Castleshaw Roman Fort:
Archaeological Evaluation
of land east of the fort defences

2018

Friends of Castleshaw Roman Forts volunteers undertaking the evaluation

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Background

As part of the Castleshaw Roman Forts Hinterland Survey, the Friends of Castleshaw Roman Forts (FoCRF) carried out an archaeological evaluation of an area of land east of the defences at Castleshaw Roman Fort (Heritage Asset No. 1017837), centred on grid reference SD99830953. The land is owned by United Utilities and farmed by David Hirst.

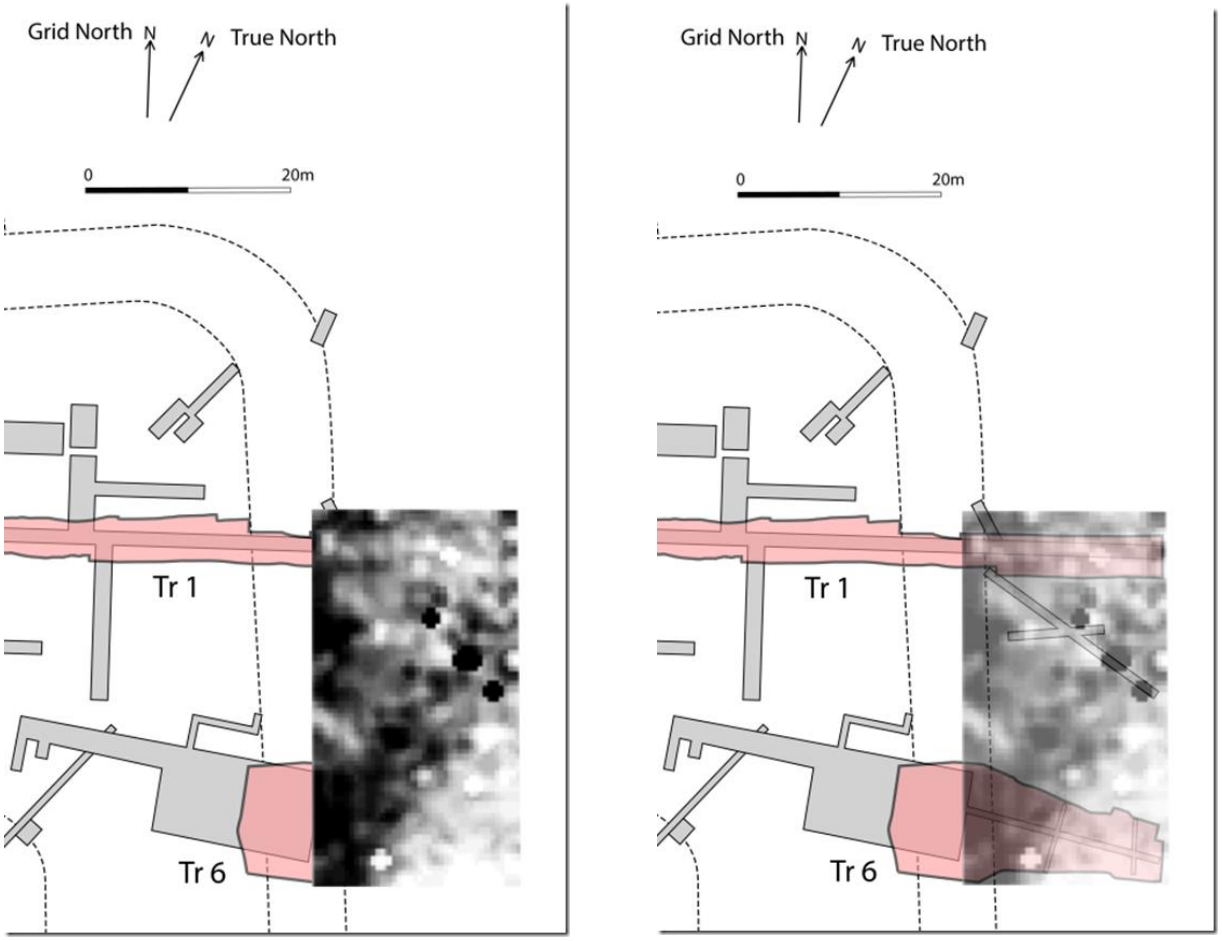
The evaluation set out to establish the character and potential for Roman deposits and features just outside the east rampart. In 2014 archaeological excavations outside the east gate and re-excavation of Thompson's trench across the northern section of the eastern defences demonstrated that there are no defensive ditches here. Instead the area outside the east gate appeared to show the start of a road running parallel or at a slight angle to the rampart, together with suggestions of the site of former buildings or structures. In 2017 resistivity survey by the Friends of Castleshaw Roman Forts showed what appears to be the road angling north-eastwards away from the rampart. Two old excavation trenches run out from the rampart and one cuts across the 'road' alignment. There are no records for what was found in these trenches, which may have been dug by Francis Bruton in 1907-8. The evaluation aimed to define the character and course of the road as well as any further evidence for buildings in this area. It attempted to shed further light on why no ditches were dug on this side of the fort. The work was undertaken in accordance with the methodology set out in the 'Excavation Strategy for Castleshaw Roman Forts' (Redhead, 2013)

The evaluation exercise will inform future research excavation in this area by establishing the level of survival, character, relative significance and potential of archaeological remains. Scheduled Monument Consent was secured to undertake the work.

