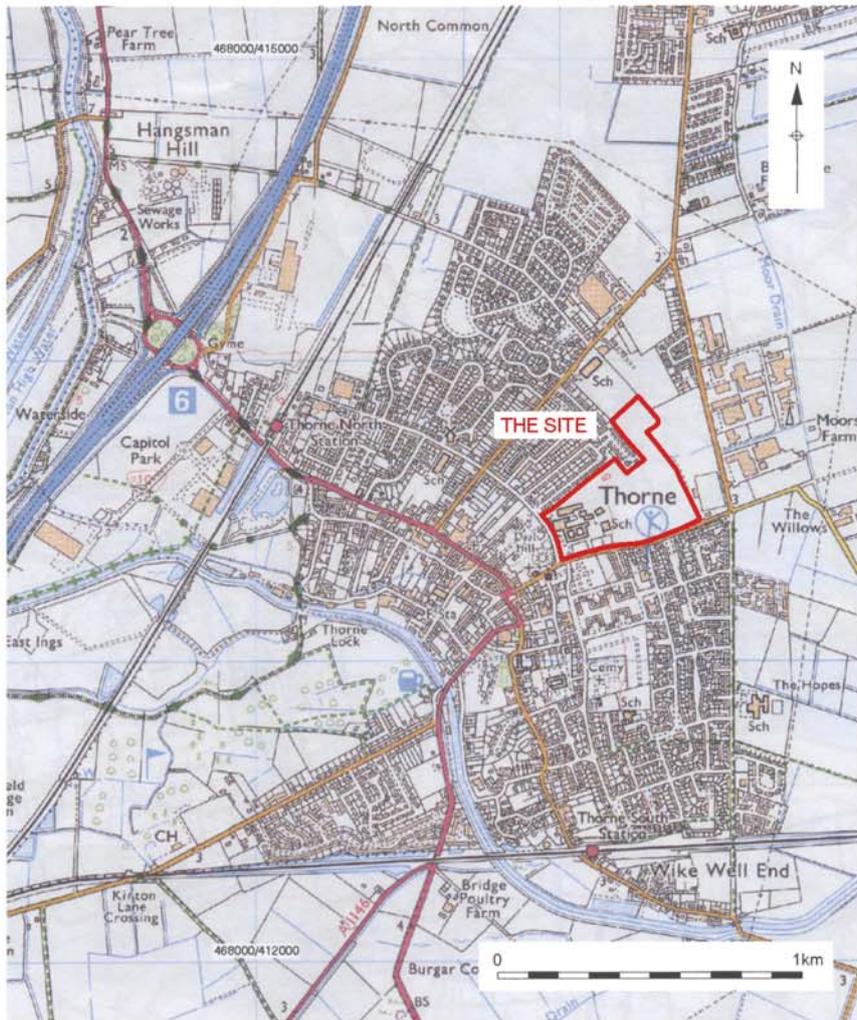


Figure 1. Site location  
Scale 1:25,000



Figure 2. Trench location  
Scale 1:5000

### **3. PLANNING BACKGROUND AND RESEARCH OBJECTIVES**

#### **3.1 Planning Background**

- 3.1.1 A proposal to re-develop the site of Thorne Grammar School as a new academic centre, 'Doncaster City Academy', has been formulated by EC Educational Services. The proposals, as they stood at the time of the archaeological investigations, involved demolition of the existing school buildings, with a completely new layout of buildings and sports facilities. In the development proposals, the new main building will occupy the south-eastern corner of the site, adjacent to Church Balk, with the northern part being occupied by extensive sports grounds.
- 3.1.2 The historical and archaeological significance of the site was initially noted by the SYAS, which provides advice on archaeological issues of development control to the Local Planning Authority, Doncaster Metropolitan Borough Council (hereafter DMBC). The site lies immediately to the east of a Scheduled Monument, Peel Hill Motte. Since the archaeological implications of the proposal could not be adequately assessed on the basis of the information then available, a brief for archaeological assessment was prepared.<sup>4</sup>
- 3.1.3 The need for early consultation in the planning process in order to determine the impact of development schemes upon the archaeological resource is identified in the document '*Planning Policy Guidance Note 16: Archaeology and Planning (PPG 16)*'.<sup>5</sup>
- 3.1.4 In order to comply with PPG 16 and constraints attached to the planning application, an archaeological desk-based assessment of the site was undertaken. This concluded that the site had low to moderate potential for prehistoric remains, low potential for Roman and Saxon remains, moderate to high potential for medieval remains and low potential for post-medieval remains.
- 3.1.5 The initial stage of the archaeological field investigations comprised geophysical survey carried out in two areas of the site. The western portion of the site – currently occupied by the school buildings and associated surfaces – was not suitable for geophysical survey. The eastern portion - the school playing fields – was suitable for such survey. The locations and dimensions of the survey areas were discussed with the SYAS and comprised a total of c. 4.6 hectares.
- 3.1.6 A further stage of archaeological investigation, comprising trial trenching evaluation, was required in order to determine the extent, nature, date and degree of preservation of any archaeological remains at the site, pre-determination of the planning application. For the purposes of archaeological development control, the aim of the evaluation was to assess the potential of the archaeological resource at the site in order to inform a decision regarding an appropriate mitigation strategy.

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<sup>4</sup> SYAS, 2003.

<sup>5</sup> Department of the Environment, 1990.

3.1.7 The trenches were positioned to both investigate features identified through the geophysical survey, and to provide a random sample of the site's archaeological potential. The locations, dimensions and amount of trenching were agreed with SYAS following the completion of the geophysical survey.

## **3.2 Research Objectives**

3.2.1 The broad aim of the evaluation was to determine, as far as reasonably possible, the horizontal and vertical extent, character, condition and quality of archaeological deposits within the site.

3.2.2 Site-specific aims and objectives of the evaluation were:

- to determine or confirm the general nature of any remains present;
- to determine or confirm the approximate date or date range of any remains by means of artefactual or other evidence;
- to determine or confirm the approximate extent of any remains;
- to determine the condition and state of preservation of any remains;
- to determine the degree of complexity of the horizontal and/or vertical stratigraphy present;
- to determine or confirm the likely range, quality and quantity of artefactual evidence present;
- to determine the potential of the site to provide palaeoenvironmental and/or economic evidence and the forms in which such evidence may be present.

## **4. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

*The archaeological background to the site is set out in PCA's desk-based assessment of the site and summarised in the specification for the trial trenching evaluation. An outline summary is included below.*

### **4.1 Prehistoric**

- 4.1.1 There is no direct evidence of earlier prehistoric activity within the boundaries of the site. There is evidence of sporadic prehistoric activity to the north and east of Thorne. A flint scatter recorded close to the M18, c. 5km to the north of the site may have been of Neolithic origin and a barbed and tanged flint arrowhead of probable Bronze Age date was found at Moorends, c. 2km to the north of the site. To the east, a flint axe was recovered in antiquity from Thorne Moor, although the precise location is unknown.
- 4.1.2 Approximately 2-3km to the west of Thorne, undated cropmarks have been identified along the line of the M18 and possibly represent Iron Age or Romano-British settlement.
- 4.1.3 The only evidence of possible prehistoric activity in Thorne itself comes from an archaeological evaluation conducted in 1994 on land adjacent to Peel Hill Motte. Five sherds of shell-tempered pottery were recovered from a sub-soil horizon in one of the evaluation trenches. The sherds were considered to be 'significantly earlier' in date than the medieval pottery that had comprised the bulk of the pottery assemblage from the site.

### **4.2 Roman**

- 4.2.1 No finds or other evidence of Roman occupation or land-use is recorded from the site or within the immediate vicinity.
- 4.2.2 Antiquarian records suggest that coins of Vespasian and other emperors were found in the marshes near Thorne and the County SMR lists a single Roman coin found during ploughing in a field c. 1.5km to the south of the site.

### **4.3 Medieval**

- 4.3.1 Although the name of Thorne is thought to be of Anglo-Saxon origin, meaning a settlement within or on the edge of a marsh or fen land, there are no known sites from this period within the Thorne area. Prior to the Norman Conquest, Thorne may have existed as a small town within an extensive land unit centred on Hatfield.
- 4.3.2 The medieval town of Thorne developed around the motte-and-bailey castle, the remains of which - Peel Hill Motte - lie immediately to the west of the site, and St. Nicholas's Church, which is situated to the south of Peel Hill, on the south side of Church Street. Peel Hill consists of a large earthen mound c. 8m high and c. 15m wide at the summit. It is surrounded by a steep-sided ditch and its bailey is believed to have lain to the south, where, according to documentary references, important medieval buildings stood. According to Leland (1534), a motte tower still stood in the 16<sup>th</sup> century, then in use as a jail. The monument is Scheduled Monument No. 13213.

- 4.3.3 The motte-and-bailey castle at Thorne is likely to have been constructed within a few decades of the Norman Conquest as the chief manorial stronghold in the area to the east of the estate known as Hatfield Chace. The general form of the castle, particularly the design of the stone keep that stood upon the motte (and was probably demolished in the 17<sup>th</sup> century) and its date of construction, have been the subject of much discussion. It has been suggested that the only remaining visible earthworks of the bailey lie within the south-western corner of the study site, beyond the wall that forms the boundary between Thorne Grammar School and St. Nicholas Road. Earlier suggestions that the earthworks - comprising a depression and associated bank - were created as a result of gravel quarrying in the recent past have been effectively dismissed.
- 4.3.4 Enclosure of the church within the castle precinct would suggest that the former was originally constructed contemporaneously with the motte-and-bailey, possibly, therefore, serving as the lord's private chapel. Documentary evidence indicates that the church was in existence by 1135. Thus, construction of the motte-and-bailey can be placed in the period 1070-1135 and, on balance, before 1100.
- 4.3.5 The extreme isolation of the settlement at Thorne during the medieval period is evident from illustrative maps of the post-medieval period. The castle and church would have dominated the south-eastern part of the medieval town, with another focal point, and a major source of revenue, the market place, to the west. Richard Cromwell granted the first documented charter for market in 1658, although most authors agree that a market took place in the medieval period. It is possible that the relative positioning of the church, castle and market place was the result of a coherent strategy of town planning, devised and implemented by the de Warennes. The size of the town in the reign of Richard II (1377-1399) is apparent from the poll tax which records 172 people above the age of 16, with an estimated total of about 200, which is not inconsiderable given the isolation of the settlement.
- 4.3.6 The majority of the medieval town was laid out along two parallel roads to the west of the castle, with most of the properties bracketing these roads in the form of long narrow burgage plots that maximised access to the street frontage. This settlement pattern was still very noticeable when the Enclosure map was produced in 1825.
- 4.3.7 Artefactual material of the medieval period has been relatively scarce from the town. A jetton was found in the back garden of a house on Stonegate to the south-west of the study site. Human remains, comprising an adult male skeleton, were found in the back garden of a house in Lower Kenyon Street c. 0.2km to the north of the study site.
- 4.3.8 It is probably unlikely that the site was utilised for actual habitation during the medieval period. The 1994 evaluation adjacent to Peel Hill motte recorded very little evidence of medieval activity in the eastern portion of the site, the area occupying the extreme eastern margin of burgage plot backlots to the west. However, the proximity of the study site to the church and castle, the nuclei of medieval ecclesiastical and secular power, implies that this land, becoming increasingly marginal to the east, would have been exploited for certain purposes. Since the limited extent of raised ground available to the inhabitants of the town would have severely restricted arable production, it seems certain that at least some of the site would have been utilised for this means. In fact, medieval Thorne had only two fields, North Field and South Field, rather than the three fields characteristic of most medieval settlements, with the study site occupying the southern part of North Field.

- 4.3.9 The occupants of the medieval town would have engaged in activities specific to the local environment: fen peat being cut for fuel and building material, marsh reeds being gathered for roof thatching and other purposes, and fishing, eel trapping and wildfowling all being undertaken. Much of the medieval population of the town was involved in the maintenance of the royal hunting estate of Hatfield Chace. The marginal eastern part of the study site would have offered good access to the low-lying marshland, which would also have been utilised as summer pasture for stock. Therefore, some or the entire site could have been used for a variety of activities associated with the economy of the medieval town.

#### **4.4 Post-medieval**

- 4.4.1 When John Leland visited the area between 1535-1543, he described Thorne as a village, and mentioned the castle, then in use as a prison, and the church.
- 4.4.2 In the 1620's, the Dutch engineer Sir Cornelius Vermuyden was commissioned by Charles I to drain Hatfield Chace and the Isle of Axholme in order to increase the amount of agriculturally productive land. The drained land was to be shared between the King, Vermuyden's shareholders and the local people. In simple terms, the scheme involved cutting off various rivers, including the eastern arm of the River Don just above Thorne, and substituting these with several substantial linear drains that debouched into the River Trent.
- 4.4.3 The Enclosure map of 1825 gives some indication how much additional land to the east of the study site became available for agricultural purposes as a result of the work. Throughout much of the post-medieval period, the study site remained as undeveloped fields on the eastern margin of the town. Thorne developed gradually during the post-medieval period, initially with the growth of river trade and later with the coming of the railways in the mid 19<sup>th</sup> century.
- 4.4.4 Thorne Grammar School was constructed at the study site in the early 1930's.
- 4.4.5 The fields to the north of the site were gradually given over to residential housing from the late 19<sup>th</sup> century onwards. By the time of the school's opening in the 1930's, the area of housing had extended to Lower Kenyon Road, with only two fields to the north of the study site remaining undeveloped. These fields were developed in the post-war period with residential housing. To the south of Church Balk, the fields and allotment gardens to the east of the extended graveyard of St. Nicholas's Church remained undeveloped until the post-war years.

## **5. GEOLOGY AND TOPOGRAPHY**

### **5.1 Geology**

- 5.1.1 Much of this summary of the geology of the site is taken from the aforementioned archaeological desk-based assessment of the site, itself compiled from an earlier, detailed account of the geology of the Thorne area.<sup>6</sup> Bedrock throughout the area consists of Sherwood (formerly Bunter) Sandstone, reddish-brown sandstone of Triassic age that is nearly 270m thick at Thorne Colliery, c. 2.5km to the north of the site. In the area of the study site, the sandstone is concealed beneath Quaternary deposits, described below.
- 5.1.2 Thorne stands on a ridge of glacial sand and gravel formed during the later part of the Devensian stage of the Quaternary Era, c. 18,000 radiocarbon years ago. Ice from the North Sea impounded a vast lake, Lake Humber, in the central and southern parts of the Vale of York to the north. Initially this rose to c. 30m OD and, at about the same time, a surge of ice from the Vale of York deposited material from melting ice along its western edge. The sand and gravel deposits at Thorne were formed in this way, with the pebbles in these deposits being derived mostly from Carboniferous and Permian rocks far to the north-west.
- 5.1.3 The western portion of the site is known to lie on glacial sand and gravel. The 1994 archaeological evaluation in and around Peel Hill motte revealed natural gravel at a depth of c. 0.40m in the easternmost trench, this being located only c. 50m from the western boundary of the study site.
- 5.1.4 Both the high level of Lake Humber and the ice surge were short-lived, with the level of the lake falling to c. 9m OD, possibly for several millennia, which resulted in the accumulation of extensive laminated clay and sand sediments (known as the '25-foot Drift of the Vale of York'). This material forms what is now the monotonous clay plain around the northern and eastern sides of Thorne and such material is likely to underlie the low-lying eastern portion of the site. Rising sea levels in early Flandrian times eventually resulted in large areas of waterlogged ground, which, with the wetter climate of later Flandrian times, was conducive to the widespread growth of peat in low-lying areas. During the last 3,500 radiocarbon years, this material developed into raised bogs, in suitable areas such as Thorne Moors, to the east of the site.

### **5.2 Topography**

- 5.2.1 Thorne town centre is, as described above, located upon a ridge of glacial sand and gravel c. 2km long, north-south, and less than 1km wide. The ridge is low-lying, generally above 5m OD but nowhere rising above the 10m contour. Much of the surrounding land lies below 4m OD and is generally flat, low-lying country drained in the 17<sup>th</sup> century in order to improve its agricultural potential. The River Don is situated immediately to the north-west of the town.

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<sup>6</sup> Gaunt, 1987.

- 5.2.2 There is a general slope down from west to east across the site, reflecting the eastern margin of the sand and gravel ridge giving way to lower-lying alluvial drift geology. Further east, beyond the proposed development site, are the extensive peat deposits of the Humberhead Peatlands, now a National Nature Reserve.
- 5.2.3 On St. Nicholas Road, at the western edge of the site, ground level is at c. 8.80m OD. Across the area occupied by the school buildings the ground falls away to the east, so that, for example, the grass tennis courts to the south of the main building are at 7.40m OD and the eastern part of the area occupied by the school buildings is at 6.50m OD. The western two-thirds of the school playing fields slope down to the east, from a maximum height of c. 6.0m OD to c. 2.50m OD. The westernmost portion of the playing fields is relatively level at c. 2.20m OD. The most low-lying point at the site lies in the northernmost area, with a localised hollow in the playing field, at 1.90m OD.

## **6. ARCHAEOLOGICAL METHODOLOGY**

### **6.1 Geophysical Survey**

- 6.1.1 The first stage of the site investigations comprised geophysical survey; a fluxgate gradiometer survey was considered the most suitable method of investigation. The western portion of the site – currently occupied by the school buildings and associated surfaces – was not suitable for geophysical survey. However, the eastern portion - the school playing fields – was suitable. Two areas were surveyed: the first, in the main playing field area, measured 200m x 200m, the second, in the north-eastern segment of the development area, measured 80m x 80m. The total area investigated was c. 4.6 hectares.
- 6.1.2 The geophysical survey identified significant levels of magnetic variation, most of which could be interpreted as features associated with the sports facilities currently occupying part of the site, services and known former boundaries.
- 6.1.3 Groups of linear anomalies were also recorded which probably reflected traces of ridge and furrow ploughing. Other anomalies were thought to indicate the remains of a former field system. The alignment of this field system corresponds with elements of a field system depicted on the 1<sup>st</sup> edition Ordnance Survey map.
- 6.1.4 The geophysical survey report is included as Appendix E to this report.

### **6.2 Trial Trenching**

- 6.2.1 The trial trenching evaluation was undertaken in accordance with the relevant standard and guidance document of the Institute of Field Archaeologists (IFA).<sup>7</sup> PCA is IFA-Registered. Prior to the fieldwork, a specification was compiled by PCA and approved by SYAS.
- 6.2.2 The archaeological evaluation comprised fifteen trenches. Trenches 1, 2A, 2B, 3, 5, 6, 8, 9, 11, 12, 13 and 14 measured approximately 25m x 1.60m, whilst Trenches 4, 7 and 10 measured approximately 50m x 1.60m. Trenches 2B, 3, 4, 6, 7, 11 and 12 were positioned to target potential archaeological features identified by geophysical survey, whilst avoiding sports pitches and running tracks still in use. The remaining trenches were positioned to give a widespread sample of the remaining development site, avoiding the sports pitches and the locations of known services. The positions and dimensions of the trenches were agreed with SYAS prior to the commencement of the evaluation.
- 6.2.3 A Cable Avoidance Tool (CAT) was utilised to ensure that the location of the trenches avoided any live services. Ground reduction was undertaken using a JCB back-acting excavator. A toothless 'ditching' bucket was utilised and the work took place under the direct guidance of the supervising archaeologist. All modern overburden and undifferentiated soil horizons were stripped down, in spits of approximately 100mm thickness, to the top of the first significant archaeological horizon or to geological deposits.

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<sup>7</sup> IFA, 1999.

- 6.2.4 Subsequent excavation and recording was undertaken in accordance with recognised archaeological practice and following the methodology set out in PCA's '*Field Recording Manual*'.<sup>8</sup> Following machine clearance, the sections and bases of the trenches were carefully cleaned using hand tools. Stratigraphic deposits were recorded in section and drawn at an appropriate scale. The bases of the trenches were planned at a scale of 1:20 or 1:50 relative to a baseline established along the trench. The positions of the trench baselines were located using appropriate surveying equipment.
- 6.2.5 Archaeological deposits were recorded using a 'single context recording' system. Features, deposits and structures were recorded on *pro forma* context record sheets. The height of all principal strata and features were calculated relative to Ordnance Datum and indicated on the appropriate plans and sections. A 'Harris Matrix' stratification diagram to record stratigraphic relationships was compiled and fully checked during the course of the fieldwork.
- 6.2.6 Within appropriate archaeological horizons, partial excavation, the recovery of dating evidence or cleaning and recording of deposits was preferred to full excavation, and was practised wherever possible.
- 6.2.7 A photographic record of the investigations was compiled using SLR cameras. This comprised black and white prints and colour transparencies (on 35mm film), illustrating in both detail and general context the principal features and finds discovered. The photographic record also included 'working shots' to illustrate more generally the nature of the archaeological operation mounted. All photographs included a legible graduated metric scale.
- 6.2.8 Six Temporary Bench Marks (TBMs) were established on the site from a Bench Mark with a height of 10.85m OD located on St. Nicholas's Church. The TBMs had values of 9.05m OD, 4.86m OD, 2.74m OD, 2.67m OD, 2.63m OD and 2.60m OD.

### 6.3 Post-excavation

- 6.3.1 The project's stratigraphic data is represented by the written, drawn and photographic records. Post-excavation work involved checking and collating site records, grouping contexts, enhancing matrices and phasing the stratigraphic data (Appendix A). A written summary of the archaeological sequence was then compiled, as described below in Section 7.
- 6.3.2 The contents of the written, graphic and photographic archive are quantified below:

Item	No.	Sheets
Context register	1	6
Context sheets	203	203
Section register	1	1
Section drawings	19	41
Plans	15	34

**Table 6a. Quantification of paper archive**

<sup>8</sup> PCA, 1999.

Item	No.	Sheets
Colour slide register	2	2
Colour slides	52	7
Monochrome print register	2	2
Monochrome prints	52	7
Monochrome negatives	52	2

**Table 6b. Quantification of photographic archive**

- 6.3.3 The artefactual material from the site comprised small assemblages of ceramic, glass and lithic material. All material was washed, dried, marked, conserved and packaged, as appropriate, and according to relevant guidelines.<sup>9</sup> Specialist assessment of the material was undertaken (Appendices C and D). No other categories of inorganic artefactual material were represented.
- 6.3.4 No organic material, including faunal remains, was recovered from the site.
- 6.3.5 The project's palaeoenvironmental sampling strategy was to recover bulk soil samples from well-dated fills of archaeological features of note. To this end, no features of significance were encountered to warrant the recovery of bulk samples.
- 6.3.6 Survival of all materials recovered during or generated by archaeological projects depends upon suitable storage. The complete project archive, comprising written, graphic and photographic records (including all material generated electronically during post-excavation) and all recovered materials have been packaged for long term curation according to relevant guidelines.<sup>10</sup> The depositional requirements of the receiving body, in this case Doncaster Museum, will be met in full.
- 6.3.7 Data will be prepared for accession to the South Yorkshire Sites and Monuments Record.

