

Archaeological Investigations at Kitchen Garden

Preston Park

Stockton-on-Tees



TA10/04

OASIS ID 73418

Archaeological Investigations at the Kitchen Garden

Preston Park

Stockton-on-Tees

2009

R Daniels

TA10/04

OASIS ID 73418

© Tees Archaeology 2010

*Tees Archaeology, Sir William Gray House, Clarence Road, Hartlepool, TS24 8BT
Tel: 01429 523455 Fax: 01429 523477 email: tees.archaeology@hartlepool.gov.uk*

Contents

List of Figures

Introduction

Purpose and Methodology of the Project

Desktop Assessment of the Kitchen Garden

Excavation Descriptions

Finds Report

- Animal Bone

- Iron

- Lead

- Glass

- Pottery

- Clay pipes

- Clay Building Material

- Stone

- Miscellaneous

General Discussion

Appendix 1: Tables of finds by material

Figures

List of Figures

1. Location of Preston Park
2. Ordnance Survey Map of 1856
3. Ordnance Survey Map of 1898
4. Archaeological Interpretation of Geophysical Survey
5. Location Plan showing position of trenches A - E
6. Plan of Trench A and lines of footpaths
7. Section drawing of Ditch 06, Trench A
8. Plan of Trench B
9. Construction trench for footpath B06, showing ashy fill, Trench B, view from the north
10. Construction trench for footpath B12, Trench B, from the south
11. Section drawing of footpath B04, Trench B
12. Construction trench for footpath B04, showing brick rubble fill, Trench B, view from the south
13. Section drawing of Water Pipe trench B14, Trench B
14. Plan of Trench C
15. Plan of Trench C extension
16. Spread of broken tiles, C16, Trench C, view from the east
17. Cow Horn Core 'in situ', Trench C
18. Section through footpath in Trench E
19. Trench E from the north
20. External, angled buttresses of the former south wall, from the east
21. South Wall Buttress 1, from the south
22. South Wall Buttress 2, from the south
23. South Wall Buttress 3, from the south

Introduction (Fig 1)

Preston Hall, Stockton-on-Tees (NZ 430 159) was built between 1820 and 1825 by David Burton Fowler and sited on land what was previously farmland. Later in the 19th century it changed hands and passed to Sir Robert Ropner. As initially constructed the hall faced across the river, to the south, but in 1882 it was re-fronted to become north facing. At the same time a Winter garden was added to the west end of the hall. The landscaping of the grounds of the hall does not seem to have been carried out to any grand scheme, and was perhaps more influenced by the desire to shield the hall from views of the Stockton & Darlington Railway to the north and the Whinsill quarry to the west.

The walled Kitchen Garden is laid out on a gentle south-facing slope and was probably established at the same time as the hall was built and is certainly shown on the first edition Ordnance Survey map of 1856. The successive Ordnance Survey maps allow the plotting of changes in the basic appearance of the walled garden, but there is no recorded information on the detailed appearance and produce of the garden. In general terms it would of course have been used for growing vegetables, fruit and flowers for use in the house and would have been intensively cultivated.

Preston Hall and Park are owned by Stockton Borough Council who are pursuing schemes to upgrade both the buildings and the park.

Purpose and Methodology of the Project

Stockton Borough Council is considering re-establishing the Kitchen Garden and in conjunction with Tees Archaeology it was felt that archaeological work in the garden area would provide useful information to inform such a scheme. This would also provide an opportunity for local people and local schools to take part in archaeological work and raise awareness of the garden.

The specific objectives were:-

- to ascertain the original layout of the walled garden, in particular where the paths were established and the location and character of any significant structures such as greenhouses.
- to define the nature and appearance of the paths and their edging.

The range of techniques deployed to achieve these objectives comprised:-

- a desk based assessment was carried out to identify any maps, plans or documents which might provide information about the garden.
- a Geophysical Survey of the garden was commissioned to identify the location of paths and any other major features of the garden.
- a number of small scale excavations examined features identified by the Geophysical Survey, in particular confirming the character and appearance of paths and other features of interest.

Desktop Assessment of the Kitchen Garden

At the present time this assessment is based on the Ordnance Survey maps only.

First Edition Ordnance Survey Map 1856 (Fig 2)

This shows the garden quite clearly. It is oriented north-west to south-east, but for ease of description the north-west wall will be referred to as the north wall and the other orientations will be taken from this. The north wall has a building mid way along it which projects both sides of the wall, there is an opening through the wall beyond the west end of the building. The north-east corner of the wall is a sharp angle, while the south-eastern corner is rounded; there is no indication of an opening in the east wall, a path approaches it from inside the garden but does not continue beyond the wall. No opening is depicted in the south wall, however there are paths on both sides about two thirds of the way along and this probably indicates an opening.

The south-west corner seems quite angular and has two walls meeting it from the north. The outer wall follows a curve up to the north-west corner, while the inner runs directly to the corner. This creates a curved annexe to the garden. The north-western corner describes a right angle to the inner wall, while the outer wall curves away quite gradually. There may be a structure of some sort set into the gap between the inner and outer walls at this corner.

Paths approach the curved and straight western walls and appear to go through both.

The interior of the garden is divided into unequal quadrants with the north-south path being offset to one side, following the line from the opening next to the building in the north wall. The east-west path is approximately mid way along the walls. Paths are depicted along the side of all the walls, but no minor paths are shown. The plan appears

to show vegetation of some description in all but the north-eastern quadrant. There may also be a wall linking the south-west corner of the garden to the orchard to the immediate south.

Second Edition Ordnance Survey Map 1898 (Fig 3)

The basic layout of the garden appears to have changed little by 1898, although no internal vegetation is shown. Some building work had however taken place. The building on the north wall had been extended to the west, beyond the passage through the wall, it may also have been widened. This building is presumed to be a greenhouse.

A new building had also been constructed at right angles to the east wall. This is still extant and was probably for the head gardener, it was provided with gardens front and back.

Discussion

The extent section of the garden walls, sheds further light on the map depictions. All the walls are built with a gap between the two leaves and a building survives to the exterior of the north wall. This has always been known as a boiler house and must have been the source of hot air to serve both the greenhouse and for circulation around the walls.

Two features have no obvious explanation as yet; the offset pattern of the paths and the curvilinear enclosure outside the west wall. Further work, both documentary and archaeological may throw light on this.

Geophysical Survey (Fig 4)

A geophysical survey of the walled kitchen garden was commissioned from Archaeological Services, University of Durham. This was intended to identify the location of paths, the now demolished south wall and any indication of beds or other features.

The survey took place in March 2009 and comprised both geomagnetic and electrical resistance survey of the available area. The north-eastern quadrant of the garden was unavailable due to numerous low brick walls constructed in the 1980s, while an area c 5m wide adjacent to the north wall is paved and therefore not available for survey. The full report 'Kitchen Garden, Preston Park, Stockton-on-Tees, Teesside, ASUD Report 2162, March 2009' is held in the Tees Archaeology Archive and what follows is a summary of the results.

Paths

In addition to the main quadrant paths which are still visible and in use the survey identified two additional paths running north-south within the north-west quadrant, both seem to run the full length of this quadrant and continue into the next, but do not run the full length of the next quadrant.

Walls

The survey identified a curving feature in the south-east corner, which was interpreted as the remains of the southern boundary wall.

In addition to these features a service pipe was identified running from the south-west corner towards the middle of the east wall and extensive deposits of rubble were indicated along the west wall.

Excavation Descriptions

Five trenches, A, B, C, D and E were opened using a mechanical excavator and the excavations were directed by Robin Daniels and supervised by Gary Green with a number of volunteers providing the main labour force (Fig 5). The trenches were sited to test geophysical anomalies and to identify any evidence of nursery beds.

Trench A (Figs 6 & 7)

Trench A was sited in the south-east corner of the garden over a curving geophysical anomaly which was interpreted as the demolished south wall. This area had intensive rabbit burrowing through and around it. The trench measured 5.9m x 2.8m and was oriented east – west. The following phases run from the earliest to the latest.

Phase 1

This comprised a general horizon of brown sandy clay (A08, A12), overlying the natural and probably represented use of the site prior to the establishment of the walled garden.

Phase 2

A north-south ditch (A06) was dug across the site (Fig 7). This was c250mm deep and at least 0.6m wide. It was filled with a light brown clay (A15) which contained flecks of coal and brick. This may have been intended as a drain.

Almost certainly contemporary to this a path (A07) comprising loose rubble was laid down to the east of the ditch. The original width of this

path is not known as it was truncated later. Both of these events probably coincide with the construction of the walled garden.

Phase 3

The ditch (A06) filled up and was re-cut slightly to the east as ditch A16, in doing so it cut through the path (A07). This reduced the path to a width of c.250mm.

Ditch A16 was c.1m wide at the top, with a vertical edge to the east where it cut through the path (A07) and a 45 degree slope to the west. The very bottom of the ditch was a clearly defined 'U' shape and the widening of the profile to the west may have been the result of periodic digging out of the ditch to clean it.

The bottom fill of the ditch was a light brown silt (A05), overlain by a grey-brown clay (A04) and the topmost fill (A03) was a light brown soil with numerous fragments of brick and mortar.

Phase 4

Deposits of soil and clay built up on both sides of the ditch. Those to the west were best preserved (A11, A13, A14), while that to the east, A12, was heavily damaged by rabbit burrows.

The topsoil (A01) covered the whole area and was a dark grey soil c. 250mm deep, again there was heavy rabbit burrowing through this.

Trench B/B ext_(Figs 8 – 13)

Trench B was sited to the immediate west of the main north-south path in the north-west quadrant of the garden. It was intended to investigate the possible paths in this area that were identified by the geophysical survey.