Plan of the 2017 geophysical survey area, which was the focus of evaluation trenching in 2018, overlaid onto a Google Earth image of the fortlet and fort site.

The investigations were undertaken by volunteers of the Friends of Castleshaw Roman Forts and were led and reported on by Norman Redhead.

This report can be accessed as a pdf on the Friends of Castleshaw Roman Forts website: www.castleshawarchaeology.co.uk .



Plans showing resistivity survey overlaid in relation to 2014 excavated trenches (in pink), with earlier trenching shown in grey.

Evaluation Methodology

The archaeological research strategy for Castleshaw Roman Forts is set out in 'An Excavation Strategy for Castleshaw Roman Forts' (Redhead 2013). Relevant to the 2018 evaluation are the following:

Research Objective 8: Understanding how the fort functioned
Research Objective 9: Understanding the road network
Research Objective 10. Understanding the immediate hinterland. Little work has taken place outside the interior of the fort. The question of a possible 1st century *vicus* remains an important issue for further investigation. Currently there is only evidence of a settlement associated with the 2nd century fortlet and, as yet, no sign of a 1st century precursor. This is quite unusual given that most auxiliary forts did have associated civilian communities, drawn by the attraction of a permanent garrison of troops keen to spend their pay. However, investigations of the surrounding area have so far been limited.

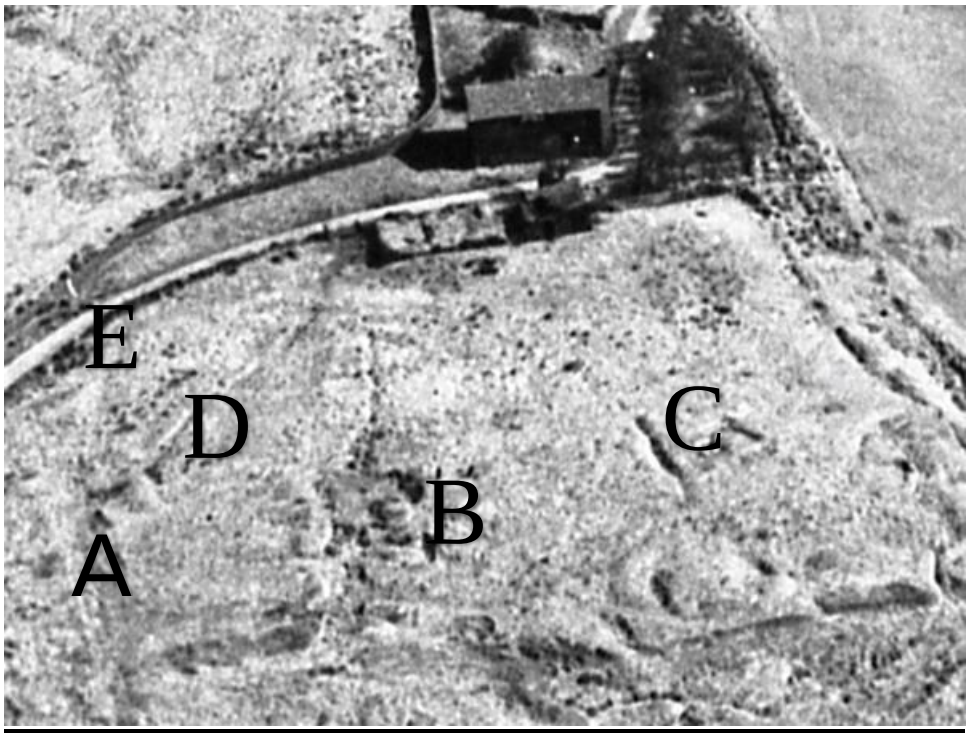
Scheduled Monument Consent was obtained for the evaluation and allowed for:

- Archaeological test pitting in the area to the east of the Roman Fort eastern rampart, between the east gate and the north-east corner bounded on the east by Dirty Lane. The test pits to be dug at regular intervals to give good coverage across the area to determine the presence or absence of Roman features and deposits.
- Locate and partly re-excavate two old excavation trenches located outside the eastern rampart.

The main objectives for the investigations were to:

- Explore the suspected road running from the east gate at an angle in front of the rampart

- Confirm the lack of defensive ditches and throw more light on the nature of Roman activity alongside the eastern rampart.



