Powder Mill Lane, Southborough

SHAAS Excavations – Summer 2017- 2018

Interim Report

Site view from South-West Corner of Site looking North-East

Trench A is in the foreground and the upper level of the site is beyond the revetment and the fence.

Contents

Summary

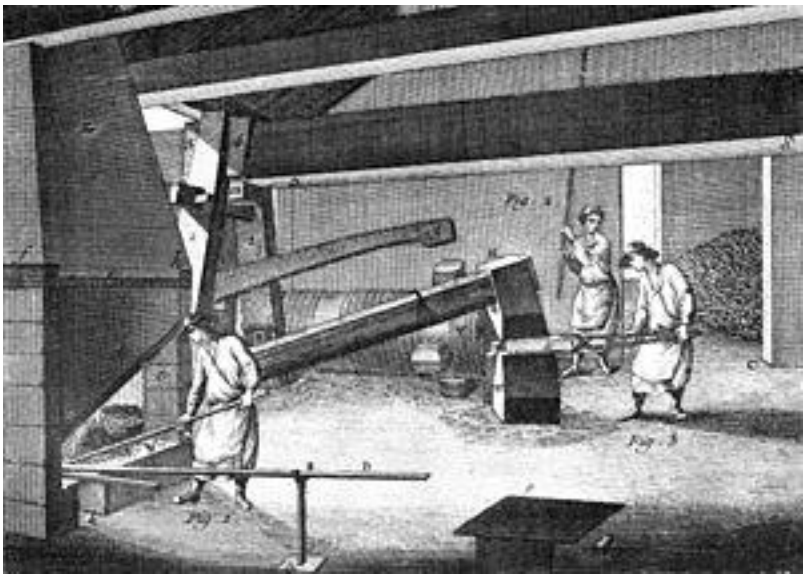
The Powder Mill Lane site was excavated based on the findings of a preliminary investigation by WKD Archaeology, who uncovered part of a brick wall associated with the revetment. The site is on the northern side of a field containing the revetment and bank structure of an old mill pond and is on two levels with a public footpath running through the upper level. Four main trenches were excavated, plus additional smaller trenches aimed at answering specific questions relating to different contexts and structures.

The outcome of the current excavation reveals that the main structure is the revetment, with trench A containing river and mill pond silts accumulated over many centuries. Abutting the revetment on the upper level is an extensive cobbled surface, probably created to improve water run-off from the viaduct's embankment and to stabilise the embankment. The 1840 Tithe map shows a building on the site, which may lie beneath the cobbled surface, or the cobbled surface might have been a subsurface below the building, though later demolition of the Tithe map building has resulted in minimal remains of the building being located to date.

A diverse range finds have been located, which were a mixture of domestic items, such as clay pipe stems and glazed pottery, and industrial items, such as metal tools and railway related equipment, plus a possible fragment of a waterwheel paddle. There is a considerable quantity of slag across the site, both high and low temperature, and very variable in size from golf ball sized items up to mossers of 15-20 cm size. The slag indicates the presence of metal working forges, including a finery forge, in the vicinity of the site, but no conclusive forge structures have been located so far in the dig. The brick wall in the revetment was probably associated with a water wheel, indicating an industrial association with power being supplied by the water wheel, and then used to drive equipment such as trip hammers (see Picture 1A). Understanding the local water management will be key to properly understanding the evolution of the site. Based on expert advice, the main forge and industrial units are probably located beneath the modern barn buildings to the East of the excavation site.

Excavations in trenches C and D have revealed an enigmatic single linear brick-built structure, which is present in both trenches and continues beneath the embankment on Railway land. This brick structure may represent a boundary foundation or may protect underlying pipes or other material or may have other unknown functions.

The site has been impacted by the construction of the railway, and the partial collapse of a section of the viaduct shortly after construction. The impact has included artefacts from the workers, the cobbled surface in multiple trenches and the concrete slabs in trench D, together with evidence of large batteries and possible arc light components. Further work will be required to provide conclusive evidence of the sequence and function of the buildings on the site. With the use of finery forges declining by 1800, and the construction of the railway in 1845, the site may reveal multiple buildings in use over several centuries.



Picture 1A – Finery Forge

Note the trip hammer in the centre, with a hearth front left and the large pile of charcoal stored in the back room

1 Project Background

1.1 SHAAS approached the land-owner, Mr Chris Leaning, of Mill House Barn for permission to run a community archaeology excavation in a field from May until September 2017 and 2018.

1.2 The archaeological excavation was carried out in accordance with the SHAAS Excavation Policy (2015). The field work also followed *Standard and guidance for archaeological for archaeological excavation (CIfA 2014).*

The site

1.3 The site comprised of four main trenches within a broadly rectangular area comprising approximately 80m2. The current land use is pasture, with animals being kept in the field for most of the year.

1.4 The site is divided into two areas, with the lower southern area located between the revetment and the river Bourne, and the upper northern area bounded by the revetment in the south and the property boundary in the north, with a public footpath running through the upper area. The revetment is sited on the edge of the old Mill Pond, which in turn was associated with the river Bourne, which has changed its course and experienced fluctuating water levels over time.

1.5 The underlying bedrock geology of the area is mapped as the Wadhurst Clay of the early Cretaceous era, circa 150 Million years in age. Exposed sandstone bedrock in the area has been quarried for building material, and local clay deposits have been used for brick-making.

2 Aims and Objectives

2.1 The society's main goal is to provide opportunities for members to participate in archaeological fieldwork, such as archaeological excavations and metal detecting. While primarily providing the community with an opportunity to practice archaeology the society also organises a programme of public lectures and field trips. The goal of the 2017 / 18 season's excavation were to assess the potential archaeology of the area identified.

2.2 The objectives of the archaeological work were:

- to identify, investigate and record any significant buried archaeological deposits revealed on a chosen site during one or more summer-long excavations
- at the conclusion of the project, to produce a report setting out the results of the project and the archaeological conclusions that can be drawn from the recorded data.

3 Methodology

3.1 The fieldwork followed the methodology set out within the SHAAS Excavation Policy (2015). An experienced archaeologist was present during the excavating to advise on best practice.

3.2 Where archaeological deposits were encountered written, graphic and photographic records were compiled in accordance with industry standards

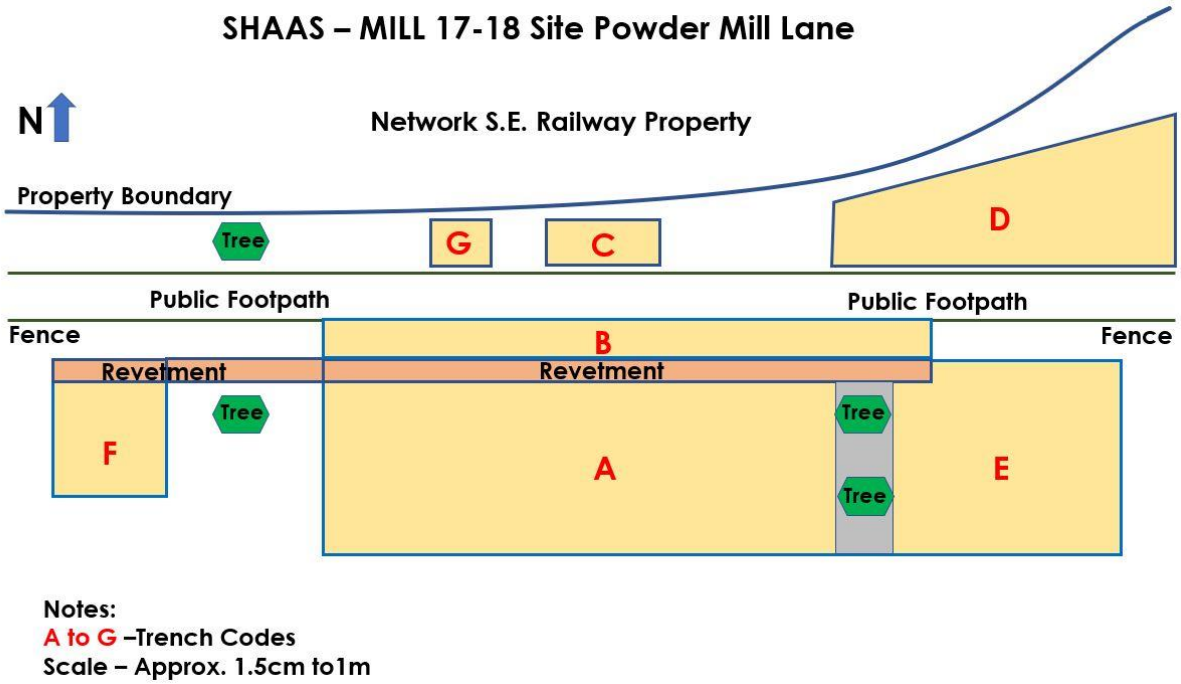
3.3 The archive and artefacts from the excavation are currently held the SHAAS Finds Officer. Subject to the agreement of the landowner the artefacts will be deposited for display in a local Public Facility as appropriate.

4 Results

4.1 The aim of the excavation was to determine if the remains of building located on the 1840 Tithe map could be located on the ground. Having located the remains, the goal was to explore the function and usage of the building and to determine if multiple building had been located on the same site over several centuries. There is currently no direct evidence for the 1840 Tithe map building.