During the machine stripping it was decided to extend the trench with a long slot to the west due to the relative lack of features seen in trench B. The main trench measured c.12.6m x c.5.2m, while the extension was c.18.6m long and c.1.5m wide, it did not quite reach the western boundary wall.

Following the removal of the topsoil, B01, four features were identified, three of these were probably north-south paths and the fourth was a service trench containing water pipes.

Footpaths

Footpath B06 ran from north to south through trench B. It was parallel to the extant main north-south footpath and c.5m to its west. It did not appear to continue beyond the main, extant, east-west path.

B06 was created by digging a trench 0.8m wide at the bottom, 1m wide at the top and 0.5m deep (Fig 9). This trench was first filled with an ashy brown/black soil which contained charcoal, clinker and some clay pieces (B11). This layer was 180mm deep. Overlying it was a light brown sandy soil 120mm thick (B08), which again contained charcoal, clinker and other burnt material. Overlying this in turn and forming the surface of the footpath was B07 a layer up to 200mm thick, comprising a dark-grey sandy soil containing pieces of charcoal, brick and mortar.

The trench for this footpath was unexpectedly deep and the depth and the loose character of the fill suggests that the provision of drainage was as much a consideration as the provision of a hard wearing surface.

Footpath B12 lay c.10.6m west of B06 and ran north-south, parallel to the latter. A trench 2.05m wide and up to 250mm deep had been cut into the natural clay, the content of this trench varied (Fig 10). In part it contained grey/brown clayey soil containing pebbles (B10) and in the northern part of the excavated section there was a large stone slab and a deposit of loose rubble (B09). It is not clear why the make up of the footpath should vary so much.

Footpath B04 lay 2m west of B12. Again a trench had been dug into the natural, 0.8m wide at the base and 1m at the top (Figs 11 & 12). It had a maximum depth of 340mm. The trench had a single fill of broken bricks (B03). The latter were handmade and probably of the same type as used for the construction of the wall. This fill was quite loose and again drainage seems to have been as much a factor as a good surface.

Overlying the brick fill was a dirty mortar layer (B02) 8 to 11mm thick which provided a hard, compact surface.

To either side of the footpath was a small band of clay, up to 100mm wide and beyond this a bed had been dug out to a depth of 150mm. It is not clear if this was the deliberate construction of a bed in the clay or the result of cultivation over a period of time.

Service Trench (Fig 13)

A trench 0.9m wide at the top and a maximum 0.6m deep (B14) was noted running east-west across the site, beneath the main east-west path. This contained a dark brown clay fill with some pieces of brick (B15). The trench also contained two water pipes, one made of cast iron, the other, in a slightly deeper cut, was plastic. It is presumed that these provided and provide the water to the garden.

Trench C (Figs 14 - 17)

Trench C was set in the south-west quadrant of the garden and was oriented east west, measuring c.9.8m x 1.6m. It was initially opened by machine and then a narrow slot was extended right up to the face of the wall by hand (Fig 14 & 15).

The main activity in this trench comprised the initial establishment of a deep cultivation bed adjacent to the west wall of the kitchen garden and the creation of a bordering footpath. Subsequent to this a footpath was built to the wall. All of this activity is contemporary with or subsequent to the construction of the walled garden.

Phase 1

Cultivation bed

A deep cultivation bed was defined at the east end of the trench measuring perhaps 3.7m wide and with a total depth of c.0.5m.

The first activity comprised the insertion of a an early type clay field drain (C18), at the western end of the trench, cut into the natural grey clay (C06) and an overlying dirtier clay (C17) (Fig 15). This was the only formal drainage encountered within the garden, however there may be others yet to be identified. Overlying the field drain and only excavated over a small area was a large spread of broken tile and field drains (C16) (Fig 16). This might occupy the full width and a significant length of the bed. The broken tiles were presumably laid down to assist drainage in these very heavy soils; a number of the pieces had the name 'Lambert' on them.

A dark-grey clayey soil (C15) developed over the area of the tile spread. This was the result of cultivation of the bed. A deposit of cattle horn cores was encountered in the narrow extension, immediately adjacent to the garden wall (Fig 17). The horn cores were still attached to the top of the skull and no other cattle bones were seen in the trench. It is possible that the slot was too narrow to pick up other

parts of the animal, however if only horn cores are present it suggests that this is the debris from the removal of horn from cattle skulls for manufacturing purposes. It is very surprising to find this kind of activity in such a context.

Footpath

The end of a trench (C08), which may be the terminal of a footpath, entered trench C 3.7m east of the boundary wall (Fig 14). It was c.1.3m wide at the top and extended c.04m into trench C from the south section. This had been cut 0.4m into the underlying clay and the fill comprised a brown clay with some stones and mortar.

The line of this footpath may well have provided the eastern extent of the bed containing the broken tile.

Footpath

This footpath was sited 0.7m east of the previous and 5.8m east of the boundary wall (Fig 14). It ran north-south through the trench and appears to be a continuation of that seen in Trench B (B04). A trench (C05) 0.9m wide at the base and 1.05m wide at the top was cut a maximum of 280mm into the natural clay. This was filled with loose brick rubble (C04), comprising different sized fragments of hand made brick. Overlying the brick was a surface up to 60mm thick of a dirty grey-white mortar.

Phase 2

Changes to the layout of the footpaths seem to have taken place. There is no clear dating for this, but it is most probably of 20th century date (Fig 14).

At the western edge of the trench a kerbing of scoria blocks (C13) was set on to a dolomite base (C14). This created a border c.2.35m wide between the wall and the new edging.

In addition to this a footpath was established from the kerbing to the wall. This had been cut into the topsoil (C01) and had grassed over. It comprised a poured concrete edge (C11) overlain by dolomite (C10) which formed the surface of the path.

Trench D

This was sited at the southern end of the main north-south path and ran parallel to it. It was 1.40m wide and 6.2m long. Only the top

surface was removed from this trench to allow its use by educational groups. This did however result in the finding of some material in the topsoil.

Trench E (Fig 18, 19)

Trench E was opened by hand to locate the south wall of the kitchen garden and extended from the garden into the ditch beside the lane to the south. It measured 1.4m wide by 3.8m long.

It had been presumed that the wall would have been sited on a slight ridge which runs along the southern edge of the garden. This was not in fact the case. The wall was sited in what is now a ditch between the garden and the lane.

The top surface of the trench had a ridge at its southern end and while the depth of topsoil (E01) over the northern part of the trench was 0.47m, beneath the ridge it was 0.6m. There were no underlying features to explain this ridge and it may well have been produced by throwing up earth during demolition of the south wall, in order to get at the base of the wall.

Footpath

There was a footpath running east-west through the trench. A trench at least 0.7m wide and probably 1m originally was cut 0.22m into the natural clay (E06). The trench was filled with a deposit (E03) of broken hand made bricks about 100mm thick and this was overlain by a dirty grey mortar (E02) again about 100mm thick.

A slot ran along the northern edge of the footpath and appeared to have cut through it. It contained a black ashy deposit (E05) and pieces of clay (E04). The purpose of this is uncertain, but it may have contained a kerbing for the path.

The base of a modern brick wall, set on concrete was identified at the southern end of the trench. This was presumably intended to replace the original south wall.

The South Wall Buttresses

During the project re-surfacing work took place on the lane to the south of the garden and the removal of materials revealed external, angled buttresses that had previously supported the south wall.

Three buttresses were seen at the eastern end of the south wall:-

Buttress 1 was 0.6m wide, comprising four bricks set width ways and seven courses were exposed. The buttress was laid at an angle of 60 degrees to the perpendicular.

Buttress 2 lay 7.05m to the west and was 0.72m wide, comprising six bricks set width ways. A total of six courses were exposed and the buttress was again laid at an angle of 60 degrees to the perpendicular.

Buttress 3 was 5.06m west of buttress 2 and was 0.7m wide. The bricks were laid with two lengthways and the third widthways. Ten courses were exposed and the buttress was laid at angle of 45 degrees to the perpendicular.

It is possible that buttresses ran the whole length of the south wall but there was no opportunity to test this.

Finds Report

Introduction

The finds from the excavations in the kitchen garden reflect the 19th and 20th century activities around the garden and the house and as such show the typical tastes, materials and objects of the period. The vast majority were found in what would have been cultivated soil and have become part of the archaeological record through being discarded, usually after being broken.

There are three exceptions to this; three instance where deliberate deposition of material has taken place. These are in the creation of the paths; in providing a drainage horizon for the cultivation bed adjacent to the west wall (Trench C) and the deposition of the cattle horn cores immediately adjacent to the west wall in trench C. These three phenomenon will be dealt with in the discussion below.

This report summarises the main categories and types of finds. A complete catalogue has been produced by context and is held as part of the site archive.

Animal Bone

Animal bone was not present in large quantities, although it was found in the three major trenches, A, B and C. The species identified are cows, sheep, chickens and rabbits.

Cattle

Cattle bones were found in trenches B and C. Virtually all of these showed clear evidence of butchery and the bones represent joints of meat. They comprised mainly ribs (8 in B, 1 in C) while one part of a leg joint was found in each of trenches B and C and a tooth and part of a pelvis were also found in B. The actual butchery took place elsewhere and this represents the waste from cooking the food, probably discarded from the hall kitchen.

The quantity of horn cores found in trench C is more intriguing - six partial skulls and horn cores from both sides of the skull and three parts of horn cores. The partial skull remains and absence of jaws together with the chopping and cutting marks indicate that only part of the skull was being obtained and that this was then being processed to remove the horn. Presumably the horn was then being worked. At least four animals are represented by the remains, however without more information on the total numbers of bones involved it is difficult

to estimate the scale of what was happening, it may have been purely local usage. The stratigraphic position of this material against the west wall suggests that it is later than construction of walled garden in c.1825, but it may well have been deposited relatively early in the use of the garden.

