

Archaeological Excavation of a possible monastic grange building at Water's Clough, Castleshaw, Saddleworth

May 2018



Friends of Castleshaw Roman Forts volunteers excavating Trench 1

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for the Friends of Castleshaw Roman Forts

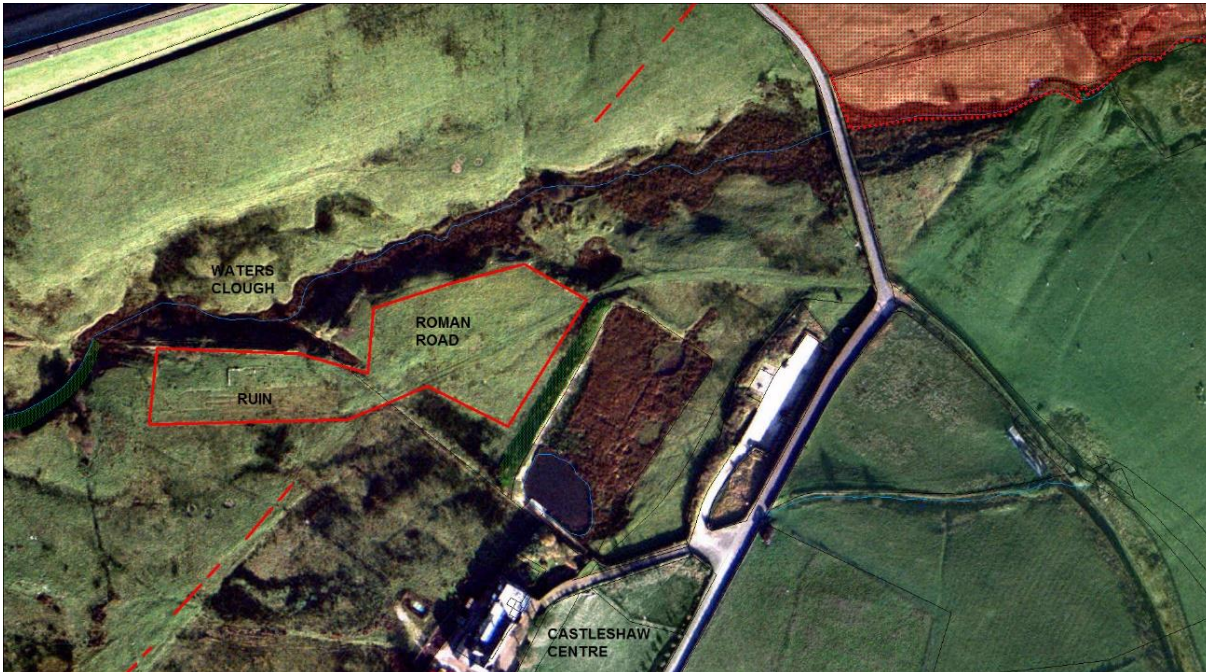
March 2019



Background

As part of the Castleshaw Roman Forts Hinterland Survey, the Friends of Castleshaw Roman Forts carried out an archaeological evaluation in late May 2018 of an area of land adjacent to the south bank of Waters Clough and to the north-west of the Castleshaw Centre, Waterworks Lane, Castleshaw, near Delph, Saddleworth, located at SD99470921. The land is owned by United Utilities who gave permission to carry out the archaeological investigations and kindly provided a small grant towards running the project.

Initial archaeological interest in the site at Waters Clough was sparked by the presence of several low walls representing a building that is not shown on any historic maps, which date back to 1822. It was thought that the walls may have belonged to an early post medieval field barn that had been too small and ruinous for cartographers to record. Further site investigations would help to provide artifactual dating evidence as well as enable a better understanding of the building's function, internal layout, and the nature and extent of associated walls and yards.



Aerial photo of the location of the ruin to the north-west of the Castleshaw Centre and south of the Lower Reservoir – the red line shows the area of archaeological investigations and the Roman road is shown as a dashed line

Investigations by the Friends commenced in 2016 with a resistivity survey and a couple of one metre square test pits excavated either side of the northern wall of the ruin to examine the depth of the wall foundation and evidence for a floor surface. The external test pit revealed two courses of stone representing a wall depth at this point of 40cm. A deposit of mid-grey silty clay loam with frequent pieces of mid orange-yellow mortar was encountered level with the base of the first course of stonework, at a depth of 30 cm beneath the turf line. This deposit was c 15 cm deep against the wall and tapered away from it, being the construction phase material. It was evident that the foundation trench was cut very neatly and was very close to the foundation stonework. The wall itself was 50 cm wide and well built in coursed gritstone with a thin rubble core and occasional larger stones spanning the full width. The interior test pit was located next to an internal return wall. This found stiff, natural clay (white or light yellow in colour) at a shallow depth of around 10 cm, with no evidence for a floor. The internal wall butted up against the external but was of similar construction. The natural clay is an excellent material for building on. The foundations were robust and well-constructed, which is consistent with the high quality of walling seen elsewhere in the structure. A further, small test pit was excavated against the inside of the western wall and found to have an offset at foundation level. This could have been used to support a timber floor.

Further test pits were used to trace the full extent of the building represented by the ruined walls, which were found to be only a fragment of a much larger structure forming a rectangle of 20 x 10 metres. The walls were consistently 50 cm wide and of high-quality construction, with the same well-made gritstone

walls set in a hard, dark yellow-orange gritty mortar. There was evidence for internal wall divisions but no flooring survived, nor was there any dating evidence.



The ruin beside Waters Clough (left) and test pit against inside wall showing offset in foundation (right)

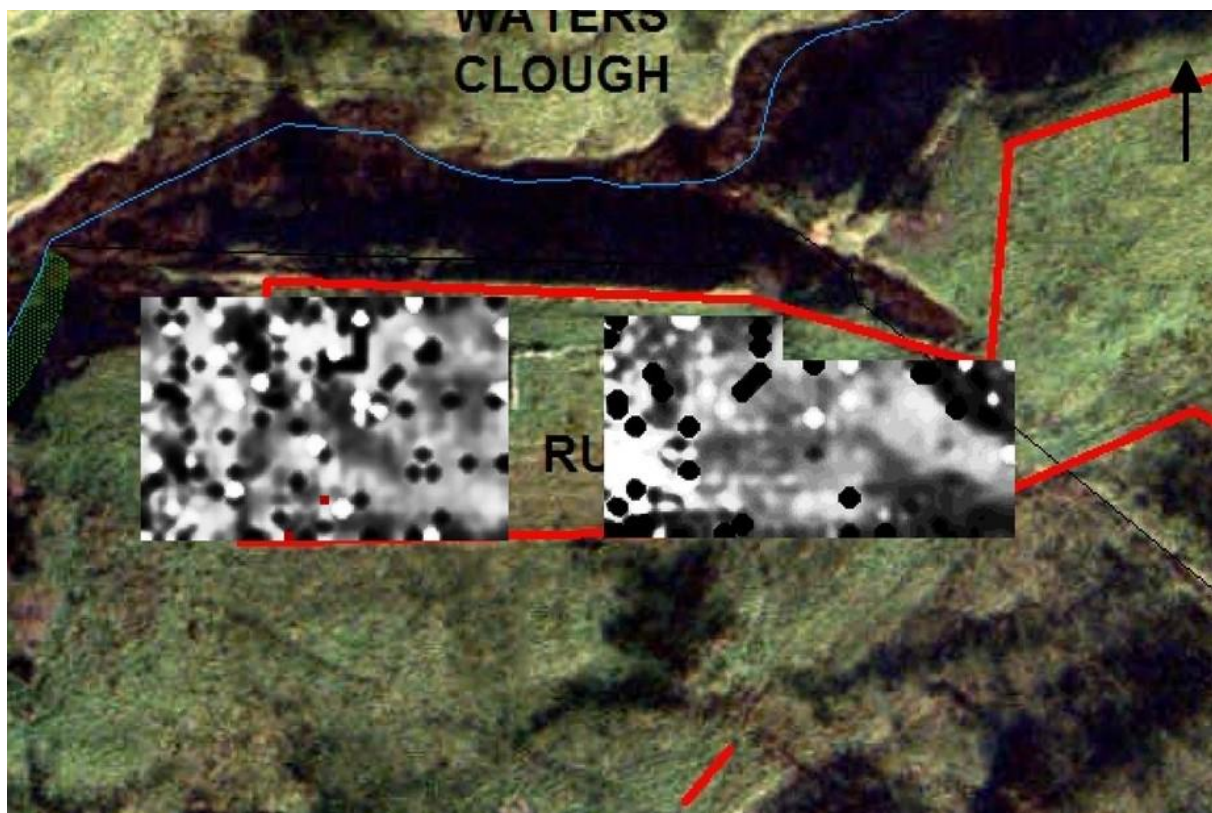


The aerial photograph above, dating to the late 1990s, shows the line of walls revealed during the 2016 investigations. These depict a structure measuring 20 by 10 metres aligned on a north to south axis. On either side of the structure can be seen a rectangular area with lines representing potential walls and gullies of unknown function.