<sup>9</sup> Watkinson and Neal, 1998; UKIC, 1983.

<sup>10</sup> UKIC, 1990.

## 7. THE ARCHAEOLOGICAL SEQUENCE

*Note: Discrete stratigraphic entities (e.g., a cut, a fill, a deposit) were assigned unique and individual 'context' numbers, and these are indicated in the following text as [\*]. The archaeological sequence has been described by broad stratigraphic 'phases' on a site-wide basis. These phases are indicated by Roman numerals (e.g., III). Within the phase summaries set out below, features and deposits are described in trench order. Figures 3-17 illustrate each trench in turn, and Figure 18 is a site-wide 'interpretative plan'.*

### 7.1 Phase I: Natural

- 7.1.1 The natural sub-stratum, comprising Quaternary glacial sands, was encountered in the base of all trenches investigated.
- 7.1.2 In Trench 1, the basal natural deposit comprised orange brown sand, [74], encountered at a maximum height of 5.65m OD. This was overlain by a deposit of slightly darker sand, [73], up to 0.41m thick, which appeared to have been subject to considerable bioturbation. There is some evidence, due to the clarity of the interface between layer [73] and the overlying topsoil, that this natural deposit may have been horizontally truncated, perhaps during landscaping of the immediate area.
- 7.1.3 A light brownish orange sand, [93], was encountered in a sondage at the south-eastern end of Trench 2A at a highest level of 3.30m OD. This was overlain by a deposit of light brownish grey silty sand, [92], up to 0.39m thick. Considerable bioturbation was also evident throughout this uppermost natural deposit.
- 7.1.4 In Trench 2B, the natural sub-stratum comprised light to mid greyish brown clayey sand, [96], encountered at a maximum height of 3.61m OD.
- 7.1.5 The earliest deposit encountered in Trench 3 consisted of light yellowish orange sand, [130], encountered at a highest level of 2.92m OD. At the south-eastern end of the trench, natural sand was truncated by the northern edge of an approximately NE-SW aligned linear feature, [129]. This measured 1.00m wide x 0.32m deep, extending across the trench, and its fill, [128], was a sterile sandy deposit. This feature has been interpreted as a palaeochannel, possibly of glacial origin. Sealing the putative palaeochannel was a silty sand layer, [127], 0.24m thick and encountered at a highest level of 3.28m OD, extending throughout the majority of the trench. This deposit was similar to that described above in Trenches 1 and 2A, and was probably a natural layer affected by bioturbation.
- 7.1.6 In Trench 4, the natural sub-stratum, [132], comprised light yellowish grey, brownish yellow and orange grey lenses of sand and clay, encountered at a maximum height of 3.34m OD.
- 7.1.7 The natural sequence in Trench 5 was similar to that of Trench 1. The earliest deposit encountered was pinkish brown sand, [117], occurring at a maximum height of 4.65m OD. This was overlain by greyish brown clayey silty sand, [116], up to 0.21m thick. As for suggested for Trench 1, it is likely that this natural deposit may have been horizontally truncated, perhaps during landscaping activity related to construction works for the Grammar School.

- 7.1.8 The basal sub-stratum encountered in Trench 6 consisted of light brownish yellow sand, [167], recorded at a maximum height of 3.01m OD. This deposit sloped down towards the western end of the trench, where it was partially overlain by a deposit of yellowish grey natural sand, [166], up to 0.46m thick. In the central area of the trench, a north-south aligned linear feature, [165], truncated deposit [167]. This feature measured 4.58m wide x 0.62m deep, extending across the trench, and its fill comprised sterile light bluish grey sandy clay, [164], with mid brownish yellow mottling. Although interpretation of this feature cannot be definite, the composition of the fill suggests it is likely to have been a palaeochannel.
- 7.1.9 The natural sub-stratum encountered in Trench 7 comprised mottled, light to mid orange and grey sand, [148], recorded at a maximum height of 1.93m OD.
- 7.1.10 In Trench 8, natural sand, [69], was light yellowish grey in colour with greyish orange mottling and was recorded at a maximum height of 2.03m OD.
- 7.1.11 The natural sub-stratum in Trench 9 consisted of light greyish yellow and brownish grey sand, [140], recorded at a recorded at a maximum height of 2.13m OD.
- 7.1.12 A sequence of natural glacial deposits was recorded in Trench 10. The earliest consisted of mid brownish orange sand, [85], encountered within a sondage in the central portion of the trench, recorded at a maximum height of 1.54m OD. This was sealed by brownish orange sandy clay, [83], 0.10m thick and recorded within the same sondage, in turn overlain by a similar orange brown clayey sand, [82], up to 0.12m thick and extending along the trench for a distance of c. 3.0m. In the south-western half of the trench, deposit [82] was partially overlain by a deposit comprising light yellowish grey sand, [81]. This extended for a distance of c. 20.0m along the trench and the maximum height at which it was recorded was 2.08m OD. In the north-eastern half of the trench, deposit [82] was partially overlain by light yellowish grey and mottled orange sand, [84]. This extended along the trench for a distance of 25.50m and the maximum height at which it was 1.88m OD. Deposits [81] and [84] were sealed by mid brownish grey clayey sand, [78], up to 0.24m thick and extending across the entire trench. The maximum height at which this latest natural deposit was recorded was 2.14m OD.
- 7.1.13 The natural sub-stratum in Trench 11, [3], comprised mid greyish brown clayey sand recorded at a maximum height of 2.05m OD.
- 7.1.14 The natural sub-stratum in Trench 12, [28], comprised light grey and orange brown sand, recorded at a maximum height of 1.71m OD.
- 7.1.15 In Trench 13, the natural sub-stratum comprised mid orange brown sand, [190], recorded at a maximum height of 7.12m OD.
- 7.1.16 The natural sub-stratum in Trench 14, [183], comprised mid reddish brown sand, recorded at a maximum height of 7.25m OD.

## **7.2 Phase II: Medieval Activity**

- 7.2.1 The earliest direct evidence of human activity recorded at the site dates from the medieval period, although residual finds dating to the Mesolithic or early Neolithic were also recovered (Appendices C and D).
- 7.2.2 At the north-western end of Trench 2A, a NE-SW aligned shallow linear feature, [91], extended across the trench. This measured 3.00m wide x 0.16m deep and has been interpreted as a plough furrow. The fill, [90], of the furrow comprised orange brown silty sand, from which a single sherd of 14<sup>th</sup>-15<sup>th</sup> century pottery was recovered. Approximately 8m to the south-east, a roughly parallel, shallow linear feature, [89], may represent another furrow, possibly part of the same field system. It was 1.38m wide x 0.11m deep and its fill, [88], was similar in composition to deposit [90]. No artefactual material was recovered from this feature. These plough furrows are interpreted as being of medieval date; the 8m spacing of the features being broadly typical of that expected for ridge and furrow derived from the medieval period.

## **7.3 Phase III: 17<sup>th</sup>-18<sup>th</sup> Century Activity**

- 7.3.1 Evidence for activity dating to the 17<sup>th</sup>-18<sup>th</sup> century was recorded towards the centre of the site in Trenches 3 and 4, and in the western part of the site in Trench 13.
- 7.3.2 A substantial feature, [126], was partially revealed towards the south-eastern end of Trench 3. It measured c. 7.40m N-S x 1.60m E-W, within the confines of the trench, and was 1.14m deep. The dimensions of the feature as exposed indicate that it was probably part of a large sub-circular feature, approximately 7.50m in diameter. It was filled with a sequence of grey and brown sands and clays, [125], [124], [123] and [122]. Of these, fill [122] produced a sherd of 17<sup>th</sup>-18<sup>th</sup> century pottery, along with a fragment of clay pipe stem, whilst a sherd of 18<sup>th</sup> century pottery was recovered from fill [123]. The location and dimensions of the feature suggest it may have been a dew pit, dug to allow the accumulation of drinking water perhaps for stock animals or working animals.
- 7.3.3 In Trench 4, a NNE-SSW aligned linear feature, [133], extended across the central area of the trench. This was 2.00m wide x 0.18m deep and is interpreted as a plough furrow. Its fill, [134], comprised mid greyish brown silty sandy clay, from which two sherds of pottery of 17<sup>th</sup>-18<sup>th</sup> century date were recovered. A second possible furrow, [135], was recorded in section c. 13.50m to the south and this was 0.18m deep. Its fill, [136], was of the same composition as deposit [134], and, therefore, reasonably the two features can be phased together.
- 7.3.4 A linear feature, [193], aligned approximately north-south, was encountered in the south-western half of Trench 13. It was 3.50m wide by 0.31m deep and its primary fill, [192], comprised dark greyish brown silty sand, [192]. Twelve sherds of pottery, dating mainly to the 17<sup>th</sup>-18<sup>th</sup> century with some residual medieval material and two fragments of clay pipe, were recovered from this fill. Four sherds of similar 17<sup>th</sup>-18<sup>th</sup> century pottery were recovered from the upper fill, [191]. The profile and dimensions of this feature indicate that it was most likely a plough furrow.

- 7.3.5 Approximately 0.80m to the south-west of, and parallel to, the furrow in Trench 13 was a linear feature, [197]. It measured c. 1.60m wide x 1.05m deep and had steep sides and a flat base. It was filled with brown sands, [196] and [195], with the latest fill comprising greyish brown silty sand, [194]. Nine sherds of pottery dating from the 16<sup>th</sup>-18<sup>th</sup> century along with two fragments of undated clay pipe stem were recovered from the primary fill, [196]. The function of the feature is uncertain, although the profile and dimensions indicate that it may have been a drainage ditch, possibly relating to the same field system of which the aforementioned furrow was a part. Alternatively it may have been a boundary delineation.
- 7.3.6 Both linear features in Trench 13 had been truncated by a substantial sub-rectangular pit, [189]. This had irregular sides and measured c. 3.50m x 0.85m, continuing beyond the limit of excavation. It was excavated to a maximum depth of 0.85m, but it was not possible to fully excavate the pit due to Health and Safety considerations. The pit contained a sequence of sandy fills, [186]-[188], along with a distinctive light yellowish brown fine silt deposit, [185]. Two fragments of clay pipe were recovered from fill [188]. A similar, steep-sided pit, [205], was encountered in the central area of Trench 13, continuing beyond the north-eastern limit of excavation. The pit was irregular in shape in plan and measured c. 3.0m x 1.40m, continuing beyond the edge of the trench, and was in excess of c. 1.0m deep. A series of unremarkable sand and silty fills, [199]-[204], were recorded, along with a silt deposit, [198], similar to [185] in pit [189]. Fills [199] and [203] produced small assemblages of pottery largely dating from the 17<sup>th</sup>-18<sup>th</sup> century, along with a few fragments of residual medieval material. Although interpretation of these pits cannot be definite, as they were only partially exposed within the limits of the trench, their profiles and dimensions indicate that they may have been rubbish pits. They are likely to have been associated with settlement in the immediate vicinity during 17<sup>th</sup>-18<sup>th</sup> century.

#### **7.4 Phase IV: Later Post-medieval Agricultural and Land Management Activity**

- 7.4.1 Evidence of later post-medieval agricultural and land management activity was recorded across the site. Many of these features did not produce dating evidence, but have been assigned to this broad phase of activity on the basis of feature form, probable function or stratigraphic position.
- 7.4.2 In Trench 2A, a single layer of mid orange brown silty sand, [87], extended across the whole of the trench and was up to 0.26m thick. This was encountered at a maximum height of 3.86m OD, sealing the Phase II plough furrows, and has been interpreted as a post-medieval ploughsoil. A single fragment of post-medieval glass was recovered from this deposit.
- 7.4.3 Towards the south-eastern end Trench 2B, a narrow linear feature, [111], was recorded, terminating within the confines of the trench. This extended 0.52m into the trench from the south-western edge and was 80mm deep. The ephemeral nature of the feature meant that it was uncertain whether it originally terminated in this area or whether it had been ploughed out by later agricultural activity. Interpretation of this feature cannot be definite, but it may have been a drainage gully. It was sealed by a mid greyish brown clayey sand layer, [95], up to 0.26m thick, which extended across the trench and was recorded at a maximum height of 3.77m OD. This deposit has been interpreted as a ploughsoil of post-medieval or earlier origin.

- 7.4.4 A number of features truncated deposit [95]. A NE-SW aligned linear feature, [113], with moderately steep sides and a concave base was encountered in the central area of the trench. This measured 0.75m wide x 0.37m deep and was recorded at a maximum height of 3.73m OD. Its fill, [114], comprised greyish brown and orange brown mottled silty sand, from which two sherds of 18<sup>th</sup>–19<sup>th</sup> century pottery were recovered. A similar, parallel feature, [109], measuring 0.75m wide x 0.51m deep, was located 4.30m to the south-east. These features are interpreted as possible drainage ditches.
- 7.4.5 At the south-eastern end of Trench 2B, a linear feature, [97], was partially visible extending beyond the limits of excavation. It had visible dimensions of 0.88m wide x 0.47m deep and was aligned approximately parallel to ditches [113] and [109]. A small assemblage of post-medieval building material was recovered from this feature. Although the full width of this feature was not visible, its profile indicates that it would have been considerably wider than the ditches to the west. Its function remains unclear, but it is possible that it represents a post-medieval field boundary, possibly associated with the putative drainage ditches [113] and [109].
- 7.4.6 A series of small postholes, [97], [99], [101], [103], [105] and [107], encountered along the north-western edge of feature [97], have been interpreted as a fenceline, perhaps with some repair, along the edge of the possible boundary ditch.
- 7.4.7 In the north-western half of Trench 3, a shallow, semi-circular pit, [121], was recorded measuring c. 1.80m x 0.65m, extending beyond the south-western limit of the trench. It was 0.18m deep and its fill, [120], comprised light brownish grey silty sand. Its function was not ascertained. A yellowish brown sandy layer, [119], was recorded overlying these features. This was recorded at a maximum height of 3.24m OD and extended 20.70m along the trench up to a maximum thickness of 0.18m. The deposit has been interpreted as a ploughsoil of post-medieval or earlier origin.
- 7.4.8 In Trench 6, the palaeochannel and natural sub-stratum were overlain by a deposit of mid yellowish brown silty clayey sand, [154]. This was up to 0.10m thick and was recorded at a maximum height of 3.34m OD. It is interpreted as a ploughsoil of post-medieval or earlier origin. In the absence of any dating evidence, it has been assigned to Phase IV. This deposit was truncated by a linear north-south aligned feature, [163], 3.40m wide x 0.34m deep. Its fill, [162], comprised mid greyish brown clayey sand. This feature is interpreted as a plough furrow, part of a wider ridge and furrow field system. Approximately 5.50m to the east, at the eastern limit of the trench, a parallel linear feature, [157], was encountered extending beyond the edge of excavation. It had a visible width of 1.54m and was 0.36m deep and was filled with a greyish brown clayey silty sand, [156]. This feature is interpreted as the western side of a furrow. Furrow [163] was truncated by a north-south aligned field drain, [161]; it is likely that the drain was deliberately inserted along the line of the furrow to improve drainage. The 'hollow' of the earthwork, [159], was then backfilled, [158], or ploughed flat, after the insertion of the drain. A NNW-SSE aligned feature, [153], was encountered to the west. This measured 0.96m wide x 0.50m deep and had a stepped south-western edge, near vertical eastern edge and a slightly concave base. A similar north-south aligned feature, [151], was recorded at a distance of c. 6.50m to the east and this measured 0.56m wide x 0.16m deep. Although the function of features [153] and [151] is not certain, it is possible that they were drainage or boundary ditches of post-medieval date.

- 7.4.9 A linear NE-SW aligned feature, [145], was located towards the south-eastern end of Trench 7. It measured 2.50m wide x 60mm deep and its fill, [144], comprised mid brown silty sand. This feature is interpreted as a possible plough furrow, presumably subject to horizontal truncation through later ploughing activity. A mid brown silty sand layer, [143], up to 0.20m thick was encountered extending across the entire length of the trench, recorded at a maximum height of 2.05m OD. This was sealed by a mid greyish brown clay layer, [142], up to 0.28m thick. It is possible that both layers represent post-medieval ploughsoil, although the high clay content of layer [142] suggests that it was deposited following an episode of flooding. Truncating layer [142] in the central area of the trench was a circular pit, [147]. It extended beyond the north-eastern limit of the trench, although the majority was exposed within the limits of excavation, and measured 0.90m x 0.70m x 0.69m deep. The precise function of feature was not ascertained.
- 7.4.10 In Trench 8, the natural sub-stratum was overlain by a layer, [68], comprising mid brownish grey silty clay up to 0.38m thick. This extended across the entire trench and was recorded at a maximum height of 2.33m OD. The layer has been interpreted as post-medieval ploughsoil.
- 7.4.11 The natural sub-stratum in Trench 9 was overlain by a 0.20m thick layer, [139], comprising mid greyish brown clayey sand, encountered at a maximum height of 2.33m OD. This was sealed by a layer of brownish grey sandy clay, [138], with brownish orange mottling, up to 0.20m thick. This layer had a similar appearance to layer [143] in Trench 7, and may also have been deposited following an episode of flooding.
- 7.4.12 In Trench 10, the natural sub-stratum was overlain by a 0.24m thick layer, [77], comprising brownish grey sandy clay with orange mottling. This extended across the trench and the maximum height at which it was recorded was 2.40m OD. As with the similar deposits encountered in Trenches 7 and 9, it is possible that this layer was deposited during an episode of flooding during the post-medieval period. In the central area of the trench, a single posthole, [80], was encountered. It measured 0.14m x 0.12m x 0.32m deep and produced no artefactual evidence.
- 7.4.13 In the south-western half of Trench 11, a discrete deposit of light greyish brown silty sand, [66], had accumulated in a shallow, irregular hollow, measuring 1.10m x 0.92m, in the underlying natural. It is possible that this deposit represents the remnants of a truncated ploughsoil. To the north-east, the natural sub-stratum was overlain by a layer, [2], comprising mid greyish brown clayey sand, recorded in section extending across the north-eastern end of the trench. This was up to 0.12m thick and was recorded at a maximum height of 2.07m OD. This layer has also been interpreted as a ploughsoil developed during post-medieval land use. A NW-SE aligned linear feature, [24], was recorded in the south-western half of the trench. It measured 0.62m wide x 0.14m deep and was filled with a greyish brown clayey silt, [25]. Interpretation of this feature is not certain, but it may have been a field boundary or perhaps a drainage ditch.
- 7.4.14 A circular feature, [4], which measured 0.26m x 0.20m x 0.27m deep, was recorded in the north-eastern end of Trench 11. A similar feature, [16], was located in the south-western half of the trench, measuring 0.26m x 0.14m x 0.18m deep. These features may have been postholes.

- 7.4.15 In the south-western end of Trench 11, field boundary [24] was truncated by a field drain, [6]. This was aligned NW-SE and measured 0.20m wide x 0.39m deep. A similar, parallel field drain, [8], was located c. 1.50m to the north-east. On the same alignment in the central area of the trench was another field drain, [12]. An ENE-WSW aligned field drain, [14], was recorded in the north-eastern end of the trench. A shallower linear feature, [10], was recorded on the same alignment in the south-western half of the trench. It did not contain drain pipes and either the pipes had been removed as the drain fell into disuse, or it may have been a mole drain.
- 7.4.16 At the south-western end of Trench 12, the edge of an approximately NW-SE aligned linear feature, [27], was encountered extending beyond the limits of the trench. It was in excess of 0.36m wide, with only its north-eastern edge visible, and at least 0.20m deep. Due to the limited area of the feature visible within the trench, it was not possible to ascertain its function. A NW-SE aligned linear feature, [32], was located c. 0.80m to the north-east and this measured 2.22m wide x 0.32m deep. This has been interpreted as a continuation of the existing field boundary which marks the north-eastern boundary of the site and probably also served as a drainage ditch. The feature is shown on the 1825 Enclosure map, extending through the location of the trench, although it is uncertain to what extent the ditch predates this map.
- 7.4.17 Ditch [32] truncated a posthole, [71], which measured 0.40m x 0.28m x 0.22m deep. This may have been related to the construction of the ditch, perhaps holding a post marking the route of the ditch before excavation began. The ditch was truncated by a field drain, [30]. This would have allowed the previously open drain to be filled in and levelled, probably in advance of the laying out of playing fields during construction of the Grammar School.
- 7.4.18 A slightly curved, linear feature, [58], was encountered in the north-eastern portion of Trench 12. This measured 6.20m in length x 0.50m wide and was aligned approximately NE-SW. It had a rounded north-eastern terminal, a truncated south-western terminal, irregular sides and an uneven base. Its sandy fill, [57], produced four fragments of post-medieval ceramic building material. This feature was truncated by postholes [54], [56] and [60], part of a group, [34]-[42], [48]-[52] and [62] (even numbers), which formed a possible double line of posts aligned approximately NE-SW. Fills [37] and [41] each produced a single sherd of 19th century pottery, whilst fill [51] produced four fragments of post-medieval ceramic building material. The NE-SW alignment of the linear feature and the posthole arrangement, parallel to the present boundary to the south-east, and proximity to the boundary, suggests that they represent former boundary features. The similarity between the fills of the features broadly suggests that they were contemporary. It is possible that the curvi-linear feature may have marked the position of a former hedge-line. Two small, sub circular features, [44] and [46], recorded in the trench have been interpreted as root disturbance.
- 7.4.19 Three sub-circular features, [170], [172] and [174], were located towards the south-eastern end of Trench 14, forming an approximately NW-SE alignment. These features – presumably postholes - measured between 0.32m x 0.30m and 0.48m x 0.37m, with a maximum depth of 0.12m. The silty fills, [169], [171] and [173], respectively, were generally unremarkable; fill [169] produced a single fragment of post-medieval ceramic building material. At the north-western end of the alignment of postholes, a sub-oval pit, [176], was recorded. It measured 1.04m x 0.68m x 0.08m deep and had a silty fill, [175].

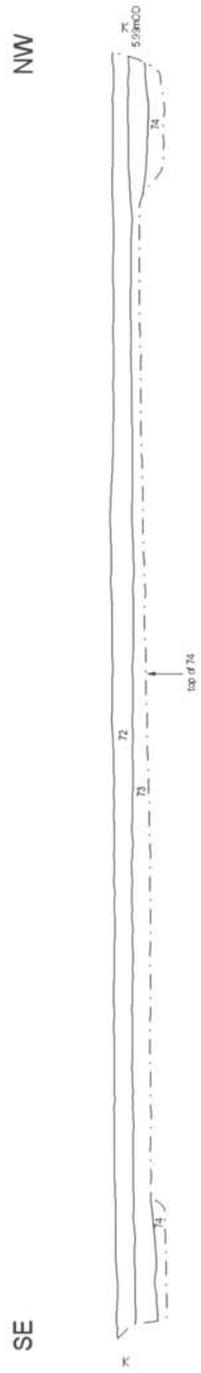
7.4.20 Further to the north-west in Trench 14, an irregular, elongated pit, [178], aligned approximately NW-SE, was recorded. It measured 2.18m x 0.50m x 90mm deep and had a sandy silt fill, [177], from which three sherds of post-medieval pottery were recovered. A short distance from the pit was a small posthole, [180], which measured 0.25m x 0.19m x 50mm deep. Its sandy silt fill, [179], produced a single fragment of post-medieval ceramic building material. In the north-western half of the trench, was a large posthole or small pit, [182], which measured 0.60m x 0.48m x 0.13m deep. It was filled with a dark greyish brown sandy silt, [181]. It is possible that all of the features in this trench were contemporary and may have been associated, possibly forming a NW-SE aligned fenceline of post-medieval date. However, the irregular and shallow nature of some of the features also suggests that some were the result of plant root action.