Sheep

The remains of sheep were found in trenches B and C and as with the cattle there were extensive signs of butchery. Most of the bones were found in trench B and were the remains from butchered joints.

Chicken

Chicken was encountered in trenches A and B and comprised principally the leg bones. As with the cattle and sheep this suggest the remains from cooking and consumption rather than raising and butchering.

Rabbit

Rabbits were only seen in trench B, it is however uncertain whether this represents the remains of food or one of the many wild rabbits which inhabit the site.

Shell

There was very little shell visible on the site, the only finds being the large and easily visible Oyster shells and only five of these were found. These would have been derived from consumption in the hall.

Ironwork

Twenty six pieces of ironwork were recovered, however the majority of these (19) were nails, of these the majority (14) were of square section with hammered head. This is typical of handmade nails prior to the 20th century when the modern round nail was developed. The remaining ironwork is of no particular note, representing the range of materials and fittings one might expect around a garden and greenhouse. See listing in Appendix 1.

Lead

One piece each of lead sheet was found in trenches A and B, that in A was an offcut, while that in B was a piece of sheet which has been nailed on to something. Both of these finds probably represent the use of lead for flashing to waterproof joints.

Excavation by school parties in trench D revealed the upper torso of a horseback soldier, possibly of the Royal Horse artillery. This may have been lost while playing in the garden, or discarded when broken.

Glass

Both window glass and the remains of glass bottle were encountered in trenches, A, B , C, and E.

Window glass

This was of two types main, of differing thickness, clear glass probably of 20th century date and a pale green glass of 19th century date. Both of these probably come from the extensive greenhouses that were previously a feature of the garden. The hall would have been glazed in clear glass from the first and there is therefore no need to suggest that the cheaper green glass originated elsewhere than the garden.

In addition to the basic window glass, opaque window glass was found in trench B. The opacity was created in different ways; by the inclusion of numerous moulded lines on one face and by one surface being coarse. These are more likely to have come from the hall, either as decorative work or as glazing for toilets or bathrooms.

Glass vessels

Fragments of glass vessels were a frequent find with at least twenty five being identified. Trench A provided 2, B 16, C 4 and E 3. These vessels had a variety of functions from drinks and other storage to ornamental.

Four colours of glass were found; clear (10 examples), various shades of green (12), Blue (2) and brown (1). The majority (20) were from round vessels, however both rectangular (3) and oval shapes (1) were identified as was what could have been a square jar with round neck.

Two complete small clear glass rectangular bottles with original metal screw caps were found. It is not known what their contents might have been, but both had a three letter stamp 'UCB' on the base. Possible higher quality glass vessels were also identified, with a small clear glass jar in trench A and a clear glass base with acid etched frosting internally and externally found in trench B. Despite these the majority of the finds are utilitarian and probably reflect usage in and around the garden.

Pottery

A significant amount of pottery was recovered, although the majority comprised relatively small pieces. This suggests that they entered the ground as broken objects and were probably spread across the garden within the manure and other material use to fertilise it. Virtually all the pottery fits into a 19th to early 20th century date as might be expected if it was derived from the use of the hall and the grounds. There is nothing to suggest significant earlier activity on the site.

Plant Pots

Unsurprisingly a relatively large number of pieces of plant pot were found. The plant pots fell into two fabrics, a softer orange fabric represented by eight examples, from trenches A, B and C and a harder red/brown fabric present in all trenches apart from E, there were forty three examples of this, twenty seven of which occurred in trench B.

It is clear that the red/brown fabric was the most common and it is possible that the softer orange fabric represents a slightly earlier pot type.

Red Earthenware

The red earthenwares are a hard fired gritty fabric with few inclusions. The colour of the fabric varies between different shades of red/brown, however the main distinction is the presence or absence of slips and glazes.

The most basic augmentation is a reddish slip, usually only applied externally. Clear and brownish glazes was also applied and the most elaborate decoration involves an internal white slip with a clear/off white glaze overall giving a cream effect to the interior. The vessels were probably of relatively local manufacture.

These types of vessels were used for storage and food preparation and would have been largely confined to kitchen and storage areas.

Red earthenware was encountered in trenches A (5), B (18), C (4) and D (2).

White Earthenwares

The white earthenwares are a hard fired fabric with few inclusions, the fabric appears an off-white or light grey colour. It is usually encountered either with an overall clear glaze or with applied transfers, normally blue and white but on occasion other colours were used.

The shading of the blue and white transfer varies from a dark blue through to a light blue. Unfortunately this material is only present in relatively small fragments and this makes it impossible to identify specific transfer patterns that might help in identifying the manufacturer or a more precise date for the pottery.

The small size of the sherds should also be taken into account when considering quantity, forty four sherds of this were recovered (A-8, B-31, C-4, D-1), but this may represent significantly fewer pieces.

The pre-dominant form seems to have been the dish or plate, which is not surprising, this material would have been used for the everyday dinner services of the hall and these are the items most likely to have been broken. The presence of this material in the garden is a reflection of discard following breakage.

Bone China

Bone china is a very hard, fine and white fabric, with a typical composition of 50% ash of cattle bone, 25% china clay and 25% feldspathic stone. It was first produced in the mid 18th century in imitation of Chinese porcelain and represents a higher quality product than the more common white earthenware.

Twenty two pieces of bone china were encountered, four in trench A and eighteen in trench B. Eight of the pieces had transfer decoration, five blue and white, two with green and one with red and green. The remainder was undecorated. Where identifiable the forms comprised bowls, plates and cups as one would expect given the principal use of this material for high quality dining services.

As with the white earthenware the presence of this material in the garden is a product of it being discarded from the hall when broken and added to the general rubbish.

Porcelain

Porcelain is a translucent hard fired ceramic which first occurred in the UK as a Chinese import and was then copied by manufacturers. This was highly valued and only four pieces were recovered from the excavations, all from trench B. All four pieces are from decorative objects, two are small lids which presumably came from decorative boxes. One is the plinth of a small ornament and the fourth part of a cup or mug with a transfer decoration of a child and dog.

Stoneware

Only four pieces of stoneware were found, this is a fine, hard fired fabric, usually grey in colour. Stonewares occur from the 17th century onwards and could be highly decorative. In the 19th century and later they were relegated to the kitchen and for storage purposes. All of the pieces found had the typical light brown glaze.

Miscellaneous

There were five pieces in a fine, hard fired light/blue – gray fabric this was glazed and included moulded decoration and transfers . These pieces appear to be decorative. In addition there was one piece of an orange fabric otherwise unparalleled.

Medieval Fabrics

Four pieces of medieval pottery demonstrate earlier land use, these probably all came to site as part of a manuring campaign on what would then have been the medieval fields of Preston. The medieval village lying to the east of the site of the hall.

The fabrics are of two types, a gritty buff fabric which is associated with the local Tees Valley industries of the 12-14th centuries and a grey reduced fabric with green glaze which is typical of the later medieval period.

Clay pipes

These are moulded in a hard white clay. Their use commenced in the 16th century and continues to the present day, although they were largely replaced by cigarettes from the end of the 19th century. Their common occurrence on archaeological sites finishes at the same time. The clay pipe finds from the site comprised almost wholly pieces of stem, including a glazed original mouth piece. These frequently broke off but use of the shortened pipe would continue. A fragment of a decorated bowl was found probably commissioned by one of the social orders common at the end of the 19th century.

There are probably fewer clay pipes that one might expect and these may have been lost by the staff in the garden.

Clay Building Material

This category covers material such as brick, roof tile and field drains. All of which were encountered at the site. Only representative examples of this material were retained. Large quantities of broken

brick were encountered forming the fill of a footpath in trenches B and C, while an extensive deposit of tile was discovered at the base of trench C. Both of these finds indicate that waste and broken material was to hand in quantity and this probably came from the brick works which are known to have been operating just to the north, on the opposite side of Preston Lane.

Brick

All of the brick encountered was hand made in an orange fabric and much of it had stacking marks on one face where one mould have been stacked on top of another. The brick also included misfired wasters emphasising the probability that much of the material was waste from a manufacturer. None of the brick showed evidence of being used in construction as opposed to loose fill.

Field Drain

Large quantities of broken field drain were seen in trench C and these probably came from the same place as the broken brick. A number of drain shapes were present:-

- Inverted 'U' shape which represents one of the earlier type of field drains.
- Small diameter circular drain
- Oval field drain with a flat base.

In addition pieces of a segmental tile were found, one with the name 'Lambert' on it. These were intended to fit together to create a larger culvert.

Tile

Relatively few pieces of tile were encountered, one substantial piece had heavy internal sooting as though it may have been used as part of a flue and it is possible that this relates to the system for heating the garden walls.

Stone

Fragments of slate roofing tiles were found in B, C, D and E, none of any significant size. These would have been breakages from roofing the 19th century buildings.

One small marble like square of stone was recovered from D, covered in mortar and this may have been either flooring or wall decoration, possibly from somewhere in the hall.

Also of note was a fragment of fine sandstone paving, which again may have derived from the hall and its associated complex of buildings.

A single Prehistoric flint flake represents the very earliest activity in the area.

Miscellaneous

A single piece of mortar with coats of whitewash was found in Trench B and this may well have come from the walling within the greenhouses.

A number of pieces of vitrified material probably came from the furnace to heat the walls or alternatively from bonfires in the garden which had reached a high temperature.