The Google Earth picture below shows the same site but looking from just north of the ruin. The key indicates the main features: A = remains of ruined walls beside the bank of Waters Clough with a pronounced earth bank bounding the edge of the slope down to the clough, B = rectangular platform of possible western range, C = rectangular platform of possible eastern range, D = central range incorporating the ruined walls and showing parallel lines, with the southern edge of the central range defined by a vegetation change, E = the line of the Roman road which appears to be partly cut into by the eastern range building platform (C).



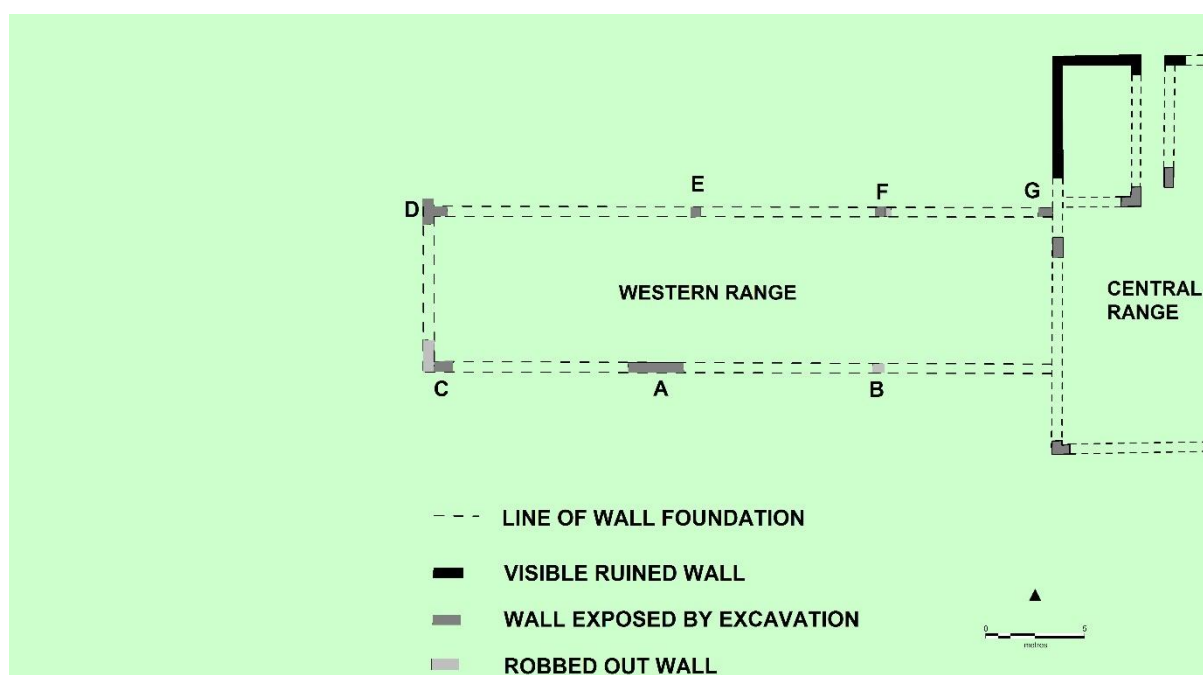
The Friends also undertook a resistivity survey across the full footprint of the structure with the plotted results shown below.



The short vertical, central red line represents the visible section of ruined wall on the western side of the central range. The survey clearly shows wall lines for the building, some of which had been proven through site excavation, but also including apparent internal divisions. Other features show up as well, such as the line of the earthwork bank angling across the top right edge of the survey plot. Of particular note is a linear anomaly running alongside but just outside the southern wall of the building range. The surveyors, Phil and Jane, noted that the probes encountered a hard, stony surface just under the turf for a considerable distance along the southern side of the building leading right up to the Roman road to the east.

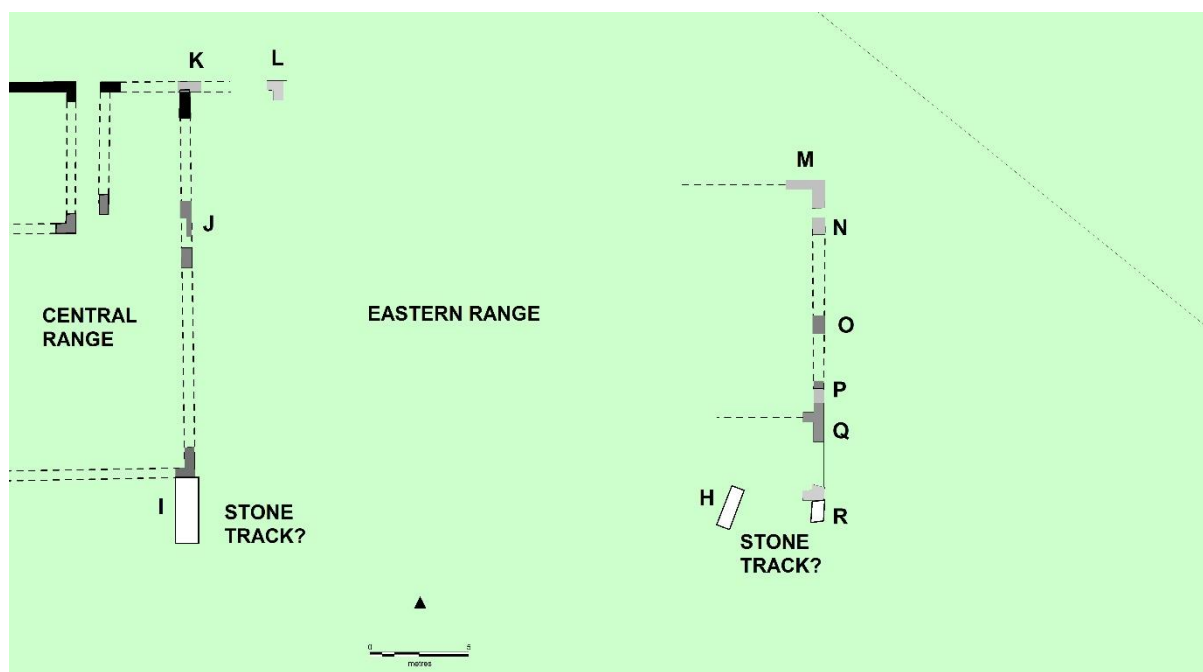
The results of this work were set out in a report by Norman Redhead, who led the Friends' investigations (Redhead, 2016).

The 2017 programme of evaluation comprised four days of test pitting and digging small evaluation trenches to build on the test pitting carried out in 2016. This work concentrated on the potential archaeology to the west and east of the visible ruined walls.



7 test pits and trenches were excavated to define the extent of the structure to the west of the central range. These are denoted by letters A to G on the plan above and summarised below.

A further 8 test pits and trenches were dug to explore the site of the proposed eastern range and ancillary features. These are shown as letters H to R below.



The 2017 evaluation confirmed that the rectangular structure defined in 2016 is in fact the central range of a much larger building. The end walls and corners of a west and east range were located, each range being 31.8 metres in length giving a total building length of nearly 74 metres (including the central range). The west range has a width of 8.4 metres but the east range's width was not properly defined, although it appeared to be considerably wider. There is a remarkable uniformity of wall construction suggesting one phase of building. Investigations showed that there are a number of internal divisions with the eastern

range appearing to be a more complicated arrangement than the western range. Interpretation is made more difficult by the extensive stone robbing that has taken place so that many of the wall lines are only represented by foundation trenches. These appear as linear depressions and look like drains or gullies on aerial photos. The site has been very poor in finds with only two stratified sherds of medieval pottery, and a small number of post medieval finds from the topsoil. The lack of decorative architectural fragments, floor or roof materials, as well as demolition material, is remarkable and indicates that the building may never have been completed (perhaps due to changing economic circumstances). An alternative explanation is that after demolition it was heavily recycled, with materials being re-used for new buildings in the near vicinity. A pile of stones found at the north-east corner of the east range may be from this process, with the stones not being collected for some reason. The probable cart track running alongside the south wall appears to be of medieval date, to judge by the two sherds of Pennine Gritty Ware pottery sealed in silt in one of the cart wheel ruts. The road appeared to run from the Roman road and close up to the building's southern side and could be interpreted as giving access during and after construction or for the demolition and recycling process.

As with the 2016 investigations, the 2017 evaluation results are set out in a report and can be found on the Friends of Castleshaw Roman Forts website: www.castleshawarchaeology.co.uk.

2018 Excavation Results

The 2018 investigations took place over an 8 day period commencing 27th May. Excavating over a longer period of time enabled the team to open two large trenches as well as a number of targeted smaller trenches and test pits. The results are described by separating them into the component parts of the site: western, central, eastern ranges, and the road, adding these onto the previous findings from 2016 and 2017. In the following description it should be noted that test pits 12, 13 and 14 were assigned numbers but were not excavated.