## 7.5 Phase V: Modern

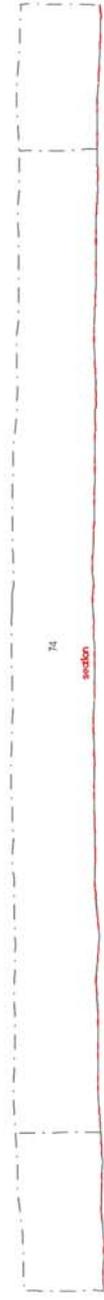
7.5.1 Turf and topsoil was present in each of the trenches investigated, forming the modern ground surface, and the relevant deposits are summarised below.

Trench	Turf & Topsoil Context Nos.	Thickness
1	[72]	0.35m
2A	[86]	0.36m
2B	[94]	0.33m
3	[118]	0.35m
4	[131]	0.35m
5	[115]	0.29m
6	[149]	0.34m
7	[141]	0.32m
8	[67]	0.12m
9	[137]	0.24m
10	[75], [76]	0.10m, 0.25m
11	[1], [21]	0.25m, 0.10m
12	[63]	0.35m
13	[184]	0.50m
14	[168]	0.25m

7.4.2 The uniform nature of the topsoil across the site suggest that substantial ground levelling and landscaping was undertaken across the area of the playing fields and the tennis court area (where Trenches 13 and 14 were situated). In Trenches 1 and 5, the extent of this landscaping activity may have been such that all sub-surface deposits were horizontally truncated down to the level of the underlying natural sub-stratum.



Trench 1. NE facing section.



Trench 1. Plan.



Figure 3. Trench 1, plan and section  
Scale 1:150

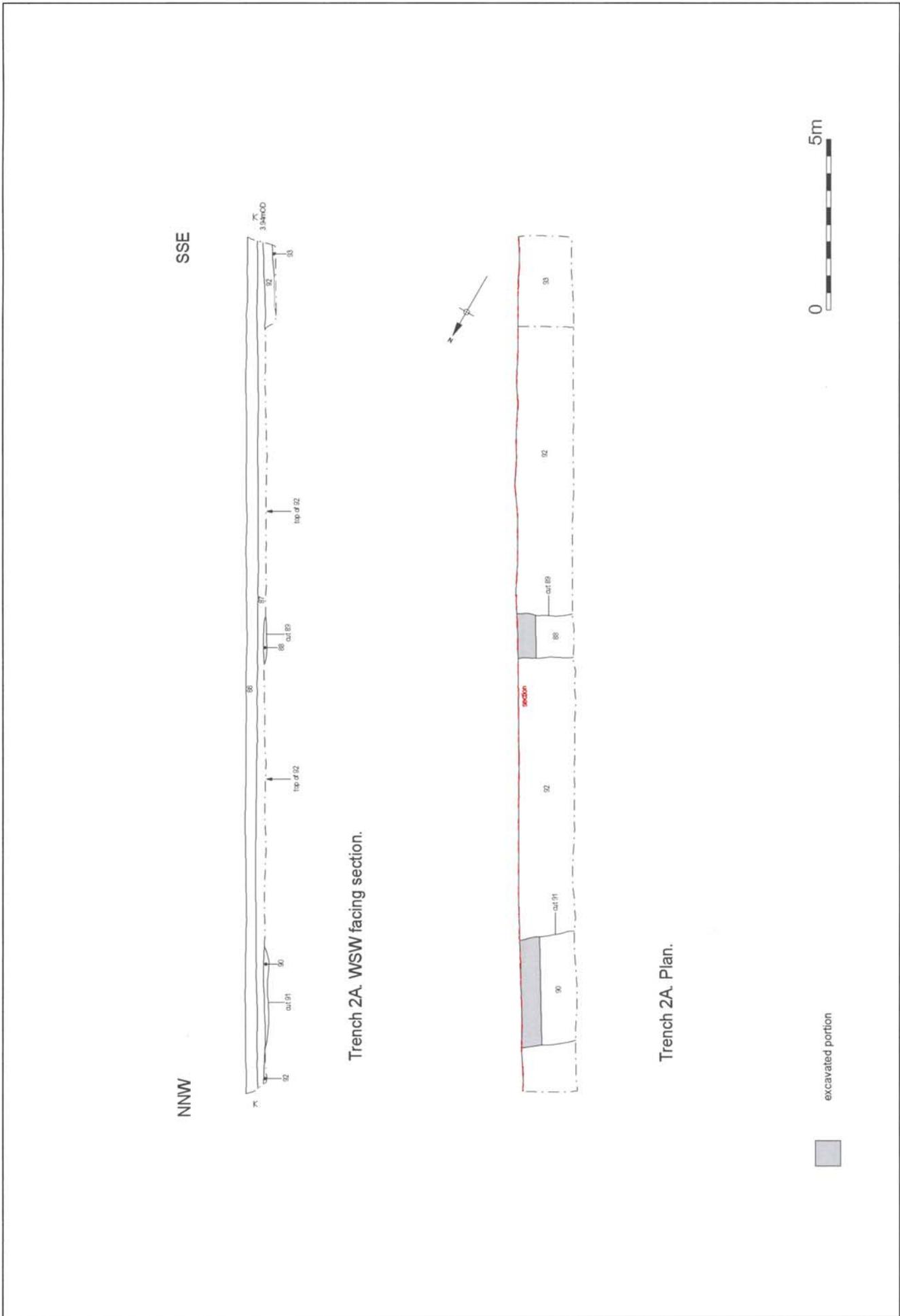


Figure 4. Trench 2A, plan and section  
Scale 1:150

SSE

NNW



Trench 2B, ENE facing section.



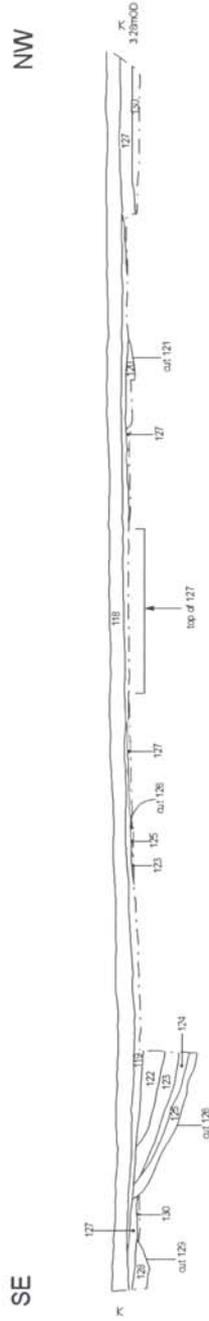
Trench 2B, Plan.



excavated portion



Figure 5. Trench 2B, plan and section  
Scale 1:150



Trench 3, NE facing section.

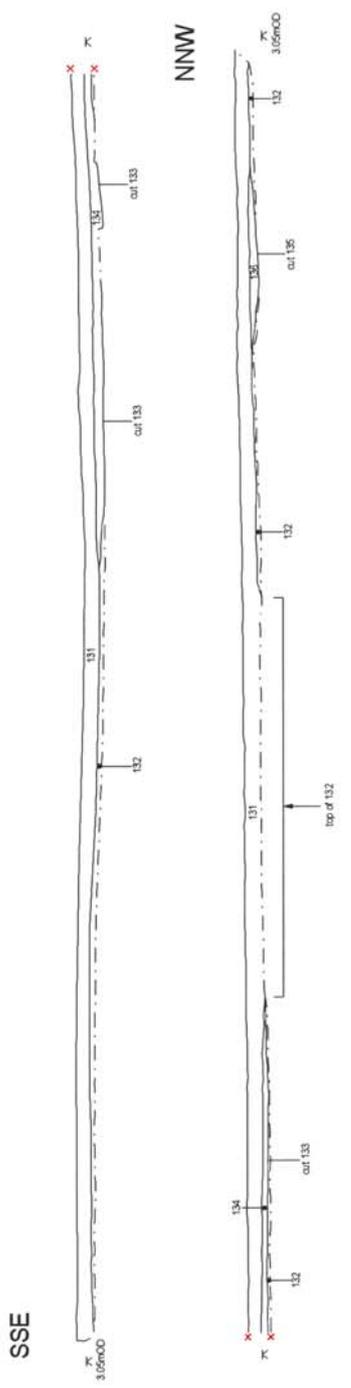


Trench 3. Plan.

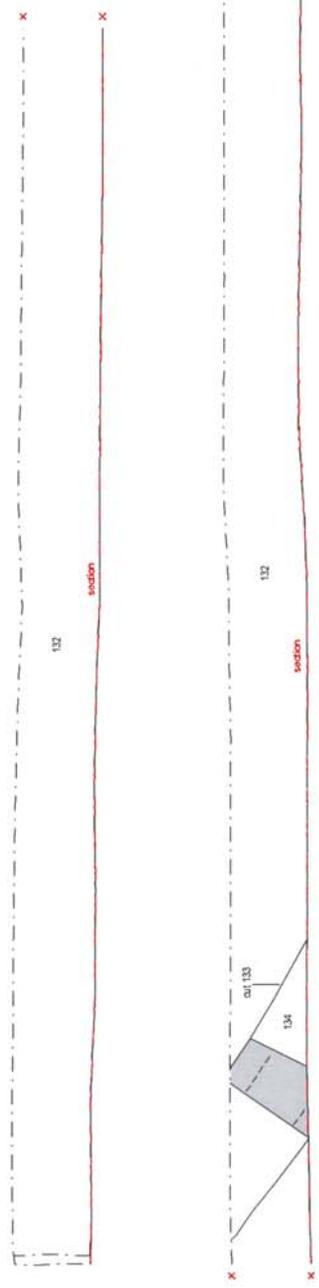


excavated portion

Figure 6. Trench 3, plan and section  
Scale 1:150



Trench 4, ENE facing section.



Trench 4, Plan.

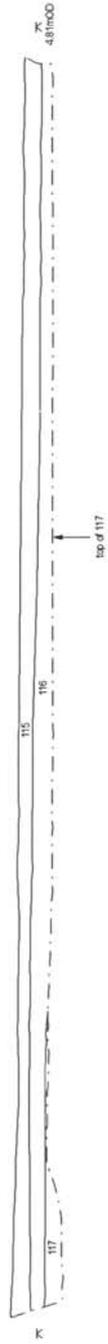


excavated portion

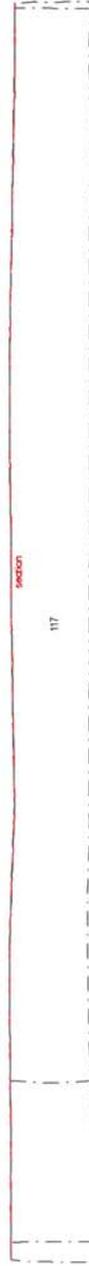
Figure 7. Trench 4, plan and section  
Scale 1:150

NNW

SSE



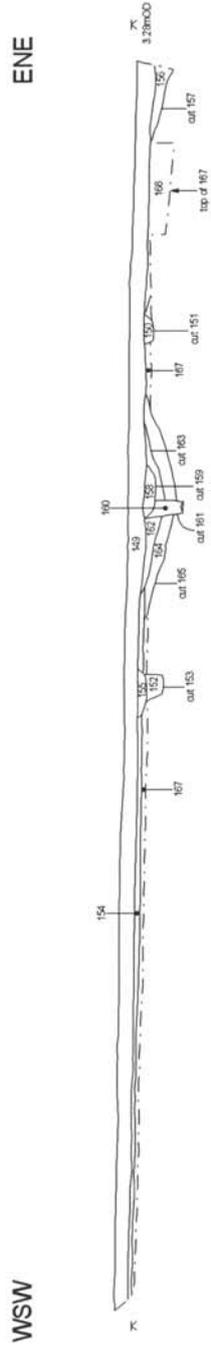
Trench 5. WSW facing section.



Trench 5. Plan.



Figure 8. Trench 5, plan and section  
Scale 1:150



Trench 6. SSE facing section.



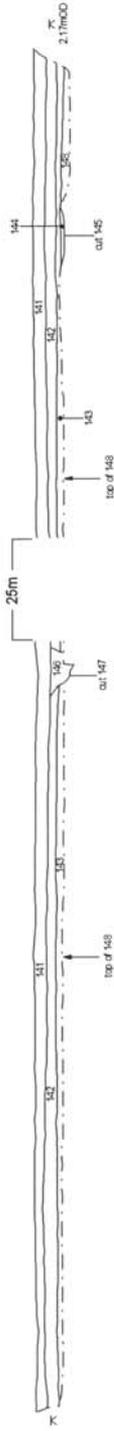
Trench 6. Plan.



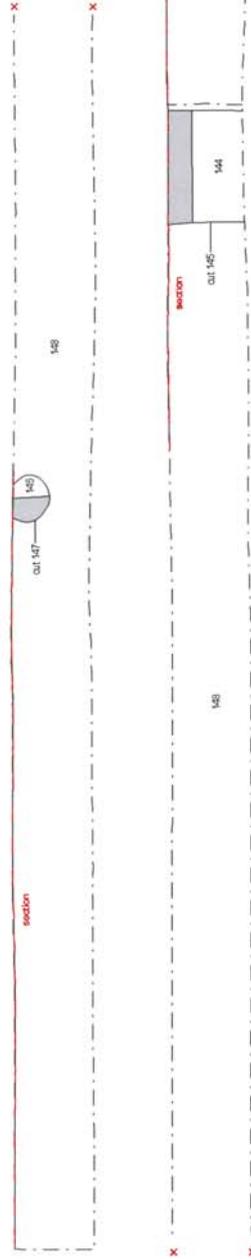
Figure 9. Trench 6, plan and section  
Scale 1:150

NNW

SSE



Trench 7. SSW facing section.



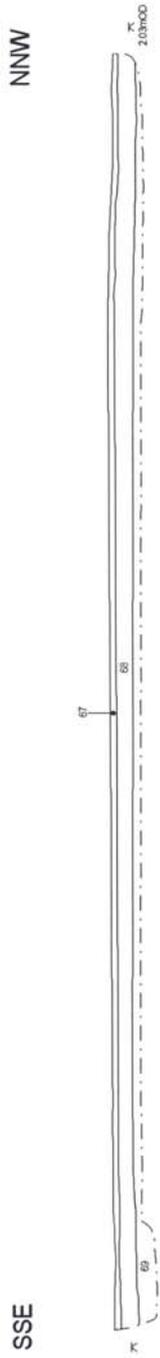
Trench 7. Plan.



excavated portion



Figure 10. Trench 7, plan and section  
Scale 1:150



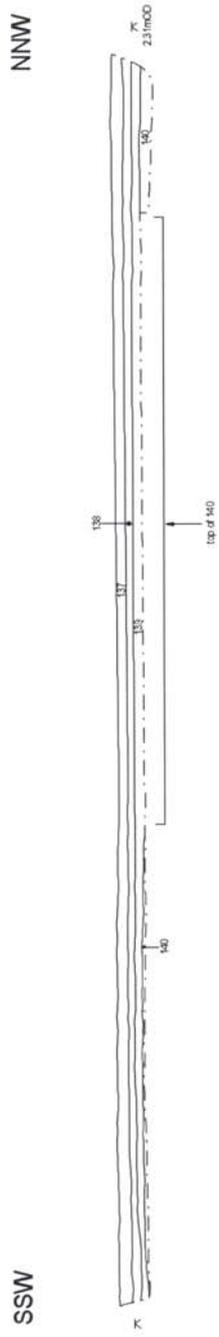
Trench 8. ENE facing section.



Trench 8. Plan.



Figure 11. Trench 8, plan and section  
Scale 1:150



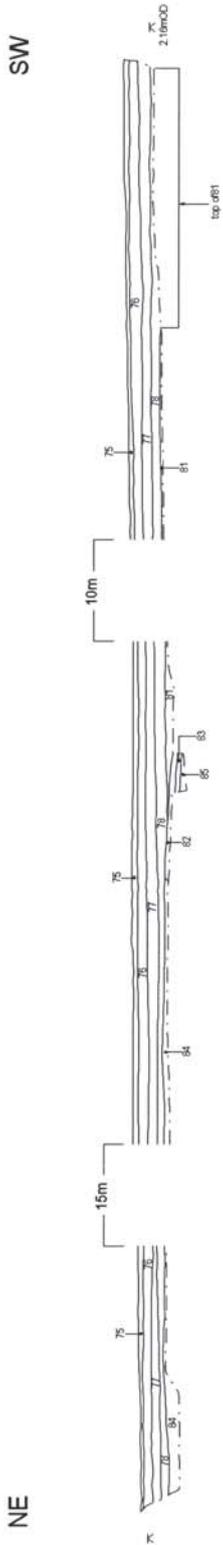
Trench 9. ENE facing section.



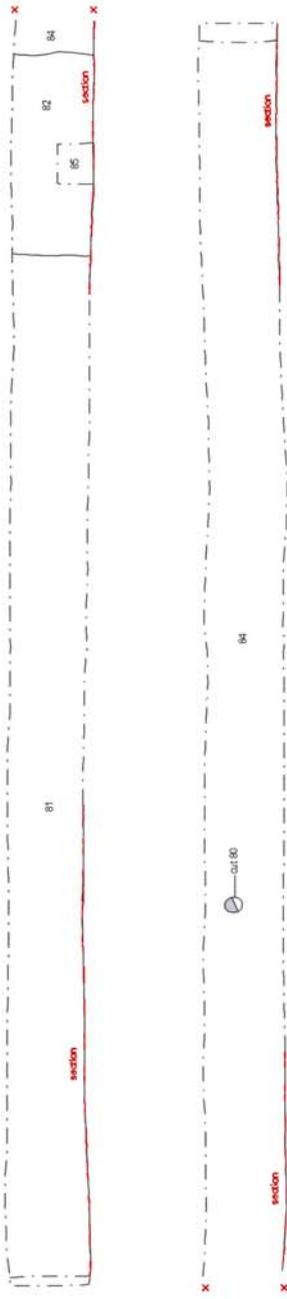
Trench 9. Plan.



Figure 12. Trench 9, plan and section  
Scale 1:150



Trench 10. NW facing section.

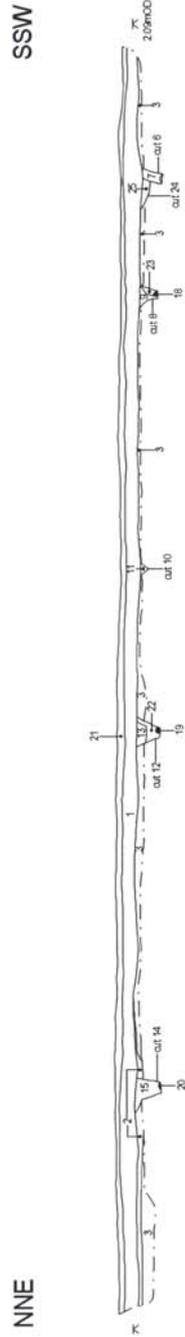


Trench 10. Plan.

excavated portion



Figure 13. Trench 10, plan and section  
Scale 1:150



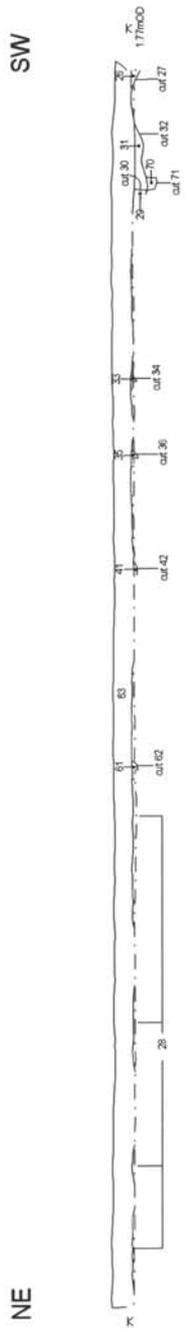
Trench 11. WNW facing section.



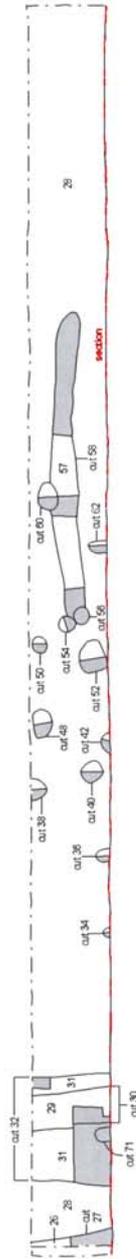
Trench 11. Plan.



Figure 14. Trench 11, plan and section  
Scale 1:150



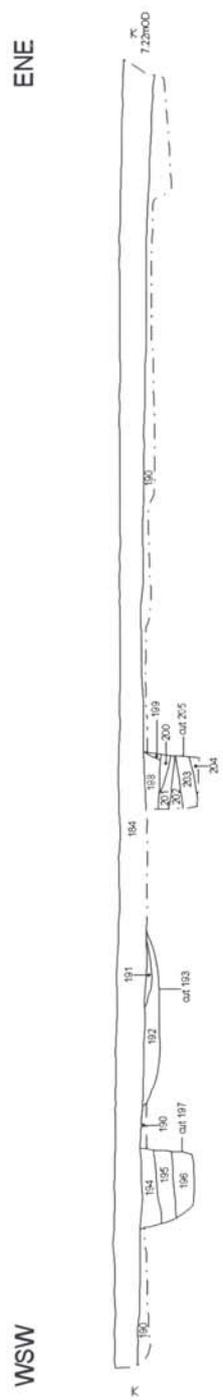
Trench 12. NW facing section.



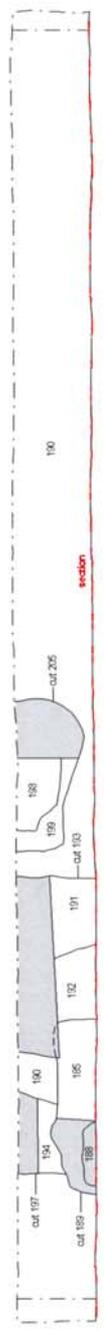
Trench 12. Plan.



Figure 15. Trench 12, plan and section  
Scale 1:150



Trench 13, NNW facing section.