General Discussion

While we cannot confirm the construction date of the walled garden it seems very likely that it was broadly contemporary to the building of the hall and belongs to the period 1825/26. There is no evidence that it pre-dated the hall, nor should we expect it to and it is certainly present in 1856 at the time of the first Ordnance Survey map of the area.

Layout of the Garden

The main focus of the work set out here has been on the layout of the garden and both the Geophysical Survey and the excavations have clearly identified a more complex system of paths than that shown on the Ordnance Survey map.

The Ordnance Survey map of 1856 and subsequently shows a basic quadrant layout of the garden, but the recent work has demonstrated that each of these quadrants was probably laid out differently to each other. It is also clear that the evidence of the subdivisions of the quadrants using paths still survives to be investigated today.

The excavation work also demonstrated that construction of the paths was also intended to improve the drainage of the site and that the relatively loose surface of the paths was consolidated with mortar laid to create a fall to either side to improve drainage.

Working the garden

The working of the garden was illuminated in a number of ways. In the first instance it was clear that there was a relatively thin topsoil, before the hard natural clay was encountered. This must have restricted the potential of the soil.

The unpromising nature of the clayey soil was alleviated in two ways. As touched on above attempts were made to improve drainage, the site occupies a natural south facing slope and this will have helped to some extent.

The trenching of the paths and the loose fill placed in the trenches will also have helped. Excavations in Trench C showed that extensive use of broken tile was also made to try to improve drainage. It is however intriguing that only one intact drain run was encountered, it may be that more await discovery and that the site had an extensive system of field drains laid in it, but this does not appear to be the case.

It is also noticeable that the depth of cultivation was increased by digging out the clay. Unfortunately it is unclear if this was done as a single deliberate act or perhaps more likely was a product of year on year cultivation of the site.

These factors all point to the need to provide for good drainage and better depth of soil than occurs naturally if the future cultivation of the area is to be attempted.

The Garden and the Hall

The purpose of the kitchen garden was to provide food and flowers(?) for the hall and the evidence of this production was found in the numerous remains of plant pots as well as the physical remains of the garden.

In return the garden received compostable material from the hall, no doubt mainly the food waste from the kitchen. Within this debris from the hall were numerous fragments of pottery broken in the kitchen and hall and discarded into the general rubbish, later used as compost on the garden. These fragments provide insights into the objects in daily use in the hall and kitchen.

A small insight into the food consumed is provided by the animal bone, of which there is relatively little, most of the bone must have been deposited elsewhere. Cattle, sheep and chickens are represented in the food assemblage, the absence of pig bones is however interesting.

The assemblage is probably too small to be certain that pork was in fact being avoided or whether the bones have been deposited elsewhere, nevertheless this should be borne in mind in any future work.

Further work

There are a number of topics and areas which would repay further work. The layout of the paths can be investigated further particularly in the two eastern quadrants, as can the question of the construction of cultivation beds.

The greenhouses have yet to be investigated at all and both the original width and floor surface could usefully be investigated. In many instance the greenhouses were semi sunken and it would be interesting to know if that was the case here.

Any further excavations will provide more artefacts to continue to throw light on the material used in the hall and perhaps provide a sounder basis to examine the meat diet of the hall and its inhabitants.

Appendix 1: Tables of finds by material

Animal Bone

Description	Quantity	Trench
<i>Cattle</i>		
Rib	8	B
Tooth	1	B
Leg	1	B
Pelvis	1	B
Leg	1	C
Rib	1	C
Skull and horn core	6	C
Horn Core	3	C
<i>Sheep</i>		
Vertebra	2	B
Tooth	1	B
Rib	2	B
Leg	2	B
Shoulder	1	B
Rib	1	C
<i>Chicken</i>		
Leg	1	A
Leg	5	B
Rib	2	B
<i>Rabbit</i>		
Skull	1	B
Jaw & tooth	1	B
Leg	2	B
Rib	2	B
<i>Shell</i>		
Oyster	1	A
Oyster	2	B
Oyster	1	C
Oyster	1	E

Iron Objects

Description	Quantity	Date	Trench
Iron strap(?) with slight internal curve and tapering.	1	19 th /early 20 th century	A
Short square section nail	1	19 th century	A
Hand made hook or cleat, with	1	Uncertain	B

two out turned arms, one incomplete, the complete one has a turned over end			
Piece of cast iron pipe, heavily corroded	1	19 th century	B
Large square section iron rod bent back on itself and heavily corroded	1	19 th /early 20 th century	B
155mm long square section rod/nail(?)	1	19 th century	B
84mm long piece of iron, heavily corroded, but appears to be of rectangular section, 14mm x 9mm	1	19 th century	B
Heavily corroded square section nails	10	19 th century	B
Bent piece of round section iron wire, 330mm long	1	20 th century	B
Bent piece of fine iron wire of round section, 45mm long	1	20 th century	B
Bent round section iron nail.	2	20 th century	B
Square section iron fitting with head.	1	19 th century	C
Square section iron nails.	3	19 th century	C
Cast Iron flattened ball 24mm diameter with flattened base and hole through the centre. Weight(?).	1	19 th /early 20 th century.	C

Lead

Description	Quantity	Date	Trench
Offcut of lead sheet, bent in half, in total 190mm long and 2mm thick.	1	19 th /early 20 th century	A
Bent sheet of lead 35mm by 80mm with two nail holes punched through.	1	19 th /early 20 th century	B
Top half of small lead/tin soldier, minus head and right hand. Tunic with webbing straps visible and gauntleted hand. Possible Britains 'B' series Royal Horse Artillery Outrider in full dress. 12mm high	1	Early 20 th century. Manufactured from 1901 to 1940	D

Glass

Description	Quantity	Date	Trench
Base of bottle in dark green glass.	1	19 th century	A

Shoulder and rim of small glass jar.	1	19 th /early 20 th century	A
Clear window glass.	2	20 th century	A
Clear pale green flat window glass.	15	19 th /early 20 th century	B
Flat clear window glass, frosted on one side.	4	20 th century	B
Clear window glass with numerous lines on one side, making it opaque.	3	20 th century	B
Thick piece of clear flat glass, one side coarse.	1	19 th /early 20 th century	B
Bottle neck and rim, clear glass 6mm thick with external groove below rim and collar.	1	19 th century	B
Clear glass, bottle or drinking glass.	2	20 th century	B
Clear glass bottle with metal screw cap intact and letters 'UCB' stamped on base.	2	20 th century	B
Clear glass with frosted finish internally & externally. Base of bottle(?)	1	20 th century.	B
Fragment of base of opaque white glass.	1	19 th /early 20 th century	B
Glass vessel in light green glass	2	19 th century	B
Curved piece of light green/brown glass from bottle.	1	20 th century	B
Green bottle glass.	2	19 th /early 20 th century	B
Two joining pieces light green glass, flat but then curved upwards. Function uncertain.	1	19 th century	B
Piece of thick light green bottle glass with fragments of moulded name. 'TTL' over 'RS'.	1	19 th century	B
Base and sides of blue rectangular bottle.	1	19 th /early 20 th century	B
Curved piece of Blue glass from bottle.	1	19 th century	B
Piece of clear window glass.	1	20 th century	C
Moulded bottle in light green glass with external relief lettering.	1	18 th /19 th century	C
Translucent light green glass. Part of bottle(?).	1	19 th century	C
Piece of base of brown glass, bottle(?) with oval base.	1	19 th /early 20 th century	C
Clear bottle with external moulded decoration of dots and traces of lettering.	1	20 th century	C

Thin, clear window glass. 19 th /early	1	20 th century	E
Clear moulded bottle with traces of lettering externally.	1	19 th /early 20 th century	E
Omphalos' base of bottle, semi translucent light green glass. Bottle has mould lines beneath base.	1	19 th century	E
Dark green glass bottle.	1	20 th century	E

Pottery

Description	Quantity	Date	Trench
<i>Plant Pots</i>			
Plant Pot, orange fabric	8	19 th /early 20 th century	A (4); B (2); C (2)
Plant Pot, red/brown fabric.	43	19 th /early 20 th century	A (3); B (27); C (8); D (5)
<i>Red Earthenware</i>			
Orange/brown fabric, unglazed earthenware.	1	18 th /19 th century	A
Earthenware in light brown fabric with brown glaze internally and externally and cream slip decoration.	1	19 th /early 20 th century	A
Fine red/brown earthenware	1	19 th century	A
Red/brown earthenware with dark brown glaze overall.	2		A
Red/brown earthenware pot with external red slip and internal clear glazed cream slip.	6	19 th /early 20 th century	B
Red/brown earthenware with external brick red slip. Jar or bowl.	2	19 th century	B
Brown/orange earthenware	3	19 th century	B
Brown/orange earthenware with internal red/brown slip.	1	19 th century	B
Brown/red earthenware with overall mid brown glaze with yellow flecks.	2	19 th /early 20 th century	B
Red/brown earthenware with internal white slip and cream glaze and external dark brown glaze with yellow flecks.	4	19 th /early 20 th century.	B
Red/brown earthenware with external brick red slip.	2	19 th century	C