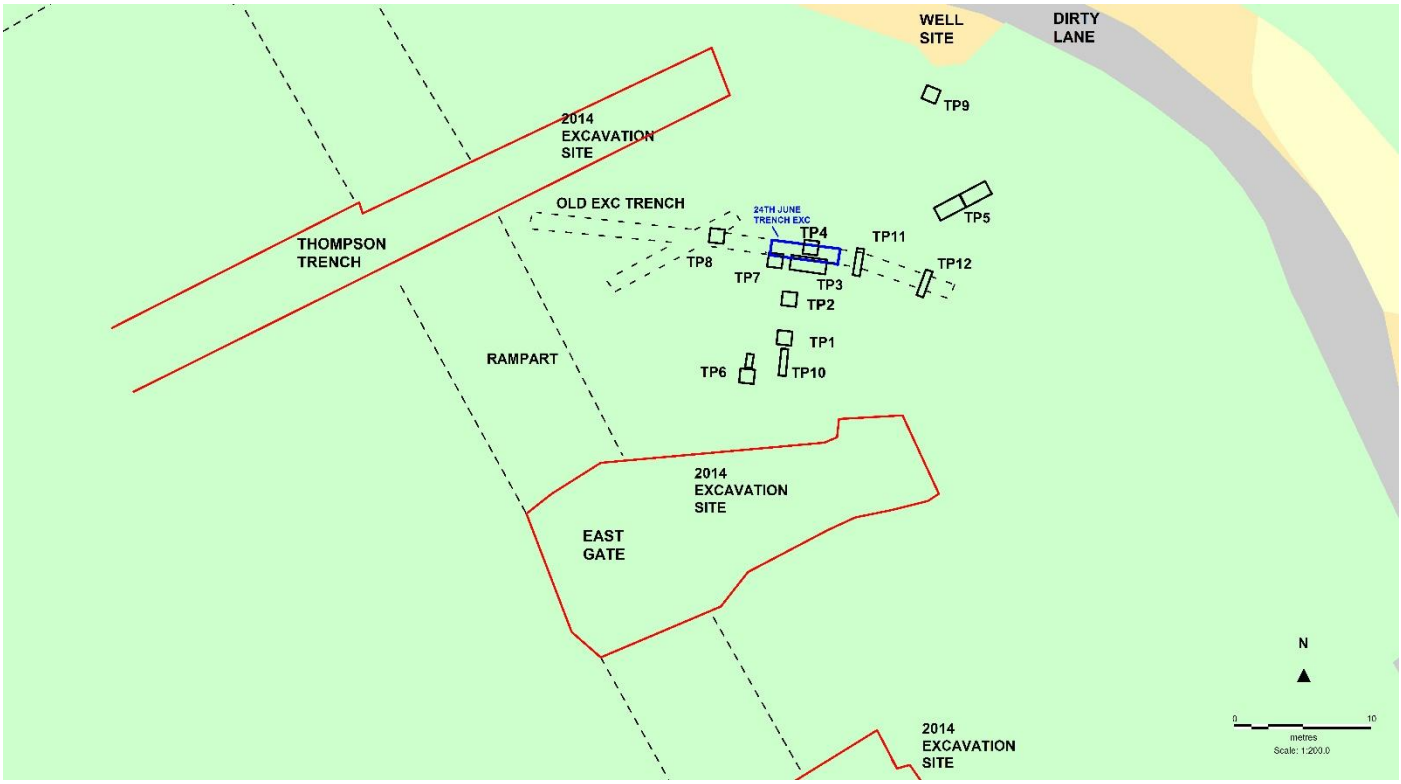
1970s aerial photograph showing: A = old Thomson trench through rampart, B = site of eastern gateway, C = old excavation trench through east rampart, D = area of 2018 evaluation trenching and Bruton's old trench, E = location of well

The investigations were carried out on three days: 24th June 2018, 25th August 2018 and 15th September 2018.

Test pitting consisted of 1 metre square sample excavations, with several of these expanded to form trench explorations. A written description and photographic record was made of each test pit and its position recorded. The depth of natural and overlying stratigraphy was recorded. Finds were cleaned and described. This report sets out the results of the test pitting and a copy has been lodged with the Greater Manchester Historic Environment Record and put onto the Friends of Castleshaw Roman Forts website. An Oasis record form has also been created.

The investigations were undertaken by a mixture of experienced and inexperienced volunteers drawn from the Friends of Castleshaw Roman Forts, under the directorship of Norman Redhead. A risk assessment was prepared and agreed with the land owner. All test pits and trenches were excavated and backfilled in one day so that no holes were left overnight.

A 5 metre long section of an old excavation trench (probably dug around 1907) was re-opened where it cut across the line of the proposed Roman road. Subsequently, this was partly widened through targeted test pits, and a number of test pits were excavated elsewhere in the target area for the evaluation amounting to 12 test pits in total, as shown on the plan below.



Plan of the location of re-excavated part of Bruton trench (in blue) and test pits for the 2018 investigations.

Results

Re-excavation of 5 metre long section of old Bruton trench, plus Test Pits 3 and 4 sideways extension

Excavating part of the old Bruton trench on 24th June 2018

A 5 metre long section of Bruton's trench was re-excavated, with the width being 2 metres. Bruton's trench was clearly evident as a linear depression in the turf. The back fill was a maximum of 50 cm deep and contained a range of post medieval pottery sherds. However, in the eastern half of the trench the fill contained a number of pieces of fired orange clay, with several pieces being shaped suggesting they were

daub and remains of a structure. Further pieces were found embedded in the soils on the south facing side and in the trench base towards the eastern end of the trench. Bruton's excavators had created an irregular flat base c 50 cm wide, with the sides being of different angles and exposing a variety of stone features. It had been anticipated that a road section would be exposed, in accordance with the possible angled road feature identified in the 2014 excavation and suggested by geophysical survey. But it was surprising to find that the north and south facing sides of the trench showed completely different stonework, which was clearly not related to a Roman road.