The initial desk-based research was carried out using Ordnance Survey 6 inch maps from 1816 and 1909. Similarly, the Tithe map of 1840 was used to research the area in question. Documentary evidence dates activity in the immediate vicinity of the site back to 1550, when a lease was granted for mills and forges to be established in the region.

4.2 Trench Descriptions



Trench A

Facts:

- Dug with spade and trowel over a prolonged period with several stages of digging, with dimensions of 8.8 m by 2.8 m
- Essentially river silt deposits with a covering of top soil and a selection of artefacts
- River silt deposits display changes of colour, texture and distribution of artefacts
- Layer of fine charcoal close to revetment forming north side of trench. Layer extends along the face of the revetment on an intermittent basis, and extends up to 80 cm from the revetment
- Slag Layer visible in the northern trench section formed by the face of the revetment and extends intermittently across the extent of the trench at multiple levels. The slag layer lies below & above the charcoal later in different sections of the trench and below a layer of cobbles which extends to the current ground surface.
- Section of brick wall (220 cm by 60 cm) forms part of the lower section of the northern revetment surface (Picture 2A). The sides of the brick wall return into the revetment and the lowest brick courses of the wall continue below the current water table, indicating a sizeable brick structure. Investigation of the brick wall is restricted by a tree trunk growing around the centre of the brick wall and causing stability concerns
- Bricks within the wall are associated with two different types of mortar
- Artefacts found within the trench are not evenly distributed in either vertical or horizontal extent, with some sections of the trench matrix silts devoid of artefacts.
- Railway related debris present within the trench, including sections of brick wall (up to 4 bricks tall) resembling the corners of the existing brick viaduct (Picture 2B), plus a rail sleeper chair and faceted brick corner sections.
- Four bricks of small (approximately 21 cm by 10 cm by 4 cm) dimension attributed to a Tudor date were found in the trench with three brick concentrated together. None of these bricks were in-situ.
- Agricultural and metal finds were found in the trench including an early battery top (dated 1898)
- Domestic artefacts include china plates and bowl fragments, clay pipes, bottles and knives, mostly dating to the period after the railway construction
- No structural elements were discovered within the trench in an in-situ setting. Structural elements may exist at deeper levels within the trench, and a tapered flat wooden small plank was found at a depth of 1m close to the section of the brick wall in the face of the revetment, which appears to be part of a large piece of wood.
- The north side of the trench is formed of a stone, earth, slag revetment up to 1.2 m in height, and the western and eastern sided of the trench ranging in height from 1.2m (North) to 20cm (south), with the southern side of the trench at 20cm height and separating the trench from the path of the river Bourne which flows during wet weather.

- At the eastern end of the trench is an area of approximately 1 m by 2 m comprising a layer of large rocks up to a thickness of 50 cm, which extend from the revetment perpendicularly into the river Bourne.
- Evidence of the revetment and associated river silts continuing to the west and east of trench A
- The eastern extension of the revetment returns in the ground, and matches the structural returns shown in the Tithe map

Interpretation:

- Silts suggest a slow flowing Mill Pond / River Bourne, with no evidence for a fast-flowing river. Silts and clays, plus documentary evidence, suggest the River Bourne was slow flowing, and that increasingly water was diverted to support new urban populations. The presence of sharp edges to many artefacts supports the idea that these artefacts have not moved far from their deposition site.
- Variations in silts indicate slightly varying river conditions (from flood to slack water)
- Brick wall in lower section of revetment was probably part of a waterwheel slot (Picture 2C), and less likely to have been a chimney given its position in relation to river. Picture 2C shows the brickwork to the right cut by a circular brick infill to the left, which may represent the remains of the waterwheel axis. The current ground water level precluded attempts to explore a water-wheel pit that the wheel would have operated within. The brick wall predates the current version of the revetment, but there was probably a wall associated this earlier waterwheel. The piece of tapered wood found at depth near to the brick wall may have been part of a waterwheel paddle.
- Waterwheel requires strong solid structure to operate. The waterwheel generates energy which is used for an industrial purpose such as milling or smelting
- The small bricks have been identified as Tudor bricks by David Thorpe, and the presence of these early bricks matches the documentary evidence dating the start of the industrial activity in mid 1500s from a lease of land by the owner of the Lowry of Tonbridge. The other possibility is that these small bricks are specialist bricks linked with a particular industry.
- Site has provided evidence for low and high temperature metal slag, mossers, charcoal, industrial and domestic materials. This indicates a wide range of activities around the site, but does not identify the specific purpose of the area under excavation.
- Variations in the density and locations of finds suggests variations in human activity and possibly access to the riverbank
- Structures and layers within the revetment, suggests more than one building located on the site.
- The rectangular stone blocks forming the eastern edge of trench A, may represent the base of a jetty leading into the Bourne to help loading or unloading materials, or might represent a stone structure to protect the water-wheel from debris flowing downstream within the River Bourne.

- Railway related finds are probably related to the collapse of a section of the viaduct in 1845, and to subsequent continuing use and repairs to the structure or the viaduct.
- Multiple mortars associated with the brick wall suggest multiple building phases, including a final phase of brick infill to secure the wall after removal of a waterwheel.

Picture 2A
Lower part of the revetment showing the top section of the brick wall (with wooden structural supports), and extensive brick rubble in the foregrounds which includes several brick pillars resembling closely portions of the brickwork from the nearby Colebrook viaduct

Picture 2B
Brick Column in foreground of Picture 2A, which probably represents part of the brickwork from the collapsed Colebrook viaduct archways, which collapsed in late May 1845, as a result of heavy rain during the final phases of the construction.

Picture 2C
Part of the brick wall shown to right of the information board in Picture 2A, showing brick courses (left) cut by brick infill (right) in a roughly circular shape which may represent part of the waterwheel axis.

Trench B

Facts:

- Dug with trowels, with dimensions of 2.5 m by 1m
- Cobbled surface within 5cm of surface, with top soil above the cobbled layer. This layer is formed of densely packed small stone debris, including local sandstone, rounded pebbles, and other demolition debris including tiles. Uniform distribution of materials across all the trenches.
- Artefacts including glazed pottery have been found sitting on top of this surface
- Cobbled surface is present in trenches B, C and G, and in parts of trench D and E. Initial measurements suggest the cobbled surface is gently sloping down towards the river.
- Cobbled surface is truncated by the revetment and is not visible in trench A
- Full extent of this surface is not yet been determined and extends beyond the current boundary of the site

Interpretation:

- Cobbles could be flooring subsurface above the slag layer and below the Tithe building? The surface could be used to flatten a surface before building work commenced
- Cobbled surface could be a surface added for water runoff and consolidation of the viaduct embankment
- Usage of this surface may have changed over time as requirements evolved.
- Southern extent of the cobbles is the revetment, with the cobbles abutting the top of the revetment. This suggests that the cobbles and revetment are linked, with the revetment forming the southern edge of the surface, and the cobbles are either later or contemporaneous with the construction of the revetment.
- Sandstone within the cobbles is soft and friable, and this surface would not have been a load bearing surface, as wheels would quickly wear down the sandstone. This indicates that the surface would not represent a courtyard surface but had other functions.
- Current extent of the surface appears to match the floor plan of the 1840 Tithe map building.
- The cobble layer is 5 to 10 cm in thickness and is visible in trenches B, C and G, but not in trench D to the eastern edge of the site, and the western edge of the cobble layer was beyond the boundary of the excavation site, supporting the idea that the surface was needed for water runoff for the steeper sided sections of the railway embankment.

Trench C

Facts:

- Dug with trowel and spade, with dimensions of 200cm by 80cm.
- Trench is located to the north of the public footpath and is intended to determine if the cobbled surface extends northward to the boundary of the site.

- Cobbled surface is present in the trench, and has the same constituents as the cobbled surface in trench B. Levels taken show that the cobbled surface is about 5cm above the equivalent level in trench C.
- In both trench B and C the top soil is directly above the cobbled surface
- Domestic pottery finds were found lying directly on top of the cobbled surface

Interpretation:

- The cobbled surface in trench B and C are probably part of a continuous surface lying below the topsoil and are most likely to represent a late stage structure in the site history probably helping the consolidation of the railway bank.
- The higher elevation of the trench C cobbled surface, compared with the trench B cobbled surface, suggest that the cobbles could be linked with water run-off from the site into the river.
- The cobbled surface is comprised of small stones and CBM which are too soft to be load bearing, and would not be present in the top surface of a courtyard
- The cobbled surface is on top of the slag layer in the northern section of trench A, and the cobbles may be a flattening layer established below the later Tithe building. An alternative interpretation is that the cobbled layer is a water drainage / run-off feature created during the railway construction, and particularly in the aftermath of the collapse of two viaduct arches in 1845. Another alternative is that the surface was initially a building sub-surface and latterly was adopted by the railway for drainage management.
- The cobble layer is 5 to 10 cm in thickness and is visible in trenches B, C and G, but not in trench D to the eastern edge of the site, with the western edge of the cobble layer extending beyond the boundary of the excavation site.