Red/brown earthenware with white slip and cream glaze.	1	Plate. 19 th /early 20 th century	C
Four joining pieces of orange earthenware, square rim and shallow decorative groove externally. One piece of same pot does not join. Plant pot?	1	19 th /early 20 th century	C
Brown red earthenware sherd with external fine brown glaze and internal glazed white slip.	1	19 th /early 20 th century	D
Hard fired, brown earthenware base sherd.	1	18 th /19 th century	D
<i>White Earthenware</i>			
White earthenware with clear glaze.	4	19 th /early 20 th century	A
White earthenware with clear glaze and external horizontal bands.	1	19 th /early 20 th century	A
White earthenware with blue and white transfer front and back. Pattern uncertain, but generally foliage.	3	19 th century	A
White earthenware with clear glaze, moulded dish with one or more light blue rings around rim.	3	19 th century	B
White earthenware with clear glaze	10	19 th century	B
White earthenware with clear glaze, body sherd with handle, miniature jug,	1	19 th /early 20 th century	B
White earthenware with geometric and foliage blue and white transfers and clear glaze.	13	19 th /early 20 th century	B
Four joining pieces of base and side of bowl with footring. Fine white earthenware with speckled light grey external glaze and applied blue bands, three thin and one thicker. Internal off white glaze.	1	Late 19 th /early 20 th century	B
Four conjoining pieces of white earthenware decorative moulded bowl with blue transfer stem and flower internally. Internal vertical fluting and rim is undulating.	1	19 th /early 20 th century	B
Fragment of white earthenware moulded piece with external relief decoration of vegetation. Possible spout.	1	19 th /early 20 th century	B

White earthenware rim with clear glaze and external horizontal yellow brown lines beneath rim.	1	19 th /early 20 th century	B
White earthenware base with internal and external cream glaze. Circular stamp on base that might be part of maker's name. Plate.	1	19 th /early 20 th century	C
Rim of clear glazed white earthenware bowl.	2	18 th /19 th century	C
White earthenware plate, clear glazed internally and externally with blue and white geometric transfer.	1	19 th century	C
White earthenware bowl sherd with external clear glaze and internal blue transfer with leaves and geometric pattern.	1	19 th /early 20 th century	D
<i>Bone China</i>			
White bone china with cream glaze internally and externally.	1	20 th century	A
Bone china with heavy accretion of burnt material to front and rear.	1	19 th century	A
Fine bone china with light grey speckled and coarse glaze overall.	1	20 th century	A
Bone china fragment of neck of bowl(?) with dark brown speckling to overall glaze.	1	19/20 th century	A
Bone china dish or plate with wavy edge, clear glazed with green foliage transfer.	1	Second half 19 th century	B
Bone china bowl or cup & plate with clear glaze front and back.	3	19 th /early 20 th century	B
Bone china with blue and white transfer floral pattern..	5	19 th /early 20 th century	B
Bone china with off white glaze overall.	4	19 th /early 20 th century	B
Two joining pieces of light grey bone china(?) handle with fluting to exterior. Light brown glaze overall.	1	Late 19 th /early 20 th century	B
Rim of bone china bowl with internal moulded decoration glazed purple, remainder clear overall.	1	20 th century	B
Bone china with red and green transfer internally and clear glaze overall.	1	Late 19 th /early 20 th century	B

Bone china with green/grey and white foliage transfer, plate (?).	1	Mid to late 19 th century	B
Bone china with green and white foliage transfer	1	. Mid to late 19 th century	B
<i>Porcelain</i>			
Small porcelain lid, clear glazed and with external seating collar.	1	19 th /early 20 th century	B
Part of white porcelain cup or mug with thin rim which is gilded. Clear glaze with external child and dog transfer..	1	20 th century	B
Porcelain, plinth type base of decorative vase or ornament. Clear white glaze and hollow base.	1	19 th /early 20 th century	B
White porcelain lid, heavily burnt externally and with deep collar.	1	19 th century	B
<i>Stoneware</i>			
Stoneware, external beige glaze with orange spotting	2	19 th /early 20 th century	B
Sherd of stoneware, light grey fabric and light brown exterior glaze.	1	19 th /early 20 th century	C
Light grey stoneware with internal orange brown glaze and external brown orange glaze. Small jar?.	1	18 th /19 th century	C
<i>Miscellaneous</i>			
Rim of fine, light grey/blue fabric with clear glaze overall. Dish or bowl.	1	20 th century	B
Circular piece, dish(?), medium gray fine fabric internally with external light brown glaze and groove around rim on one side, reverse shows sign of over firing or subsequent heating.	1	19 th /early 20 th century	B
Sherd of fine, light grey fabric, slipped inside and out and clear glazed. Traces of yellow flower transfer to exterior. Cup or small bowl.	1	19 th /early 20 th century	B
Fine blue-gray fabric, with moulded external foliate decoration. Bowl or dish.	1	19 th /early 20 th century	B
Sherd of base in light grey fabric with internal and external mid brown glaze. Marking on base where it has stood on top of another pot in firing..	1	19 th century	C

Sherd orange brown fabric with internal brown glaze.	1	18 th /19 th century	C
<i>Medieval</i>			
Rim of gritty buff fabric with thumbled lip and collar, splash of clear glaze externally.	1	Medieval	B
Base sherd with light grey core and buff exterior.	1	Medieval	B
Small fragment dark grey interior, light grey exterior with green glaze.	1	Medieval	C
Buff fabric, fragment of base with external splashed orange glaze. Tees Valley Ware B	1	Medieval	D

Clay Pipes

Description	Quantity	Date	Trench
Undecorated stem	5	19 th century	A
Undecorated stem	14	19 th century	B
Fragment of decorated bowl of clay pipe. Letter 'A' is legible separated from a fragmentary letter 'O' by a decorated mould line. The initials are probably those of the numerous social orders of the late 19 th century, which frequently commissioned such pipes.	1	Late 19 th century	B
Fragment of glazed mouthpiece of clay pipe, light green glaze. 19 th /early 20 th century	1	Late 19 th century	B
Undecorated stem	2	19 th century	C
Undecorated stem	1	19 th century	E

Clay Building Material

Description	Quantity	Date	Trench
Brick in red/brown fabric and lines marked on top from stacking.	2	19 th century	B
Tile in orange fabric, field drain.	5	19 th century	B
Piece of circular, small diameter field drain. Brick red with grey core.	1	19 th century.	B
Brick red piece of inverted 'U' shaped field drain with light grey mortar adhering to all surfaces.	1	Early 19 th century	B

Coarse tile with light grey/buff fabric with coarse inclusions. Internal angle is curved external 45 degree angle. Heavily sooted internally, part of a flue?.	1	19 th /early 20 th century	B
Hand made brick with stacking scar, orange fabric. Including waster.	4	Early 19 th century	C
Flat tile in brown/red fabric with rounded edge.	2	Early 19 th century.	C
Two joining pieces of tile, brown/red fabric with mid grey core. Segmental tile for culvert.	1	19 th century	C
Curved section of orange tile, c.80mm diameter. Field drain.	6	19 th century	C
Section of tile in red/brown fabric, field drain(?) with (L)AMBERT stamped on with design.	2	First half of 19 th century	C
Oval field drain with flat base in orange/brown fabric.	1	First half of 19 th century	C
Curved section of field drain with mortar covering breaks.	1	19 th century	E
Two non-joining halves of horseshoe field drain.	2	Early 19 th century	E

Stone

Description	Quantity	Date	Trench
Broken struck flint flake.	1	Prehistoric	A
Piece of dark gray roofing slate	5		B
Coal	1		B
Piece of dark gray roofing slate	1		C
Small square tile, light grey marble(?) with mortar adhering to one surface. 30mm x 30mm.	1	19 th /early 20 th century	D
Fragment of gray black roofing slate.	2	19 th century	E
Fragment of fine sandstone paving 24mm thick.	1		E