The south facing side of the re-excavated Bruton trench

The north facing side of the re-excavated Bruton trench (from two photos stitched together)

The stonework on the north side appeared to be the remnants of a wall which had been broken into by the cutting of Bruton's trench. However, the wall did not continue along the whole trench length as it appeared to finish about one metre from the eastern edge where there was a large amount of burnt orange clay fragments within a mid-brown clay loam with several small to medium pieces of gritstone. The wall was not evenly built so that in the centre of the trench it appeared as well-coursed flat gritstones whereas to the west it was of more uneven build. There appeared to be an absence of mortar although within the time available it was not possible to investigate the wall structure in detail. The antiquity of the stonework was apparent by it being sealed under a brown plough soil layer 30-40 cm in depth which in turn lay under a thin layer of turf and topsoil.

The south side of the trench consisted of clusters of stonework separated by a dark grey-brown silty clay loam. It was harder on this side to define the original cut of the Bruton trench which appeared to have been cut very irregularly. There appeared to be the brown plough soil sealing the stones as seen on the north side of the trench. Around two metres from the eastern end of the trench was a stack of flat gritstones with four courses visible being 40 cm high. 65 cm to its west was another stack of stones less well built or preserved but of similar height. A further 1.20 metres west was another stone configuration, this time with a flatly laid rectangular gritstone associated with other stones perhaps representing a return wall. Towards

the opposite, eastern end of the trench were two more clusters of stones which appeared smaller in size and more irregular.

In the base of the trench, Bruton's excavations had stopped at mid-yellow natural clay which was interspersed with patches of burnt red clay and a few medium irregular gritstones.

Post medieval finds (mainly pottery) from the backfill of the old Bruton trench with, on the right, a selection of burnt clay/daub fragments from the east side of the trench

The discovery of these varied stone features was perplexing and led to further exploration to define them better.


View across the mainly backfilled Bruton trench, showing Test Pit 3 in the foreground and Test Pit 4 across the stone wall beyond

Test Pit 4

This examined the possible stone wall on the north side of Bruton's trench and the ground immediately behind (north of) it. The northern edge of the stone work was set against what appeared to be plough soil, with a straight edge cut to take the layered, flat angular gritstones of what appears to be a wall foundation. The stones are thin-cut and laid flat but there seems to be an absence of mortar. Furthermore, it is difficult to tell how much of the stone work has been damaged/lost from the cut of Bruton's trench. From the topsoil north of the wall came several post medieval finds which are illustrated below.

Remains of wall revealed on north side of old Bruton trench

Dark glazed pottery sherds, glass, a nail and marble fragment from topsoil in TP4

Test Pit 3

This started off as a 1 x 1.5 metre test pit to examine two of the possible stone stacks revealed in the south side of Bruton's re-excavated trench and the area immediately behind them. An abundance of charcoal, stone and burnt red clay was found sealed under the brown plough soil. From the top of this material were only Roman finds. These included a rim sherd of a shallow Samian dish, a body sherd of grey ware, an iron nail and a rounded piece of daub with a flat base. On the west side of the test pit a flatly laid fire-reddened gritstone lined up with one of the stone stacks. To make sense of all this, the test pit was expanded to form a 2 metre square area. It soon became apparent that the stone stacks were parts of two walls that appear to have been truncated by the cut of Bruton's trench. These walls were 70 cm apart and formed the sides of a flue, with the walls being 35 cm wide and surviving to around 40 cm high.

Part of the fill between the flue walls was excavated and confirmed that the material was burnt red clay with yellow lenses of clay that has fallen into the flue. There seemed to be a lower floor level to the flue, formed of yellow clay, but in places the heat had caused this natural clay to turn red. Interestingly, the red clay continued in line with the flue across the floor of Bruton's trench suggesting that the flue had been partly removed by the Bruton excavation. Its relationship with the stone work on the north side of the old excavation trench is therefore not clear due to this truncation.

TP4 as initially excavated, showing the stone stacks and edge of the Bruton trench on the right, with fire-heated clay and stones to the left

The south side of the flue ran into an area of concentrated stones exposed in the first TP3 excavation. To the west these stones petered out and the area had a curving deposit of dense concentrated charcoal. On the east side of the charcoal was the burnt red clay and stones, whereas to the west was mid-brown silty clay loam with no sign of burning. The charcoal deposit appears to define the edge of the furnace/hearth. The excavation only exposed the top of the Roman deposits here and further, more detailed, excavation would be needed to better define the furnace structure. From the top of the Roman archaeology came several finds of interest which are illustrated below and noted above. These are consistent with a late 1st century or early 2nd century AD date. It is worth noting that there were no slag residues present, suggesting an iron working or smelting function can be ruled out.

Looking south at the extended area of TP3 showing the flue walls, with possible furnace beyond the photo scale

