

Archaeological Evaluation of the possible monastic grange site at Waters Clough, Castleshaw, Saddleworth

2022



Friends of Castleshaw Roman Forts volunteers excavating part of the central range

Report written by Norman Redhead
for the Friends of Castleshaw Roman Forts

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Background

As part of the Castleshaw Roman Forts Hinterland Survey, the Friends of Castleshaw Roman Forts continued their archaeological evaluation 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.



The ruin beside Waters Clough – parch marks during a dry spell indicate wall lines within the central range

Previous investigations demonstrated that a set of low ruined walls beside Waters Clough form 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. The main plan form has been established and includes a series of internal rooms and a central corridor, with adjacent symmetrical wings.

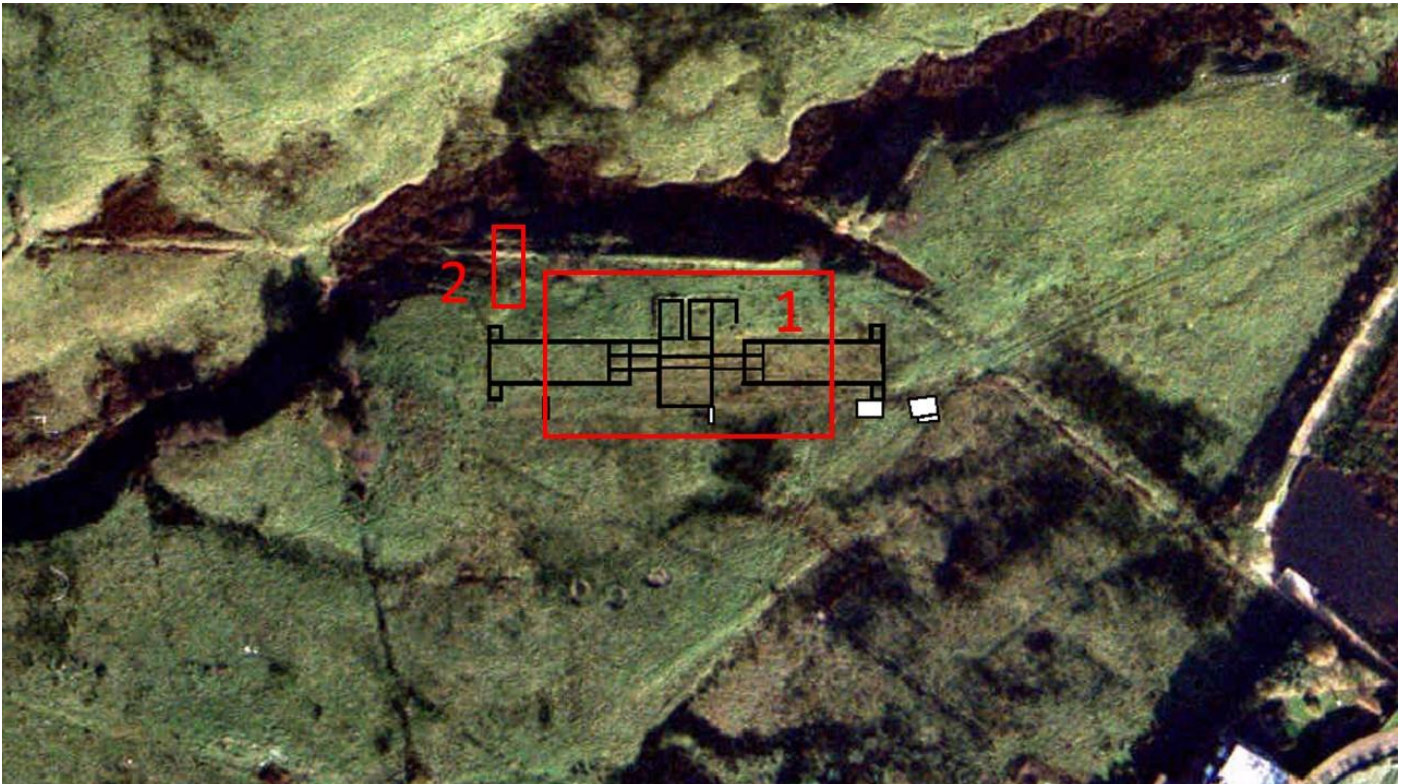
There have been no dateable finds within the building foundations but historical documentation and the presence of medieval pottery within the adjacent trackway point to a 13th century origin, probably shortly after the acquisition of the lands by the Cistercian abbey of Roche in 1199 (Redhead 2019). The remarkably large and well-built structure would have taken considerable resources to erect and it would have dominated the valley floor. Associated with the building site are a series of substantial earth bank field boundaries, creating a series of large, enclosed fields for cattle grazing. The building is interpreted as a medieval grange, an outlying estate farm 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 probably have had accommodation at the grange building.