Trench 13, Plan.



excavated portion

Figure 16. Trench 13, plan and section  
Scale 1:150

SSE

NNW



Trench 14. NNE facing section.



Trench 14. Plan.



excavated portion



Figure 17. Trench 14, plan and section  
Scale 1:150

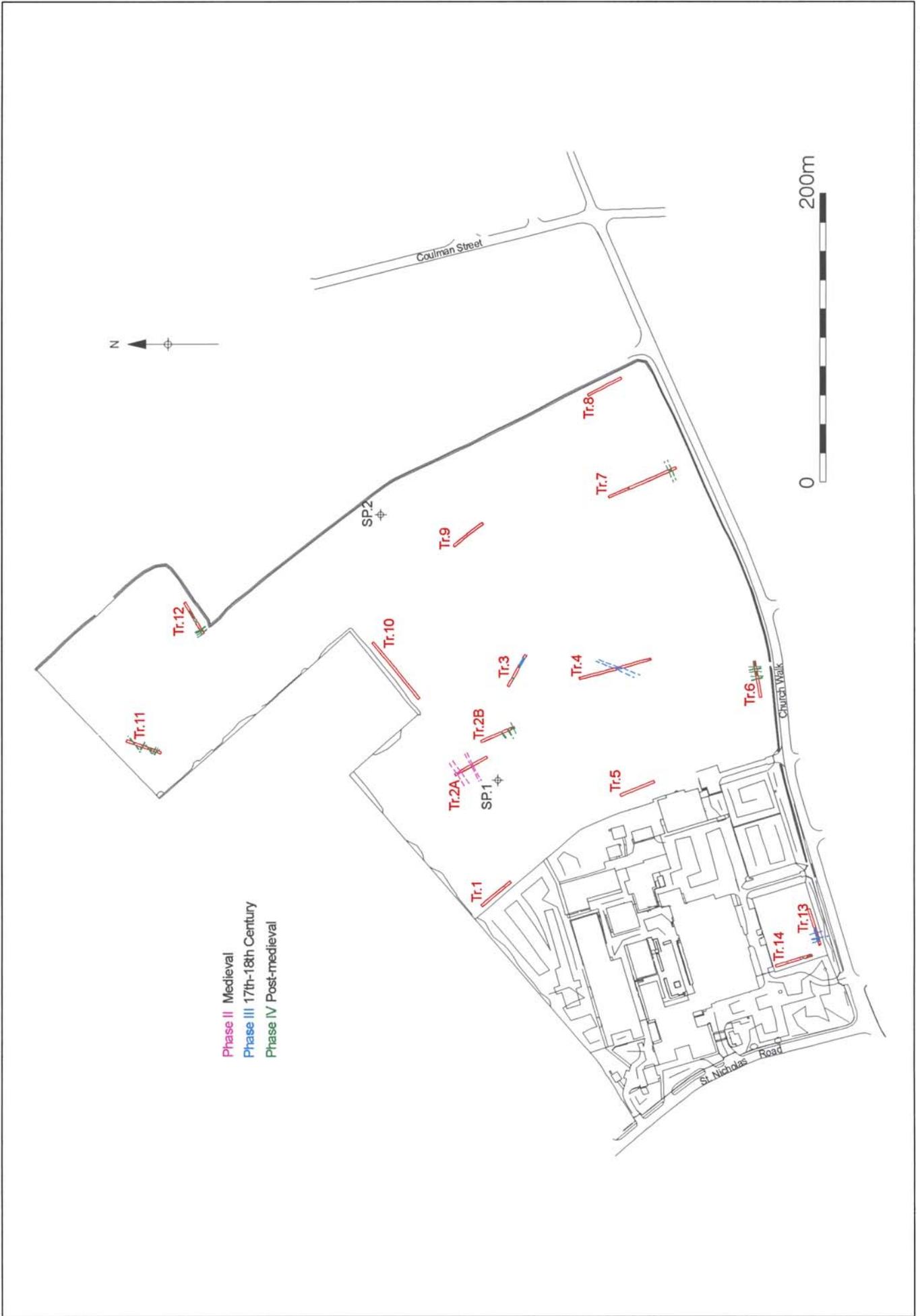


Figure 18. Interpretative plan.

## 8. CONCLUSIONS

### 8.1 Conclusions: the Archaeological Resource

- 8.1.1 The archaeological investigations at Thorne Grammar School encountered evidence for archaeological activity from the medieval and post-medieval periods, along with residual finds dating to the prehistoric period.
- 8.1.2 Trench 1 was a judgement trench located in the higher ground in the north-western portion of the site. No archaeological features were encountered in this trench.
- 8.1.3 Trenches 2A and 2B were staggered due to the presence of a running track. Trench 2B was sited to investigate possible parallel NE-SW aligned field boundary features identified by geophysical survey. Trench 2A was sited to investigate the area to the north. Two NE-SW aligned features, interpreted as probable medieval plough furrows, were recorded in Trench 2A. In Trench 2B, natural sub-stratum was truncated by two NE-SW aligned features, interpreted as post-medieval field boundary or drainage ditches. These can reasonably be correlated with the geophysical anomalies that the trench was sited to test.
- 8.1.4 Trench 3 was sited to the south-east of Trench 2B to investigate two possible pits identified by geophysical survey. A substantial feature recorded at the southern end of the trench produced 17<sup>th</sup>–18<sup>th</sup> century pottery. Although interpretation cannot be certain, it is probable that this may have been a dew pond (to provide stock with a water source). A less substantial feature, from which no dating evidence was recovered, was located at the northern end of the trench; and may have been associated with post-medieval use of the site. The two features could have been the source of the geophysical anomalies.
- 8.1.5 Trench 4 was sited to investigate two possible NE-SW and east-west aligned field boundaries or ditches, as detected by the geophysical survey. The location of this trench was restricted by adjacent sports pitches; originally, it had been sited to investigate the junction of the two linear features. Two shallow NNE-SSW aligned features were recorded and these were interpreted as plough furrows. Pottery dating from the 17<sup>th</sup>–18<sup>th</sup> century was recovered from one of the furrows. One of these features may have been the source of the NE-SW orientated geophysical anomaly.
- 8.1.6 Trench 5 was a judgement trench sited to evaluate the higher ground in the central western portion of the site. No archaeological features were encountered in this trench.
- 8.1.7 Trench 6 was sited in the south-western part of the playing fields to investigate a possible NE-SW aligned field boundary/ditch. The location of this trench was restricted by adjacent sports pitches. Two north-south aligned features were encountered, and these are interpreted as post-medieval plough furrows. A north-south aligned field drain was also recorded, truncating what appeared to be a plough furrow on the same alignment. One of these features is likely to have been the source of the geophysical anomaly. At the eastern end of the trench another possible furrow was recorded, continuing beyond the eastern limit of excavation.
- 8.1.8 Trench 7 was sited to section probable ridge and furrow identified by geophysics. One possible NE-SW aligned plough furrow was recorded.

- 8.1.9 Trench 8 was a judgement trench sited to evaluate the low-lying ground in the south-eastern portion of the site. No archaeological features were encountered.
- 8.1.10 Trench 9 was sited in the central portion of the site to investigate an area of potential archaeological activity identified by geophysical survey. No features were encountered in this trench and the precise origin of the geophysical anomalies remains unproven; surface or topsoil debris may have been the cause.
- 8.1.11 Trench 10 was located -on a judgement basis - in the central northern part of the site beyond the area of the geophysical survey. One posthole of post-medieval date was recorded in this trench.
- 8.1.12 Trench 11 was sited in the extreme northern corner of the site to investigate parallel NW-SE aligned geophysical anomalies. Three post-medieval ceramic drains, aligned NW-SE, were recorded. These features are likely to have been the source of the geophysical anomalies. Two ENE-WSW aligned linear features were also encountered, one being a field drain, the other has been interpreted as a drainage feature.
- 8.1.13 Trench 12 was sited to investigate a NE-SW aligned former field boundary. A ditch aligned NW-SE - interpreted as a field boundary – was located, and another possible boundary ditch was recorded on the same alignment. A series of 12 posts, aligned approximately NE-SW, were interpreted as forming part of a post-medieval fenceline. A shallow irregular curvi-linear feature was also recorded; its form suggests it may have the location of a former hedge-line.
- 8.1.14 Trench 13 was located to investigate the south-western portion of the site, on a tennis court to the south of the school buildings. A north-south aligned linear feature, from which 16<sup>th</sup>–18<sup>th</sup> century pottery was recovered along with a small quantity of residual medieval pottery, has been interpreted as a possible drainage or boundary ditch. A wide, shallow feature on the same alignment has been interpreted as a plough furrow, and pottery from the 17<sup>th</sup>–18<sup>th</sup> century was recovered from this feature. These linear features were both truncated by a substantial pit and to the north-east was another pit, from which pottery largely dating from the 17<sup>th</sup>–18<sup>th</sup> century, along with some residual medieval material, was recovered. Although it was not possible to fully excavate these pits due to Health and Safety considerations, it is considered that they are likely to have been rubbish pits associated with occupation of the area in the 17<sup>th</sup>–18<sup>th</sup> century.
- 8.1.15 Trench 14 was also situated on the tennis court to the south of the school buildings. Natural sub-stratum was truncated by a series of features thought to be caused by root or animal disturbance. These comprised six small irregular features and one larger irregular linear feature.
- 8.1.16 In summary, the geological and archaeological deposits encountered at the site have been assigned to five broad phases of activity:

- **Phase I: Natural**

The natural sub-stratum, comprising Quaternary glacial sands, varied little across the site, consisting of layers of moderate to light grey and brown sand and sandy clays. The maximum height at which the natural sub-stratum was encountered mirrored the topography of the site with the highest level of 7.25m OD occurring in the most westerly trench, Trench 14, and the lowest level of 1.71m OD occurring in Trench 12 in the north-east. There was some evidence that the natural deposits on the higher ground, particularly in Trenches 1 and 5, had been horizontally truncated by modern ground levelling and landscaping activities, presumably related to the establishment of the school playing fields.

The edge of a possible palaeochannel, aligned approximately NE-SW, was encountered at the extreme south-eastern end of Trench 3. In Trench 6, a possible north-south aligned palaeochannel was recorded towards the centre of the trench.

- **Phase II: Medieval**

The results of the archaeological investigations demonstrated that the site was probably unlikely to have been utilised for actual habitation during the medieval period. Evidence for medieval agricultural activity was recorded in Trench 2A, where two NE-SW aligned furrows were located 8m apart - a spacing broadly indicative of medieval ridge and furrow - and a fragment of medieval pottery was recovered from one of the furrows. Although this trench was not located within the highest part of the site - natural sand was recorded at 3.30m OD - it was notably higher than the marginal land to the east. Since the limited extent of raised ground available to the inhabitants of the town would have severely restricted arable production, it seems certain that at least some of the site would have been utilised for this means, and some evidence for this is provided by the plough furrows recorded in Trench 2A.

It is likely that the marginal eastern part of the study site would have offered good access to the low-lying marshland, which would also have been utilised as summer pasture for stock. However, no archaeological remains dating from the medieval period were recorded in the trenches investigated in this part of the site.

- **Phase III: 17<sup>th</sup>-18<sup>th</sup> Century**

Evidence for agricultural activity dating from this period was recorded towards the centre of the site. A NNE-SSW aligned plough furrow, from which pottery dating from the 17<sup>th</sup>-18<sup>th</sup> century was recovered, was recorded in Trench 4. A similar feature was recorded in section. A large pit in Trench 3, from which 17<sup>th</sup>-18<sup>th</sup> century pottery was recovered, has been interpreted as a possible dew pond, dug to provide a small watering hole perhaps for stock animals, such as cows or sheep, or working animals, such as horses. Such an interpretation may suggest that the site was utilised for mixed-use agriculture during this phase, although in a pre-mechanised agricultural era, a watering hole for horses used in ploughing is an alternate interpretation.

Significant archaeological remains dating from this period were recorded in the south-western part of the site in Trench 13. A substantial ditch was recorded running parallel to what appeared to be a plough furrow on a NNW-SSE alignment. The ditch has been interpreted as a possible drainage or field boundary feature. There is no indication of any boundary or ditch in that location on the 1825 Enclosure map, or later plans, and it is therefore assumed that the ditch pre-dates the mid 19<sup>th</sup> century. The pottery assemblage recovered from the ditch indicates a 17<sup>th</sup>-18<sup>th</sup> century date, and it is suggested that the ditch and the furrow are contemporary. Two substantial pits, possibly rubbish pits, were encountered in this trench and one of these produced an assemblage of 17-18<sup>th</sup> century pottery. The presence of these features, along with the pottery assemblage recovered, indicates some form of occupation in the vicinity during this period, possibly centred on the remains of Peel Hill motte to the west.

- ***Phase IV: Later post-medieval***

Evidence for post-medieval agricultural and land management activity was encountered across the majority of the site. Geophysical survey had indicated that a ridge and furrow field system was present and this was confirmed by the trial trenching. The bases of truncated furrows were identified in Trenches 4, 6, 7 and 13. These suggest a system of approximately north-south aligned furrows in the southern central area of the site and NE-SW aligned furrows in the central and eastern parts of the site.

Buried soil horizons assigned to this phase were recorded in Trenches 2B, 6 and 11. The deposit in Trench 6 pre-dated the furrows, while elsewhere the deposits appeared to post-date the furrows. It is possible that these deposits represent short periods when the land had been left fallow, perhaps as a deliberate attempt to let heavily exploited marginal land recover, or it may suggest a change of usage from arable to pastoral farming. Later post-medieval activity at the site would have encompassed the period of Enclosure, with the abandonment of the open field system.

As one might expect for this marginal site, numerous field drains were encountered; in Trenches 2B, 6, 11 and 12. In Trench 6 it appears that a field drain was inserted along the line of an existing furrow.

Probable later post-medieval soils were encountered in Trenches 2A, 3, 7, 8, 9 and 10. An accumulation in each of Trenches 7, 9 and 10 may have been deposited during an episode of flooding. These three trenches were located on the lower-lying ground in the eastern half of the site.

A ditch recorded in Trench 12 is likely to represent a continuation of the open ditch and hedgerow that formed the eastern boundary of the site during the investigations. The ditch is marked on the 1825 Enclosure map, and it was probably infilled and a substantial drain inserted along its line during construction of the Grammar School and its grounds in the 1930's. Other, probably related, boundary features were recorded in Trench 12.

- ***Phase V: Modern***

The turf and topsoil layers present in each trench represent modern activity at the site but are considered to be of no archaeological significance.

## **8.2 Conclusions: the Impact of the Development Proposals**

- 8.2.1 The archaeological investigations at Thorne Grammar School suggest that no significant archaeological features are present within the majority of the areas investigated, with the exception of the south-western corner of the site.
- 8.2.2 The geophysical survey concluded that the majority of identified anomalies were likely to be associated with modern and/or known features such as goal posts, services and former field boundaries. The survey recorded traces of former use of the site as agricultural land; groups of parallel linear anomalies reflecting ridge and furrow ploughing, some of which survives as slight surface earthworks. Other linear anomalies were interpreted as components of a former field system, traces of which can be seen on the 1<sup>st</sup> edition Ordnance Survey map of 1853. Pit-like anomalies were detected, although it was concluded that these were most likely to have been of recent origin. The geophysical survey report concluded that the site contained limited archaeological potential.
- 8.2.3 The trial trenching identified evidence for medieval and post-medieval agricultural usage of the site, in the form of furrows, field boundaries and a possible dew pond, in trenches sited on the school playing fields. While development groundworks are likely to impact upon such archaeological remains, they are considered to be of generally low significance, although the possible dew pond may be contemporary with activity recorded to the south-west, as described below. On balance, it is concluded that no further archaeological work is warranted within the area currently occupied by the school fields ahead of, or in association with, the proposed development.
- 8.2.4 The south-western portion of the site was thought to have the highest archaeological potential due to the proximity to Peel Hill motte and this part of the site being situated on relatively high ground. However, while evidence of medieval or early post-medieval date might reasonably have been anticipated at such a location, the discovery of relatively intense activity of 17<sup>th</sup>-18<sup>th</sup> century date in Trench 13 is noteworthy. It is concluded that these remains are of some significance and that further exposure is almost certainly warranted in order to clarify their extent, nature and date. Any further investigations should be undertaken prior to the proposed development of this part of the site.

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## 10. ACKNOWLEDGEMENTS AND CREDITS

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### **PCA Credits**

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*Fieldwork:* Gavin Glover (Site Supervisor), Emma Allen, Tony Baxter, Julie Parker

*Project Management:* Robin Taylor-Wilson

*Post-Excavation Manager:* Jenny Proctor

*CAD:* Adrian Bailey

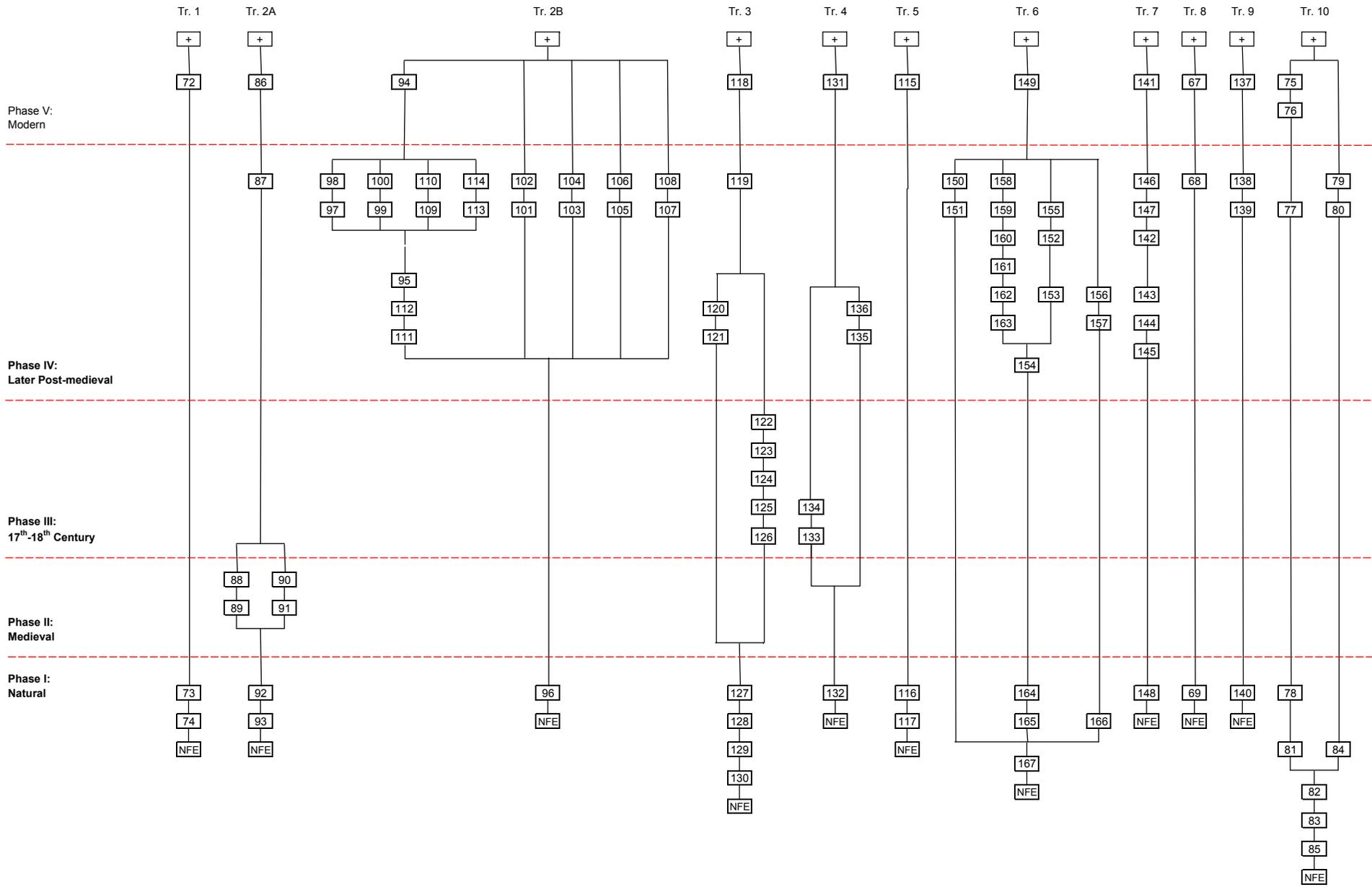
### **Other Credits**

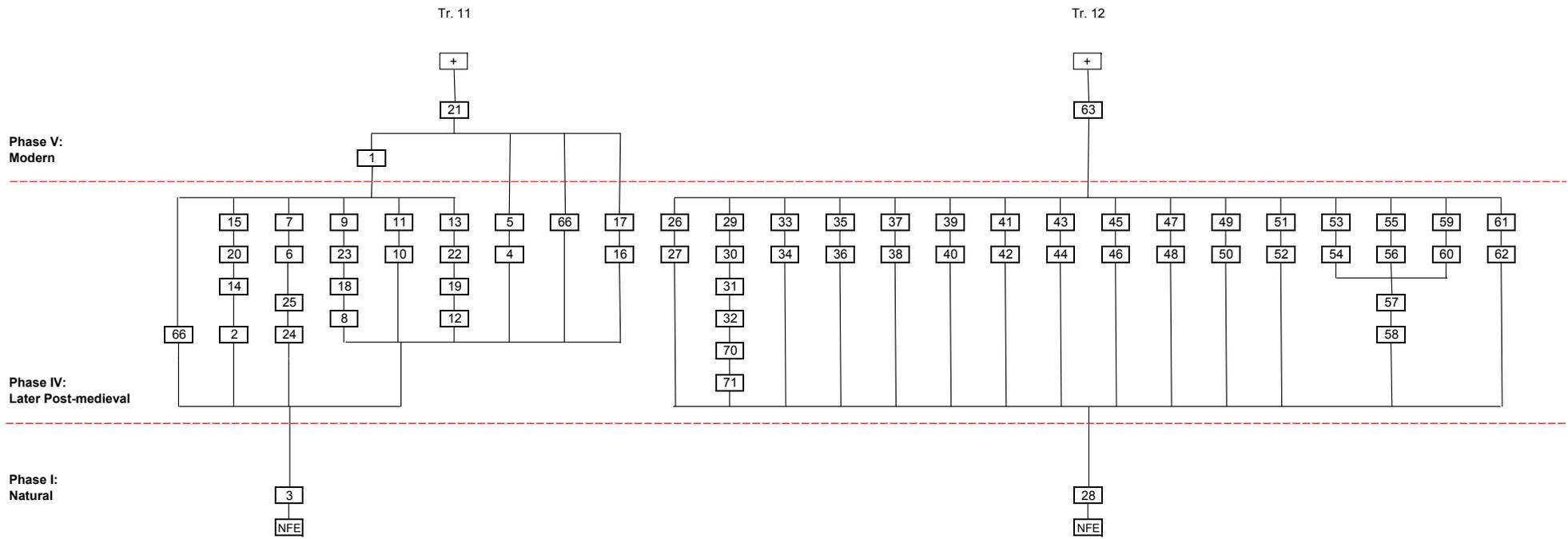
*Geophysical Survey:* Pre-Construct Geophysics