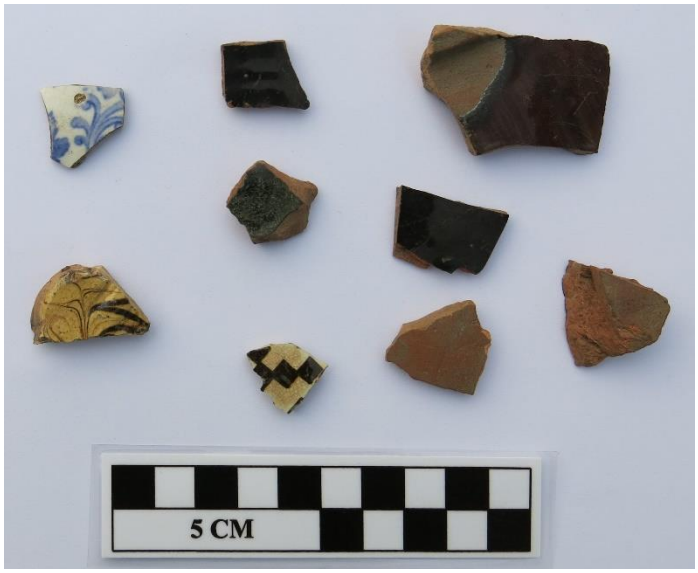
Looking west along the length of partly re-excavated Bruton trench, showing TP3 extended to link up with TP7 in the background, with the possible furnace and flue walls in the foreground. The right-hand photo shows Roman finds from TP3: grey ware body sherd, rim of Samian ware shallow bowl, nail, curve shaped daub.

Post medieval finds from plough and top soil in TP3 including clay pipe stem and bowl fragments on left, and dark glazed earthen wares and white glazed pottery.

Test Pit 7

This test pit is described here as it relates to the re-excavation of a section of Bruton's trench. TP7 was located at the western end of the 5 metre long section of the Bruton trench re-excavation as described above. It consisted of exposing a roughly 1 metre square area on the south side of Bruton's trench to fully reveal and provide a better understanding of the stone arrangement. It was found that the stones formed a wall of c 40 cm height, made up of medium to large, mostly flat, gritstones of varying depths. The stones appeared to be layered, although some were pitched at an angle and this could be due to disturbance from the original cut of Bruton's trench. The structure was suggestive of a wall but it did not continue southwards and was only about 0.5 m across. A patch of burn red clay and a deposit of charcoal, within a matrix of mid-brown grey silty clay loam, was revealed to the south of the stone structure. A line of three medium sized gritstones, on a east to west alignment, was revealed alongside the charcoal deposit and separated from the stone structure by a gap of 20 cm. If the stone structure is part of the wall then it must continue to the north and, indeed, a spread of stones was present on the opposite side of the Bruton trench cut. Further work is needed to determine the function and extent of this feature.

The coursed stone structure at the west end of the Bruton trench re-excavation, as revealed in TP7, with the red clay and charcoal patch and stone alignment to the south (top of photo)



A mix of post medieval pottery sherds from the topsoil and plough soil in TP7

Test Pit 1

This was located 5 metres to the south of the Bruton trench re-excavation in order the see if the spur road identified in the 2014 east gate excavation could be located, and to provide a better understanding of how this related to the furnace feature found south of the Bruton trench. A shallow mixed grey-brown soil of c 15 cm came down on to a spread of stones, set within a mid-brown silty clay loam. The stones appeared to form a discrete linear feature comprising mainly medium-sized gritstones of varying widths which were overlapping at an angle. This suggested a former stack of stones that had fallen over or perhaps been dragged over by ploughing, as the material around the stones was similar to plough soil seen elsewhere. There were no Roman finds from the stone matrix however the character of the remains appears to be Roman. Excavation was not completed so the depth and full extent of the stone feature is not known at this stage.


TP 1 showing the stone feature

Finds from the topsoil and plough soil layers in TP1, comprising mainly post medieval dark glazed earthen wares

Test Pit 2

This was located half way between TP1 and the Bruton trench excavation, at 2 metres north of TP1. Again, a discrete cluster of stones was revealed, but only near the south edge of the test pit with mid-brown silty clay loam of plough soil character exposed elsewhere. The test pit was extended slightly to the south and east to try to determine the extent and the character of the stones. These were found to be a concentration of small to medium gritstones arranged randomly. They could form part of the fill of a post hole or be part of a plough-damaged stone structure. Without further, more detailed excavation, it is not possible to assign a function at this time.


TP2 looking south, showing test pit extension to define spread of stones

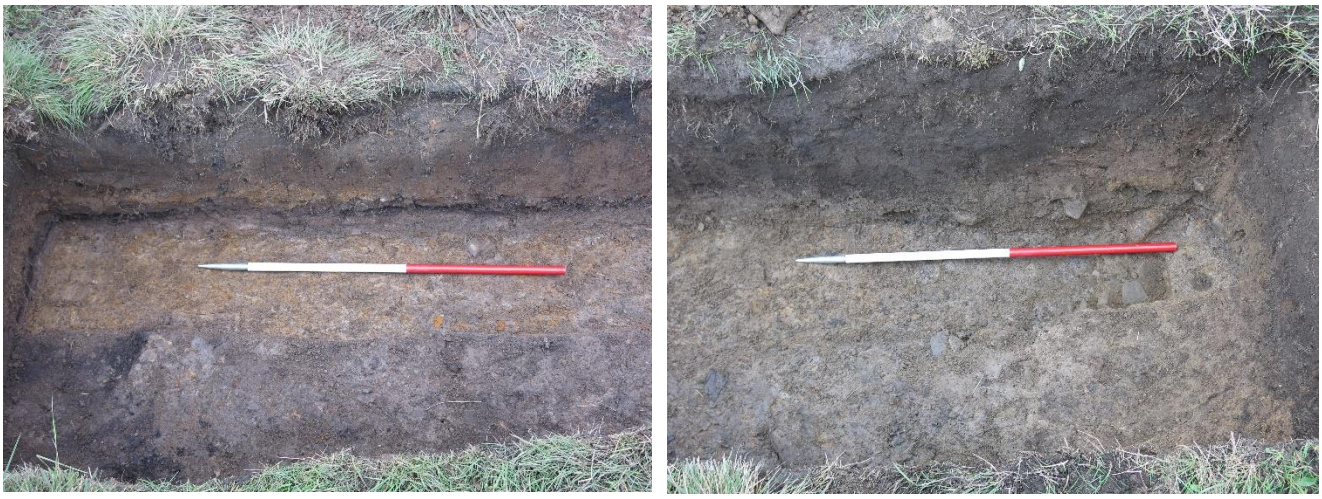
Left; post medieval finds from plough soil in TP2, comprising clay pipe stem fragments, dark glazed earthen wares and a decorative white ware bowl rim. Right: iron nail of uncertain date from TP2 plough soil