Figures

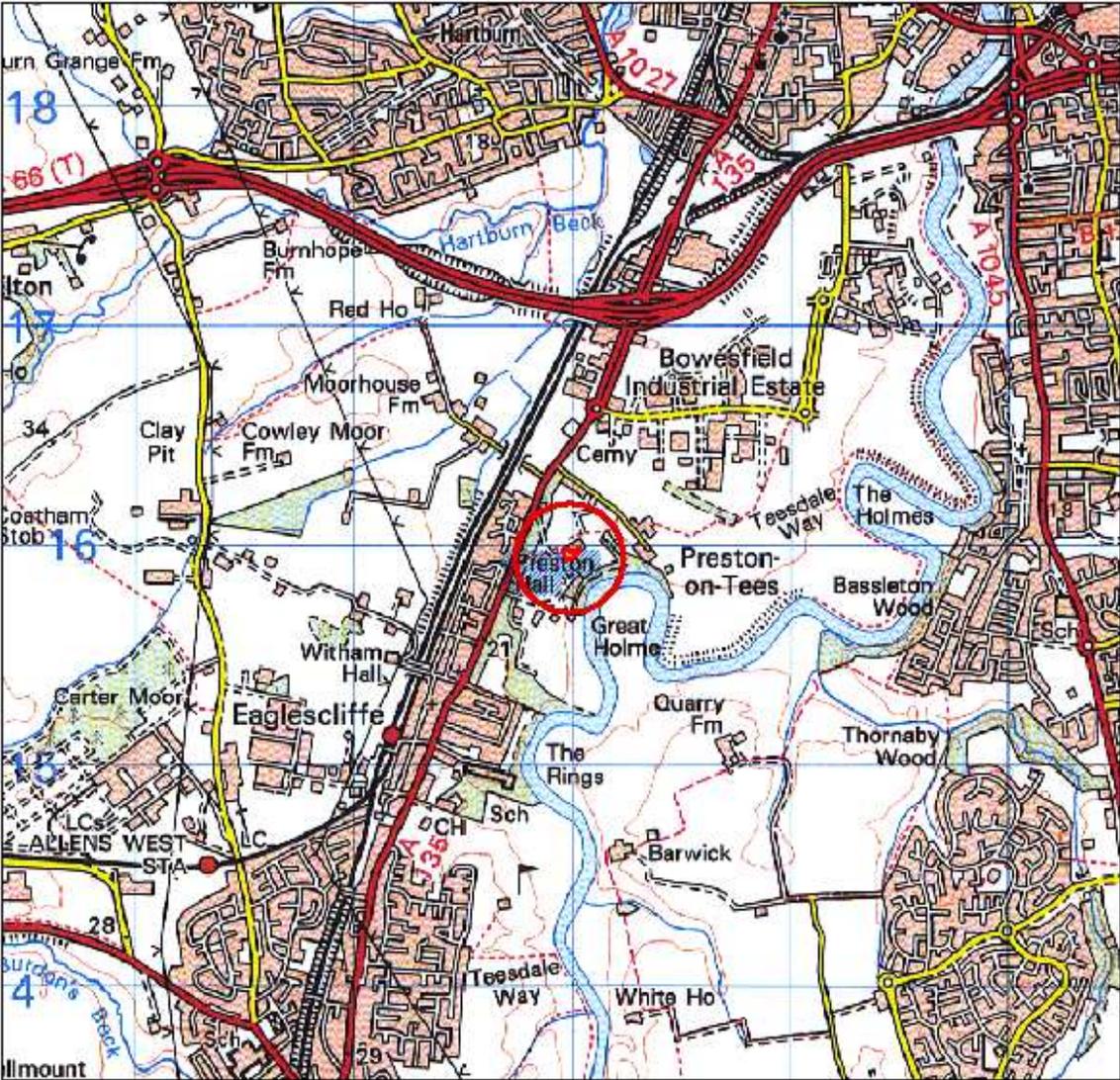


Figure 1: Location Map

Key: -

1:25,000



TEES
ARCHAEOLOGY
Tees Archaeology, 61r William Gray House,
Clarence Road, Hartlepool, TS24 8BT,
tel: 01429 523458
email: tees-archaeology@hartlepool.gov.uk
web: www.teesarchaeology.com

Crown Copyright. All rights reserved. 100023390. 2008.

Date map produced: - 16/02/2010

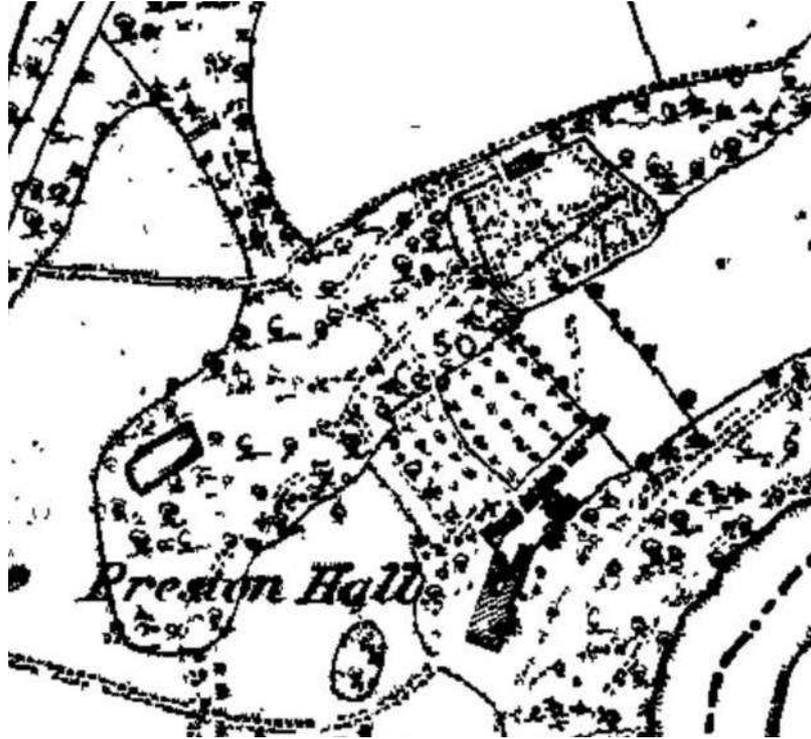


Fig 2: Ordnance Survey Map of 1856 (Crown Copyright. All rights reserved. 100023390. 2008)

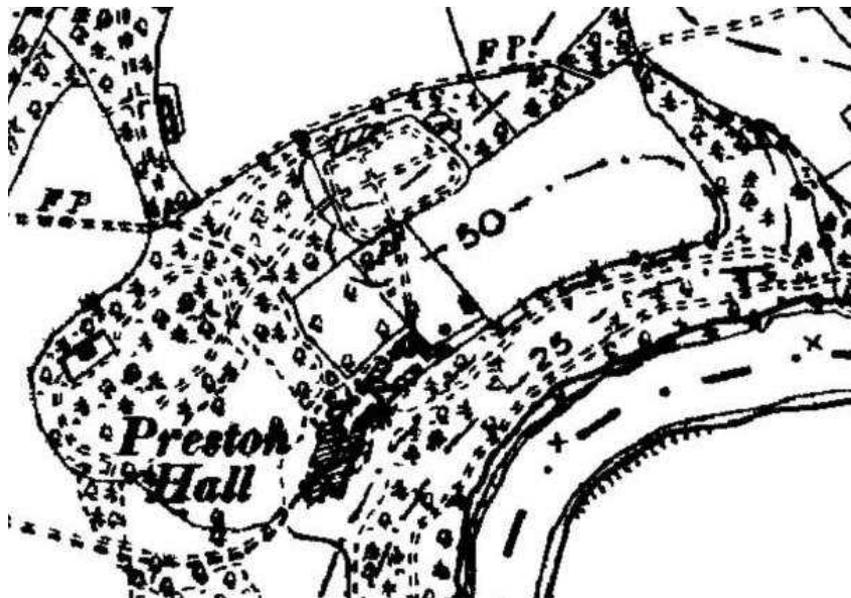


Fig 3: Ordnance Survey Map of 1898 (Crown Copyright. All rights reserved. 100023390. 2008)