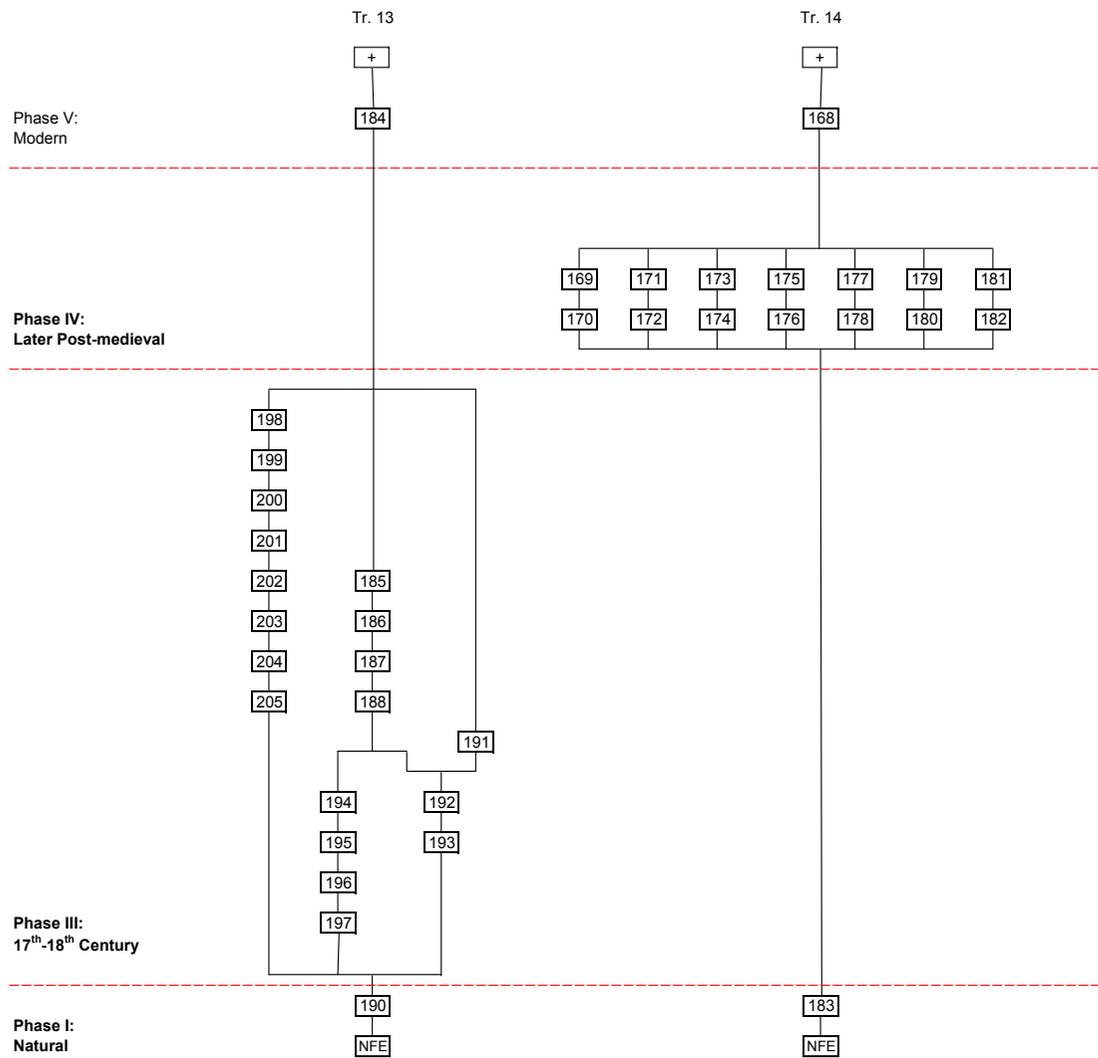
*Pottery, CBM and Clay Pipe Assessment:* Chris Cumberpatch

*Lithic Assessment:* Barry Bishop

**APPENDIX A**  
**STRATIGRAPHIC MATRICES**







**APPENDIX B**  
**CONTEXT INDEX**

Context	Trench	Phase	Type	Type	Description	Interpretation
1	11	V	Deposit	Layer	Firm; dark brownish grey; silty clay; occasional small sub-angular sandstone fragments and small sub-rounded pebbles; 0.25m thick	Topsoil
2	11	IV	Deposit	Layer	Loose; mid-dark greyish brown; clayey sand; occasional fine grit; 0.12m thick; 6.05m visible length	Former ploughsoil
3	11	I	Deposit	Layer	Loose; light-mid yellowish grey, with small patches of brownish orange mottling; fine-medium grain sand	Natural sand
4	11	IV	Cut	Posthole	Sub-circular; near vertical sides; sharp break of slope; flat base; 0.26m x 0.20m x 0.27m deep	Possible posthole
5	11	IV	Deposit	Fill	Loose; mid-brownish grey; clayey sand; moderate wood fragments	Fill of [4]
6	11	IV	Cut	Linear	Linear; steep sides; sharp break of slope; base not seen; aligned NW-SE; 0.20m wide x 0.39m deep	Field drain
7	11	IV	Deposit	Fill	Loose; dark greyish brown, with light-mid brownish yellow mottling; clayey sand	Fill of [6]
8	11	IV	Cut	Linear	Linear; steep sides; sharp break of slope; base not seen; aligned NW-SE; 0.26m wide x 0.36m deep	Field drain
9	11	IV	Deposit	Fill	Firm; mid brown; clayey sand; occasional small rounded pebbles; 0.26m wide x 0.36m thick	Fill of [8]
10	11	IV	Cut	Linear	Linear; moderate break of slope; moderate concave sides; concave base; 0.20m wide x 0.14m deep; aligned NE-SW	Possible mole drain
11	11	IV	Deposit	Fill	Loose; mid brown; clayey sand; occasional small rounded pebbles	Fill of [10]
12	11	IV	Cut	Linear	Linear; steep sides; base not seen; 0.60m wide x 0.44m deep; aligned NW-SE	Field drain
13	11	IV	Deposit	Fill	Loose; mid brown clayey sand with light greyish yellow mottling; occasional sub-rounded pebbles; 0.48m wide x 0.20m deep	Upper fill of [12]
14	11	IV	Cut	Linear	Linear; steep NW edge; stepped NE edge; base not seen; 0.66m wide x at least 0.50m deep; aligned NE-SW	Field drain
15	11	IV	Deposit	Fill	Loose; mid brown; clayey sand; occasional small rounded pebbles; at least 0.50m thick	Fill of [14]
16	11	IV	Cut	Posthole	Sub-circular; sharp break of slope; steep sides; flat base; 0.26m x 0.14m x 0.18m deep	Posthole
17	11	IV	Deposit	Fill	Loose; mid greyish brown; clayey sand; 0.18m thick	Fill of [16]
18	11	IV	Structure	Drain pipe	Ceramic pipe; 0.10m high x 0.20m long x 0.08m thickness	Horse-shoe field drain in [8]
19	11	IV	Structure	Drain pipe	Ceramic pipe; 0.10m high x 0.20m long x 0.08m thickness	Horse-shoe field drain in [12]
20	11	IV	Structure	Drain pipe	Ceramic pipe; 0.10m high x 0.20m long x 0.08m thickness	Horse-shoe field drain in [14]
21	11	V	Deposit	Layer	Loose; dark greyish brown; clayey silt; very frequent root action; average thickness 0.10m	Turf
22	11	IV	Deposit	Fill	Loose; light-mid greyish yellow; clayey sand; 0.42m thick	Fill of [12]
23	11	IV	Deposit	Fill	Loose; light-mid greyish yellow; clayey sand; 0.36m deep	Fill of [8]
24	11	IV	Cut	Linear	Linear; gentle and concave sides; gentle break of slope; concave base; 0.62m wide x 0.14m deep; aligned NW	Drainage ditch or field boundary
25	11	IV	Deposit	Fill	Loose; dark greyish brown; clayey silt; 0.14m thick	Fill of [24]
26	12	IV	Deposit	Fill	Loose; mid reddish brown; silty sand; frequent root action; 0.36m wide x 0.20m deep	Fill of [27]
27	12	IV	Cut	Linear	Linear; moderately steep sides; base not visible; 0.36m wide x 0.20m deep	Field boundary
28	12	I	Deposit	Layer	Compact; mottled light grey and orange brown; sand; frequent root intrusions	Natural sand
29	12	IV	Deposit	Fill	Loose; mid brownish grey; large sub-rounded gravel; surrounds large ceramic drain pipe	Fill of [30]
30	12	IV	Cut	Linear	Linear; vertical sides; base not visible; 0.74m wide x 0.33m deep as seen; aligned N-S;	Field drain
31	12	IV	Deposit	Fill	Friable; mid reddish brown; silty sand	Fill of [32]
32	12	IV	Cut	Linear	Linear; gradual slope; concave base; 2.22m wide x 0.32m deep; aligned N-S	Field boundary
33	12	IV	Deposit	Fill	Loose; mid greyish brown; silty sand; 0.11m thick	Fill of [34]
34	12	IV	Cut	Posthole	Sub-circular; steep to the west, gradual to the north; concave base; 0.15m x 0.28m x 0.11m deep	Posthole
35	12	IV	Deposit	Fill	Loose; mid greyish brown; silty sand; 0.14m thick	Fill of [36]
36	12	IV	Cut	Posthole	Sub-circular; steep sides; concave base; 0.30m x 0.14m deep	Posthole
37	12	IV	Deposit	Fill	Loose; mid greyish brown; silty sand; 0.07m thick	Fill of [38]

Context	Trench	Phase	Type	Type	Description	Interpretation
38	12	IV	Cut	Posthole	Sub-circular; gradual sides; concave base; 0.33m x 0.41m x 0.07m deep	Posthole
39	12	IV	Deposit	Fill	Loose; mid greyish brown with grey mottling; silty sand; 0.21m thick	Fill of [40]
40	12	IV	Cut	Post hole	Sub-rectangular; vertical sides; irregular base; 0.44m x 0.33m x 0.21m deep	Posthole
41	12	IV	Deposit	Fill	Loose; mid greyish brown; silty sand; 0.08m thick	Fill of [42]
42	12	IV	Cut	Posthole	Sub semi-circular; gentle slope; concave base; 0.16m x 0.40m x 0.08m deep	Posthole
43	12	IV	Deposit	Fill	Soft; light-mid greyish brown; silty sand; 30mm thick	Fill of [44]
44	12	IV	Cut	Root action	Sub-circular; steep sides; concave to pointed base; 40mm diam x 30mm deep	Root hole?
45	12	IV	Group	Fill	Soft; light-mid greyish brown; silty sand; 30mm thick, up to 70mm thick	Fill of [46]
46	12	IV	Group	Root action	Sub-circular; steep sides; rounded to pointed base; 50mm-0.11m x 40mm-70mm deep	Root holes?
47	12	IV	Deposit	Fill	Soft; mid greyish brown; silty sand; occasional sandy patch; 0.23m thick	Fill of [48]
48	12	IV	Cut	Posthole	Sub-square; near vertical sides; base stepped on western side; 1 large flat stone; 0.40m x 0.58m x 0.23m	Posthole
49	12	IV	Deposit	Fill	Friable; mid greyish brown; silty clayey sand; frequent root action; 0.26m thick	Fill of [50]
50	12	IV	Cut	Posthole	Sub-circular; near vertical sides; concave base; 0.26m x 0.34m x 0.26m deep	Posthole
51	12	IV	Deposit	Fill	Friable; mid greyish brown; silty clayey sand; 0.18m thick	Fill of [52]
52	12	IV	Cut	Posthole	Sub-circular; irregular sides; concave base; 0.52m x 0.64m x 0.18m deep	Posthole?
53	12	IV	Deposit	Fill	Soft; mid greyish brown; silty sand; 0.08m thick	Fill of [54]
54	12	IV	Cut	Posthole	Sub-circular; irregular sides; rounded base; 0.32m x 0.32m x 0.08m deep	Posthole
55	12	IV	Deposit	Fill	Loose; mid greyish brown; silty sand; 0.08m thick	Fill of [56]
56	12	IV	Cut	Posthole	Sub-circular; irregular but steep sides; flat base; 0.36m x 0.32m x 0.18m deep	Posthole?
57	12	IV	Deposit	Fill	Friable; mid greyish brown; silty clayey sand; 0.18m thick	Fill of [58]
58	12	IV	Cut	Linear	Linear, slightly curved, double butt-end; irregular sides; uneven base; 0.50m x 6.20m x 0.21m deep; aligned E-	Planting trench?
59	12	IV	Deposit	Fill	Friable; mid greyish brown (orange mottling); silty sandy clay; 0.26m thick	Fill of [60]
60	12	IV	Cut	Posthole	Sub-ovoid; steep but irregular sides; concave to pointed base; 0.39m x 0.55m x 0.26m deep	Posthole?
61	12	IV	Deposit	Fill	Soft; mid grey; clayey sand; 0.10m thick	Fill of [62]
62	12	IV	Cut	Posthole	Sub-rectangular; gentle sloping sides, 2:1; irregular base; 0.38m x 0.36m x 0.10m deep	Posthole
63	12	V	Deposit	Layer	Friable; mid brown; sandy clayey silt; occasional cbm fragments & charcoal flecks; 0.35m thick	Turf and topsoil
66	11	IV	Deposit	Fill	Loose; light greyish brown; silty sand; 0.08m thick	Remains of truncated soil?
67	8	V	Deposit	Layer	Loose; dark greyish brown; silty sandy clay; frequent root disturbance, occasional charcoal flecks; 0.12m thick	Turf
68	8	IV	Deposit	Layer	Firm; mid brownish grey; silty clay; occasional sub-rounded pebbles, charcoal flecks; 0.38m thick	Developed soil
69	8	I	Deposit	Layer	Soft; light yellowish grey and mid greyish orange mottling; medium coarse sand; frequent root disturbance	Natural sand
70	12	IV	Deposit	Fill	Loose; mid brownish grey; silty sand; 0.21m thick	Fill of [71]
71	12	IV	Cut	Posthole	Sub-rectangular; vertical sides to the west, moderate slope to the north; base not visible; 0.40m x 0.28m x 0.22m deep	Posthole?
72	1	V	Deposit	Layer	Friable; mid greyish brown; sandy silt; occasional flecks and fragments of cbm, charcoal and pot; 0.35m thick	Topsoil
73	1	I	Deposit	Layer	Loose; mid orange brown; fine sand; frequent silt patches, frequent rounded stones, occasional patches of	Bioturbated natural
74	1	I	Deposit	Layer	Loose; light orange brown; sand; moderate silt patches, moderate root action, occasional stone fragments	Natural
75	10	V	Deposit	Layer	Loose; dark greyish brown; clayey silty sand; frequent root disturbance; 0.10m thick	Turf
76	10	V	Deposit	Layer	Soft; mid-dark greyish brown; clayey sand; occasional small sub-rounded and sub-angular pebbles, sandstone fragments and charcoal flecks; 0.25m thick	Topsoil
77	10	IV	Deposit	Layer	Firm; light-mid brownish grey with orange mottling; sandy clay; occasional small sub-rounded pebbles; 0.24m	Alluvium?

Context	Trench	Phase	Type	Type	Description	Interpretation
78	10	I	Deposit	Layer	Soft; mid brownish grey; clayey sand; occasional small sub-rounded pebbles; 0.22m thick	Bioturbated natural
79	10	IV	Deposit	Fill	Loose; mid-dark brownish grey; clayey sand; occasional small sub-rounded pebbles; 0.32m thick	Fill of [80]
80	10	IV	Cut	Posthole	Sub-circular; moderately steep slope breaking to vertical; concave base; 0.14m x 0.12m x 0.32m deep	Posthole
81	10	I	Deposit	Layer	Soft; light yellowish grey; med-coarse grained sand; frequent small and medium sub-rounded and sub-angular pebbles	Natural
82	10	I	Deposit	Layer	Loose; mid orange brown; clayey sand; frequent sub-angular and sub-rounded pebbles and gravel; seen towards centre of trench, visible length: 2.84m	Natural
83	10	I	Deposit	Layer	Firm; mid brownish orange; sandy clay; frequent sub-angular and sub-rounded pebbles; 0.77m E-W x 0.70m N-S x 0.10m thick; seen in sondage only	Natural
84	10	I	Deposit	Layer	Soft; light yellowish grey; med-coarse grained sand; frequent small and medium sub-rounded pebbles; extends across length of trench at east end, 25.50m	Natural
85	10	I	Deposit	Layer	Loose; mid brownish orange; coarse grained sand; frequent sub-rounded and sub-angular pebbles and gravel; 0.70m N-S x 0.77m E-W; seen in sondage only	Natural
86	2A	V	Deposit	Topsoil	Friable; mid brownish grey; silty sand; occasional cbm and charcoal flecks and fragments; occasional pot fragments; 0.36m thick	Topsoil
87	2A	IV	Deposit	Layer	Loose; mid orange brown; silty sand; moderate charcoal and coal fragments and flecks; 0.26m thick	Buried ploughsoil
88	2A	II	Deposit	Fill	Loose/soft; mid orange brown; silty sand; occasional charcoal flecks; frequent root intrusions; 0.11m thick	Fill of [89]
89	2A	II	Cut	Linear	Linear; gently sloping sides; rounded base; 1.38m N-S x 1.59m E-W x 0.11m deep; E-W aligned	Furrow
90	2A	II	Deposit	Fill	Loose; mid orange brown; silty sand; moderate charcoal flecks and fragments; frequent root intrusions; 0.16m	Fill of [91]
91	2A	II	Cut	Linear	Linear; gently sloping sides; rounded base; 3.00m N-S x 1.59m E-W x 0.16m deep; E-W aligned;	Possible furrow
92	2A	I	Deposit	Layer	Soft; light brownish grey with mid brown mottling; silty sand; occasional charcoal within brown mottling, occasional medium sized cobble stones; 0.39m thick	Bioturbated natural
93	2A	I	Deposit	Layer	Soft/loose; light brownish orange with light grey mottling; medium sand; occasional root intrusions; 2.30m N-S x 1.58m E-W; seen in sondage only	Natural
94	2B	V	Deposit	Layer	Friable; dark brownish grey; clayey silty sand; moderate small sub-rounded and angular sandstone fragments, occasional charcoal flecks and fragments; 0.33m thick	Topsoil
95	2B	IV	Deposit	Layer	Soft; mid greyish brown; clayey sand; occasional small sub-angular and sub-rounded sandstone fragments, occasional charcoal flecks and fragments; 0.26 thick	Buried ploughsoil?
96	2B	I	Deposit	Layer	Soft; light - mid greyish brown; slightly clayey sand; moderate patches of orange brown sand and light bluish grey sandy clay, occasional small sub-rounded pebbles	Natural
97	2B	IV	Cut	Linear	Linear; moderately sloping concave sides; concave base; extends across width of trench, 0.88m N-S x 0.47m deep; E-W alignment;	Drainage ditch or field boundary
98	2B	IV	Deposit	Fill	Friable; mid greyish brown; clayey silty sand; occasional charcoal flecks and sub-rounded small pebbles; 0.47m thick	Fill of [97]
99	2B	IV	Cut	Posthole	Sub-oval; steep sides; rounded base, deeper to E; 0.16m N-S x 0.15m E-W x 0.30m deep	Posthole?
100	2B	IV	Deposit	Fill	Soft; mid greyish brown; clayey sand; moderate fine grit; 0.30m thick	Fill of [99]
101	2B	IV	Cut	Posthole	Sub-circular; moderately sloping sides; slightly concave base; 0.18m x 0.15m x 0.04m deep	Posthole
102	2B	IV	Deposit	Fill	Soft; mid greyish brown; clayey sand; 0.04m thick	Fill of [101]
103	2B	IV	Cut	Posthole	Sub-oval; moderate - steep sloping sides; slightly concave base; 0.38m NE-SW x 0.22m NW-SE x 0.07m	Posthole
104	2B	IV	Deposit	Fill	Soft; mid greyish brown; clayey sand; 0.07m thick	Fill of [103]

Context	Trench	Phase	Type	Type	Description	Interpretation
105	2B	IV	Cut	Posthole	Circular; steep sides; concave base; 0.36m NE-SW x 0.33m NW-SE x 0.18m deep	Posthole
106	2B	IV	Deposit	Fill	Soft; mid greyish brown; clayey sand; occasional small sandstone fragments; 0.18m thick	Fill of [105]
107	2B	IV	Cut	Posthole	Circular; steep sides; concave base; 0.36m NE-SW x 0.34m NW-SE x 0.17m deep	Posthole
108	2B	IV	Deposit	Fill	Soft; mid greyish brown; clayey sand; occasional small sandstone fragments and charcoal flecks; 0.17m thick	Fill of [107]
109	2B	IV	Cut	Linear	Linear; steep, concave sides; concave base; extends across width of trench, 0.75m N-S x 0.51m deep; ENE-WSW alignment	Former drainage ditch?
110	2B	IV	Deposit	Fill	Friable; mid greyish brown and greyish orange mottling; silty sand; moderate coal fragments, occasional small sub-rounded pebbles	Fill of [109]
111	2B	IV	Cut	Linear	Linear, butt ending at E end; moderately steep sides; concave base, sloping gently to W; 0.26m N-S x 0.52m E-W x 0.08m deep; E-W aligned	Gully?
112	2B	IV	Deposit	Fill	Soft; mid-dark greyish brown; clayey sand; occasional charcoal fragments and flecks and small sub-rounded sandstone fragments; 0.08m thick	Fill of [111]
113	2B	IV	Cut	Linear	Linear; moderately sloping concave sides; concave base; 0.75m N-S x 0.37m deep; WSW-ENE aligned	Former drainage ditch?
114	2B	IV	Deposit	Fill	Friable; mid-dark greyish brown and orange brown mottling; silty sand; occasional sub-rounded stones and charcoal flecks; 0.37m thick	Fill of [113]
115	5	V	Deposit	Layer	Soft; mid-dark brownish grey silty clayey sand; moderate small sub-rounded and sub-angular pebbles and sandstone fragments, occasional charcoal flecks; 0.29m thick	Topsoil
116	5	I	Deposit	Layer	Loose; mid greyish brown; clayey silty sand; moderate small and medium sized pebbles; 0.21m thick	Bioturbated natural
117	5	I	Deposit	Layer	Loose; light mid pinkish brown; fine-medium grained sand; occasional small sub-rounded pebbles	Natural sand
118	3	V	Deposit	Layer	Friable; mid-dark greyish brown; silty sand; moderate charcoal flecks, occasional cbm fragments; 0.35m thick	Topsoil
119	3	IV	Deposit	Layer	Firm; mid yellowish brown; silty clayey sand; frequent charcoal flecks, occasional cbm fragments; 20.70m N-S x 0.18m thick	Former ploughsoil?
120	3	IV	Deposit	Fill	Firm; light brownish grey; silty sand; 0.18m thick	Fill of [121]
121	3	IV	Cut	Pit	Sub semi-circular; gently sloping sides; uneven base; 1.76m N-S x 0.64m E-W x 0.18m deep	Shallow pit?
122	3	III	Deposit	Fill	Firm; light-mid yellowish brown; silty clayey sand; moderate charcoal flecks, occasional medium sub-rounded pebbles; 0.40m thick	Fill of [126]
123	3	III	Deposit	Fill	Firm; mid-light grey with orange mottling; occasional sub-rounded pebbles; 0.30m thick	Fill of [126]
124	3	III	Deposit	Fill	Soft; light greyish brown; silty sandy clay - base of deposit is clay; frequent organic matter; 0.20m thick	Fill of [126]
125	3	III	Deposit	Fill	Soft; light brownish grey; silty sand; 0.20m thick	Fill of [126]
126	3	III	Cut	Pit	Sub-circular; steep sides becoming gentler towards base; base not seen; 7.40m N-S x 1.60m E-W x 1.14m	Dew pond?
127	3	I	Deposit	Layer	Soft; mid brownish grey; silty sand; occasional medium sub-rounded pebbles; 0.24m thick	Bioturbated natural
128	3	I	Deposit	Fill	Soft; light brownish orange pink with thin grey clay band at base; silty clayey sand	Fill of [129]
129	3	I	Cut	Linear	Linear; moderately sloping sides; slightly rounded base; 1.0m N-S x 1.34m E-W x 0.32m deep; E-W alignment	Palaeochannel?
130	3	I	Deposit	Layer	Soft; light yellowish orange; sand; occasional sub-rounded pebbles	Natural sand
131	4	V	Deposit	Layer	Friable; mid-dark greyish brown; silty sandy clay; extends across whole trench, 0.35m thick	Turf and Topsoil
132	4	I	Deposit	Layer	Mixed friable sand and firm clay; mixed light - mid yellowish grey and brownish yellow and orange grey; moderate sub-rounded stones; extends across whole trench	Natural
133	4	III	Cut	Linear	Linear; shallow and concave sides; flat base; 2.0m wide x 0.18m deep; SW-NE aligned	Plough furrow
134	4	III	Deposit	Fill	Friable; mid greyish brown; silty sandy clay; occasional small sandstone fragments; 0.18m thick	Fill of [133]
135	4	IV	Cut	Linear	Linear; shallow and concave sides; concave base; 3.80m N-S x 0.18m deep	Plough furrow