Western Range

The south-west corner (trench C on the 2016 plan) and the north-west corner (D) of the west range were re-opened for drone photography to show the whole building footprint and the south-west corner was extended. Two trenches, 4 and 5, measuring 4 x 1 metres and four 1 metre square test pits (2,3, 4 and 5) were opened in the interior of the west range to evaluate the 'tram line' depressions visible on the ground and in aerial photographs. A further 1 metre square test pit (6) was opened across the central range west wall to examine the junctions of internal foundation trenches. A well-preserved section of wall (A on the 2016 plan) was re-exposed to show its relationship with an external road which is described later in this report.

The south-west corner contained the stone footings of the south wall but the western return wall had been mostly removed and survived only as a robbed-out trench with a few disturbed stones in the fill. As with the north-west corner, there was the suggestion of a buttress or wall projecting southwards from the corner of the building in the form of a robbed-out foundation trench. This was exposed for 2 metres. Bearing in mind the projecting room found in Trench 1 at the south-east corner of the eastern range (described below), the team opened up a test trench against the external face of the south wall and located a corresponding wall at 1.7 metres from the corner. This wall was excavated for about one metre to confirm its alignment. It was built of exactly the same materials as the rest of the building's walls and survived one course high above the natural ground surface. There was not enough time to complete excavations here, but it can be confidently predicted that these two projecting walls were for a similar room to that found in Trench 1 ie. a small chamber of 2.4 x 1.7 metres internal measurement.



South-west corner looking north, showing wall trench to left and surviving wall foundation to right, which indicate the location of a projecting chamber

TRENCH 4

Attention now turned to the linear depressions apparent in the aerial photographs within the central range and eastern part of the western range. A 4 x 1 metre trench was excavated on a south to north alignment across what initially was thought to be drains or wheel ruts, but they were found to be more wall foundations where the stonework had been removed as part of the demolition/recycling process. The wall lines were evident as linear cuts into the natural clay, filled with orange mortar and occasional stones. They were 2.15 metres apart and 0.5 metres wide. The natural light-yellow clay formed a slightly convex profile between the foundation trenches; this might reflect disturbance caused by cutting down to get at the foundation stones.



Trench 4: parallel foundation trenches within the eastern part of the western range

TRENCH 5

This 4 x 1 metre trench was located only 1 metre west of Trench 4 but off-set to go further south, with the purpose of finding a return for one of the foundation trenches. A junction of these wall trenches was

discovered, representing internal room divisions. As one of the foundation trenches was followed to the south it faded out due to extensive, deep robbing out of the wall foundation at this point as can be seen to the left of the photograph below. This may also be down to some of the internal wall division having shallower foundations than key, load bearing walls.



Trench 5

TEST PITS 2, 3, 4, 5 AND 6



Location of trenches and test pits in western range (south is at the top). TP 6 is located over the central range's west wall.

TP2 was located 2 metres to the south of Trench 4 but was found to have no archaeological features. This was surprising as it was anticipated that there would be an east to west aligned wall foundation for an internal wall. It is likely that there was a different arrangement here, such as an entrance into the western range. This would be in keeping with the arrangement in the eastern range (described later).

TP3 was positioned to confirm wall alignments internal rooms noted in Trench 5. As can be seen in the photograph below, the test pit revealed two south to north orientated wall foundations for internal room divisions, as well as the continuation of the east to west wall already observed in Trench 4. As seen in

adjacent trenches, the stonework was completely robbed out with only dark orange mortar and loose stones present in the foundation trench cuts.



TP3

TP4 and TP5 were positioned to confirm wall junctions for internal room divisions suggested by Trench 5 and TP3. Wall trenches were less well-preserved here but still clearly visible. The test pits revealed that the east to west walls terminated at their junction with a south to north wall. Only natural clay occurred in the western half of the two test pits; it appears that the internal rooms only occupied the eastern third of the western range. However, this supposition is based on only a few trenches and the other two-thirds of the interior of the western range have not yet been investigated.

TP6 examined the junction of the northernmost internal wall (as seen in Trench 4) with the central range wall. The photograph below shows the central range wall running up through the middle of this image which looks south), with the western range internal wall joining from the right-hand side. This confirms the existence of an internal room. As seen elsewhere, the wall foundation stones have been totally grubbed out with only the orange mortar, discarded stones and grey silt remaining. Interestingly another wall can be seen on the left of the image, this being an internal wall within the central range and creating a staggered junction.



TP6

In summary, these excavations in the western range found two wall lines running parallel with the north and south external walls and also walls at right angles creating small chambers or rooms. There appeared to be five of these: a set of three occupying the full width of the building, measuring 3.4 by 2.15 metres internally, and a further two adjacent to the central range which were the same width but longer at 5.1 metres. It was

anticipated that there would be a third room next to the central range, on the southern side of the building, but a test pit found no evidence for a wall foundation trench. This area needs further investigation to confirm the layout.



Drone vertical photo of the western range with dashed lines showing wall foundations confirmed or suggested by excavation. The projecting corner chambers can be seen on the right, with the internal rooms on the left at the east end by the central range.

Central Range

Test pit 6 was excavated across the west side of the central range to look at intersecting internal wall lines. Across the east wall, one metre square test pits 1 and 17 were also placed to examine potential corridor walls, whilst test pit 16 was located to show where the line of the southern wall of the eastern range was expected to join with the central range east wall.

TP1 was opposite TP6 and had the same staggered junction arrangement, with an outer wall line representing an internal room in the eastern range, and an internal wall foundation within the central range being the other side of the corridor indicated in TP1 and by linear depressions evident on aerial photos. The former walls were represented by just two stone blocks with the rest of the foundation trenches being filled with orange mortar and small stones. Sections were excavated through the foundation trench fills to determine the profile and dimensions of the foundations. The width was confirmed as 50 cm as seen elsewhere, and the depth was only a maximum of 15 cm. The foundations were cut into firm white/cream coloured clay which would make an excellent base for a building. The foundation cuts were very neat and precise. The two stones were found to be not in-situ having probably been disturbed during recycling of the wall material; indeed the mortar occurred in lumps in several places which suggested they had been chipped off wall stones. The small to medium angular stones left in the trenches may have originated from the thin core of the walls.



Test pit 1 pre-excitation, looking east.



Test pit 1 showing half excavated foundation trenches, looking west.

TP17 was only one metre south of TP1 and successfully located the southern wall line for the central corridor where it joins the central range wall. Here only vestiges of the foundation trenches were visible in places.



Test pit 17 looking north with the corridor foundation trench visible in the top left corner of the photograph, joining the east wall of the central range, and to the right is the start of a wall for an internal division within the eastern range.



This photograph shows the relationship of TP1 (left) and TP17 (right), looking west.

TP16 was excavated a couple of metres south of TP17 but was unable to locate the junction of the expected southern wall of the eastern range with the central range east wall. A similar situation occurred with TP2 in the western range. A possible interpretation could be that there were matched entrances on either side of the central range, but this aspect of the plan form needs further investigation. What is clear is that a narrow central corridor only 1.5 m wide traverses the central range east to west, linking to rooms in the eastern and western ranges.



TP16, showing the central range east wall in top half of test pit but with no evidence of intersecting wall for the eastern range.



Drone vertical photo of the central range with dashed blue lines showing wall foundations confirmed or suggested by excavation, showing the narrow corridor.

Eastern Range

This area saw the most activity in 2018. A 5 x 5 metre square trench (1) was dug across the site of the south-east corner of the eastern range, being extended to the south by 5 x 2 metres to capture the full width of the access road running immediately outside the building as well as a portion of the presumed Roman road agger. The north-east corner of the building was re-exposed and a 1 metre square test pit (TP15) positioned to confirm the line of the main north wall and a spur wall for a room projecting from the north-east corner. Further 1 metre square test pits (TP 8, 11, 18 and 19) were dug to examine internal rooms towards the central ranges, and two more test pits (TP7 and 10) were placed to the north to investigate the area between the central range and the north-west corner but proved to be negative.

TRENCH 1

Exposing a larger area in plan allowed confirmation of the existence of a chamber projecting from the south east corner. It measured 2.4 x 1.7 metres internally and was constructed in the same way as the main building ie. 50 cm wide walls with some foundation stones surviving but with much evidence of wall removal where only the orange mortar was left. There was no evidence for a floor and close-up against the outside of the chamber were remains of a crude stone track. Some of this appeared to spill out into the open area between the chamber and the south wall of the range, as though giving access to the walls during the dismantling process. A slot was excavated across a robbed-out section of foundation wall. The foundation trench was only 10 cm deep and 50 cm wide and neatly cut into the light-yellow natural clay.



Photo of Trench 1, looking south and showing the projecting small rectangular chamber with photographic scales along the inside of its walls. The end wall of the eastern range is on the left, with the wall base in the foreground being part of the 31.8 metre long south wall of the range. The stone trackway is at the top of the photo.