Fig4: Archaeological Interpretation of Geophysical Survey

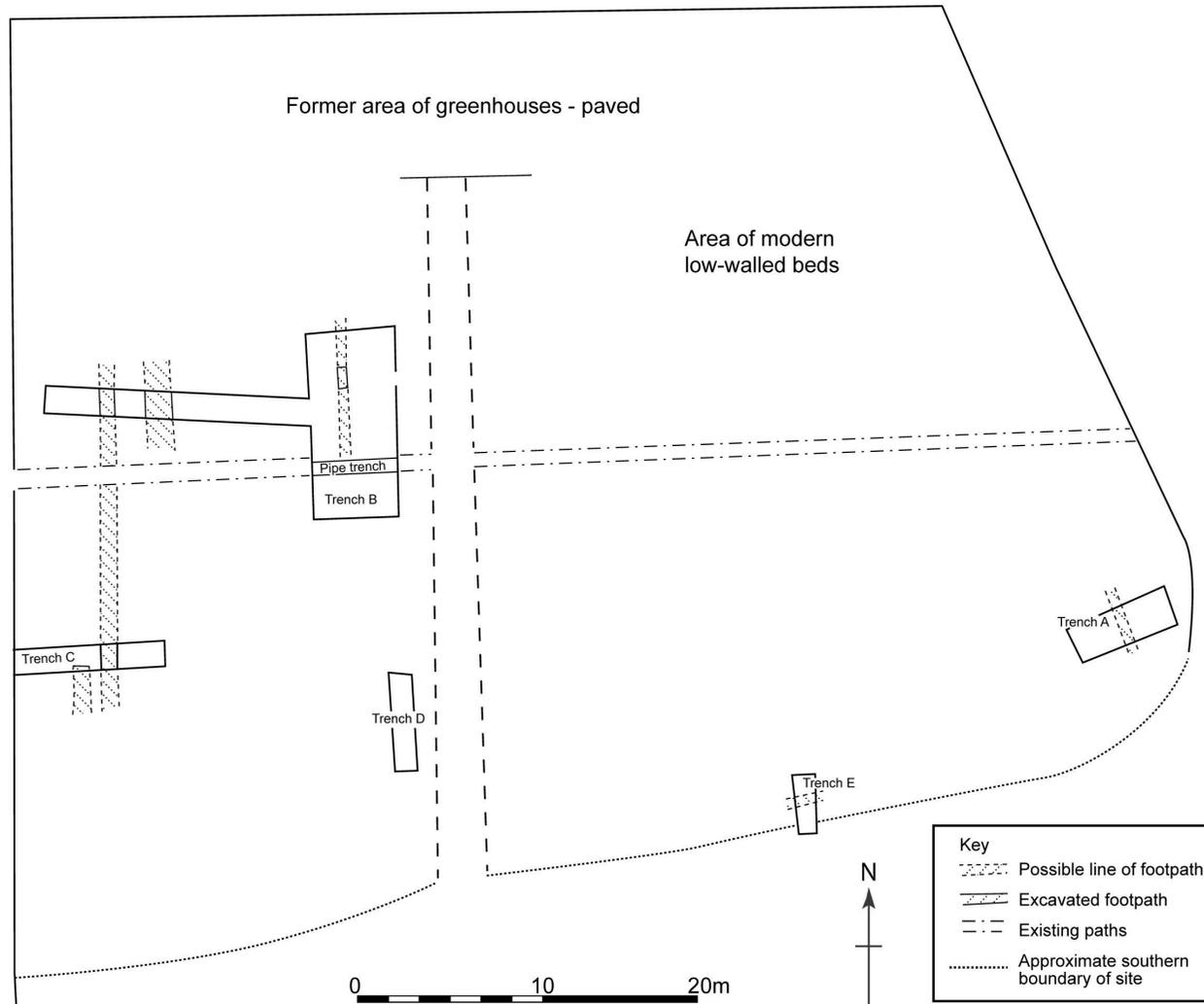


Fig 5: Location Plan showing position of trenches A – E and lines of footpaths

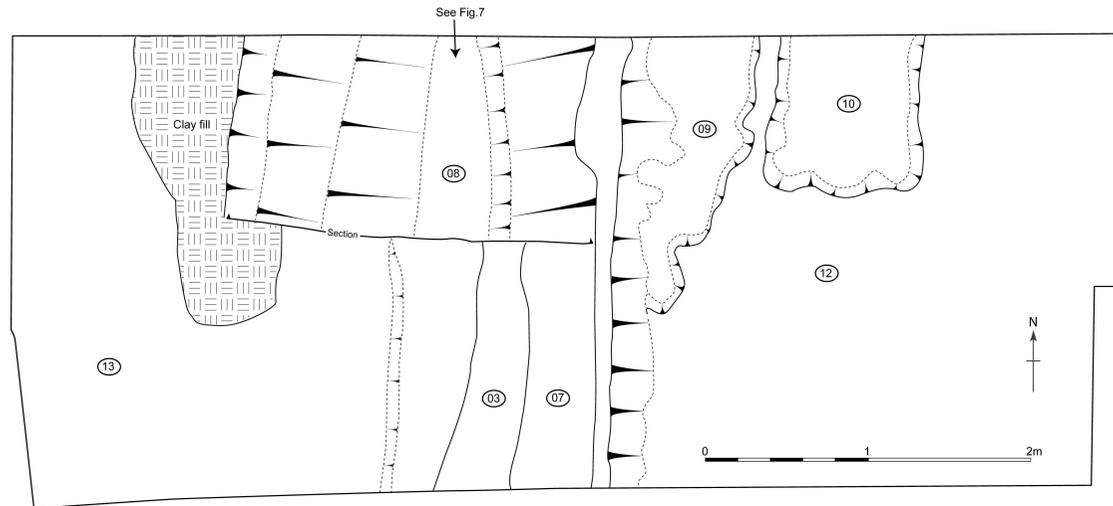


Fig 6: Plan of Trench A

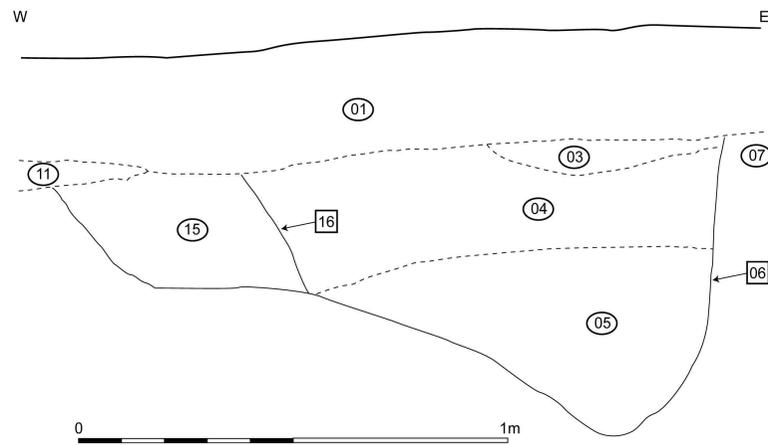


Fig 7: Section drawing of Ditch 06, Trench A

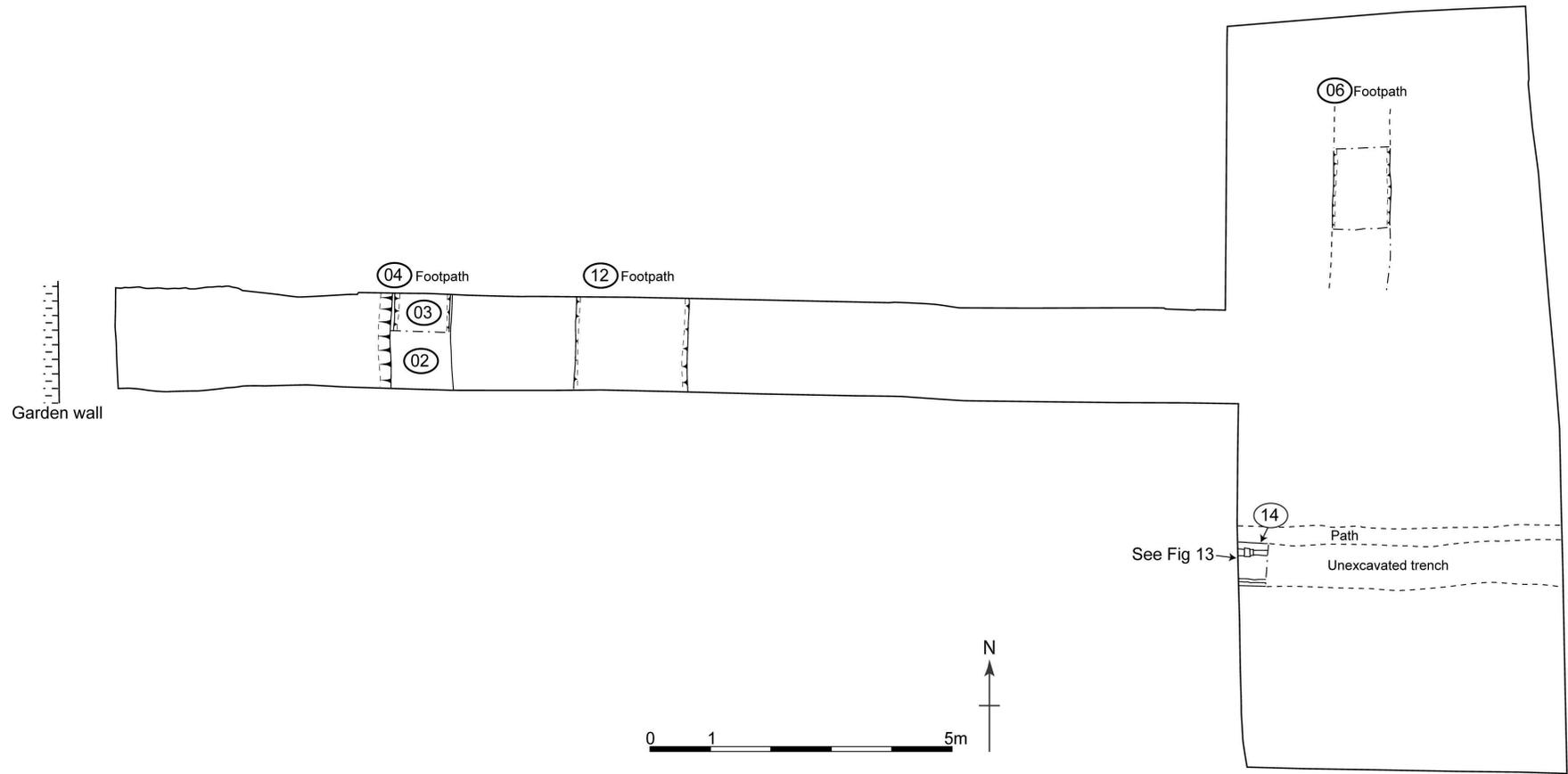


Fig 8: Plan of Trench B



Fig 9: Construction trench for footpath B06, showing ashy fill, Trench B, view from the north



Fig 10: Construction trench for footpath B12, Trench B, view from the south

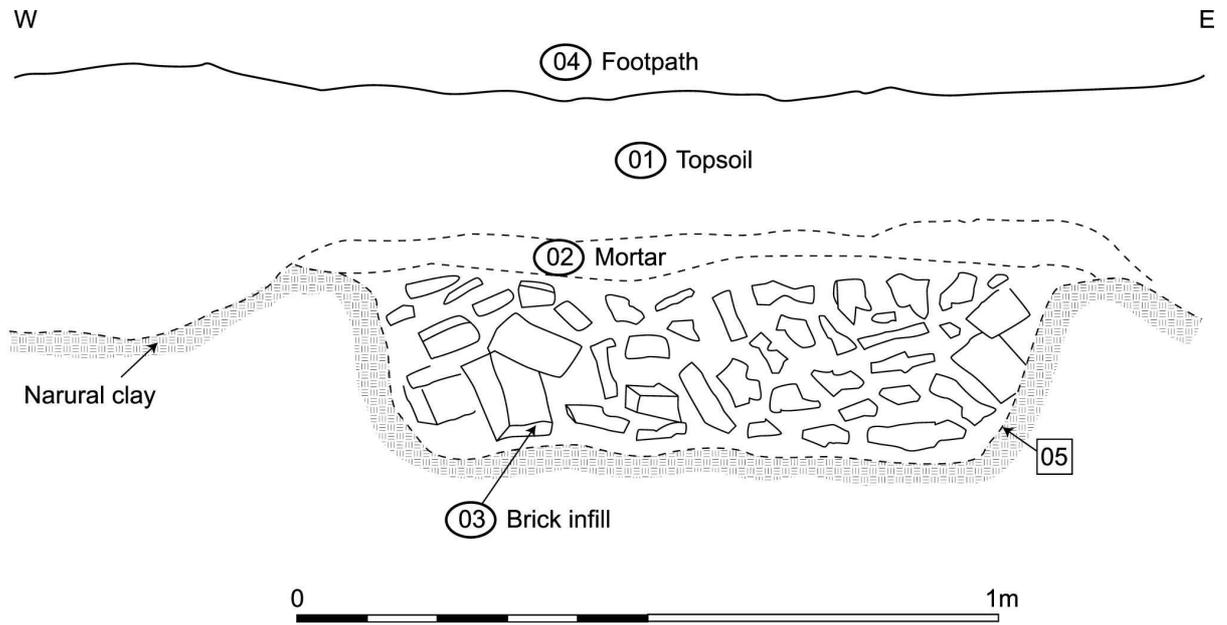


Fig 11: Section Drawing of footpath B04, Trench B



Fig 12: Construction trench for footpath B04 showing brick rubble fill, Trench B, view from the south