Context	Trench	Phase	Type	Type	Description	Interpretation
136	4	IV	Deposit	Fill	Friable; mid greyish brown; silty sandy clay; occasional small sandstone fragments; 0.18m thick	Fill of [135]
137	9	V	Deposit	Layer	Friable; mid greyish brown; clayey silty sand; occasional charcoal flecks and small sub-rounded pebbles; 0.24m thick	Topsoil
138	9	IV	Deposit	Layer	Firm; mid brownish grey with brownish orange mottling - heavily bioturbated; sandy clay; occasional small sub-rounded pebbles; 0.20m thick	Alluvium?
139	9	IV	Deposit	Layer	Soft; mid greyish brown; clayey sand; occasional charcoal flecks; extends across whole trench, 0.20m thick	Developed soil
140	9	I	Deposit	Layer	Loose; light greyish yellow to south, light brownish grey to north; fine-medium grained sand; frequent patches of mid yellowish brown sand, occasional small sub-rounded pebbles	Natural sand
141	7	V	Deposit	Layer	Friable; dark greyish brown; silty clayey sand; moderate small sub-rounded pebbles, occasional charcoal flecks; extends across whole trench, 0.32m thick	Turf and Topsoil
142	7	IV	Deposit	Layer	Firm; mid greyish brown; clay; 0.28m thick	Alluvium?
143	7	IV	Deposit	Layer	Loose; mid brown; silty sand; 0.20m thick	Developed soil
144	7	IV	Deposit	Fill	Loose; mid brown; silty sand; 0.03m thick	Fill of [145]
145	7	IV	Cut	Linear	Linear; moderately sloping sides; flat base; 2.50m N-S x 1.60m E-W x 0.03m deep; E-W alignment	Furrow?
146	7	IV	Deposit	Fill	Firm; mid grey; clay; 0.69m thick	Fill of [147]
147	7	IV	Cut	Posthole	Circular; steep, stepped sides; irregular base; 0.90m N-S x 0.70 E-W x 0.69m deep	Posthole
148	7	I	Deposit	Layer	Firm; mottled light-mid orange and grey; fine and medium grained sand; extends across whole trench	Natural sand
149	6	V	Deposit	Layer	Friable; mid-dark greyish brown; clayey silty sand; moderate small sub-rounded and sub-angular sandstone fragments and pebbles, occasional small cbm fragments; 0.34m thick	Turf and Topsoil
150	6	IV	Deposit	Fill	Friable; dark greyish brown; silty clayey sand; occasional medium and small sub-rounded and sub-angular pebbles, occasional coal fragments; 0.16m thick	Fill of [151]
151	6	IV	Cut	Linear	Linear; moderately steep sloping sides; flat base; 1.52m N-S x 0.56m E-W x 0.16m deep; N-S alignment	Former drainage ditch?
152	6	IV	Deposit	Fill	Soft; mid-dark brownish grey, with light greyish yellow mottling; silty clayey sand with clayey sand; occasional small sub-rounded pebbles and charcoal flecks; 0.36m thick	Fill of [153]
153	6	IV	Cut	Linear	Linear; gradual-steep stepped W edge, near vertical E edge; slightly concave base; 1.57m N-S x 0.96m E-W x 0.50m deep; N-S alignment	Ditch
154	6	IV	Deposit	Layer	Soft; mid yellowish brown; silty clayey sand; occasional small sub-rounded pebbles; 0.10m thick	Developed soil
155	6	IV	Deposit	Fill	Soft; mid-dark brownish grey; silty clayey sand; occasional charcoal flecks and small sub-rounded pebbles; 0.17m thick	Upper fill of [153]
156	6	IV	Deposit	Fill	Firm; dark greyish brown; clayey silty sand; occasional small sandstone fragments and pebbles	Fill of [157]
157	6	IV	Cut	Linear	Linear; moderately sloping W edge; base not seen; 1.60m N-S x 1.54m E-W x 0.36m deep; N-S aligned	Possible furrow
158	6	IV	Deposit	Fill	Firm; mid-dark brownish grey; clayey sand; occasional charcoal flecks and small sub-rounded pebbles; 0.20m	Fill of [159]
159	6	IV	Cut	Linear	Linear; moderately sloping sides; flat base; 1.60m N-S x 0.54m E-W x 0.20m deep; N-S alignment	Remnant earthwork of furrow
160	6	IV	Deposit	Fill	Firm; light-mid brownish yellow with bluish grey mottling; sandy clay; 0.78m thick; surrounds horse-shoe field drain, 0.08m wide x 0.10m high	Fill of [161]
161	6	IV	Cut	Linear	Linear; very steep sides; base not seen; 0.46m N-S x 0.38m E-W x 0.78m deep; N-S alignment	Field drain
162	6	IV	Deposit	Fill	Firm; mid greyish brown; clayey sand; occasional sub-rounded pebbles; 0.34m thick	Fill of [163]
163	6	IV	Cut	Linear	Linear; gradual-moderate sloping side; concave base; 1.60m N-S x 3.40m E-W x 0.34m deep; N-S aligned	Plough furrow
164	6	I	Deposit	Fill	Firm; light bluish grey with mid brownish yellow mottling; sandy clay; 0.30m thick	Fill of [165]

Context	Trench	Phase	Type	Type	Description	Interpretation
165	6	I	Cut	Linear	Linear; moderately sloping sides; concave base; 1.60m N-S x 4.58m E-W x 0.62m deep; N-S alignment	Palaeochannel?
166	6	I	Deposit	Layer	Firm; light yellowish grey; fine and medium grained sand; occasional small sub-rounded pebbles	Natural sand
167	6	I	Deposit	Layer	Firm; light brownish yellow with light brownish grey mottling; fine and medium grained sand	Natural sand
168	14	V	Deposit	Layer	Friable; dark greyish brown; silty sand; moderate sub-rounded pebbles and charcoal flecks; 0.25m thick	Turf and Topsoil
169	14	IV	Deposit	Fill	Friable; dark orange greyish brown; sandy silt; occasional charcoal flecks, occasional sub-angular sandstone fragments; 0.12m thick	Fill of [170]
170	14	IV	Cut	Posthole	Sub-circular; steep sloping sides on east side, gradual elsewhere; irregular base; 0.37m N-S x 0.48m E-W x 0.12m deep	Posthole
171	14	IV	Deposit	Fill	Friable; dark greyish brown; sandy silt; occasional charcoal flecks and small sub-rounded pebbles; 0.07m thick	Fill of [172]
172	14	IV	Cut	Pit/posthole	Sub-circular; moderately steep southern edge, steep northern side; concave base; 0.46m N-s x 0.42m E-W x 0.07m deep; base is N of centre; filled by [171]	Small pit or posthole
173	14	IV	Deposit	Fill	Friable; dark greyish brown; sandy silt; occasional charcoal flecks and small sub-rounded pebbles; 0.06m thick	Fill of [174]
174	14	IV	Cut	Posthole	Sub-circular; gradually sloping sides; concave base; 0.32m N-S x 0.30m E-W x 0.04m deep	Posthole
175	14	IV	Deposit	Fill	Friable; dark greyish brown; sandy silt; moderate charcoal flecks, occasional small sub-rounded pebbles; 0.08m thick	Fill of [176]
176	14	IV	Cut	Pit	Sub-oval; gradually sloping sides; concave base; 1.04m N-S x 0.68m E-W x 0.08m deep	Pit?
177	14	IV	Deposit	Fill	Friable; dark greyish brown; sandy silt; occasional charcoal flecks and small sub-rounded pebbles; 0.09m thick	Fill of [178]
178	14	IV	Cut	Pit	Linear; irregular southern terminus; gradually sloping irregular sides; concave base; 2.18m N-S x 0.50m E-W x 0.09m deep	Pit?
179	14	IV	Deposit	Fill	Friable; dark greyish brown; sandy silt; occasional charcoal flecks; 0.05m thick	Fill of [180]
180	14	IV	Cut	Posthole	Circular; moderately steep sides; concave base; 0.19m E-W x 0.25m N-S x 0.05m deep	Posthole
181	14	IV	Deposit	Fill	Friable; dark greyish brown; sandy silt; occasional charcoal flecks and sub-rounded pebbles; 0.13m thick	Fill of [182]
182	14	IV	Cut	Pit	Sub-circular; moderately sloping sides; flat base; 0.60m E-W x 0.48m N-S x 0.13m thick	Posthole
183	14	I	Deposit	Layer	Friable; mid reddish brown; silty sand; moderate sub-rounded pebbles, frequent root action	Natural sand
184	13	V	Deposit	Layer	Friable; dark brown; sandy silt; frequent charcoal flecks, occasional small sub-angular stones; 0.50m thick	Turf and Topsoil
185	13	III	Deposit	Fill	Firm; light yellowish brown; silt; 0.24m thick	Upper fill of [189]
186	13	III	Deposit	Fill	Friable; mid greyish brown; sandy silt; occasional charcoal flecks and cbm flecks; 0.22m thick	Fill of [189]
187	13	III	Deposit	Fill	Loose; dark orange brown; sand; occasional charcoal flecks; 0.40m thick	Fill of [189]
188	13	III	Deposit	Fill	Loose; mid grey; sand; occasional charcoal flecks; 0.28m thick	Earliest excavated fill of [189]
189	13	III	Cut	Pit	Sub-rectangular; irregular sloping sides; base not seen; 0.85m N-S x 3.46m E-W x 0.85m max excavated	?Refuse pit
190	13	I	Deposit	Layer	Loose; mid orange brown; sand; occasional small rounded pebbles	Natural sand
191	13	III	Deposit	Fill	Soft; light grey; silt; 0.10m thick	Fill of [193]
192	13	III	Deposit	Fill	Soft; dark greyish brown; silty sand; frequent charcoal flecks; 0.28m thick	Fill of [193]
193	13	III	Cut	Linear	Linear; shallow sides; concave base; 3.50m E-W x 0.31m deep	Possible furrow
194	13	III	Deposit	Fill	Loose; dark greyish brown; sandy silt; frequent charcoal, occasional cbm flecks; 0.40m thick	Upper fill of [197]
195	13	III	Deposit	Fill	Loose; mid orange brown; sand; 0.50m thick	Fill of [197]
196	13	III	Deposit	Fill	Loose; dark brown; sand; frequent charcoal flecks, occasional small cobbles and cbm flecks; 0.40m thick	Primary fill of [197]
197	13	III	Cut	Linear	Linear; west side steep; east side near vertical; flat base; 1.58m E-W x > 0.95m N-S x 1.05m deep	Boundary or drainage ditch
198	13	III	Deposit	Fill	Friable; light yellowish brown; fine silt; occasional charcoal flecks; 0.33m thick	Fill of [205]
199	13	III	Deposit	Fill	Loose; dark greyish brown; silty sand; frequent charcoal flecks; 0.32m thick	Fill of [205]

<b>Context</b>	<b>Trench</b>	<b>Phase</b>	<b>Type</b>	<b>Type</b>	<b>Description</b>	<b>Interpretation</b>
<b>200</b>	13	III	Deposit	Fill	Loose; mid greyish brown; silty sand; frequent sub-rounded stones; 0.20m thick	Fill of [205]
<b>201</b>	13	III	Deposit	Fill	Loose; mid orange brown; sand; occasional small rounded pebbles; 0.24m thick	Fill of [205]
<b>202</b>	13	III	Deposit	Fill	Loose; mid greyish brown; sand; occasional charcoal flecks; 0.28m thick	Fill of [205]
<b>203</b>	13	III	Deposit	Fill	Soft; mid grey; sandy silt; occasional charcoal flecks; 0.30m thick	Fill of [205]
<b>204</b>	13	III	Deposit	Fill	Soft; light greyish brown; fine silt; frequent charcoal and occasional cbm flecks; 0.20m thick	Primary fill of [205]
<b>205</b>	13	III	Cut	Pit	Irregular shaped; near vertical sides; base not seen; 3.06m E-W x 1.38m N-S x > 1.38m deep	?Refuse pit

## **APPENDIX C**

### **CERAMICS, CLAY PIPE AND GLASS ASSESSMENT**

# **CERAMICS, CLAY PIPE AND GLASS ASSESSMENT**

*By: C.G. Cumberpatch BA, PhD*

## **Introduction**

A small assemblage of pottery, glass, clay tobacco pipe and ceramic building material was recovered from the investigations. The data are summarised below in Tables 1 to 4.

## **Pottery**

The details of the pottery assemblage are summarised in Table 1. The following notes are intended to complement the details of the individual sherds given in the table.

### ***Medieval pottery***

Medieval pottery was recovered from contexts [73], [90], [110], [192] and [203]. In the majority of cases the medieval material occurred alongside later material suggesting that it was residual within later contexts. Only contexts [73] and [90] produced medieval material alone and here the quantities were so small that it would be hazardous to assert that the material was undisturbed or that the contexts were of medieval date.

The range of material was typical for a site in South Yorkshire and included sherds of Humberware and Humberware type (manufactured at a number of potteries in eastern South Yorkshire and East Yorkshire), Coal Measures wares (most probably manufactured in, or close to, the Don valley to the west of Doncaster) and Doncaster Hallgate types. Other unidentified sandy wares were probably of local origin but cannot be identified more closely. Such small and abraded assemblages are common from ploughsoil and similar contexts and there is no reason to suppose that they indicate anything other than medieval activity in the general vicinity of the site. Given that the village of Thorne is known to be of medieval origin, the presence of such an assemblage is to be expected from almost any site in the vicinity.

### ***Post-medieval and early-modern pottery***

Post-medieval and early modern (post 1530 to the later 18<sup>th</sup> century) pottery formed the greater part of the assemblage and was present in the majority of contexts. As with the medieval pottery, the condition of the majority of sherds suggests that the material had been subject to some degree of damage after deposition and before excavation, most probably in the ploughsoil or a similar context subject to repeated disturbance.

The range of vessel types was predominantly of utilitarian and coarseware type; pancheons, jar and open vessels, although tablewares were represented by the Manganese Mottled wares and possibly the slipwares, although the contexts in which these were used is far from certain. Finer tablewares were notable by their absence. The source of the pottery is difficult to determine; the Green Glazed Sandy ware may have been produced at one of the later Humberware potteries, but the source of the remainder, while it is probably of local origin, cannot be determined.

### ***Recent pottery***

Recent pottery (dating to between the later 18<sup>th</sup> and 20<sup>th</sup> centuries) was unusually rare within the assemblage. Contexts [37] and [41] produced single sherds of 19<sup>th</sup> century transfer printed whiteware and very small fragments were also present in contexts [110] and [114]. Material of this date was absent elsewhere suggesting that relatively little activity took place at the site after the end of the 18<sup>th</sup> century.

### **Ceramic building material**

The ceramic building material is listed in Table 2. The majority of the fragments appear to be of post-medieval or early-modern date although for a detailed report specialist advice should be sought.

### **Clay tobacco pipe**

The clay tobacco pipe is listed in Table 3. None of the fragments were marked and no bowls were present. It is probable that the stems are broadly contemporary with the later pottery.

### **Glass**

The glass fragments are listed in Table 4. The fragments appeared to be from wine bottles of post-medieval or early-modern date, although for more detailed comments a specialist opinion should be sought.

### **Discussion**

The ceramic finds assemblage from the archaeological investigations at Thorne Grammar School is of mixed character and includes material of medieval, post-medieval, early modern and recent date. The condition suggests that it was derived from disturbed contexts and while it indicates activity in the general vicinity of the site, it is probable that it reached the site via rubbish disposal or manuring processes. The absence of 18<sup>th</sup> century tablewares is unusual, as is the general lack of 19<sup>th</sup> and 20<sup>th</sup> century material.

Context	Type	Number	Weight	ENV	Part	Form	Date range	Notes
37	Transfer Printed Whiteware	1	1	1	BS	U/ID	C19th	Heavily abraded
41	Transfer Printed Whiteware	1	1	1	BS	U/ID	C19th	Heavily abraded
73	Humberware type	1	11	1	BS	U/ID	C14th - C15th	Heavily abraded (in water?), with applied strips and green glaze externally; reduced throughout
73	Local Sandy ware	1	14	1	BS	U/ID	C12th - C13th	Oxidised sandy ware with sparse, poorly sorted coarse quartz grit and rounded red inclusions
90	Humberware drinking jug	1	13	1	Base	Drinking jug	C14th - C15th	
110	Oxidised Sandy ware	1	2	1	BS	U/ID	Later medieval	Unglazed sandy oxidised redware with fine quartz
110	Redware	1	2	1	BS	Open vessel	C16th - C17th	Clear glaze internally on a redware fabric
110	Transfer Printed Whiteware	1	4	1	BS	Plate	C19th	Blue transfer printed diamond pattern frieze
114	Brown Glazed Coarseware	1	23	1	BS	Open vessel	C18th	Black glaze internally
114	Transfer Printed Whiteware	1	1	1	BS	Tableware	C19th	Unidentifiable blue transfer printed decoration externally
122	Slipware type 1	1	2	1	BS	Open vessel	C17th - C18th	White trailed slip on a redware body
122	Unidentified whiteware	1	1	1	BS	U/ID	Post-medieval	Very fine, soft whiteware, abraded with no surviving glaze
123	Slipware	1	1	1	BS	Hollow ware	C18th	Redware type fabric with yellow trailed glaze externally
134	Brown Glazed Coarseware	1	1	1	Flake	U/ID	C17th - C18th	
134	Brown Glazed Fineware	1	4	1	BS	Hollow ware	C18th	Fine redware body with dark brown glaze internally and externally
177	Unglazed red earthenware	3	2	3	Flakes	U/ID	Post-medieval	
191	Redware	1	5	1	BS	U/ID	C17th	Clear glaze internally on a redware fabric
191	Slipware type 1	2	45	1	Base	Open vessel	C17th - EC18th	Trailed white slip design internally on a red ware body with clear glaze internally; knife trimmed externally
191	Yellow ware	1	34	1	Base	Jar	C16th - C17th	Yellow glaze internally and patchily externally on a white body
192	Brown Glazed Coarseware	2	15	2	BS	Hollow ware	C17th - C18th	Brown glaze internally and externally
192	Hallgate A type	1	7	1	Rim	Jug	C13th - EC14th	Slightly harder and more homogeneous than is normal for Hallgate A
192	Mottled Coarseware	2	21	2	BS	Hollow ware	LC17th - C18th	Mottled brown glaze internally and externally
192	Oxidised Sandy ware	1	7	1	BS	Hollow ware	Later medieval	Unglazed sandy oxidised redware with fine quartz
192	Oxidised Sandy ware	1	3	1	BS	Hollow ware	Later medieval	Mottled yellowish glaze externally
192	Reduced Sandy ware	1	7	1	BS	U/ID	Medieval	Fine reduced sandy ware with occasional rock fragments and fine quartz
192	Redware	1	34	1	BS	Open vessel	C17th - C18th	Internal glaze removed, could be Slipware
192	Redware	1	2	1	BS	Open vessel	C17th - C18th	Glazed internally
192	Slipware type 1	2	25	2	BS	Open vessel	C17th - C18th	White slip trailed design on redware body