Trench D

Facts:

- Dug with trowel and spade, with dimensions of 8m by a minimum of 90cm and a maximum of 220cm, increasing in dimensions to the eastern section of the trench
- Variation of different materials across the extent of the trench
- South-Western part of the trench contains a cobbled surface resembling the surfaces in trenches B and C. Finds associated with this cobbled surface include a complete glass jar and a brick with wording believed to be “Stourbridge”
- On eastern side of trench, more sandstone and loose materials which progressively peter out to soil, with minimal structures or artefacts
- Southern part of the trench includes a reinforced concrete plinth (dimensions 60 cm by 25cm by 15 cm) which was within 5cm of the surface.
- Northern / North-Western section of the trench comprises large concrete slabs slanting down towards the river, with surface marks of branches and other debris

- A linear brick feature found in Trench E passes through the Western end of Trench D, and the Western and Southern sections of the trench contain large voids filled with large irregular rocks, some abutting the linear brick feature. The brick feature consists of two bricks laid lengthwise in a linear feature capped by a series of single bricks laid perpendicularly across the top of the lower bricks. The lengthwise lower lines of bricks are normally two to three brick courses in height, and they continue northwards beneath the property boundary for an unknown distance.
- Lot of domestic finds particularly in the eastern section of the trench, notably remains of Victorian age crockery and glass bottles
- The central section of the trench includes part of a railway rail vertically embedded in the ground. The rail extends 10cm into the ground where it is cemented in place and extends for approximately 50cm above ground.
- In the northern and eastern sections of the trench, local sandstone is present below the concrete plinths and also below the top soil.
- The remains of a Leclanche cell were found in the eastern section of the trench, located at ground level and exposed on the surface
- There were a lot of domestic and personal finds including clay pipes and a bugle mouthpiece

Interpretation:

- There is very little direct evidence for the Tithe Map building, with no visible walls or clear foundations. From the changes in artefacts and the cobbled surface it can be suggested that the western side of the trench represents part of the remains of the building, with the cobbled surface being a building subsurface. The northern and eastern sections of the trench represent exterior building features and later water management features
- The cobbled surface is not strong enough to be used as a courtyard, and either represents a building subsurface or a land stabilisation feature for water run-off from the embankment
- Jars and a lot of domestic remains indicate local human habitation, as the pottery fragments had sharp edges and have not moved far in the ground.
- The trench suggests a spatial and temporal sequence of activities where the concrete plinths were the last stage of activity.
- Concrete slab in the central southern section of the trench is made of reinforced concrete which was not used in the UK until the 1930's and hence postdates the primary site and also the Victorian railway related activities.
- The northern area of the trench closest to the railway workings has the highest concentration of railway related features
- The current property fence which forms the northern boundary of the trench matches the Tithe map boundary, and the building location on the Tithe map matches the trench location. The building would have blocked access along the riverbank to any passing people or goods and may also have interfered with the stability of the embankment.

- Beyond the fence to the north on the embankment are brick mounds which match the location of other buildings shown on the tithe map. These mounds lie in Railway property and demolition rubble may have been left in situ as part of the viaduct embankment consolidation, while the main Tithe map building may have been cleared to allow access along the riverbank.
- The building of the railway and associated embankment completely changed the topography and setting for this area, and movement of goods or people would have become focused between the property boundary and the revetment wall in trench A, which subsequently led to the establishment of the foot path by the river.
- The concrete plinths / slabs probably represent both water run-off and easy access from the railway to the river, and the vertical railway track was cemented in place indicating a deliberate action to create the above ground structure, which must have had a distinct function (possibly for use as part of a pulley for transporting / movement of goods or part of older fencing). These slabs were of poor quality construction and show imprints of branches and splash marks where stones have been thrown in the wet concrete.
- The cobbled surface might represent a deliberate consolidation attempt to control water run-off and erosion from the railway viaduct, and the cobbled surface layer is 5 to 10 cm thick, suggesting a structural function. The presence of considerable domestic pottery sitting in the top surface of the cobbles suggests the cobbles were in place for a considerable period of time, certainly during the occupation of the building. Their role may have changed from a building subsurface layer and following the demolishing of the building may then have been reused for water management.
- The linear brick feature (Pictures 3A and 3B) found in Trench E passes through the Western end of Trench D, and the Western and Southern sections of the trench contain large voids filled with large rocks suggesting either a cellar or a subsurface storage area, filled with later building debris. The position of the linear feature does not match any known property boundaries, but does appear to be heading towards buildings to the north of the trench which were demolished during the construction of the viaduct, suggesting the linear brick feature may have been linked with a utility function rather than as a property boundary.
- The Tithe map building might have been used by management of the railway builders, with the navvies living nearby in a site which might be interpreted as the navvy camp, but this has yet to be excavated. The Tithe map building might have been demolished following the construction of the railway, but lack of building remains and datable evidence makes this a supposition.
- During a future digging season, we need to dig sondages to determine the context of the linear brick structures and to explore if there was a basement feature or a pit to the east of the tithe map building's location.

Picture 3A – Linear Feature in Western edge of trench B

Picture 3B – Linear brick features with multiple courses of bricks

Trench E

Facts:

- Dug with trowel and spade
- Trench E is an eastern extension to trenches A and B, with trees present between trench A and E, which disturbs the structure and stratigraphy of the site. The current dimensions are 2 m by 1.8 m, but the western edge is slightly irregular in shape due to multiple tree roots intruding.
- North-Western section of the trench contains a cobbled surface within 5cm of the surface which is an extension of the cobbled surface located in trench B. The cobbled surface thins and disappears to the east, matching the cobble distribution visible in trench D
- Revetment can be traced eastward from trench A through the trees and is present in trench E, where it appears to turn north, but further excavation will be required as the location of the revetment return is complicated by tree stump and root disturbance
- The eastern edge of the trench has more soil, with stones and extensive metal slag debris, including mossers, but these are not in situ and are scattered across the site

- The linear brick feature (Pictures 4A and 4B) found in Trench D passes through the Western end of Trench E, with an approximately North-South alignment, and is positioned just beyond the eastern end of the stone revetment structure. The linear brick structure is well built with parallel lines of bricks capped with bricks at right angles and with a small central linear cavity (Pictures 5A and 5B). The top of the brick structure (covering trenches D and E) is up to 20cm lower to the South closer to the river Bourne The southern terminal of the structure abuts a region of stone and CBM debris close to the edge of the river Bourne.
- The southern section of the trench is currently top soil and requires further investigation

Interpretation:

- This trench represents an extension of the structures visible in trenches A and B, but these structures diminish and seem to disappear in the eastern part of the trench.
- The top of the revetment is visible in the western end of trench E but stops before the linear brick structure and is not present to the east of this brick structure.
- This trench may contain a transition from the trench A/B structures to simpler structures forming the eastern edge of the River Bourne as it is closer to the source of the river. Also, the area to the north of this trench is much flatter than the trench A/B environment and would require less stabilisation and water management structures.
- The position of the linear feature does not match any known property boundaries, suggesting the linear brick feature may have been linked with a utility function leading down to the river, rather than as a property boundary. The linear brick feature passes below the modern footpath but appears to be one continuous structure across trenches D and E. The linear feature passes the eastern edge of the revetment and this suggests the linear feature post-dates the revetment or was built at the same time but respects the structure of the revetment.
- Domestic pottery and domestic artefacts, plus metal slag finds indicate that both domestic and industrial activities were taking place in the vicinity.
- This trench represents the eastern edge of the industrial structures in the immediate vicinity of the current source of the River Bourne

Picture 4A – Linear brick feature looking North to trench D and running below footpath

Picture 4B – Linear brick feature looking South and ending in a debris area / soak-away / foundations of a small structure?

Picture 5A – Linear brick structure – one brick length in width

Picture 5B – Linear brick structure with one transvers brick removed to expose the linear cavity between the outer bricks.

Trench F

Facts:

- Dug with trowel and spade
- Represents the western extension of trench A, with larger rocks from the extension of the revetment at the surface and also less than 5cm depth, exposed within the trench which has dimensions of 2m by 1.5m.
- The northern section of the trench has been dug to a 1m depth and has exposed the continuation of the revetment, although the top of the revetment is trending to the north below the public footpath as the trench extends westwards.
- Trench has been used for training purposes including visiting schools and cadet groups.

Interpretation:

- The structures found in the top layers of the trench confirm this to be a westward extension of the trench A deposits, both as the revetment wall and the river / pond deposits.
- Limited artefacts have been exposed, but these include glazed pottery, clear glass fragments, Oyster shells, which suggest domestic occupation in the immediate vicinity
- The initial interpretation of trench F suggests it has a similar function, date and structure to trench A, but this will need to be verified by further excavation activities.

Trench G

Facts:

- Dug with trowel and spade
- The purpose of this trench was to explore and identify the western border of the cobbled surface in the upper section of the site. The trench is a test pit (110cm by 80cm), dug on the northern side of the public footpath.
- Below the top soil, a cobbled surface is visible, resembling the surface visible in trenches B, C and D, with no boundary visible in the trench.
- Artefacts were found on the top of the cobbled surface and included 2 lumps of coal, white glazed domestic pottery and iron hooks and bolts

Interpretation:

- The presence of the cobbled surface indicates that the boundary of the cobbled surface lies outside the bounds of the current excavation.
- The artefacts suggest a mixture of domestic and industrial activity in the immediate vicinity, as the glazed pottery has sharp, well defined edges
- The contents of the trench are not conclusive regarding the cobbled surface being a building flattening subsurface or a water management surface to help move water away from the viaduct. Further trenches in the vicinity will be required to explore the different options.