Excavations have shown that much of the building's stonework at Waters Clough was removed for use elsewhere. The evidence for this were foundation trenches devoid of stone and with just silt and orange mortar filling them, lengths of surviving foundation stones, and the stone trackway laid down close to the southern side of the building to facilitate carting away of the stonework. The lack of artifacts, dressed stone, roof and floor tiles, suggests that the building was in use for a short time or perhaps not even finished before being abandoned and dismantled. The reasons for this are obscure but may be due to well-

documented changes in Cistercian policy towards lay brothers and direct management of outlying granges so that lands were rented out to tenant farmers.

The last investigations were in 2019. The report on that season's work concluded that, in terms of future work, there are still some questions to answer about the internal arrangements within the grange building. These include confirmation of the central room arrangements in the central range and further examination of the west and east ranges to make sure that these large open spaces are not subdivided. However, future research should also move to areas outside the building. In particular, the banks, ditches and possible track to the north of the grange should be investigated.

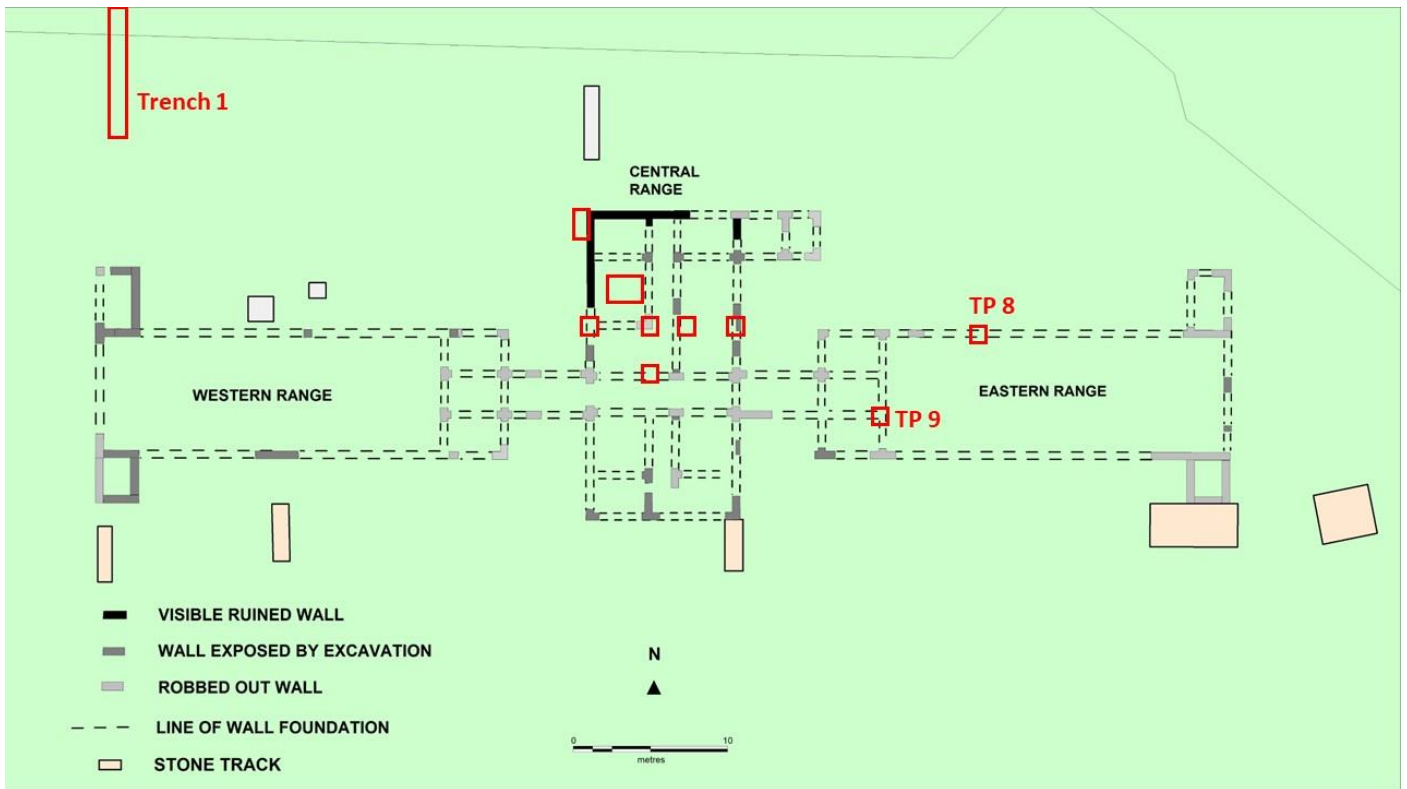
In accordance with this, the objectives for the 2022 research investigations were to complete investigation of building line junctions for the medieval grange building and to excavate a section across the bank and ditch which leads down to Waters Clough. If time and ground conditions allow, explore and record remains of the possible stone bridge crossing the clough.