196	Brown Glazed Coarseware	1	11	1	BS	U/ID	C17th - C18th	Heavily abraded; brown glazed internally and externally
196	Brown Glazed Coarseware	1	4	1	BS	U/ID	C18th	Very shiny metallic glaze internally and externally
196	Green Glazed Sandy ware	1	25	1	Rim	Jar	C16th - C17th	Green glaze internally, black deposit externally
196	Green Glazed Sandy ware	1	20	1	BS	Jar	C16th - C17th	Green glaze internally and externally; could be a late Humberware
196	Manganese Mottled ware	1	2	1	BS	Mug	C18th	Mottled glaze internally and externally
196	Manganese Mottled ware	1	2	1	BS	Mug	C18th	Rilled profile
196	Redware	1	15	1	BS	Open vessel	LC17th - C18th	Clear glaze internally on a redware fabric
196	Redware	1	62	1	Base	Jar	C17th - C18th	Flat base with clear glaze internally on a redware fabric; use-wear on underside
196	Yellow Glazed Coarseware	1	2	1	BS	Open vessel	C17th - C18th	White slip internally with clear glaze giving a yellow internal surface; unglazed externally
199	Brown Glazed Coarseware	1	36	1	BS	Jar	C17th - C19th	Brown glazed internally and externally
199	Green Glazed Sandy ware	1	10	1	Rim	Bowl	C16th - C17th	Green glaze internally, black deposit externally
199	Green Glazed Sandy ware	1	8	1	BS	Open vessel	C16th - C17th	Green glaze internally, black deposit externally
199	Redware	1	38	1	Rim	Open vessel	C17th - C18th	
199	Redware	1	10	1	Base	Open vessel	C17th - C18th	
199	Redware	1	4	1	BS	Open vessel	C17th - C18th	
199	Redware type	1	2	1	BS	Open vessel	C17th - C18th	Glazed internally, external surface missing
199	Slipware type 1	1	1	1	BS	Open vessel	C17th - C18th	White slip trailed design on redware body
203	Brown Glazed Coarseware	1	31	1	Handle	Jar	C17th	Patchy brown glaze externally
203	Brown Glazed Coarseware	1	17	1	BS	Handled vessel	C17th - C18th	
203	Brown Glazed Coarseware	1	7	1	BS	U/ID	C17th - C18th	
203	Brown Salt Glazed Stoneware	1	2	1	BS	Hollow ware	C18th	
203	Coal Measures ware type	1	23	1	BS	U/ID	C13th - C15th	Sandy dull orange Coal Measures ware containing abundant quartz, black grit and rock fragments
203	Coal Measures Whiteware type	1	9	1	BS	U/ID	C14th - EC15th	Local coal measures ware
203	Yellow Glazed Coarseware	2	28	1	Rim	Pancheon	C17th - C18th	White slip on a redware body with clear glaze giving a yellow finish internally
203	Yellow ware	1	1	1	BS	U/ID	C17th	Yellow glazed internally
	<b>Total</b>	<b>60</b>	<b>658</b>	<b>58</b>				

**Table 1. Pottery catalogue**

Context	Type	Number	Weight	ENV	Part	Form	Date range
179	Ceramic Building Material	1	2	1	Fragment	Brick	Undated
110	Ceramic Building Material	1	12	1	Fragment	Brick	Undated
51	Ceramic Building Material	4	15	4	Fragment	Brick/tile	Undated
57	Ceramic Building Material	4	152	4	Fragment	Brick	Undated
169	Ceramic Building Material	1	3	1	Fragment	Brick	Undated
175	Ceramic Building Material	3	4	3	Fragment	U/ID	Undated
98	Ceramic Building Material	3	18	3	Fragment	U/ID	Undated
	<b>Total</b>	<b>17</b>	<b>206</b>	<b>17</b>			

**Table 2. Ceramic building material**

Context	Type	Number	Weight	ENV	Part	Form	Date range
191	Tobacco pipe	1	8	1	Stem	Tobacco pipe	Undated
192	Tobacco pipe	2	5	2	Stem	Tobacco pipe	Undated
188	Tobacco pipe	2	13	2	Stem	Tobacco pipe	Undated
196	Tobacco pipe	2	11	2	Stem	Tobacco pipe	Undated
122	Tobacco pipe	1	3	1	Stem	Tobacco pipe	Undated
	<b>Total</b>	<b>8</b>	<b>40</b>	<b>8</b>			

**Table 3. Tobacco pipe stems**

Context	Type	Number	Weight	ENV	Part	Form	Date range
87	Glass	1	37	1	BS	Bottle	Post-medieval
203	Glass	1	5	1	BS	Bottle	Post-medieval
	<b>Total</b>	<b>2</b>	<b>42</b>	<b>2</b>			

**Table 4. Glass fragments**

**APPENDIX D**  
**LITHIC ASSESSMENT**

# LITHIC ASSESSMENT

By: *Barry John Bishop*

## Introduction

Four struck flints were recovered from the investigations at Thorne Grammar School. This report quantifies and describes the material, offers some comments on its significance and recommends any further work required. As the material was only cursorily examined, a more detailed examination may alter or amend any of the interpretations offered here. All metrical descriptions follow the methodology of Saville (1980).

## Description

Context [43] ?Root Disturbance

- Medial blade fragment of mottled opaque light grey flint in good condition. Bulbar and distal end missing, dorsal has three parallel scars. >23mm X 9mm X 3 mm. 0.8g.

Context [73] Bioturbated Natural

- Rejuvenation blade fragment of heavily recorticated translucent black flint in a heavily chipped condition. Plain striking platform 3mm thick, pronounced bulb of percussion with distal missing. Dorsal has five opposed parallel flake scars. Struck to remove a deeply step-terminated flake scar that had been struck from opposite end of the core. >39mm X 18mm X 8mm.

Context [123] Fill of Pit [126]

- Irregularly worked core of translucent brown flint in battered condition. Consists of a thermally fractured nodular shaped cobble transversely split along thermal plane and retaining extensive areas of a thin, hard weathered cortex. The thermal plane was used as a striking platform to remove numerous and mostly broad flakes. The platform edges have subsequently become heavily battered, possibly indicating that it had been reused as a hammerstone/pounder. 75mm X 65mm X 54mm. 245g.

Context [143] Developed soil

- Trimming flake of translucent brown flint in good condition. Shattered striking platform, diffuse bulb of percussion and hinged distal termination. Dorsal consists of two flake scars. 13mm X 8mm X 3mm. 0.2g.

## Raw Material

The raw materials used consisted of translucent black or brown flint and an opaque grey flint. Both types were of good knapping quality. The only piece still retaining cortex suggested that the translucent flint at least had been obtained from derived sources, most probably glacial till. Such a source may also have provided the opaque grey flint, although macroscopically it is very similar to flint found in the Lincolnshire

Wolds, which was exploited as a source of raw material throughout the prehistoric periods. If so, this may indicate that this particular piece had been humanly imported to the site.

### **Condition**

The condition of the assemblage varied. One of the blades was in good, sharp, condition although the other had been heavily chipped some time after it had recorticated. The core was also very battered, although it is quite possible that this was due to it having been reused as a hammerstone or pounder.

### **Technology and Typology**

Two technological strategies could tentatively be suggested for the assemblage. The earliest consisted of a blade-based reduction strategy dateable to the Mesolithic or Early Neolithic, and included the pieces from contexts [43] and [73]. The core from context [123] suggested a more opportunistic and expedient approach to flintworking, being most characteristic of Bronze Age industries. The trimming flake was completely chronologically undiagnostic and could have belonged to either or neither of those periods.

### **Discussion**

The assemblage is very small with no truly diagnostic implements present. It does demonstrate activity at the site, probably during the Mesolithic/Early Neolithic and the Bronze Age, periods otherwise not represented in the structural record. Its size and lack of diagnostic pieces unfortunately means that it can contribute little to understanding the precise chronology or nature of the occupation of the site, and by itself can only suggest occasional, short-term visitation. Nevertheless, the site is situated in an area that would have represented a prime location for prehistoric activity of all periods, placed as it is on a ridge of higher ground within a generally low-lying landscape. Certainly, during the earlier prehistoric periods evidence for settlement in the region is sparse, but generally consists of small surface scatters of lithics, often on sandy soils and confined to the higher ridges, as found here (e.g. Membury n.d.), whilst by the later prehistoric periods the general area appears to have been subsumed within an extensive system of agricultural production (cf Chadwick 1997).

It is therefore entirely feasible that prehistoric activity in the vicinity would have been more intensive than suggested by the lithic evidence from this site, which has possibly been limited by truncation to deposits by previous construction work and through widespread levelling undertaken to provide playing surfaces.

### **Recommendations**

Due to its size and lack of chronologically diagnostic artefacts, this report is all that is required of the material for the purposes of the archive and no further analytical work is proposed.

The assemblage, although small, is of some significance in that it represents evidence for prehistoric activity in the area. It is therefore recommended that a reference should be made to it in the local SMR/Historic Environment Record and a short description of the assemblage should be included in any published account of the fieldwork.

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## **APPENDIX E**

### **GEOPHYSICAL SURVEY REPORT**

## Contents

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<b>1.0</b> Introduction	2
<b>2.0</b> Location and description	2
<b>3.0</b> Archaeological Background	2
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## Illustrations

**Fig. 1:** Location plan, 1:25,000.

**Fig. 2:** Location of survey, 1:2500.

**Fig. 3:** Trace plots, 1:1250.

**Fig.4:** Greyscale images of raw data, 1:1250.

**Fig.5:** Greyscale images of enhanced data, 1:1250.

**Fig.6:** Interpretive plots.

**Table 1:** Summary of survey parameters

**Front cover:** 1<sup>st</sup> Edition O.S map (1853). Database Right Landmark Information Group and Ordnance Survey Crown Copyright. All rights reserved.

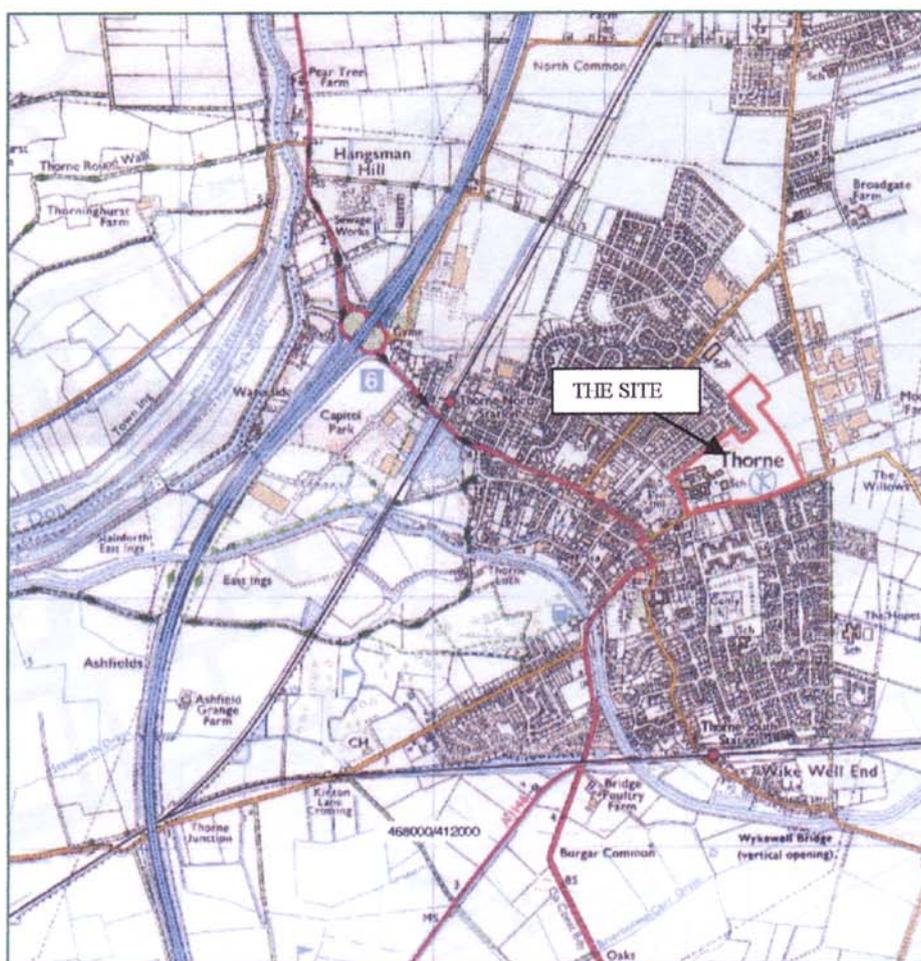


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## Summary

- A fluxgate gradiometer survey was undertaken on c.4.6ha of land at Thorne, South Yorkshire.
- The survey identified significant levels of magnetic variation, most of which can be reconciled to sports facilities, services and known former boundaries.
- Groups of linear anomalies probably reflect traces of ridge and furrow ploughing. Others possibly indicate the remains of a former field system. The alignment of the latter appears to correspond with elements of a field system that is depicted on the 1<sup>st</sup> edition Ordnance Survey map.



**FIG.1: LOCATION OF SITE      SCALE 1:25000**

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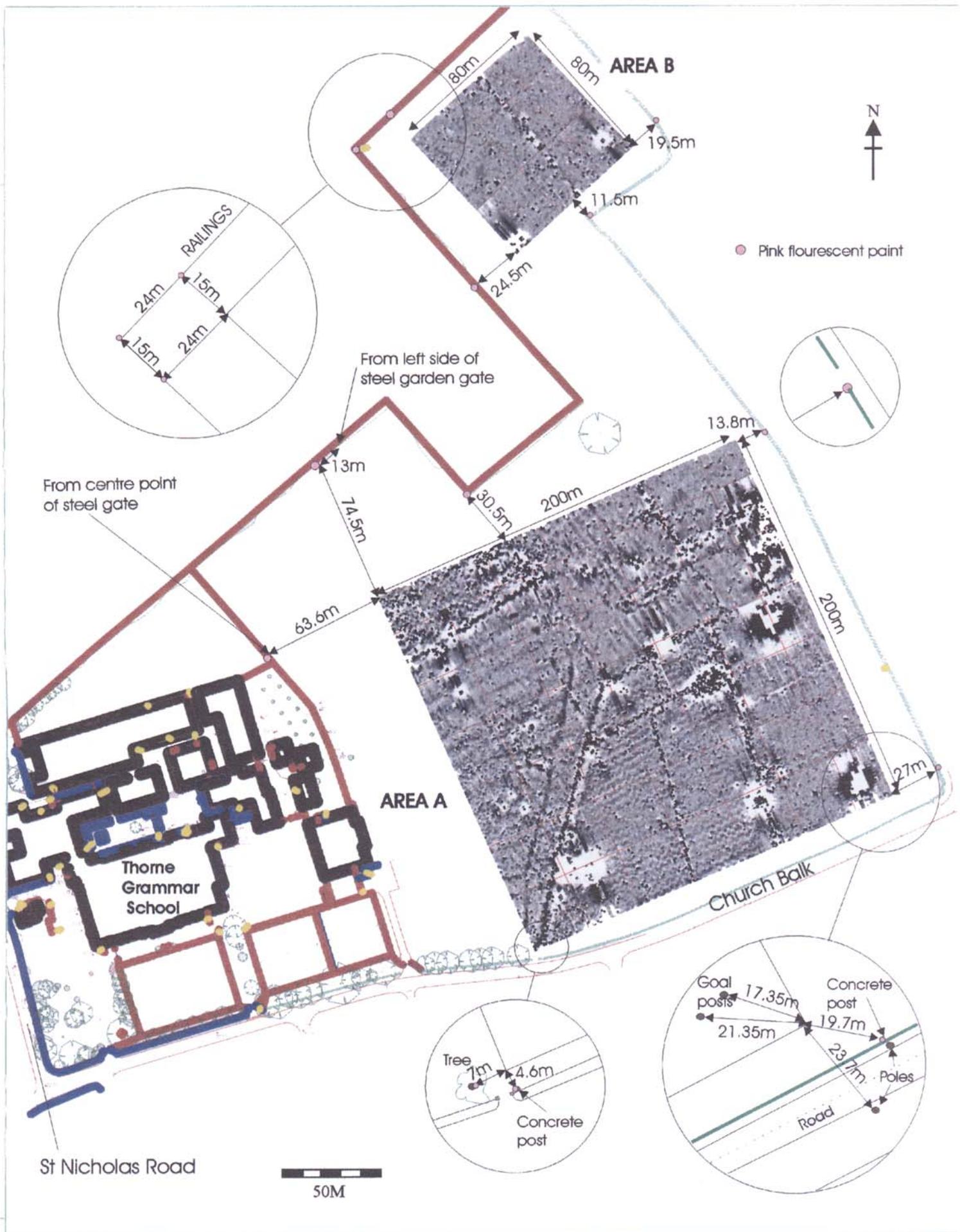


Fig.2: Location of survey 1:2500

## 1.0 Introduction

Pre-Construct Archaeology Ltd (Northern Office) commissioned Pre-Construct Geophysics to undertake a fluxgate gradiometer survey of land at Thorne Grammar School, South Yorkshire. This work was carried out as part of an archaeological evaluation of the site, conducted to fulfil the recommendations of Doncaster Metropolitan Borough Council. The site is to be redeveloped as an academy, with improved sports facilities.

The survey methodology was based on the guidelines set out in the English Heritage document '*Geophysical Survey in Archaeological Field Evaluation*' (David, 1995).

## 2.0 Location and description (Figs. 1-2)

Thorne lies within the administrative district of Doncaster Metropolitan Borough, on the Humberhead Levels of South Yorkshire. It is situated approximately 15km north-east of Doncaster and c. 20km west of Scunthorpe and is a small market town that straddles the former course of the River Don.

The school grounds, which are contained within an irregularly shaped unit of land that extends to c.13ha, are situated at the eastern edge of the town, to the north and east of Church Street and St Nicholas Street, respectively. Approximately 50% (4.64ha) of the playing fields (c.9ha) were targeted for geophysical survey. Two blocks of land were surveyed. These comprised **Area A**, 200m x 200m (4ha), and **Area B**, 80m x 80m (0.64 ha).

Survey area **A** lies on a slight east facing slope that is partially terraced to accommodate level football and rugby pitches. Narrow tarmac strips (c. 10-15m x 2m) were noted in the mid and eastern part of the site. A number of manhole covers indicate the presence of buried services.

Survey area **B** lies on level ground at the northern edge of the site. A slight depression that extends across the survey from north to south almost certainly indicates traces a former ditch. A continuation of the latter forms the current eastern edge of the site.

The town is situated upon a low north-west to south-east aligned ridge of Quaternary glacial sands and gravels that were deposited c. 18,000 BP (GSGB, 1972). These overlie fine-grained Sherwood Sandstone (formerly Bunter Sandstone), which was deposited during the Triassic period. Significant peat deposits have developed in the low-lying areas surrounding the town.

## 3.0 Archaeological and historical background

The low-lying area of the Humberhead Levels has been subject to sustained periods of inundation, linked to changes in sea level and the local water table. At these times it is likely that much of the region was unsuited to permanent human occupation, a theory supported by the punctuated nature of the archaeological record. However, the raised ridge of ground upon which Thorne is situated is likely to have remained relatively

dry and have been a focus for human activity throughout the later prehistoric and historic periods.

Evidence for human activity during the prehistoric period has not been recovered from the area now occupied by the town. However, a range of lithic artefacts has been recovered from Thorne Moor to the east of the town (Magilton, 1977: 73). Peat cutting operations have also uncovered a variety of ecofactual remains, including a timber trackway that was radiocarbon dated to 2980±110 B.P., and is therefore likely to be indicative of Late Bronze Age activity (Buckland, 1979: 14-18).

There is virtually no evidence for Romano-British activity within the town or its immediate environs. A single silver *denarius* of Julia Maesa was recovered from ploughed land, c. 1.5km to the south of the town centre (SMR No. 1034).

The etymology of the place-name suggests that the origins of the modern settlement lie in the later Anglo-Saxon period. The village appears as *Torne* in the *Domesday Book*, a word utilising the Old English *thorn*, meaning '(place at) the thorn-tree' (Mills, 1993).

The remains of a motte and bailey castle lie to the immediate west of the site on Peel Hill (see report cover). It has been suggested that these defences were constructed by the first Earl of Warenne, possibly during the 1070s while he was involved in the suppression of Anglo-Saxon rebels during the 'Harrying of the North' (Symonds, *et al.*, 1994). The choice of Thorne was probably influenced by the increased defensive potential of its island location.

The limited extent of the raised ground would have restricted arable production, meaning that the majority of the population would have been engaged in other forms of occupation throughout the medieval and post-medieval periods. Activity would have been focussed upon the surrounding marshlands, much of which would have utilised for summer pasture (Godwin, 1991: 19-22). Additionally, many people would have engaged in commercial peat cutting for use as fuel or building materials, with others cutting reeds for thatching. Fishing and trapping eels would also have formed a significant component of the economy.

#### **4.0 Methodology**

Detailed area survey using a fluxgate gradiometer is a non-intrusive method of evaluating the archaeological potential of a site. The gradiometer detects magnetic anomalies created by areas of high or low magnetic susceptibility. These variations are caused by changes in the composition of the subsoil or the underlying geology. Archaeological features result from man-made alterations to the soil and they may also incorporate intrusive materials such as brick and stone. These features can create detectable magnetic anomalies. In addition, activities that involve heating and burning can generate magnetic anomalies, as will the presence of ferrous metal objects.

The anomalies detected by a fluxgate gradiometer survey can often be resolved into entities sharing morphological characteristics with features of known archaeological

provenance. This enables the formulation of an informed, but subjective, interpretation.

Magnetic variation between archaeological or naturally occurring features and natural geological strata can result from:

- their relative depth or density of fill
- the magnetic properties of materials introduced as a result of human activity (e.g. rubble, stone, brick/tile, ferrous metal etc.) in contrast to those within surrounding natural deposits
- magnetic enhancement associated with areas of burning
- the magnetic properties of localised, naturally deposited minerals, such as those occurring in the fills of palaeo-channels.

The area survey was conducted using a *Bartington Dual 601* fluxgate gradiometer set to take four readings per metre (a sample interval of 0.25m). The zigzag traverse method of survey was used, with 1m wide traverses across 30m x 30m grids. The sensitivity of the machine was set to detect magnetic variation in the order of 0.1 nanoTesla.

Data from the survey was processed using *Geoplot (v. 3.0)*. It was desloped (a means of compensating for sensor drift during the survey) and clipped to reduce the distorting effect of extremely high or low readings caused by discrete pieces of ferrous metal. The results are plotted as greyscale and trace images (Figs. 3-6).

The site was surveyed by David Bunn and Peter Heykoop on 2<sup>nd</sup> and 3<sup>rd</sup> of February 2004.

Instrument	Bartington Dual 601 fluxgate gradiometer
Grid size	30m x 30m
Sample interval	0.25m
Traverse interval	1.0m
Traverse method	Zigzag
Sensitivity	0.1nT
Processing software	Geoplot (v. 3.0)
Weather conditions	Cool, occasional showers
Area surveyed	4.64ha

**Table 1: Summary of survey parameters**

## 5.0 Results (Figs. 3-6)

### Area A

The survey recorded a wide range of magnetic variation. For the most part, the strongest relates to sports facilities, such as goalposts and tarmac/concrete sports tracks. Other strong magnetic anomalies indicate the locations of service manhole covers. All of the above are highlighted on figure 6.

A number of manholes are linked by linear features (purple/yellow). Some of these almost certainly represent clay drains (e.g. sewers) that extend along the alignments of former land divisions (Fig.6: 1<sup>st</sup> Edition Ordnance Survey, dated 1853). Others that also appear to indicate drains/services do not relate to former boundaries (1-6). Linear anomalies 3 and 4 resolve as depleted magnetic anomalies. This could indicate the locations of (?plastic) water pipes. Linear anomalies 5 and 6 are more characteristic of clay land drains.

The position of the manholes and the magnetic characteristics/alignments of certain linear anomalies might provide the basis for a reasoned plan of the service network. The suggested layout is partially conjectured, given that it has not been possible to clearly differentiate between the drains and the former boundaries. It is reasonable to assume, however, that all of the linear anomalies discussed above indicate features of low archaeological potential.