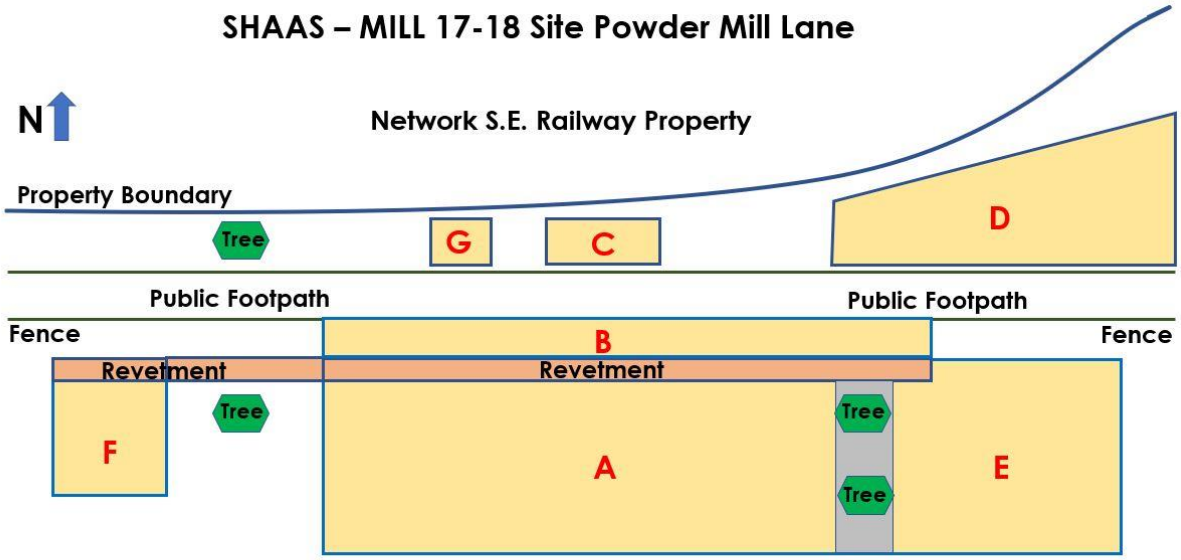
5 Topics for a future Excavation

1. More detailed site stratigraphy with dating of the relative structures and layers is essential, so that the history of the site can be more closely defined.
2. Explore the site of the tithe map building to try to determine layout and function, since from the tithe map there seem to be two chimneys, or a chimney and a staircase to an upper floor?
3. Explore the trench sections around the Linear brick feature in trench D to understand if the large irregular blocks are located in a basement feature of a pit structure.
4. Try to locate more datable artefacts, such as a coin, or other distinctive finds, as there were no coins found on the site, which assuming the longevity of building usage and habitation is a significant surprise.

6 Project Participants

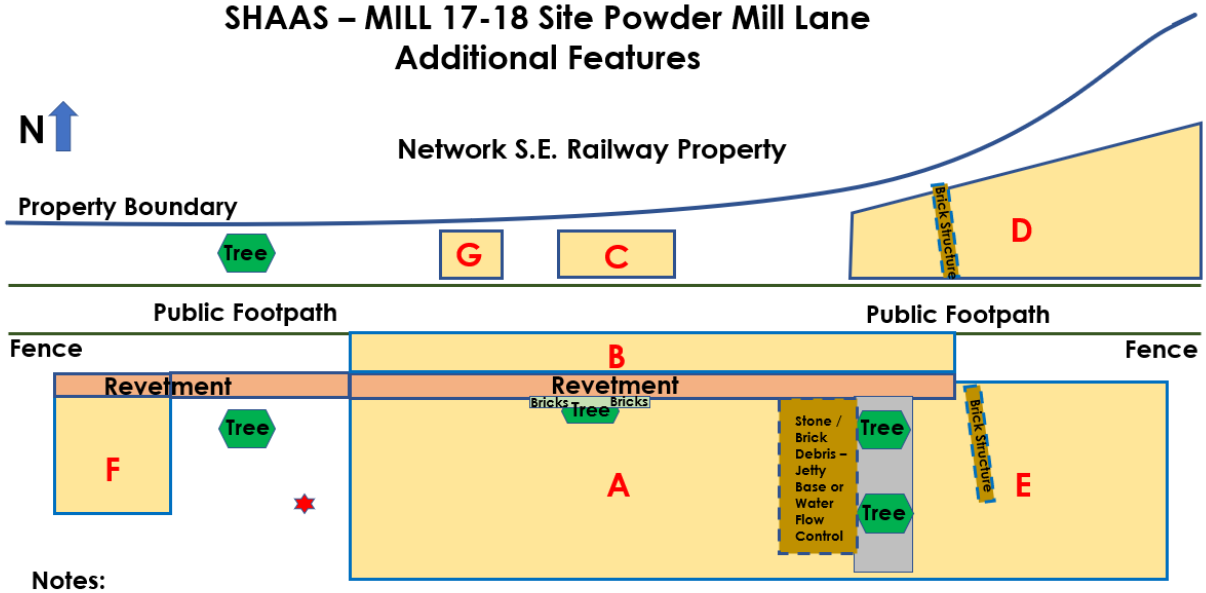
Site Director	Anthony Palmer
Consultant Archaeologist	Anthony Palmer
Head of Metal Detecting	John Turley
Volunteer Co-ordinator	Di Drummond
Volunteer Co-ordinator	Jenny Kneller
Learning Assistant	Simon Bamblett
Finds Co-Ordinator	Rosemary Hill

7 Site Plan

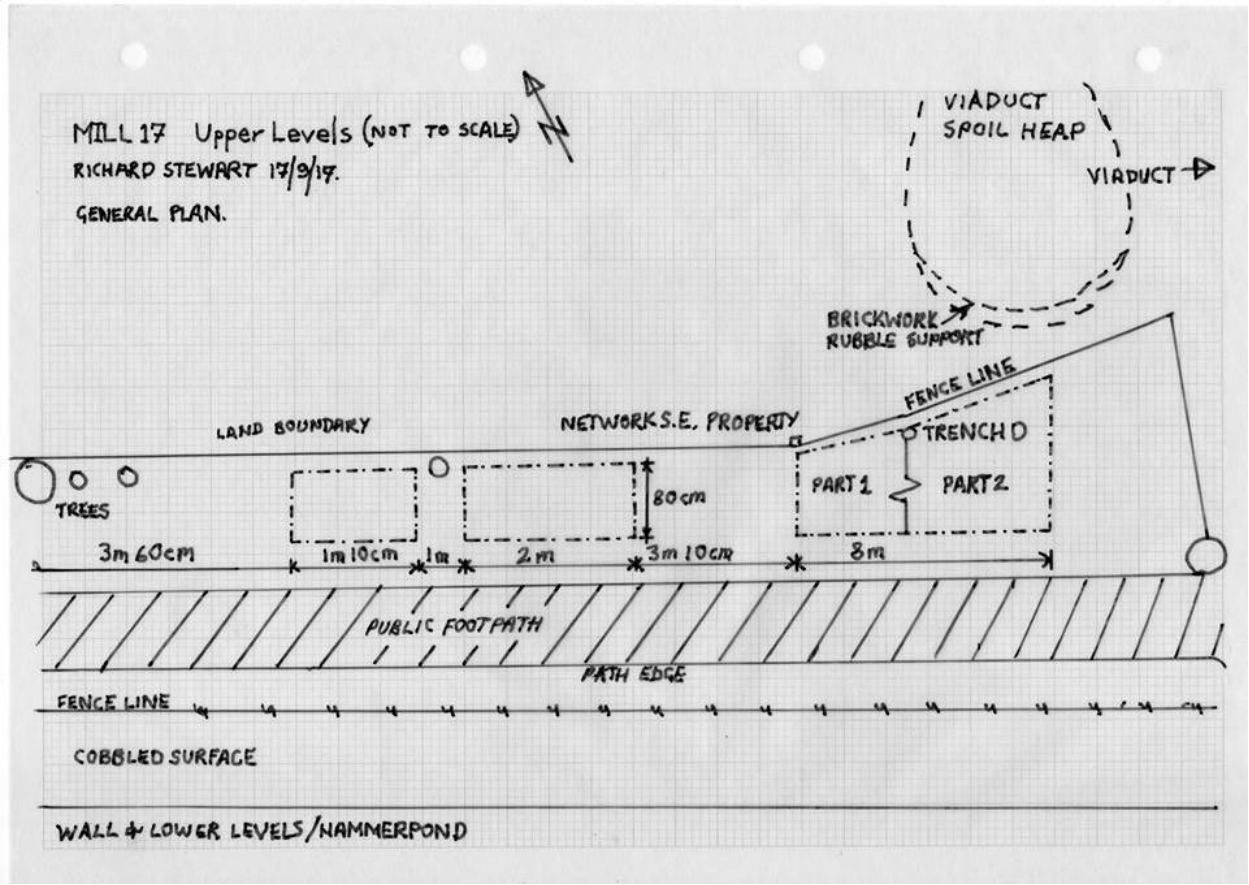


Notes:
A to G –Trench Codes
Scale – Approx. 1.5cm to1m

Schematic plan of Mill17 site. Not to scale, and North is at the top of the page, with following plan showing additional site features.