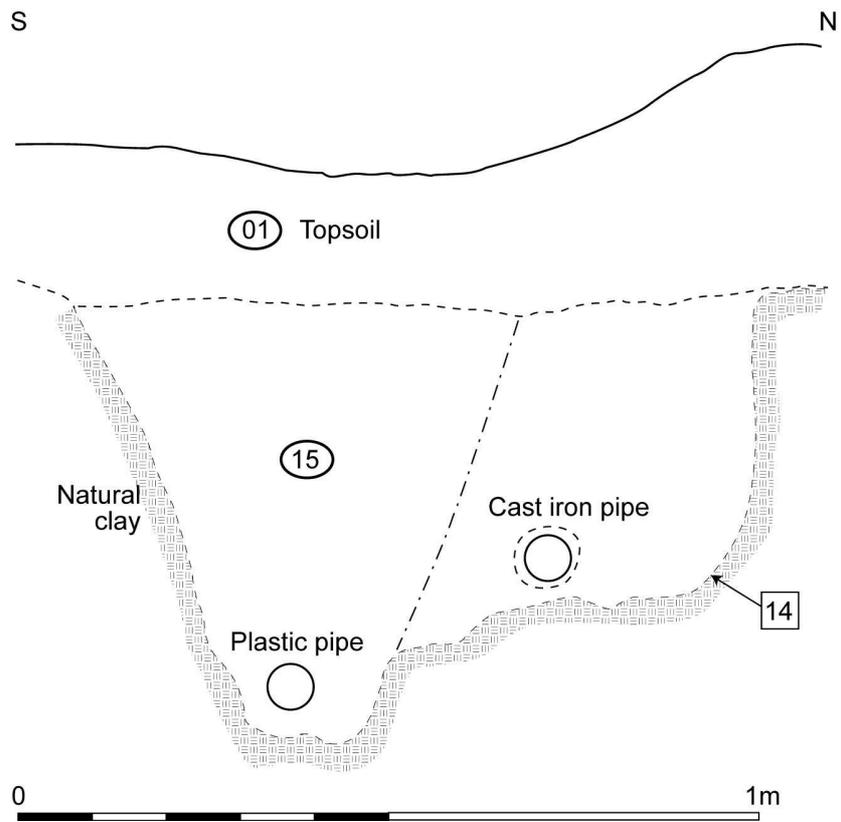


Fig 13: Section drawing of Water Pipe trench B14, Trench B

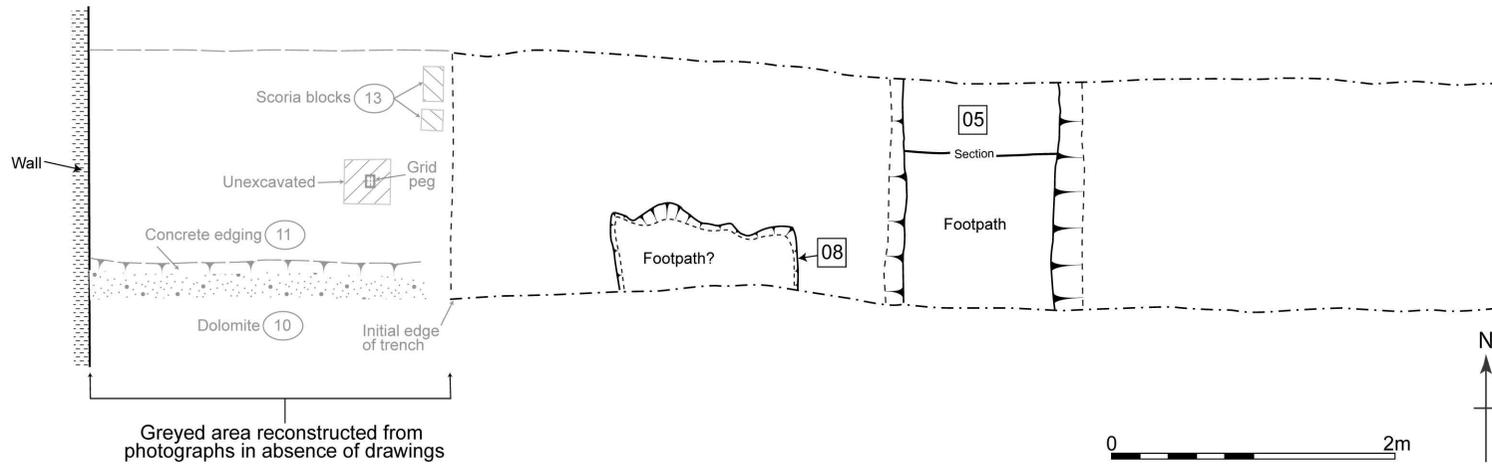


Fig 14: Plan of Trench C

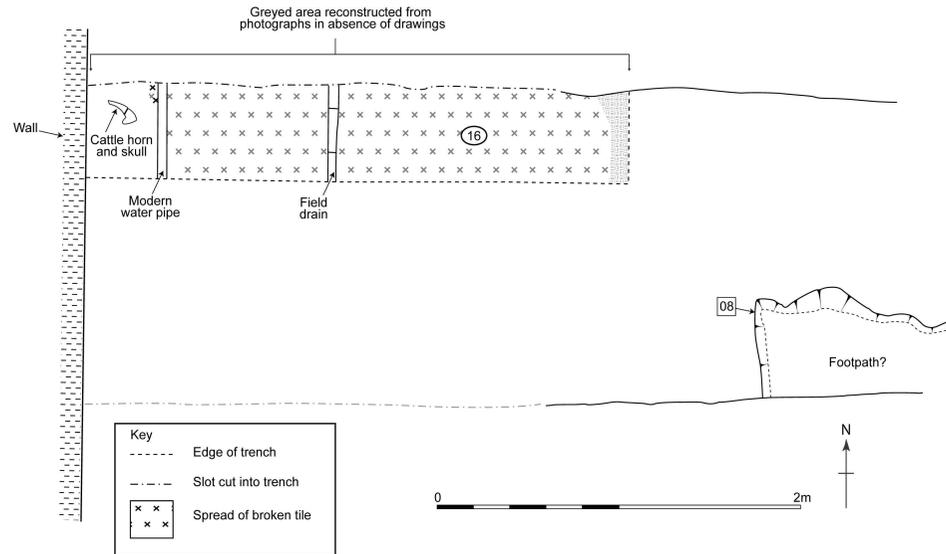


Fig 15: Plan of Trench C extension



Fig 16: Spread of broken tiles, C16, Trench C, view from the east



Fig 17: Cow Horn 'in situ', Trench C

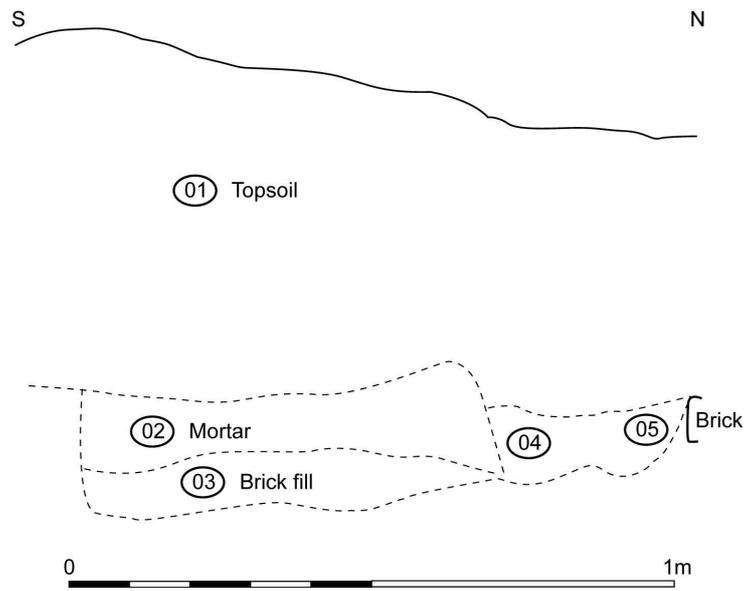


Fig 18: Section through footpath in Trench E



Fig 19: Trench E from the north



Fig 20: External, angled buttresses of the former south wall, from the east

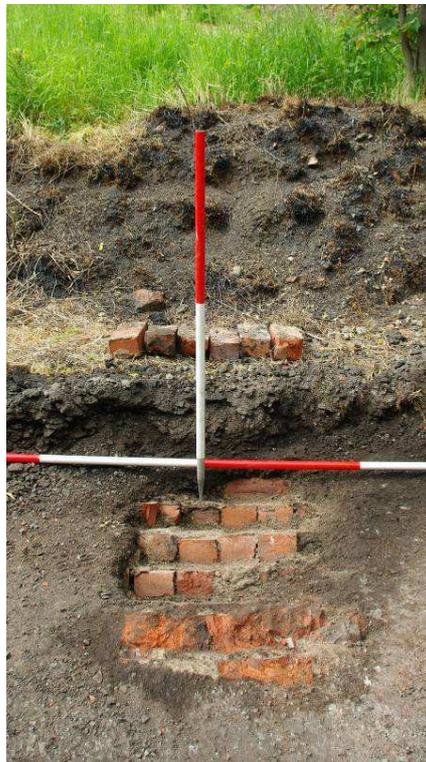


Fig 21: South Wall Buttress 1, from the south



Fig 22: South Wall Buttress 2, from the south



Fig 23: South Buttress 3, from the south