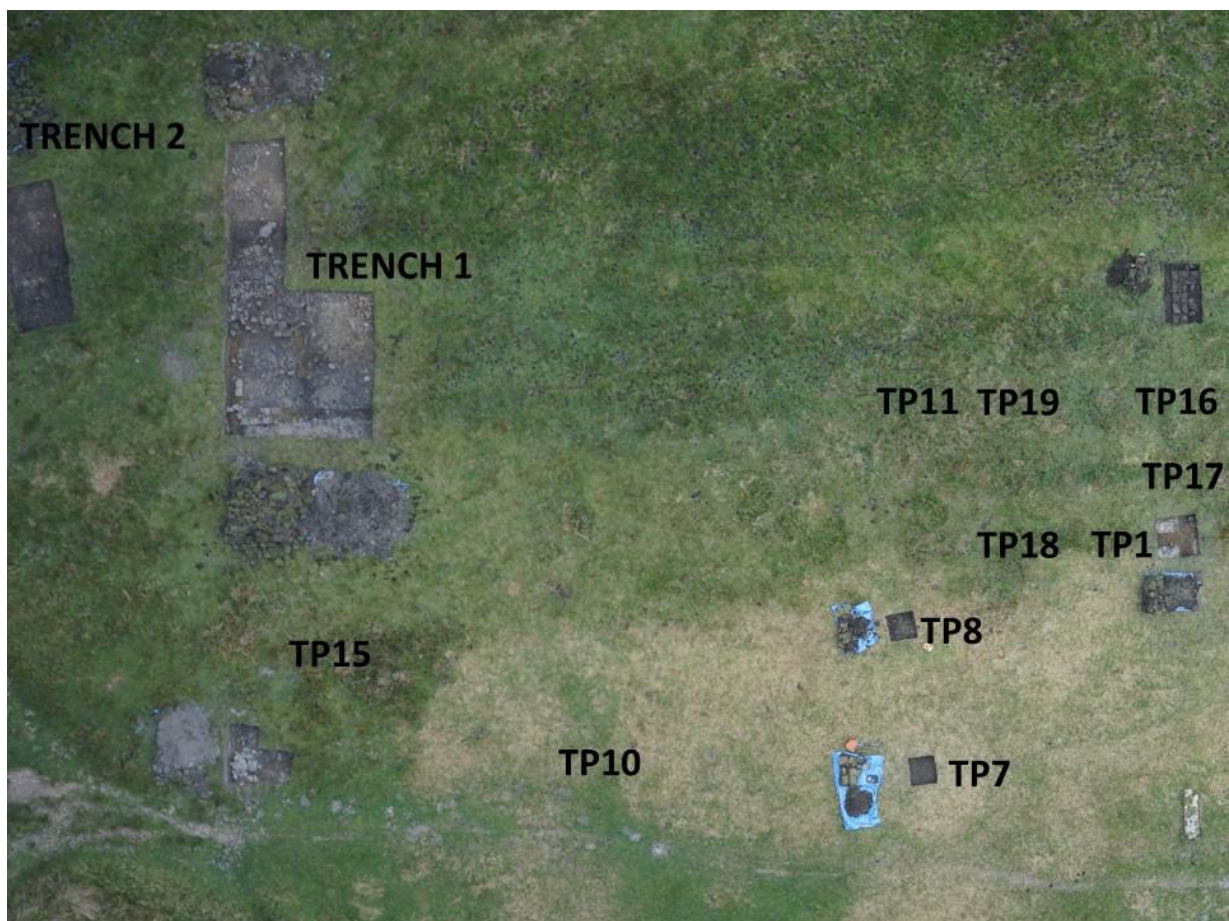


Detail of excavated slot through the foundation trench of the southern wall of the eastern range.

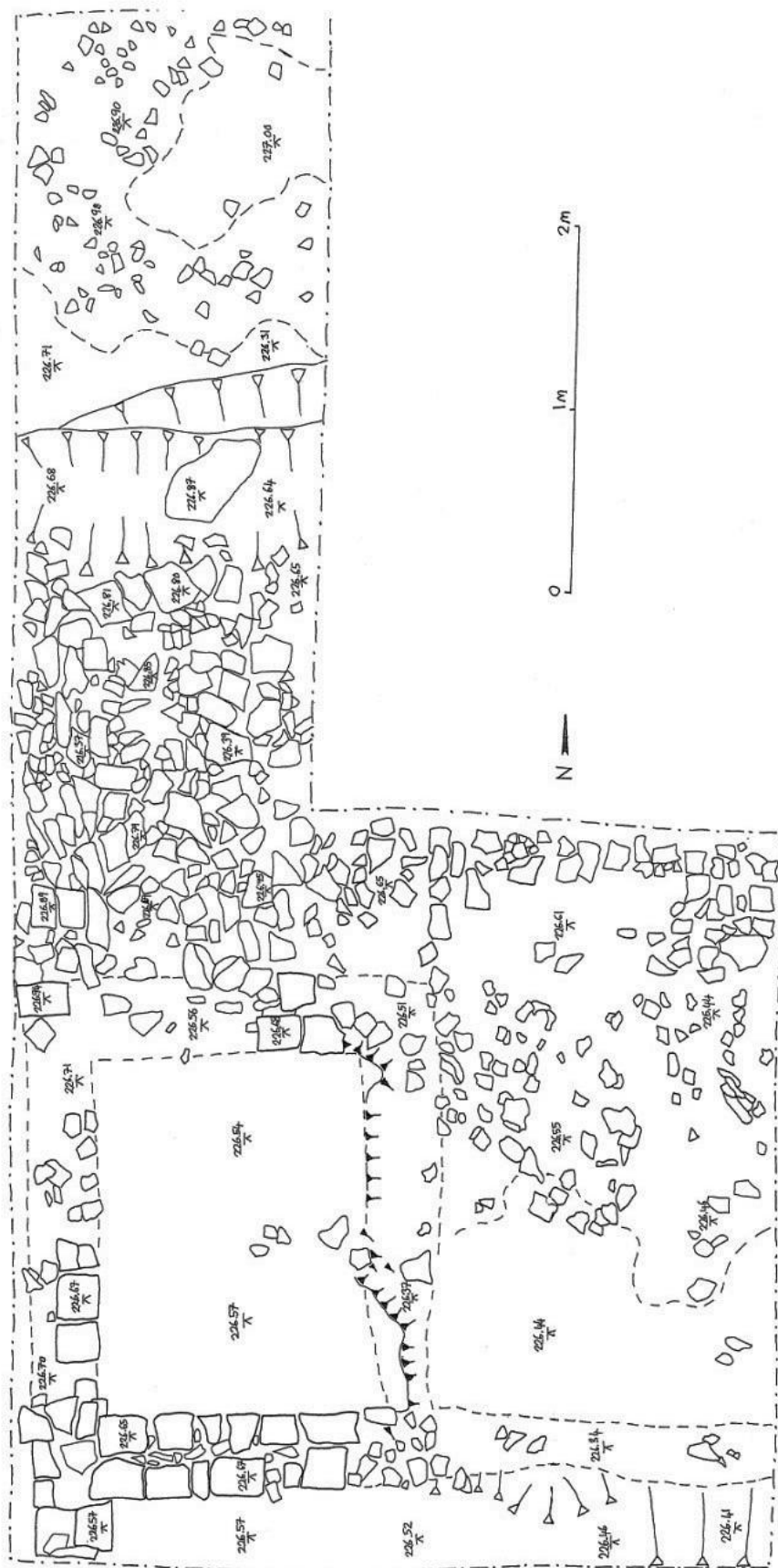
The 5 x 5 metre square open area excavation exposed only part of the stone track, so a 5 x 2 metre trench was dug from the southern edge. This exposed the full width of the track, an associated drainage gully, and part of the Roman road agger. As seen near the central range, the track comprised angular medium to large gritstones with some crushed and small gritstone pieces forming a bedding deposit. There was no clear evidence of cart ruts here and very little in the way of fine metalling to smooth the surface. The track at this point was 2.8 metres wide with a c 1 metre wide drainage ditch on its south side. On the north side it tightly abutted the wall of the eastern range structure. It was apparent that little survived of the Roman road metalling which could well have been recycled during the construction of the grange building. Only thin spreads of small and occasional medium-sized stones survived in patches, set in mid- grey silty clay and with natural or sub-natural mid-yellow clay beneath. This accorded with results from the test pits across the road line in 2017 and contrasts with the well-preserved remains of the Roman road excavated at Causeway Sett several hundred metres further down the valley towards Delph by Saddleworth Historical Society in the 1970s.



Overhead view of Trench 1 - east is at the top of the photo, with the site of the Roman road on the right side of the trench extension (far right side of photograph).



Location of trenches and test pits in the eastern range area excavated during 2018, shown overlaid onto the drone aerial photo. Note some test pits were excavated after the drone photography so are not visible.



TEST PIT 15

This test pit confirmed the presence of a small chamber projecting from the north east corner of the main building, similar in dimensions to those previously identified at the south east and south west corners. The image below shows TP15 in the foreground with the north east corner of the small chamber visible in the background as a dump of stones lying over the robbed-out foundation trenches (described under site M in 2017 excavation report).