Notes:
A to G –Trench Codes
- Site Origin
Scale – Approx. 1.5cm to1m



Plan showing upper level of the site (provided by Richard Stewart)

8 Finds – Significant examples

Clay Pipe from Trench A.
Makers initials RP are visible on the foot of the pipe

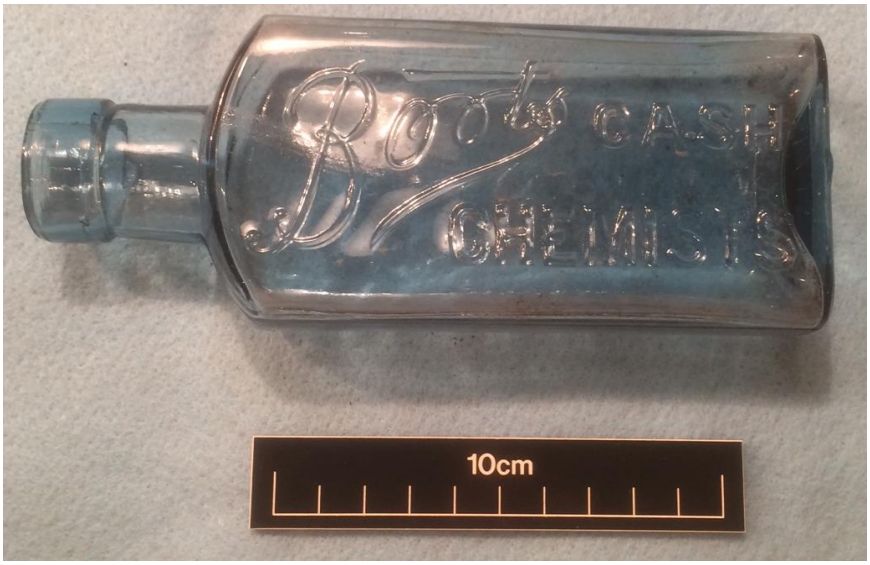
Patten
Used with wooden bases on shoes to avoid clothes becoming muddy

Top of early battery

Text is SILTOWN

Reverse side of the early battery

Number is 1898 (assumed to be the year 1898)



Boots CASH Chemist bottle

Believed to date to circa 1900

IDRIS Bottle

Example of domestic use of commercial soft drink bottle

Nubian Bottle

Contained Hair Dye

Bugle Mouthpiece

From Trench D, and it suggests domestic activity including musical renditions.

Selection of Clay pipes

Clay pipes found on the site are all very similar and most have a Wheatsheaf pattern on the bowl, and the maker's initials on the foot of the pipe

Graphite Rod

The most likely use for the graphite rod was a part of an arc light used within the railway industry

Iron Bolt

The site contains a large number of corroded Iron artefacts. These would be used in some form of industrial or farming setting.

Musket Balls and Bird Shot

The site has a number of musket balls and larger metal balls assume to be bird shot

Whetstone

Used for honing blade edges, such as knives or farm tools including a scythe (found in trench A)

Water Wheel Paddle
These two images show a tapered piece of wood 1-2 cm thick and approximately 50cm in length, which appear to come from a larger piece of wood.

Located at a depth of around 1m close to the brick structure in the face of the revetment (Trench A) they are probably a piece of a waterwheel paddle.

9 Summary & Overview

Site is part of a Georgian and Victorian industrial complex of powder and corn mills, high and low temperature forges, all making use of the River Bourne for power. The site contains multiple levels of successive buildings, ending with the building shown on the 1840 Tithe Map, and starting with the section of wall in the revetment, which is probably Georgian and may represent the basal part of a water wheel structure, which provided power to the building. Earlier Tudor bricks found in Trench A hint at nearby early structures representing the first industrial origins of the site. References to “river” in this summary represent a generalised waterway / mill pond with limited and decreasing water flow, with the river Bourne finally following its current path on the other side of the mill pond field

This site is contained within a landscape with powder mills, corn mills, forges (high and low temperature), hop processing buildings, and general farm labourer and storage buildings. There have been a series of buildings associated this site, possibly dating back to Tudor times, with different usages, and the revetment shows layers of slag and cobbles with rubble, plus the section of Georgian brickwork representing the likely lower section of a waterwheel

During the two seasons exploring the site we have endeavored to understand the structures exposed during our excavations and confirmed the significance of the revetment (and associated cobbled / rubble surface) to support building structures on the North bank of the river. There were almost certainly a series of buildings constructed on the same location to take advantage of local water-power and whose function changed over time as industrial requirements changed, ultimately being demolished around the time when the railway was built. The construction of the railway and Colebrook viaduct in 1845/46, with the partial collapse of the viaduct, which resulted in debris falling into the site, marked the final phase of industrial activity on the site. With the construction of the Colebrook viaduct the earlier North-South transport focus evolved. and other routes became more significant, ultimately leading to the rural and peaceful setting of the site in modern times.

Appendix 1 – Historical Research

SOUTHBOROUGH VALLEY - TIMELINE

1066-1314	1329-1400	1552	1553	1563-1609	1573-4	1623-79
Norman De Clare family own lands round Tunbridge – Build Tonbridge Castle Our area known as South Frith *Woodland - royal chase (deer park) surrounded by a pale.*	*Info that probably refers to Vauxhall Forge lists names & info on bloomery working.* *Uses the underlying iron rich sandstone of the Hastings (TW) beds*	Iron founder Robert True builds forge & furnace on two different sites. Both driven by waterwheels for bellows. Commissioned by Duke Northumberland (South Frith). *Sandstone dug from bell pits.*	David Willard builds Old Forge for Sir Thomas Fane *First forge possibly built on pond bay made by damming river* **1558** South Frith reverts to Elizabeth 1	*Conflicting info on ownership of Old Forge* *Willard noted as working the Forge* *Old Forge Farm may have evolved from Tudor miners cottages*	Elizabeth loans deer park & valley to Dudley Earl Leicester	Old Forge works with Vauxhall Furnace as a finery forge. Suggestion that firebacks and other implements made here

1698	1763	1772	1807	1835	July 1844	19 Sept 1845
Margaret Viscountess Muskerry dies and son John Villiers (Self styled Duke of Buckingham) sells Manor of South Frith to Mr Dekins and Abraham Hill. Estate divided and passes into private hands.	Old Forge changed to a Pestle Forge Cinder Field may indicate the forge location- the forge pond later used for gunpowder and corn mills	Permission to erect Powdermill on site at Old Forge Farm. W & T Moon, R Hooker, S Croft (Croft gunpowder maker). Blew up in a few months and re-erected. (Suggests that it is not Old Forge site but on Brokes Mill site)	Gunpowder Mill taken over by Thomas Howlett - added buildings	River Bourne reduced in flow by a diversion near its source to supply John Wards Calverley Park housing development **1838-1845** Brokes/Boakes Mill converted/built as a corn mill. Millers identified from1835	Start of building Viaduct to cross Jackwood Spring Valley to complete Ton-TW branch SER **31 May 1845** During widening works six arches collapsed but piers remained at Tonbridge end	Viaduct declared fit for use by Major-General Pasley (Board of Trade). **20 Sept 1845** Railway line Tonbridge - T Wells opens to traffic completing the London – Hastings rail link

1870	1878	1880	1890	1898	1909	1910
CORNMILL site- possibly named as Broakes Mill. L shaped building. Railway embankment alongside MILL17 excavation seems to follow earlier 1841 boundaries. Millpond still divided into two by causeway area beyond CORNMILL area is shown as wooded. Possible shallower area immediately below pond bay is now dry(?). Pond alongside MILL17 still wet. Old Forge shown	*Railway side of field below mill and causeway shown as wooded. Millpond and infill same as 1870 map. Old Forge still shown. Looks as if Bourne upstream has been channelled.*	*BROAKES MILL (corn). L shaped building. Both areas below Mill are now wooded. It is unclear if millpond is still wet or drained but areas are numbered. Also unclear where the Bourne runs*	*CORNMILL SITE ONLY. Sluice identified near mill. Floodgate identified but not clear where it is positioned. Broakes Mill is identified but at no specific building. Millpond with causeway between the two sections. Small island near MILL17. Old Forge still identified.*	*BROKES mill identified as corn mill with sluice and footbridge near site. Floodgate on other smaller pond to west of mill. Mill pond still in two sections. Poss the Bourne passes from channelled water upstream under Powdermill Lane into a small pond then channelled into mill pond. On map the channelled water /Bourne goes downstream from corn mill. Old Forge still identified.*	*BROKES MILL identified as corn mill. Clearer identification of tracks, sluice (the floodgate has been changed to a sluice? Small pond to west of mill has been reduced to a channel. Mill pond in two sections still. The area nearer the pond bay is marshy/dry.*	*CORNMILL SITE ONLY - IDENTIFIED AS BROKES MILL The pondbay/ Lane has increased in size and looks as if it has incorporated the small island. Map icons perhaps suggest marshy land rather than dry grass. The field running alongside east of BROKES mill seems to have been cleared of trees.*