This aerial photo shows the wall lines of the grange in black, with area 1 edged in red being the focus of the 2022 investigations along with a section of bank in area 2.

The 2022 programme of evaluation lasted for just two days and comprised test pitting on the grange building site together with the excavation of one trench across a bank, ditches and possible hollow-way track just to the north west of the grange building. This was designed to complete missing information from 2019 in relation to wall junctions for the grange structure as well to investigate for the first time one of the earth bank field boundaries. The evaluation took place on the 25th and 26th June. The investigations were undertaken by volunteers of the Friends of Castleshaw Roman Forts and were led and reported on by Norman Redhead. 11 Friends volunteers assisted over the 2 days. Their enthusiasm and dedication are much valued and have been crucial in furthering our understanding of this enigmatic, probable medieval grange site.

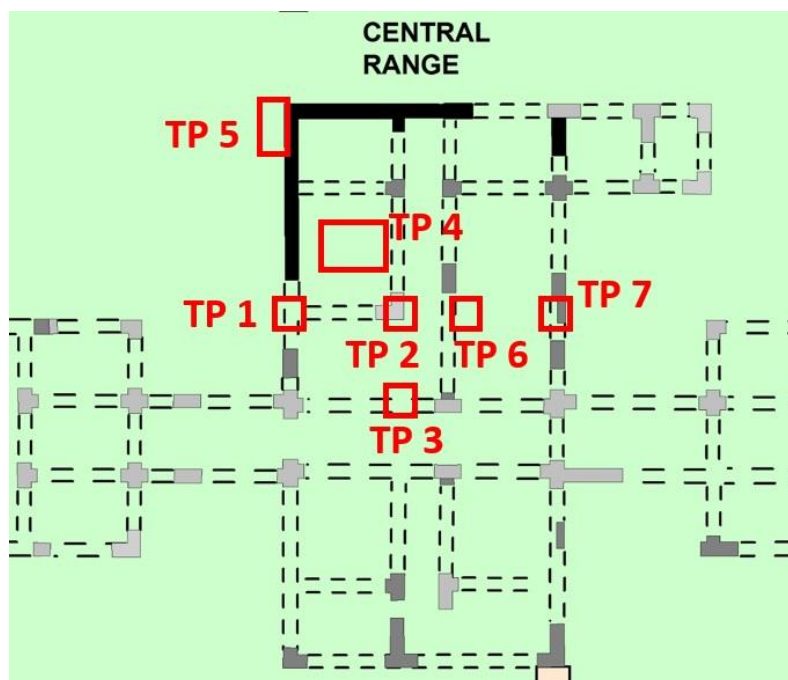
This and previous Water's Clough archaeology reports can be found at the Friends of Castleshaw Roman Forts website: <http://www.castleshawarchaeology.co.uk/documents.htm> .