TP 15 revealed the northern wall of the east range as a badly degraded wall foundation cut with filled with orange mortar and angular medium grit stones. At right angles to this, and running northwards, was a return wall for the west side of the small chamber, filled with the same material.

TEST PITS 8, 11, 18 AND 19

These carefully located test pits demonstrated that the eastern range is a mirror image of the western range in relation to the series of room sub-divisions.

TP8 revealed the site of the main north wall of the eastern range, continuing from TP15. There was evidence for an internal room foundation trench running at right angles southwards from this wall. The foundation trenches revealed in this test pit were jammed with discarded pieces of orange mortar that had been removed from stone walls during the recycling of the building materials. There were also some pieces of angular gritstone.



TP8 looking east.

TP11 located the main southern wall of the eastern range and revealed an internal wall line which partners the one seen in TP 8. The southern wall trench was filled with gritstone rubble and orange mortar, whereas the internal wall was more denuded with just grey silt marking the vestiges of the foundation cut.



TP11 looking west with return wall foundation trench for an internal room visible on the right.

Following the wall alignment of TP11, TP19 examined the expected junction of the southern wall and another internal return wall closer to the central range. The wall foundation was well preserved with an intact course of gritstones set in the orange mortar and, as elsewhere, was 50 cm wide. But here the wall finished in a straight edge suggesting that a doorway was located here. An iron nail came from the orange mortar. The return wall line was represented by a single long gritstone partly set into the southern wall, but light grey silt and patches of orange mortar marked the base of the foundation trench.



TP19 looking north, showing terminus of the eastern range south wall with offset return wall for an internal room

TP18 examined a right-angle cropmark seen in aerial photos which appeared to represent a junction of internal walls. This was indeed the case. A scatter of discarded small to medium gritstones together with plentiful orange mortar and grey silt indicated the foundation trenches. A south to north wall alignment for an internal room intersected with a west to east wall trench so that this test pit revealed a junction of four walls as seen in the image below.



Detailed view of TP18 looking east.



TP18 in foreground looking south towards TP11 (left) and TP19 (right). The excavator is cleaning the southern wall terminus and TP18 has a wall foundation running down to just left of the terminus where a corresponding return was seen in TP19.

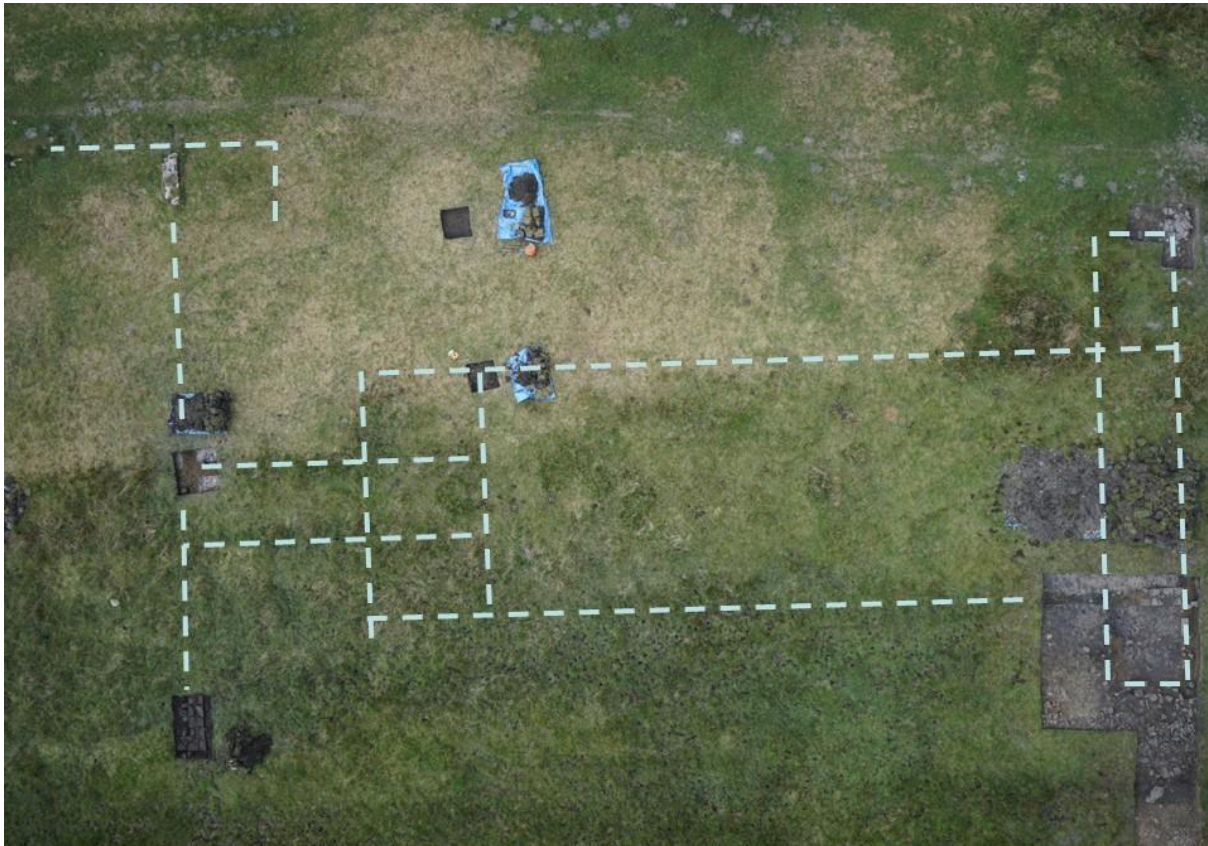
TEST PITS 7 AND 10

These were located north of the eastern wing to test for deposits or features lying outside the building. In TP7 c 15 cm of topsoil was removed to reveal natural white clay. TP10 was not fully excavated as it became apparent that this was the same as TP7.



TP7 showing natural clay under thin layer of topsoil and TP10 partly excavated.

Following the excavations in May/June 2018 it was possible to prepare an indicative plan of the layout of the eastern range. This can be seen below. In general terms it mirrored the layout for the western range; however, there are some differences including a projecting chamber from the north-east side of the central range. Further, targeted test pits need to be dug to confirm the plan form for this chamber and also the possible entrance in the south wall.



Interpretive plan of the eastern range, with dashed lines showing projected wall lines. North is at the top of the image.

TRENCH 2

5 metres to the east of Trench 1, another substantial trench (2) was excavated with the aim of following the course of the stone trackway eastwards. This trench was initially 3 x 4 metres then extended southwards by up to 3 x 2 metres, with a further section widened-out in the south-east corner to expose a linear feature. The road comprised similar material to that seen in Trench 1; however, on the north side there was evidence of kerbing with several squared off stones laid in a shallow cut into the clay that had formed part of the Roman road. On the south side the start of the road side ditch was evident as a curved terminus only half a metre into the trench. To the east of this the road widened out to 3 metres across, nearly 1 metre wider than in Trench 1. It is not known why the trackway splays out in this way.