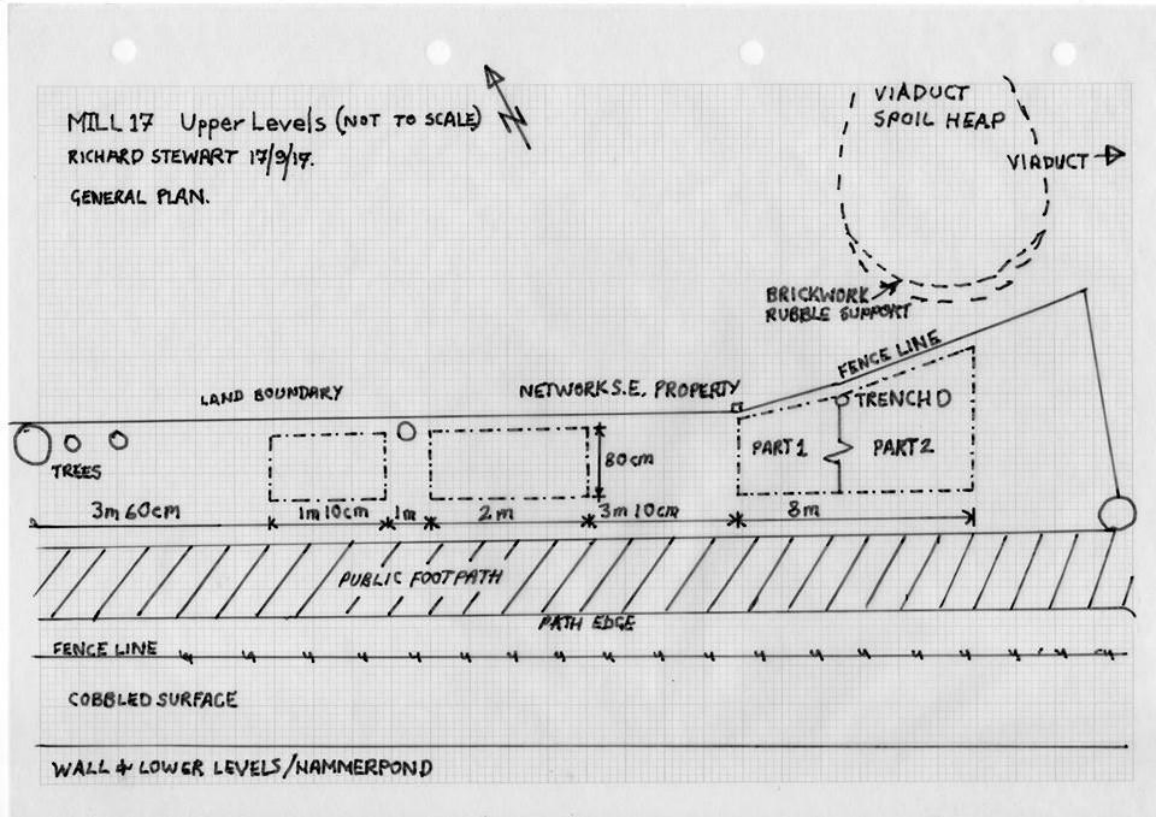
1922-1923	1932	1948	1987?	1987?		
Corn Mill closed. Last miller Lewis Manuel *Mill and millpond still shown.*	Cornmill sold for scrap -1933 Remains of water mill remain in area - possibly the metal wheel – until recent times	Two mill cottages demolished - NE of Brokes Mill Farm House	*BROKES Mill identified. Mill pond still in existence.*	*BROKES MILL not shown. Mill pond is now dry. Bourne identified as flowing straight with a side stream going to a weir where small pond and sluice was earlier.*		Red text indicates information shown on maps or other documents 2017 SHAAS Excavation site noted as **MILL17**

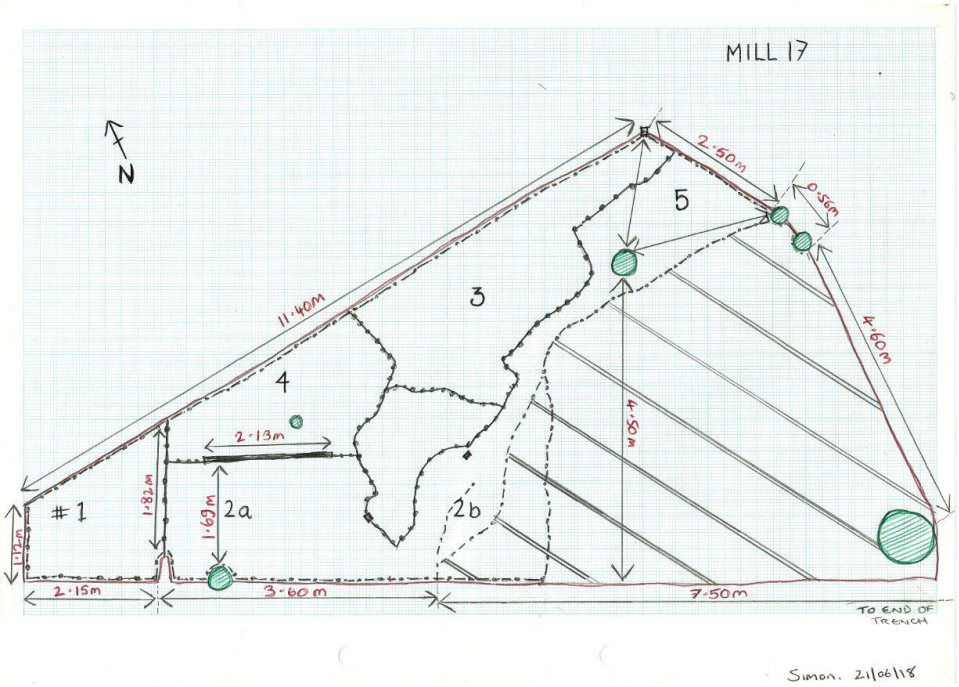
Appendix 2 – Site Context Summary

Context number assigned during the 2017 dig season

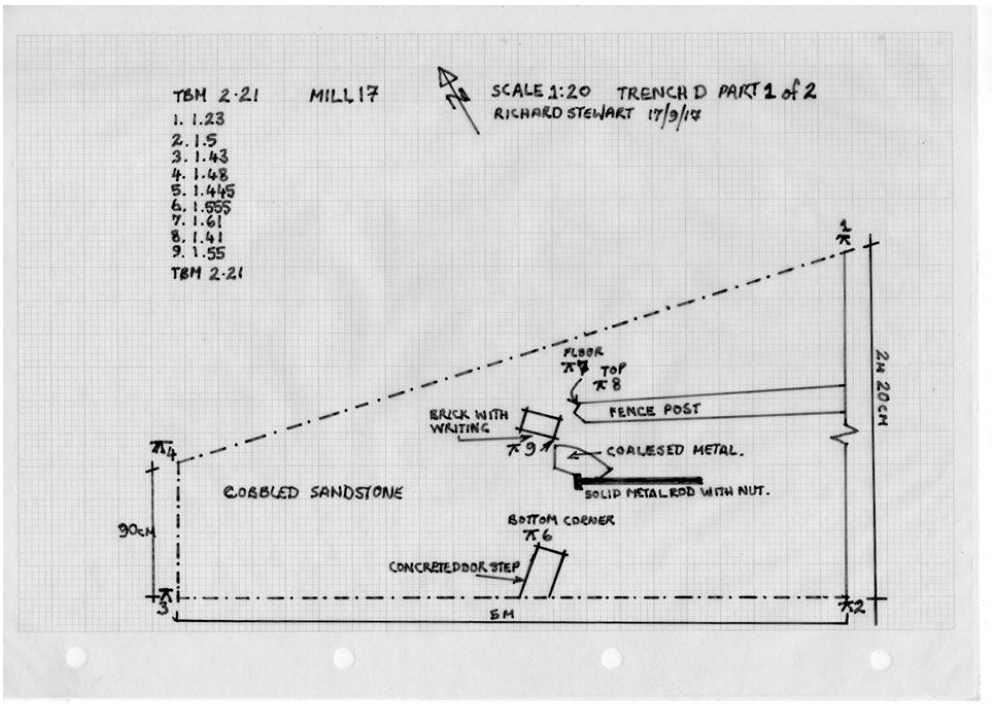
- 000 Top Soil
- 001 First Clay Layer
- 002 Infill (WKD Archaeology)
- 003 Clay layer, possibly below slag and above charcoal
- 004 Slag Layer
- 005 Fallen Bricks
- 006 Charcoal Layer
- 007 Orange Clay below charcoal (not Tudor bricks, mid-late 16th century – line on bricks)
- 008 Trench B – possible subsurface (same layer in trench C)
- 009 Extension of Trench A (now one trench)
- 010 Trench D (other side of fence)
- 011 Concrete Base in Trench D
- 012 Lime Mortar under base (?)
- 013 Trench C
- 014 Hard Clay section of Trench A

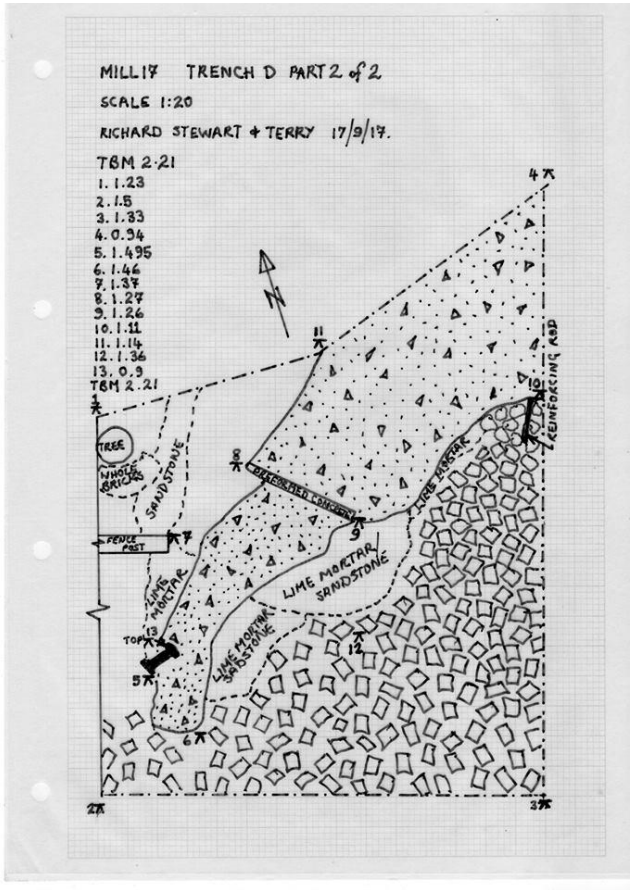
Appendix 3 – Additional Site Plans & Drawings