Test Pit/Trench 5

This was located 5 metres north west of the east end of the re-excavated section of Bruton trench. Initially dug as 1 metre wide x 2 metre long test pit to examine a square depression, it was extended to 4 metres length (as a trench on a south west to north east axis) to cover a greater width of the depression. Under the turf was a c 20 cm deep deposit of mid- grey brown silty clay loam beneath which was a c 10 cm deep deposit of mid- brown plough soil horizon encountered elsewhere on the site. Beneath this the trench section had a very different character from east to west, which can be seen in the photographs below. To the east, a lens of mid-yellow silty clay, one metre in length was encountered. This was a maximum of 10 cm deep and came off on to a horizontal thin layer of humic peaty soil which extended beyond the yellow silty clay to cover a length of 2.2 metres, tapering off towards the western end of trench. The humic layer ran beyond the east end of the trench so that its full extent is not known. Under this horizon was a c 5 cm deep layer of light to mid-grey silty clay. Sub-natural comprising cream or light yellow silty clay with frequent grit stones lay under this.

At the west end of the trench the grey silty clay deposit deepened to around 30 cm and changed in character, becoming very stony with small to medium size gritstones. This part of the section was where the side of the depression rose up to surrounding ground level. Here the plough soil horizon and humic layer were not present and were replaced by mid- to dark brown-grey silty clay loam filling what appears to be a cut feature of post medieval origin. It was found that the stony layer carries on down against the west end of the trench and it was not determined within the time available whether this was the fill of a cut feature, such as a ditch, or was a sub-natural deposit. The base of the depression was level and the grey silty clay suggested ancient waterlogging before the area dried enough for grass to form. The grass was sealed under plough soil and decayed to become the black humic layer. This has been seen elsewhere on the site, for instance the early second century AD fortlet ditches had a humic decayed turf layer sealing ditch fills and sealed in turn by a thick brown plough soil horizon (Redhead 1989, p 23). A couple of possible Roman finds came from the grey silty clay deposit and the depression can be interpreted as a Roman feature; however, its function is not known at this time.

Mike and Steve working in TP5, looking east



North facing section of TP5

Detail of western side of north facing section in TP5

Finds from TP5 top soil layer (left) and plough soil (right), showing a range of post medieval finds (mainly pottery)

Possible Roman nail and buff ware pottery fragment from the grey silty clay layer in TP5

Test Pit 6

This was positioned just north of the 2014 east gate excavated area, on the linear anomaly shown in the resistivity survey. It was 9 metres south of the re-excavated Bruton trench described above. The reason for the geophysical anomaly soon became clear as, under c 5 cm top soil and 25 cm depth of brown plough soil, a layer of stones was revealed. Within the 1 metre square test pit the stones appeared to form a rough surface comprising mainly large, flat gritstones irregularly laid, and with some smaller and medium size gritstones as well. The test pit was extended by 1 x 0.5 metres to the north to better define the edge and character of the stone surface. Here it took on a different appearance, with two larger gritstones forming a possible channel. The northern most stone may be a kerb stone as it appeared to mark the end of the stone spread, although the trench was limited in size so this needs to be checked through further investigation. What is certain is that this is a deliberately laid stone surface, but whether this is a road, floor or yard is not clear. The stonework has similarities with and almost certainly is a continuation of the ‘spur road’ as interpreted from the 2014 east gate excavation.

TP6 looking north (left) and south (right)

Finds from topsoil and plough soil in TP6, mainly comprising post-medieval pottery

Test Pit 8

This was located 5 metres west of the re-excavated section of Bruton trench with the intention of examining another part of the old excavation trench closer to the fort's east rampart. The 1 metre square test pit came down onto natural clay at only 25 cm depth, under 10 cm top soil and 15 cm brown plough soil. In the south east quarter of the test pit the cut of an old excavation trench was defined. The base of the trench was a further 20 cm deep onto natural yellow clay. As far as one can tell within the confines of the test pit area, the trench appears to be the terminus of a south-east to north-west orientated Bruton trench that crosses the longer west to east trench which the Friends have partly re-excavated (as described in this report). There was no evidence for Roman features or deposits.