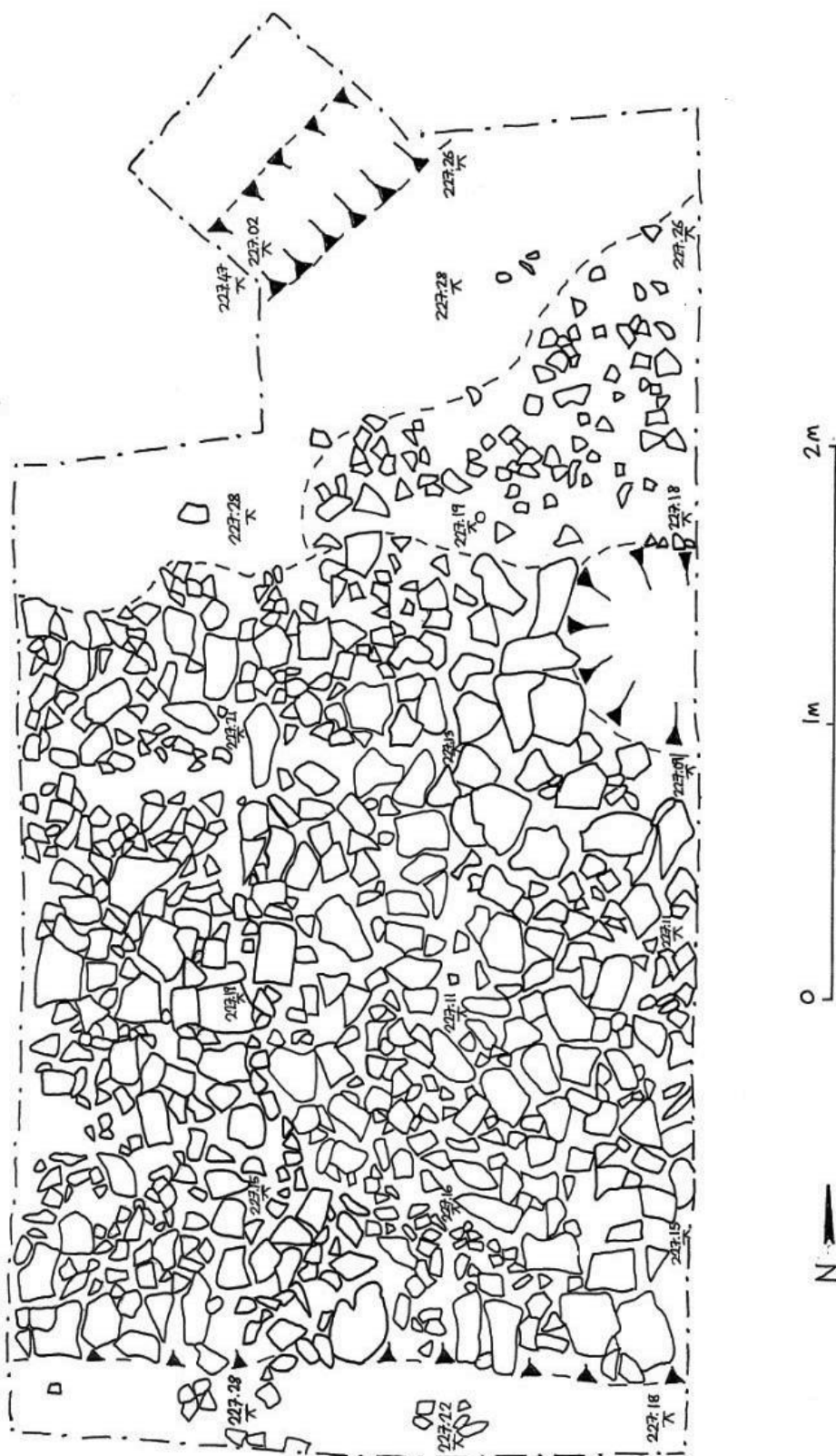
It had been anticipated that the track would run up on to the Roman road which would then be utilised for transport; however, the track was found to continue at right angles across the Roman road earthwork and indeed could be seen to be cut into it. This was a surprise and suggests that the Roman road had been so truncated and denuded of metalling that it was not thought worthwhile to re-use it in the medieval period. Where the medieval trackway goes after crossing the Roman road is not clear; this is due to the altered nature of the landscape, with the late 18th century Water's mill site and its lodge, as well as a modern trackway, obscuring the terrain.



View west across Trench 2 with Trench 1 just beyond, showing the stone trackway



Detail of stone trackway in Trench 2, looking west, with possible kerbing on right (north side) set against the remains of the Roman road on the far right under the scale



Plan of Trench 2

At the south east corner of the trench a linear feature was exposed that aligned with the former Roman road. It was c 40 cm wide and filled with a dark grey silty clay material. A one metre length was excavated to give a better understanding of its depth and character. It turned out to be quite shallow, only 20 cm deep, with gently sloping sides cut into light orange-yellow clay. There was only the one fill as described above and no finds. It is likely that the clay that this shallow ditch or gully cuts in to forms part of the agger (raised causeway) that the Roman road was laid on to. The ditch is roughly in the right place and on the right alignment to drain the east side of the Roman road; however, it appears to be too shallow and narrow to service a major road. It might represent the very truncated remains of the Roman roadside ditch but could equally be a much later attempt to provide drainage in the last phase of the road or agger's use or even be associated with post-Roman land drainage. An alternative interpretation is that it is a foundation slot for a timber building. Only further excavation would help define its function and date.



View north across Trench 2 showing the trench extension to expose a linear feature (under photo scale) with the right-hand photo showing the feature post excavation

TRENCH 3

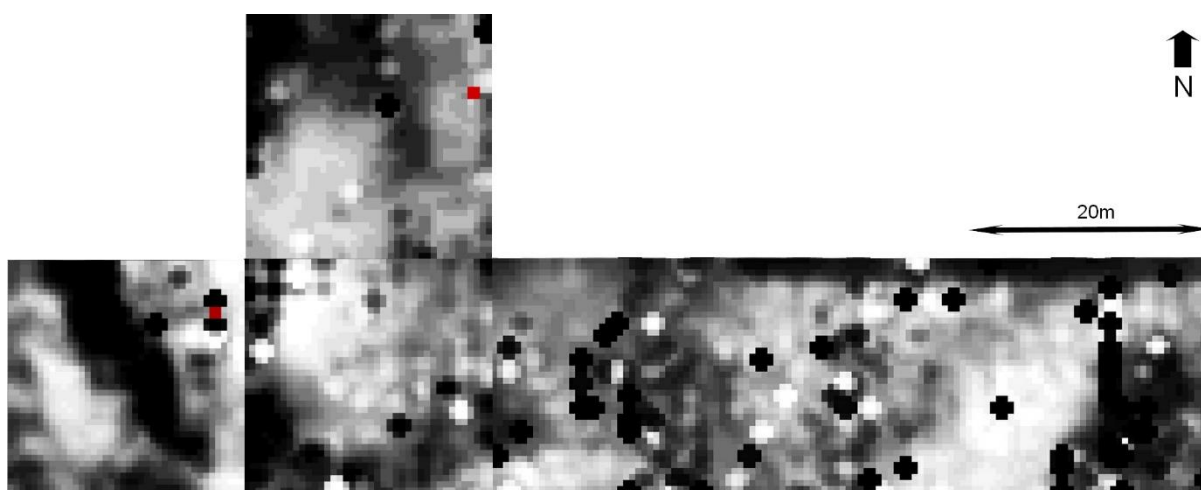
This trench was dug at right angles to a well-preserved section of wall foundation roughly half way along the southern side of the western range. The trench was around 1 metre wide and 6 metres long from the exposed outside edge of the wall. It was positioned to reveal the continuation of the stone trackway running alongside the southern wall of the former building, as suggested by the geophysical survey. Sure enough the road was located in Trench 3, although at this point it was 1.6 metres away from the southern wall and separated from that wall by natural yellow-cream clay. This was because it was aiming for the outside wall of the projecting chamber in the south-west corner, mirroring the alignment at the south-eastern corner of the building. The road was 3.8 metres wide and made up of predominantly medium to small angular gritstones, with occasional large ones, giving a smoother surface than seen elsewhere further to the east. It was only one course deep, a maximum of 15 cm and laid on to natural clay.



Sue and Margaret excavating a section through the stone trackway (left) and looking north across the trackway (right) with the natural clay visible in the foreground and in the distance between the track and stone foundations of the western range southern wall

TEST PIT 9

The landscape immediately south of the building platform is quite undulating, with several raised mounds visible. A resistivity survey was undertaken across this area to determine if any structural remains were discernible. It was hoped this area might have been used for fish ponds or even more buildings associated with the large grange structure recently discovered.



Plot of resistivity survey results showing 20 metre squares. Anomalies are quite evident in the form of linear arrangements and clusters. The stone track is visible at the top of the right hand squares.