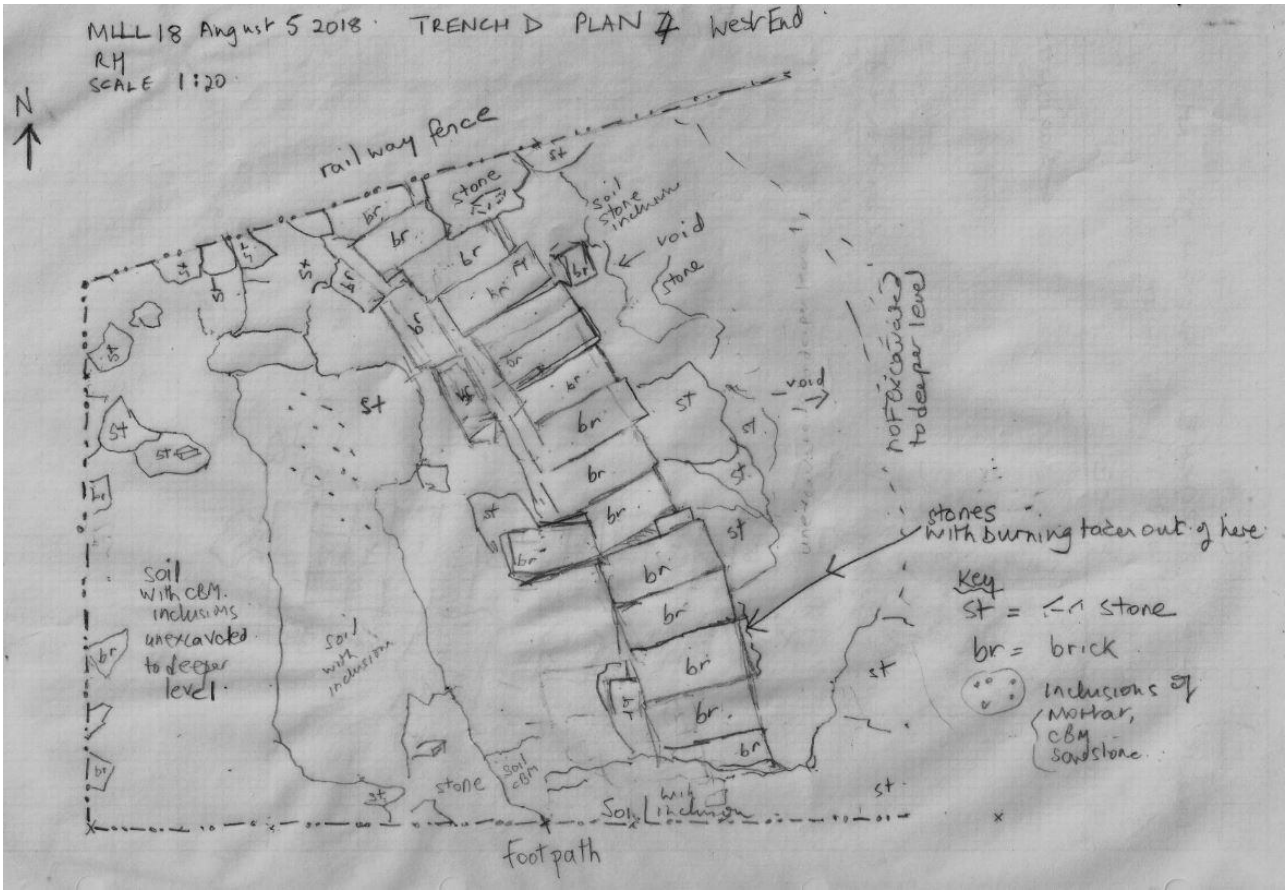


Schematic Plans of the Upper Terrace trenches (provided by Richard Stewart)

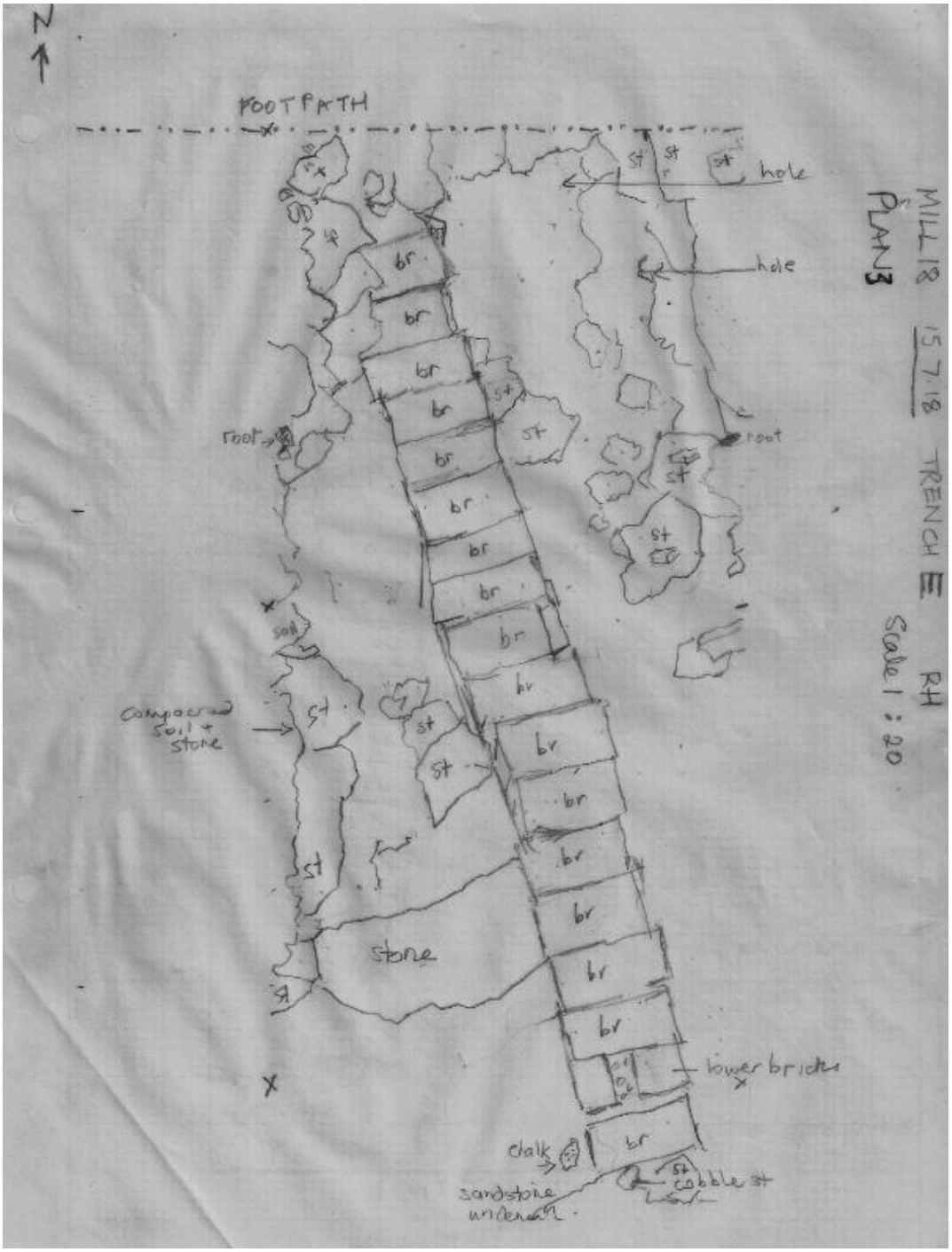




Trench D – Western (top) and Eastern(lower) trench plans (provided by Richard Stewart)



Trench D – Plan of Linear Brick Structure (Drawn by Rosemary Hill)



Trench E – Linear Brick Structure (Drawn by Rosemary Hill)

Linear Brick Structures appear to be continuous to be continuous between trenches D and E, and currently slope gently down from North to South, though this may reflect later subsidence.