TP8 showing the cut of a Bruton trench and two post medieval pot sherds from the backfill

Test Pit 9

This was located 2 metres to the south of the well site adjacent to Dirty Lane. It aimed to establish if there was evidence for Roman activity close to the well which might lend support to the theory that this originated as a spring that was utilised for the Roman fort. Only the northern half of the test pit was fully excavated and this encountered natural yellow clay at 35 cm depth, beneath a thick deposit of brown plough soil that gave on to a sub-natural mixed yellow and grey silty clay loam. There were no finds and nothing to suggest Roman activity here. However, this one test pit is not enough to dismiss the theory and further evaluation is recommended for this area.


TP9 showing exposed natural clay on the left (northern) side of the test pit. On the right photo, Nick and Gill stand by the test pit and above the well which is situated just in front of the fence

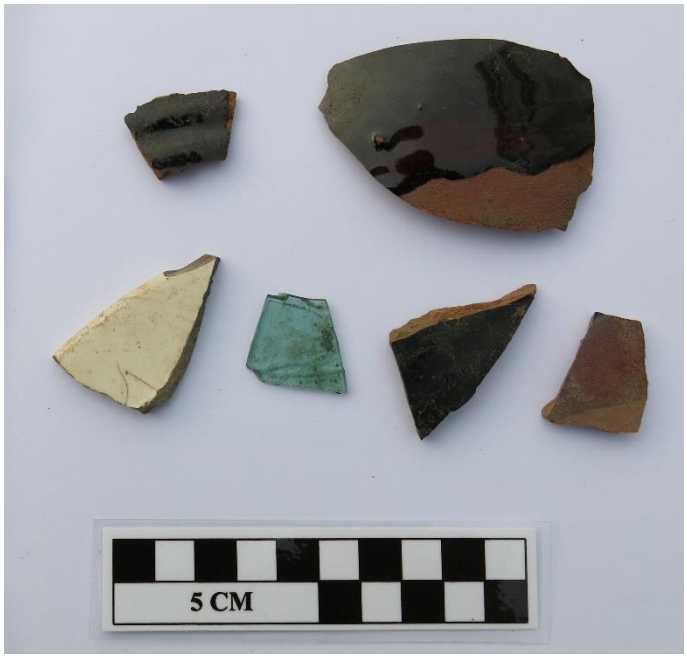
Test Pit 10

This was excavated in response to the discovery of the stone surface in TP6. A 2 metre long by 0.5 metre wide test pit/trench was located 2 metres east of TP6 to help define the extent of the surface. The pattern of stones revealed under the brown plough soil matched that seen in TP6. The southern half of the trench contained a roughly level surface of medium to large gritstones, although in the middle of the trench there was a stone laid on end. Beyond this, in the northern half of the trench, the stones were slightly different in character being larger and deeper but still forming a flat surface; but there was also a gap in the stones showing mid- to dark brown silty clay loam. The largest stone was near the northern edge of the trench and could be a kerb stone similar to that suggested for TP6. So it would appear that the stone spread revealed in TP6 and TP10 runs southwards to join up with the ‘spur road’ identified in the 2014 east gate excavation.

However, it would seem to finish not much further north than these test pits as TP1 is only 0.5 metres north of TP10 and contained a very different stone feature. Further investigation of this area is strongly recommended, to better define the extent and character of the stone surface.

TP10 showing the different character of the stone surface, south is to the left

Photo showing the relationship between TP6 in the foreground and TP10 just behind in the middle right side of the image



Post medieval pottery and a glass fragment from TP10 topsoil and plough soil layers

Test Pit 11

This was dug 1.5 metres east of the re-excavated length of Bruton trench at a point where the trench appears to kink a little to the south-east. TP11 was 2 metres long by 0.5 metres wide and was designed to examine any potential Roman archaeology at the base of or immediately adjacent to Bruton's old trench. Beneath 25 – 30 cm depth of topsoil and plough soil was a layer of mid-brown silty clay loam containing frequent fragments of burnt, orange, clay. The old excavation trench was cut down to natural clay in the middle of the trench but on either side the burnt clay layer was extant. To the south the matrix containing the burnt clay fragments was darker and more stoney. The burnt orange clay deposit is very similar to that seen within the eastern end of the 5 metre long re-excavated section of Bruton trench. TP11 indicates that this deposit, which probably derives from furnace/hearth activity, extends for at least 3.5 metres.


TP11 looking east, showing the cut of Bruton's trench and pieces of burnt orange daub

Bent iron spike and nail from backfill of old excavation trench in TP11

Test Pit 12

This was located 4.5 metres south-east of TP11 to explore the eastern end of Bruton's trench. The sides of the old trench were rather irregular but the bottom was found to be around 30 cm deep from turf level and on to natural cream coloured clay. The sides exposed some stratigraphy which consisted of the usual brown plough soil overlying a mixed layer of yellow clay and grey silty clay loam which contained a few fragments of burnt red clay and, on the south side of the test pit, a few small to medium gritstones. There were no finds of note.