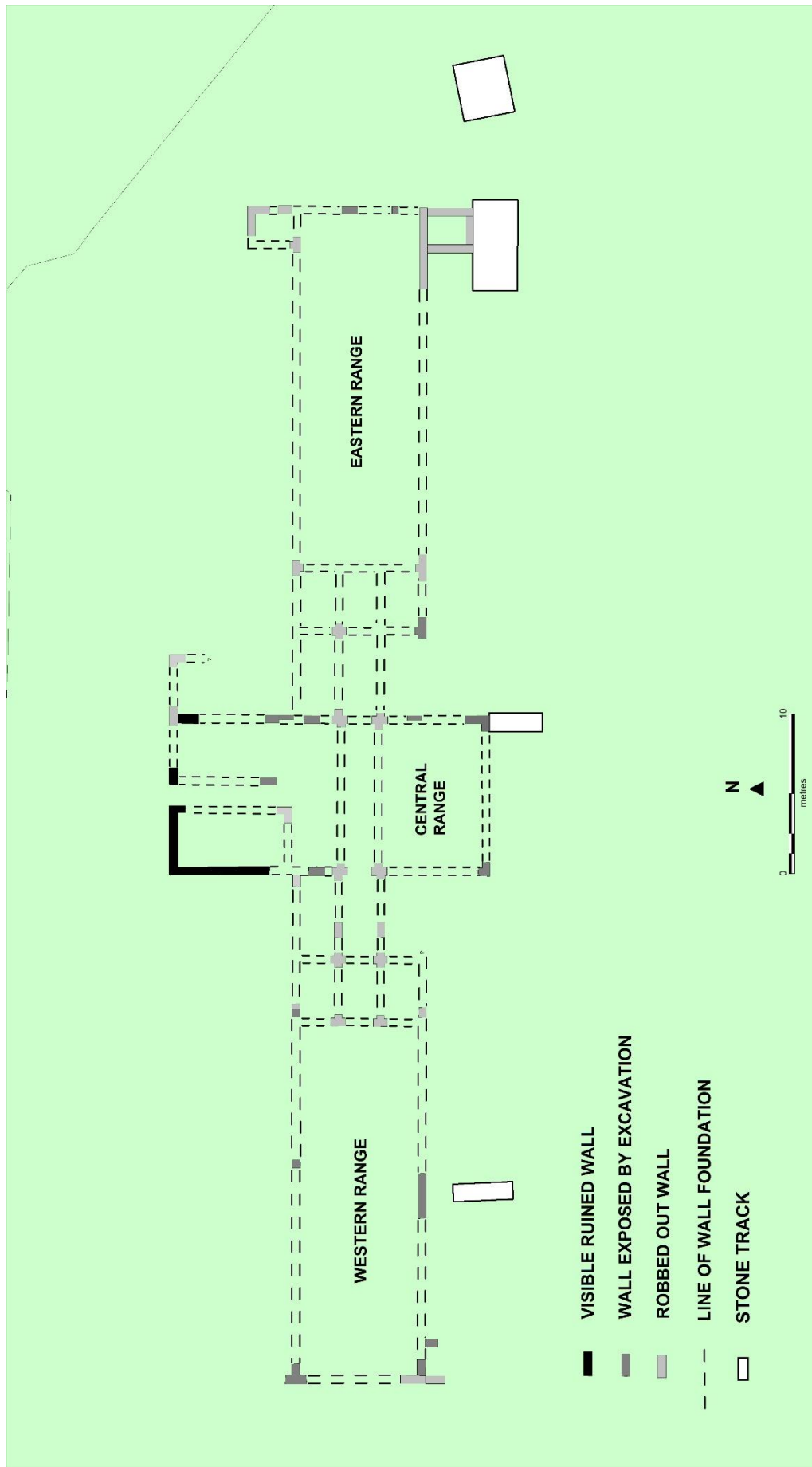


Phil, Margaret and Jane carrying out the geophysical survey

Test pit 9 was excavated as a 1 metre square test pit located on top of the one of the mounds, located 20 metres south-east of the south west corner of the central range and a similar distance south-west of Trench 2. No structural remains were encountered, instead the test pit revealed a series of humic layers, some of which contained peat. The test pit hit clay at about 1.8 metres depth. Tip lines suggested that this material was redeposited. It is clear that the mounds are made up of upcast and this appears to derive from diagonal drainage trenches cut through water logged, peaty ground. These drainage channels are picked up as anomalies in the geophysics and appear to be of relatively recent (ie. 20th century) origin.



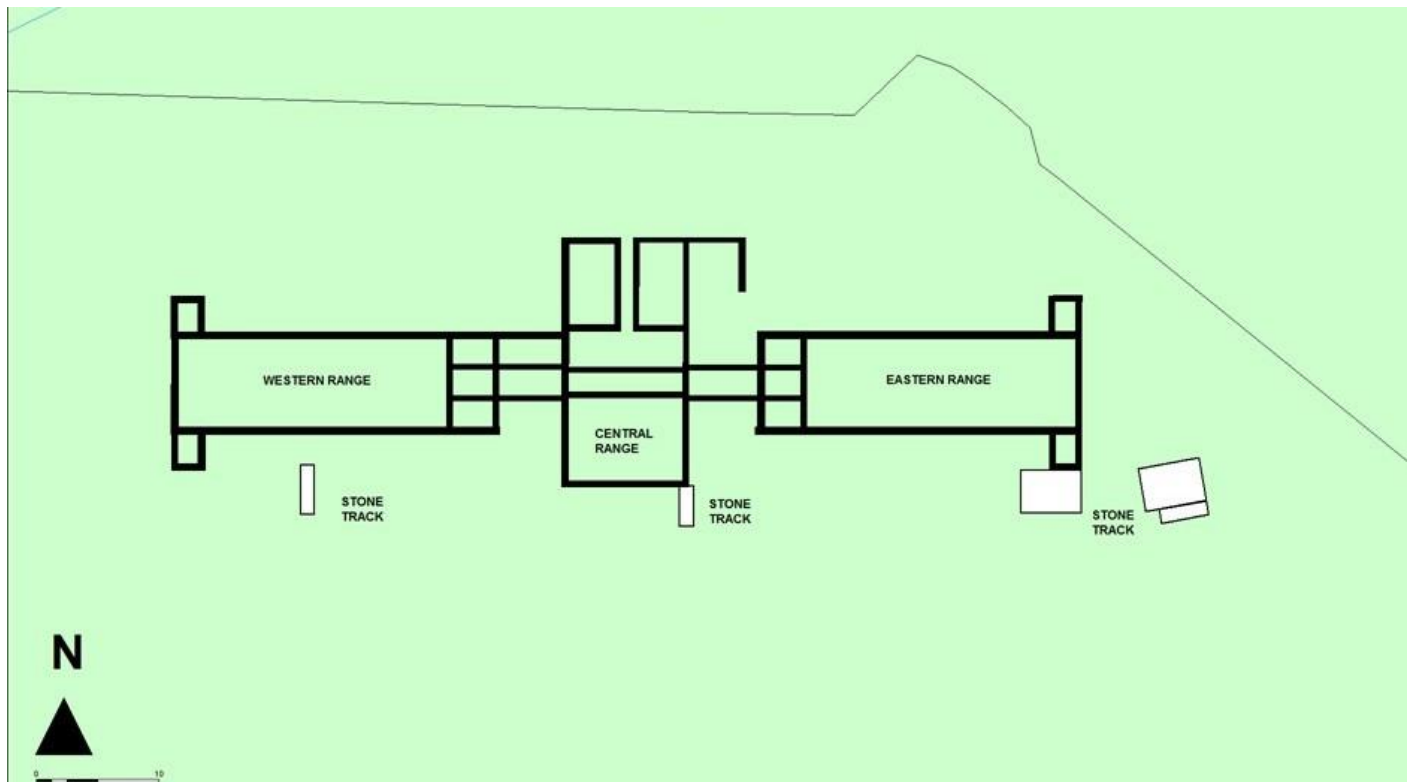
TP 9 with sondage excavated in corner



Plan showing excavated sections of walls, with projected lines.

Conclusion

The investigations of 2016-2018 have demonstrated that the ruined walls beside Waters Clough that sparked our interest are part of a massive building. It comprises a long narrow central range 20 metres long by 10 metres wide, flanked by a west and east range, each being 31.8 metres in length and 8.4 metres wide. The total building length is an astonishing 73.6 metres (including the central range). Each corner has a projecting small chamber. Most of the plan form has been established, including a series of internal rooms and a central corridor. The west and east wings appear to be symmetrical, although there is an additional room added to the north east side of the east wing where further investigation is required to confirm wall alignments. There is a remarkable uniformity of wall construction suggesting one phase of building. A platform was created for the new building. This was cut into natural clay but is interesting to note that the platform was not entirely level, with the west end being 3 metres lower than the east.



Interpretive plan of the grange building, based on test pits and trenches 2016-18

The site has been very poor in finds with only two stratified sherds of medieval pottery, and a small number of post medieval finds from the topsoil. The lack of decorative architectural fragments, floor or roof materials, as well as demolition material, is remarkable and indicates that the building may have never been completed (perhaps due to changing economic circumstances). An alternative explanation is that after abandonment it was heavily recycled, with materials being re-used for new buildings in the local area or further afield. The pile of stones at the north-east corner of the east range may be from this process of dismantling and carting away the materials, with the stones not being collected for some reason. The probable cart track appears to be of medieval date, to judge by the associated pottery. It cuts through the Roman road and runs tight up to the building's southern side and could be interpreted as giving access during and after construction or for the demolition and recycling process. Where the track goes to the east of the site is not currently determined; the landscape was much changed in this area in the late 18th century when Waters Mill and its reservoir were constructed, but it is likely that the track linked up to the medieval road running on the east side of the Castleshaw Centre only 100 metres from the site.

The investigations have demonstrated the presence of a remarkably large and well-built structure that would have taken considerable resources to erect and which would have dominated the valley floor. Associated with the building site are a series of substantial earth bank field boundaries. One of these runs at an angle across the Roman road to the east of the building and then along the edge of Waters Clough only around 10 metres north of the building. To the west this impressive field boundary continues across the clough and then separates into two. Analysis of aerial photographs and historic maps, along with field

walking, shows other similarly constructed field boundaries crossing the valley floor and sides. It is clear that at one time a significant investment in time and resources was made to subdivide the valley into parcels of land for animal grazing.