A number of discrete and extreme readings do not reflect surface features, but it seems likely that they are of modern origin (circled in red). Zones of similar, though more widespread, magnetic variation also appear to be of modern origin and probably reflect deposits of ferrous bearing material, such as ceramic rubble (boxed in red).

The survey identified three sets of relatively weak linear anomalies that probably indicate traces of ridge and furrow ploughing (examples of each set labelled 9-11). All appear to respect former boundaries (1<sup>st</sup> Edition Ordnance Survey). East to west aligned group 9 were recorded in the western part of the survey area. Linear groups 10 and 11, which were detected in the mid part of the survey, are more closely spaced (c. 5m furrow interval). Interestingly, for a modern playing field, traces of Group 10 hasurvive as slight undulations on the surface.

A series of ditch-like linear anomalies were recorded in the western part of the survey area (shown as green). Of potential archaeological significance, these appear to represent boundaries of a former field system. Their alignments, particularly that of linear 12, partially correspond to boundaries/tree lines that are depicted on the 1<sup>st</sup> edition map. This suggests that they may date from a similar period, possibly as an earlier configuration of the 1853 field arrangement.

Pit-like anomalies were detected across the survey area (discrete examples circled in green, groups boxed in green). The archaeological significance of these has not been clearly established by the survey, although their potential as relatively recent features is enhanced by the extent of modern intrusive activity (pipe lying, boundary clearance etc).

## **Area B**

A linear anomaly (shown as yellow) represents a former continuation of an existing ditched boundary.

Two magnetically strong anomalies (circled in red) probably indicate modern ferrous materials, although nothing was noted on the surface.

The survey has not clearly identified potentially significant anomalies, although extremely weak magnetic variation in the northwest part of the survey possibly resolves as traces of linear features (?cultivation marks).

## **6.0 Conclusions**

The bulk of magnetic variation can be associated with modern and/or known features. These include goalposts, services and former field boundaries.

The survey recorded traces of a former use of the site as agricultural land. Groups of parallel linear anomalies in Area A almost certainly reflect ridge and furrow ploughing, some of which survive as slight undulations across the site. Other linear anomalies appear to represent components of a former field system, (later) traces of which appear on the 1<sup>st</sup> Edition Ordnance Survey map, dated 1853.

With reference to the survey results/areas alone, it is concluded that the site possesses limited archaeological potential.

## **7.0 Acknowledgements**

Pre-Construct Geophysics would like to thank Pre-Construct Archaeology Ltd (Northern Office) for this commission.

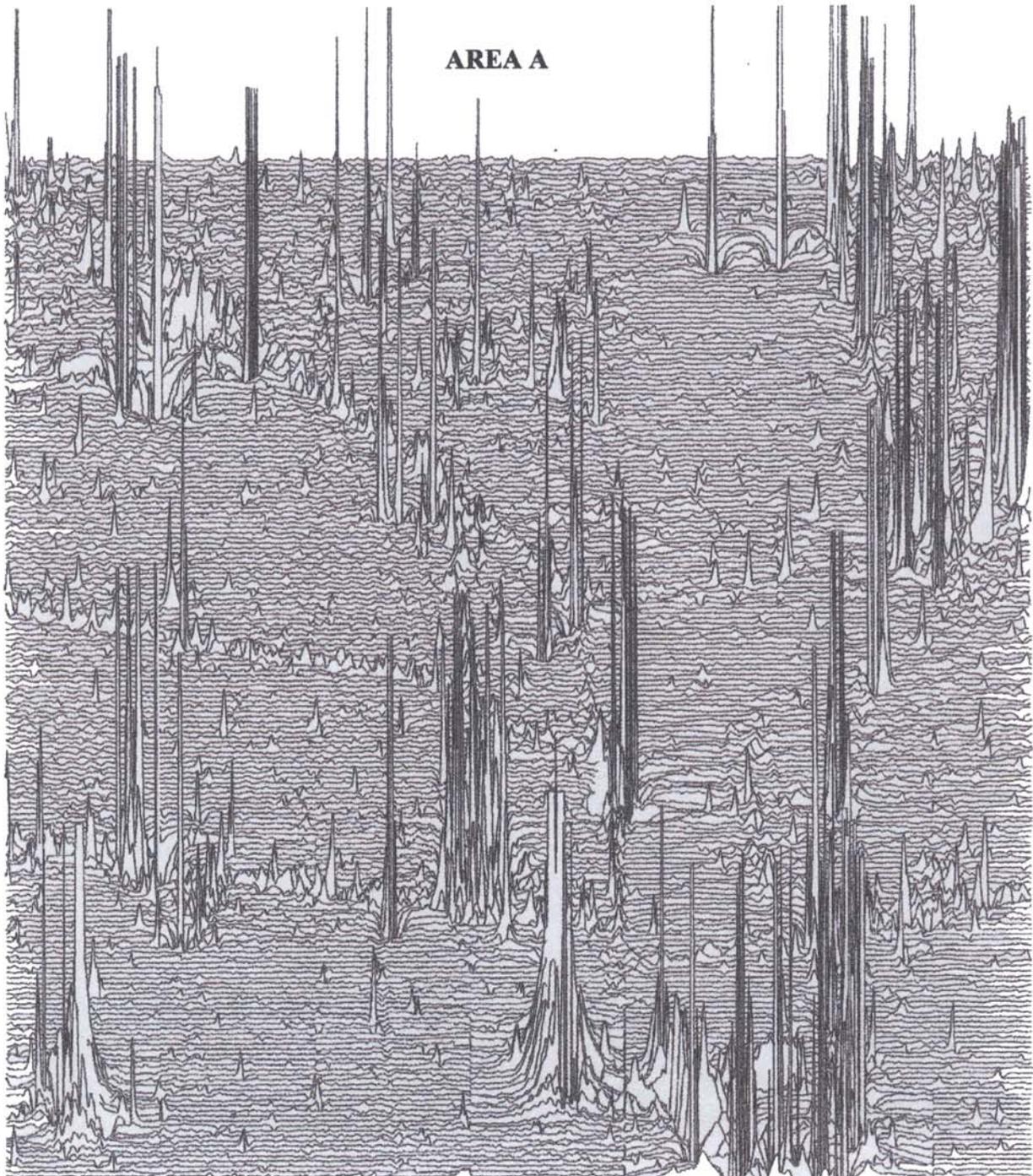
## **8.0 References**

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Data clipped to +/-200nT  
Graphics: Hidden line on

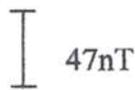
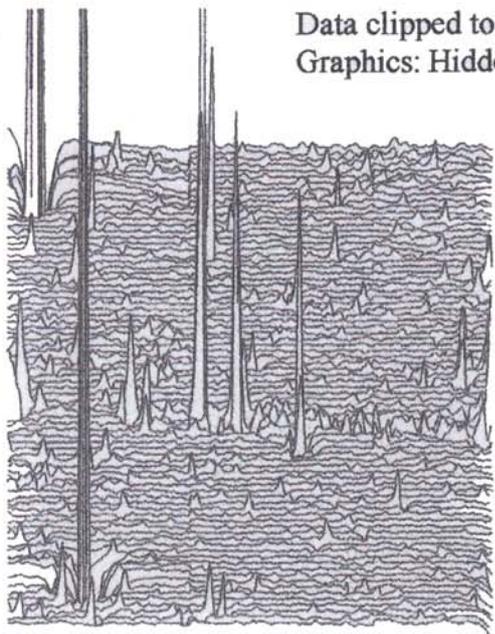
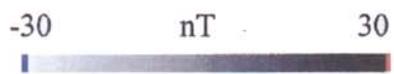
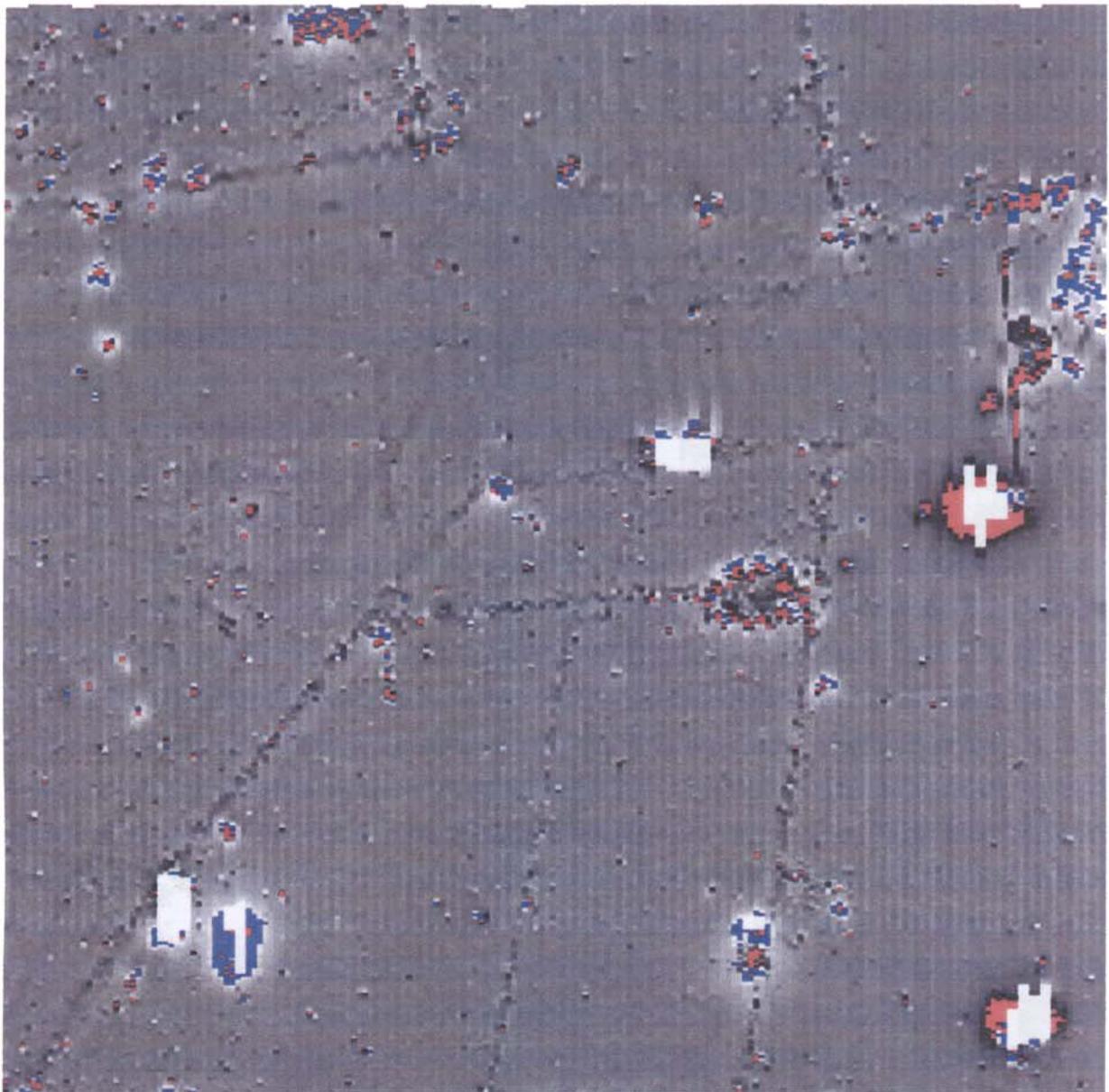
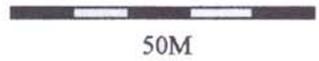
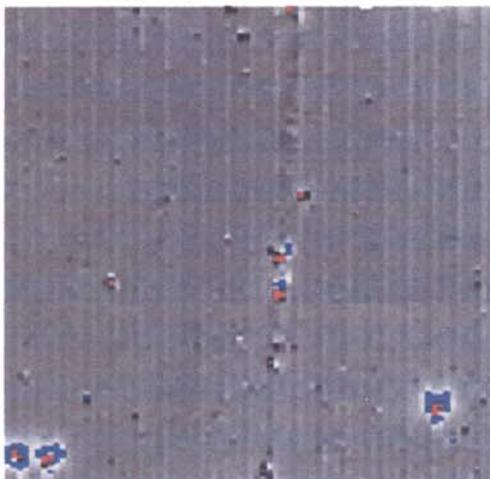


Fig.3: Trace plots 1:1250

AREA A



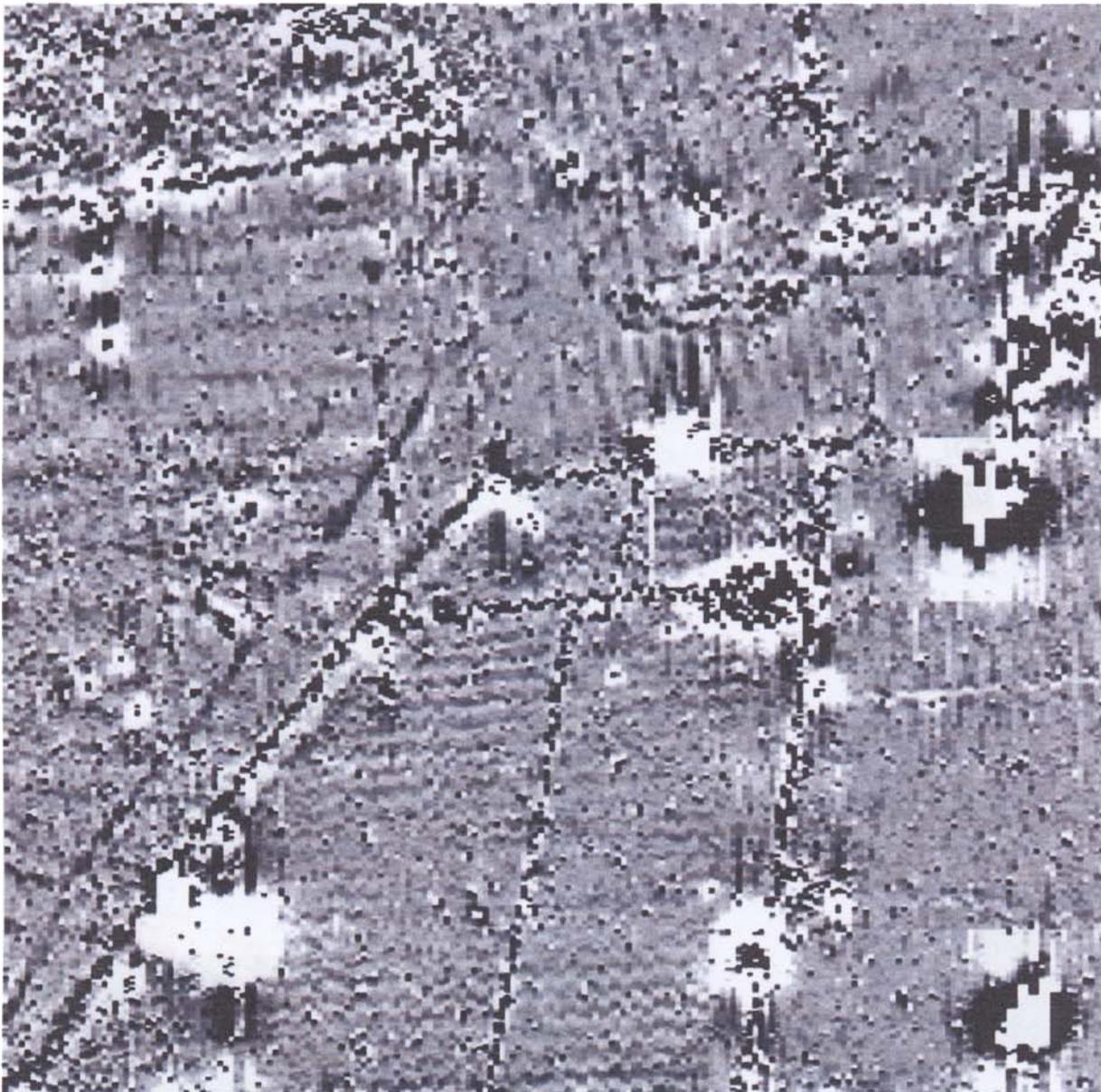
Data clipped to +/-200nT



AREA B

Fig.4: Images of raw data 1:1250

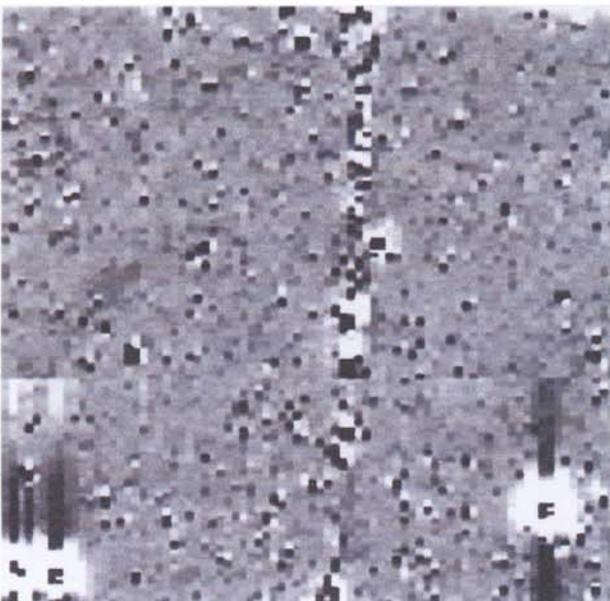
AREA A



-3      nT      3



50M



AREA B

Fig.5: Greyscale images of enhanced data 1:1250

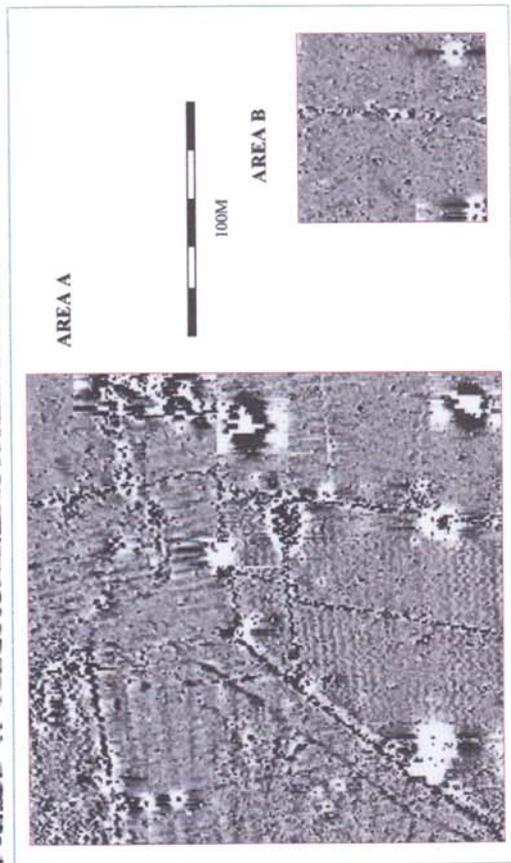
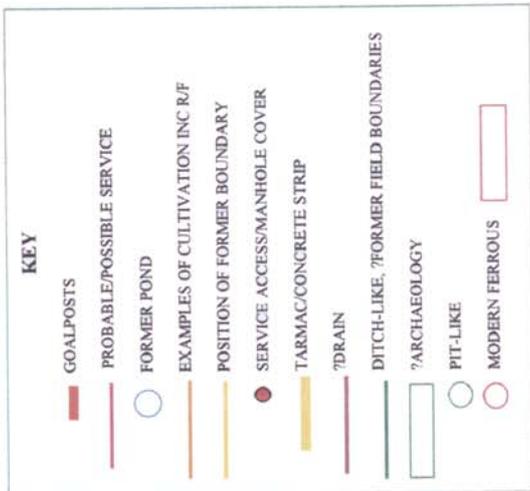
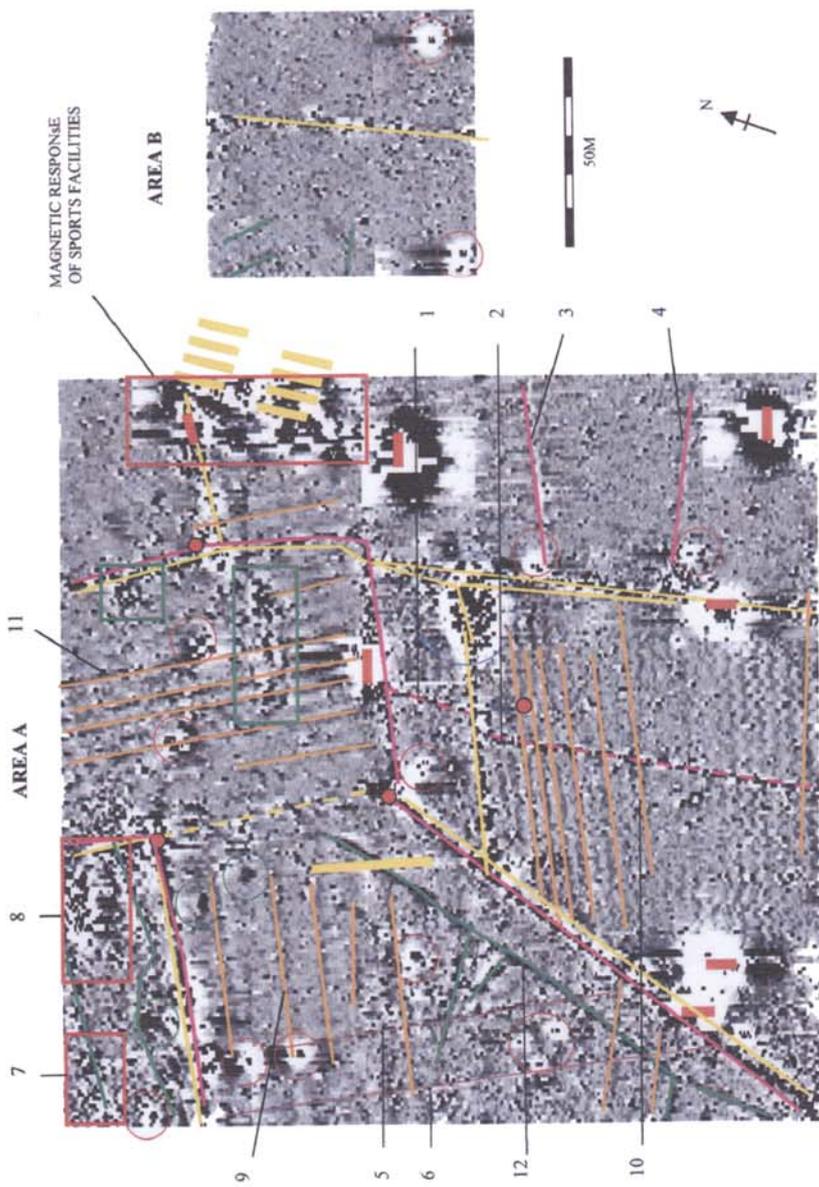


Fig.6: Interpretive plots

# PCA

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