TP12 looking north-west

Discussion

The three days of test pitting outside the fort's eastern rampart successfully demonstrated the survival of a range of Roman features and deposits. The exercise showed that a previously unrecorded trench, probably dug by Bruton in 1907 or 1908, had encountered significant Roman remains. Within the 5 metre section re-opened in June 2018 were a number of features of archaeological interest. This trench was excavated in anticipation of finding the possible spur road that had been identified in the 2014 east gate excavation, and which the resistivity survey appeared to show as a linear anomaly running at an angle north-west away from the eastern rampart. Conveniently the Bruton trench was cut at right angles across the line of this

anomaly. It soon became apparent that the road was not present in the re-excavated section of the Bruton trench, instead other stone features of Roman origin were encountered. These show as strong anomalies on the resistivity plot (see the figure on page 3). The stone features took the form of an apparent wall orientated west to east and a furnace-type feature with stone lined flue. There was a considerable amount of heated, reddened clay together with charcoal and Roman finds. The function and full extent of the wall and furnace are not yet defined but the absence of slag residues suggests it was not used for metal production/working. One theory is that is a furnace for a bath house, as it has similarities with other excavated examples such as those at Wigan Roman baths which was dug in 2005 (Miller & Aldridge 2011, p 33).

One of the hypocaust furnaces excavated at Wigan bath house in 2008. The flue went through a wall in the foreground that has been totally robbed-out to recycle the stones, but there are striking similarities with the flue walls and fill at Castleshaw

Further south, two evaluation test pits (TP6 and TP10) uncovered a stone surface similar to that recorded on the north side of the east gate exit road in 2014 (shown in the photograph below). These surfaces were also picked up as anomalies by the resistivity survey. In both test pits there appeared to be kerb stones on the north side which may demarcate the extent of the stone surface. It is not clear at this stage if this forms part of the spur road, as similar material was evident in the 2014 excavation. However, that excavation also revealed a stone platform of different character that was located beside the rampart. This platform may be part of the east gate construction but further work is needed to define the platform and understand its function.

Looking east from the east gate in the 2014 excavation. On the left in the foreground can be seen the stone platform adjacent to the rampart and in the middle of the photo on the left side of the trench is the start of the spur road

Test Pits 1 and 2 confirmed that the stone surface did not extend all the way to the re-excavated section of Bruton trench. These test pits each had a discrete concentration of stones but mainly comprised a soil layer and were very different in character to TPs 6 and 10. It is postulated that these stone features formed part of a building with the 'spur road' giving access from the east gate exit road. Indeed, the stone surface may in fact be a yard area in front of the building. Could the furnace and wall seen in the re-excavated Bruton trench be part of this building or belong to a different structure? There is still much to define here, however a picture is emerging of an area immediately outside the eastern rampart that has substantial archaeological remains relating to a possible building.

The 2018 evaluation explored the eastern stretch of Bruton's old trench and found that the trench was not straight and kinked to the south-east. Further evidence of fire reddened clay was found in the eastern part of the old trench, suggesting an extensive area of activity relating to the furnace, with the possibility there could be more than one in the area. On the west side of the old excavation trench a cut was found for an intersecting trench also probably dug by Bruton. The test pit that revealed this cut had no remains for Roman activity. The 2018 investigations have shown that the old excavation trench uncovered substantial Roman remains and it is strange that these were not reported. It might be because this area was just too confusing for the antiquarians as it did not conform to standard fort conventions; there was a rampart but no defensive ditches and instead there were structural remains of unknown type and function. On the whole Francis Bruton was good at recording the Roman features his diggers discovered so it is possible that the trench was dug by Buckley or Wrigley at a slightly earlier date when the excavations where more haphazard and not recorded.

When looking at the possible function of the furnace and structural remains revealed in 2018, it is quite instructive to undertake comparative analysis with other Roman forts. It is very rare for a rampart to be built but no ditches outside it. This goes against military conventions. There are plenty of forts with military annexes attached to one side to accommodate additional storage, workshops, accommodation etc, but in these cases almost without fail there is still a defensive ditch or even two ditches outside the rampart separating the main fort from the annex. At Castleshaw three sides of the fort had two ditches, but not the most vulnerable east side which has the flattest ground in front of it. Interestingly, Castleshaw's contemporary neighbour at Slack eight miles to the east also has a section of ditch missing; this was due to the close proximity of the bath house to the fort's east corner (Bidwell & Hodgson 2009, Figure 28, p 76-7). Is it possible that Castleshaw was built by the same unit and that it also had a bath house close to the eastern defences which was enclosed within an annexe. There is not yet enough archaeological evidence to prove that the remains discovered in 2018 belong to a bath house, but it is certainly an interesting line of enquiry that deserves further investigation.

The area between the well on Dirty Lane, which might have been a spring in Roman times, and the re-excavated section of the Bruton trench has seen little excavation other than the eastern end of Professor Thompson's trench dug in the early 1960s and re-excavated by Salford Archaeology in 2014. This trench was lacking in Roman features except for a drain that ran out from under the eastern rampart. However, Test Pit 5, which was excavated across a square, flat depression, found a silty deposit suggesting that there had been wet ground here, probably in the Roman period. Further investigations of this area should be undertaken to provide a better understanding of the extent and function of Roman features.

Recommendations

Further evaluation is recommended to build on the work of 2018 and better define key features that have been revealed. This work should focus on the following:

- Define the extent and character of the wall exposed on the north side of Bruton's old trench
- Examine the area beyond the eastern end of the wall where there is a concentration of burnt clay deposits to determine if more furnaces or flues exist here
- Define the extent and character of the stone surface revealed in Test Pits 6 and 10
- Determine the relationship between the possible furnace and structural remains in Test Pits 1 and 2 to the south

- Investigate the area between the well and Bruton's old excavation trench to determine the presence/absence and extent of Roman remains

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