Location of the grange building within its landscape context, with former banked field boundaries showing clearly

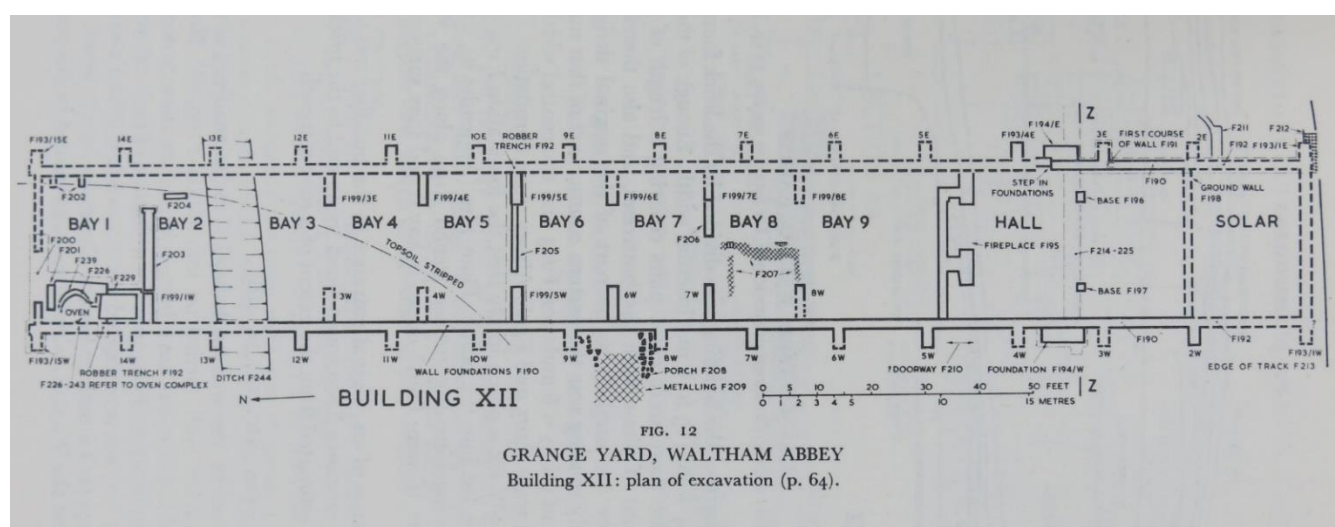
Given the large scale and quality of construction, landscape management evidence, the historical framework and medieval pottery finds, the building foundations are interpreted as belonging to the medieval grange of Friarmere. The name first appears in 1455 but was previously known as 'Hilbrighthope' (Buckley 2009, 45-6). This was held by the Cistercian Roche Abbey (near Rotherham) from the end of the 12th century to the Dissolution of 1538. Medieval granges were outlying estate farms established to provide food and other materials for the use of the mother abbey and for wider distribution. Granges were essential for the self-sufficiency of the Cistercian order. Intensive farming was undertaken by labourers under the supervision of lay brothers who would have had accommodation at the grange building. It is possible the small internal rooms and projecting corner chambers were cells for the lay brothers and visiting monks. There were a great many monastic granges across the Pennines in medieval times. As these were granted in perpetuity to abbeys it was worth their while making an initial heavy investment to transform what were often marginal lands into highly productive agricultural estates. These provided for the abbey's food needs, with surpluses being sold at local markets for profit. Evidence suggests that the grange at Castleshaw may have been involved with intensive cattle ranching, operating as a vaccary (essentially a large medieval cattle farm). Buckley has identified the widespread occurrence of large fields named 'hey' within Friarmere, their nomenclature suggesting they were of medieval origin and once formed a single cattle farming estate (Buckley 2017, 240). The boundaries of the 'heys' are reflected in later historic mapping and field boundaries, although subdivided. It is likely that many of the substantial earth bank field boundaries still evident in the landscape can be matched to the original medieval fields.

Other economic activities to exploit the land were probably taking place as well as stock management. We know from previous archaeological excavations that iron smelting was being undertaken at the head of the valley, with archaeomagnetic and radiocarbon dating suggesting a 13th century date for this activity. The grange also had the rights for land cultivation, stone quarrying, mining, hunting, and perhaps fish ponds and there might even have been a water powered mill.

By the early to mid-14th century the structure and organisation of granges appears to change. Many Pennine grange estates were divided up into smaller plots of land under tenant farmers; this seems to be the case at Friarmere. The Lay Subsidy roll of 1297 references five farms in Friarmere and it is likely that

these became tenant farmers. Grange is the principal farm at that time but has only 6 oxen and 10 cows, although it is thought that the assessment is unreliable (Buckley 2017, 243). The five farms are listed in the monastery's possession at the Dissolution in 1538. It is interesting to note there is a hamlet named Grange high up on the western slopes of Castleshaw Valley, some 800 metres away from the Waters Clough site. This is known to have an early building dating back to the 16th century and is almost certainly the site of the farm recorded in 1297. This has long been thought to be the location of the medieval grange buildings, and if the new site at Water's Clough had been simply a large barn then it might be reasonable to postulate that the lay brothers were living at Grange Farm higher up the valley side. However, the archaeological evidence clearly shows a multi-roomed building which almost certainly included living accommodation.

The task of comparative research has only just commenced, but it is already apparent that the Castleshaw grange building is unusual in its large scale and plan form. One similarly sized structure has been identified at the monastic grange at Grange Yard, close to Waltham Abbey. This is a similar length, at 72 metres long, and about 9.4 metres wide, with walls 0.61 metres thick. However, it does not have the projecting central range seen at Castleshaw; it also of a later date (15th century) and made of brick. Interestingly, the excavation at Grange Yard has shown internal functions such as a solar (private chamber), hall, and kitchen, with other bays being used perhaps for farm labourer accommodation or animal stalls (Huggins 1972, 64-73). Could similar functions have applied to the grange building at Castleshaw?



Excavation plan of Building XII of the grange at Waltham Abbey (from Huggins 1972)

At the moment the best guess for the date of construction for the building beside Waters Clough is the 13th century with abandonment and demolition either late in that century or the first half of the 14th century. But what caused this demise? It is known that by the 14th century granges generally had gone into serious decline, due to economic depression brought on by extremes of weather, pestilence and famine set against political instability. A sequence of disasters, such as successive bad harvests from 1314 to 1316, would have forced many religious houses to reorganise their estates. Castleshaw was one of the furthest removed of Roche Abbey's granges at around 40 miles away. Most of the were within a 20 mile radius of the mother house, and the long distance, together with the marginal nature of the farming landscape may have made it vulnerable. Sadly, most of Roche Abbey's records were lost in a fire during the Civil War siege of York in the 17th century so archaeology may provide the best clues if future investigations continue.

It is entirely possible that construction began on the grange building at Water's Clough but was abandoned not long after the foundations were laid, with the stones being taken for building work elsewhere or even offered to the tenant farmers. Colin Platt in his authoritative study of granges describes the abandonment process (Platt 1969, 107):

'In general terms the significance of partition in the decay of the grange establishment is obvious. The buildings of the grange, if there was no special reason to preserve them, emerged from the process totally unsuited to the purpose of the reorganised estate. A tenant farmer might for some years have taken up residence in a part of the former establishment. The remaining buildings could conceivably have been used by the tenants together as a store. But clearly the monastery itself could have felt no further obligation to maintain the disused buildings in adequate repair; and if this was true of the monastery, it was still more

true of its successors. In the circumstances there could have been nothing unusual in the total destruction of many grange buildings even before the dissolution of the monasteries; after it, the sequence of abandonment and demolition was rarely less than complete.'

The 2016-18 archaeological investigations at Waters Clough, undertaken by the Friends of Castleshaw Roman Forts, have formed part of the Hinterland Survey, which sets out to answer research questions and fill in gaps in our understanding of not only the Roman forts but also other periods of archaeology in the valley. In the Conservation Management Plan for Castleshaw Roman Forts, which was published in 2011, there is a specific reference to the medieval grange in relation to gaps in our knowledge of the medieval period (Middleton 2011, 58):

'Nature of the medieval grange: little is known about the operation of the medieval grange in the Castleshaw Valley. Documentary evidence would indicate the grange might have been operating primarily as a vaccary – a large medieval cattle farm – and it would be interesting to understand how this fitted in with the broader infrastructure of the abbey. A wide survey may identify features that survive in the landscape and which relate to this period of use. In particular, there may be further evidence of agricultural and industrial activity, including additional smelting sites and evidence of mineral ore extraction and quarrying.'

The Hinterland Survey is beginning to improve our understanding of the character and function of the medieval grange at Castleshaw. Future work will focus on further investigations of the newly discovered grange building by Wate's Clough, together with landscape survey to record associated landscape features. This remarkable discovery is transforming our understanding of medieval Castleshaw and will stimulate new research for years to come.



Drone photo from late May 2018 showing the excavation underway on the grange building site in the centre foreground. The hamlet named Grange can be seen at the top right of the photo. The Roman road line can be clearly seen in the middle of the picture as a light green rush-free strip but many other features are also visible, such as former field boundaries, and these now need surveying and understanding in the context of the medieval grange landscape and perhaps earlier features.

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Further information on recent archaeological surveys and excavations in Castleshaw valley can be accessed on the Friends of Castleshaw Roman Forts website: www.castleshawarchaeology.co.uk. This also contains details of upcoming events and membership.

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