Appendix 2 – Details of Finds (2018)

Extract of information recorded for small finds during 2018 season

Small Finds	Material	Object Description		Date	Trench	Trench Sub-Area
1	glass	2 pieces bottle 18th C base & neck .	From pig area.	15 4 18	E	Pig Area
2	iron	nail embedded in brick	Trench D w	15 4 18	D	West
3	iron/ brick	iron bolt & brick	"	15 4 18	D	West
4	graphite	cylinder and knob ??	Trench E	15 4 18	E	
5	CBM	7 pieces drainage pipe ? Letters "ON"	Trench D e	15 4 18	D	East
6	ceramic	domestic bowl piece	Trench F	15 4 18	F	
7	glass	4 pieces dec. pea green glass	"	15 4 18	F	
8	glass	glass bottle 1349 on base	Trench E	22 4 18	E	
9	shell	mussel shell	"	22 4 18	E	
10	ceramic	domestic china gret grape pattern	Trench E	22 4 18	E	
11	CBM	roof tile)	"	22 4 18	E	
12	CBM	floor tile piece with mortar)		22 4 18	E	
13	CBM	curved roof tile)	bagged together "	22 4 18	E	
14	CBM	peg tile)		22 4 18	E	
15	coal	coal	"	22 4 18	E	
16	ceramic	domestic pottery green stripe	"	22 4 18	E	
17	iron	large iron bolt	"	22 4 18	E	
18	ceramic	clay pipe piece	Trench F	15 4 18	F	
19	coal	coal	"	15 4 18	F	
20	CBM	lime mortar adjacent to 7 bricks	Trench E	6 5 18	E	
21	coal	quantity of coal pieces	Trench E and B	29/4 6/5	E & B	
22	slag	samples of slag pieces	Trench E	29/4 6/5	E	
23	stone	flint cobble stone	"	6 5 18	E	
24	CBM	samples roof or floor tile	"	6 5 18	E	
25	CBM	4 pieces peg tile	" e	6 5 18	E	East
26	iron	2 pieces iron, bolt?	"	6 5 18	E	
27	metal	2 smaller pieces iron	"	6 5 18	E	
28	slag	slag	Trench B	6 5 18	B	
29	stone	black stone " exotic" ?	"	6 5 18	B	
30	plastic	black battery casing	Trench E e	6 5 18	E	East
31	stone/CBM	soft cream stone or mortar?	"	6 5 18	E	
32	shell	mussel or oyster shell	"	6 5 18	E	
33	ceramic	white, with grooves ?	"	6 5 18	E	
34	ceramic	red ware brown glazed pot, several pieces	"	6 5 18	E	
35	ceramic	terracotta pot unglazed	"	6 5 18	E	
36	metal	infer Tin or zinc 2 pieces	"	6 5 18	E	
37	ceramic	white/cream glazed domestic crockery	"	6 5 18	E	
38	ceramic	cream/brown striped pot piece	"	6 5 18	E	
39	plastic	small piece white plastic	"	6 5 18	E	
40	ceramic	blue & white pattern pieces	"	6 5 18	E	
41	ceramic	assorted pieces blue& white pottery	Trench E	29/4 6/5	E	
42	ceramic	base of cream/brown stoneware glazed pot	"	6 5 18	E	
43	ceramic	white glazed jug or cup (handle marks)	"	6 5 18	E	
44	glass	dark green		6 5 18	E	
45	glass	base of small bottle"Kilner Bros Makers London " & "Rogers"	"	6 5 18	E	
46	glass	clear glass pieces	"	6 5 18	E	
47	glass	ribbed pieces of jar or bottle 701573 "..Ora Ltd.	"	6 5 18	E	
48	glass	clear glass pieces	"	6 5 18	E	

49	ceramic	green stripey tile? Piece "	6 5 18	E	
50	ceramic	white blue patterned tile "	6 5 18	E	
51	ceramic	small piece black/brown ceramic "	6 5 18	E	
52	leather	4 pieces red stitched leather strap ?	6 5 18	E	
53	iron	Large iron piece, tool or machinery? Trench D	20 5 18	D	
54	glass	4 pieces dark brown bottle "W & A Gilbey" "	20 5 18	D	
55	glass	2 pieces green bottle glass "	20 5 18	D	
56	ceramic	blue/white ceramic "	20 5 18	D	
57	glass	1 piece clear bottle glass "	20 5 18	D	
58	iron	4 pieces shaped iron , Staples? "	20 5 18	D	
59	iron	regular shaped iron piece cf 53? Adjacent to bricks Trench B	20 5 18	B	
60	ceramic	several pieces blue/white domestic plate Trench D	20 5 18	D	
61	coal	2 samples Trench D	20 5 18	D	
62	CBM	red ceramic brown glazed (not shiny) drainage pipe? "	20 5 18	D	
63	CBM	ridge tile Trench B (above bricks in E	20 5 18	B	
64	CBM	3 samples white lime mortar Trench E	20 5 18	E	
65	slag	4 samples from layer Trench E	20 5 18	E	
66	ceramic	2 small pieces pottery "	20 5 18	E	
67	metal	shaped square iron piece with central hole Trench D near fence, new ar	27 5 18	D	near fence
68	glass	clear bottle glass, pattern, "L" "	27 5 18	D	
69	charcoal	7 pieces Trench F	27 5 18	F	
70	metal	non ferrous cylinder??? "	27 5 18	F	
71	ceramic	4 pieces rimmed terracotta pot glazed brown inside "	27 5 18	F	
72	glass	2 pieces clear glass bottle rectangulsr shape "	27 5 18	F	
73	glass	3 pieces clear glass Milk? Bottle Trench D	27 5 18	D	
74	metal	non ferrous metal object shaped, oval hole "	27 5 18	D	
75	iron	2 shaped pieces staples? cf 58 "	27 5 18	D	
76	CBM	brick pieces, burnt? "	27 5 18	D	
77	slag	rough slag sample "	27 5 18	D	
78	ceramic	Clay pipe stem "	27 5 18	D	
79	glass	small piece green bottle glass "	27 5 18	D	
80	ceramic	Clay pipe stem Trench E	3 6 18	E	
81	ceramic	blue/white pottery trench E	3 6 18	E	
82	ceramic	pink/white china plate Trench D (E end)	3 6 18	D	East end
83	metal	spring? Wire tensioner? Trench D	3 6 18	D	
84	glass	2 pieces green glass "	3 6 18	D	
85	glass	green and clear glass "	3 6 18	D	
86	ceramic	blue/white china "	3 6 18	D	
87	ceramic	black/red china "	3 6 18	D	
88	CBM	ridge tile	3 6 18	D	
89	stone	Slate Trench D top	10 6 18	D	top
90	metal	curved iron pipe trench D top	10 6 18	D	top
91	slag	high temp slag "	10 6 18	D	top
92	ceramic	rim of brown white glazed pot Trench E *Trench A extension*	17 6 18	E	A extension
93	metal	large iron bolt Trench A e extension	24 6 18	A	E extension
94	ceramic	blue/white pottery "	24 6 18	A	E extension
95	glass	clear, shaped "	24 6 18	A	E extension
96	ceramic	terracotta rim of pot part glazed "	24 6 18	A	E extension

97	ceramic	white/brown glazed pot 2 pieces " cf 92	24 6 18	A	E extension
98	glass	clear glass "	24 6 18	A	E extension
99	glass	green bottle glass "	24 6 18	A	E extension
100	ceramic	blue/white pottery Trench E w	24 6 18	E	West
101	ceramic	pink/ green /white pottery Trench E w	24 6 18	E	West
102	metal/plastic	Part of battery Trench E east	1 7 18	E	East
103	ceramic	blue/white china with remains of handle trench E	8 7 18	E	
104	ceramic	part glazed pottery Trench E	8 7 18	E	
105	ceramic	pottery thicker and more red than 104 Trench E	15 7 18	E	
106	charcoal	large piece Trench E	8 7 18	E	
107	slag	shiny thin piece Trench E	15 7 18	E	
108	CBM	piece of peg ? Tile burnt one side Trench E	15 7 18	E	
109	slag/iron	Mosser Trench E	15 7 18	E	
110	ceramic	green /white patterned china Trench C	15 7 18	C	
111	ceramic	blue/white china	15 7 18	C	
112	CBM	peg tile Tr A extension	22 7 18	A	extension
113	metal	iron handle? Trench A extension	22 7 18	A	extension
114	ceramic	terracotta, glazed both sides Trench E	22 7 18	E	
115	glass	curved clear bottle glass TR E	22 7 18	E	
116	metal	cartridge top Tr A Ext	22 7 18	A	extension
117	metal	nonferrous ordnance "AE"	22 7 18	A	extension
118	iron	screw threaded bolt 20cm long TR G	5 8 18	G	
119	iron	horseshoe TR G	12 8 18	G	
120	iron	bucket handle Tr G	12 8 18	G	
121	glass	brown bottle pieces No marking Trench E S extension	12 8 18	E	S extension
122	lead	musket ball large pre 1800? Trench A N	19 8 18	A	N extension
123	Wood ?	sample from deeper trench A clay. Decomposed tree root?	19 8 18	A	
124	glass	bottom of pale green slightly frosted jar. 3686 and logo on base TR E ex	19 8 18	E	extension
125	ceramic	white/black stripe pottery TR E ex	19 8 18	E	extension
126	glass	clear glass	19 8 18	E	?
127	glass	clear glass letters GHE or CHE ??	19 8 18	E	?
128	iron	shovel Trench A extension	16 9 18	A	extension
129	iron? / Wood	Wood inside v rusted metal ring no MD signal! TrA ext. Wood inside	16 9 18	A	extension
130	coal	pieces coal Trench A extension	16 9 18	A	extension
131	glass	green glass bottle basec 1850 Trench A South ext	16 9 18	A	S extension
132	Wood	wood plank from Trench A West, deeper extension	30 9 18	A	W extension
133	glass	green bottle glass, georgian? Trench A top west bank	30 9 18	A	W bank