Plan of excavated remains and interpretation of wall lines following the 2019 investigations, with the 2022 investigations shown in red.

2022 Excavation Results

As can be seen on the plan above, the focus of test pitting was to complete investigations of wall junctions and building lines. Seven test pits were excavated: five focusing on wall junctions in the central range, one on a circular depression in the north west part of the central range, and one near the corner of the north west external wall.



Detail of the location of test pits in the central range.

Test Pit 1

This was excavated to confirm the south wall line of an internal room within the north western part of the central range. The test pit measured 1 x 1.25 metres and straddled the central range's western wall. It was able to confirm the junction of the room's south wall with the west wall of the range, and showed that there was no wall on the exterior of the building at this point. The west wall of the grange continued southwards from a visible section of upstanding wall and it could be seen, prior to excavation, that the stonework lay just under the turf. The wall foundation was well-preserved and its surface was largely bound with yellow-orange, gritty mortar the same as used across all the grange walls. It had a width of 50 cm and comprised medium sandstones which were dressed to give a relatively straight, neat external face, with a thin rubble core. Again, this was consistent with that encountered across all the grange walls. The return wall for the internal room was of similar construction but appeared to be slightly narrower at 45 cm. The wall foundation was cut in to natural white/cream coloured clay as found elsewhere. Against the exterior of the west wall were deposits of the yellow-orange mortar – almost certainly derived from the construction or demolition of the wall. The top of the wall was at 225.06 m AOD (Above Ordnance Datum) and the clay at 225.00 m AOD.



Excavating Test Pit 1 on western wall of the central range.



Overhead view of the west wall in Test Pit 1, running left to right, with the internal wall running eastwards from it (below).

Excavations within the footprint of the grange building have been remarkably sterile, leading to the theory that the structure was never completed or occupied. There has been a total lack of domestic rubbish (such as broken pots), architectural fragments (such as decorative door or window surrounds), or floor and roof tiles. However, TP 1 did reveal a small dump of stones beside the wall junction, lying on the clay, which could be of structural interest. The stones are quite broken-up but several are thin and flat enough to be considered as stone roof slates, although there were no peg holes to confirm this theory. It is possible that, along with the stones carted away during the deliberate dismantling of the building, stone roof slates were also recycled and this small cache represents slates that were broken during this activity.



Test Pit 2

This test pit was 1 metre square and aimed at confirming the junction of the western wall of the north to south corridor in the central range with the south wall of the room as identified in TP 1. The corridor wall foundation was quite well-preserved, made up the usual medium-sized flat grit stones bound in the yellow-orange mortar and. It was 45 cm wide and the top height was 225.27 m AOD. Running westwards and butting against it was a wall of similar character, but a little narrower at 40 cm wide. The top of the wall height was a little lower at 223.11 m AOD.



Test Pit 2 looking south, with the western side of the corridor wall on the left and the south wall of an interior room on the right.

Test Pit 3

This was located to confirm the assumed continuation of the west wall of the north to south corridor of the central range to meet with the east to west corridor wall. Excavation of the 1 metre square test pit showed that this was indeed the case. The walls' survival was patchy. The north to south corridor wall survived as a stone foundation for about 30 cm length running into the northern half of the test pit but then died away to leave just the foundation slot with its dark yellow-orange bedding mortar and dark grey silt fill. This continued to the junction with the east to west corridor wall foundation trench which had also suffered the 'robbing' out (removal) of its stones. It was interesting to note that the north to south corridor wall was 'subservient' to the east to west corridor wall, the former butting up to the latter and white clay beyond showing that the north to south wall did not continue on the other side. There must have been a doorway giving on to the east to west corridor, but the archaeology is too truncated to leave any trace of this. The top of the surviving section of wall was at 225.11 m AOD, the top of the mortar in the foundation trench at the junction of the former walls was at 224.90 m AOD, and the white clay in the south side of the test pit was at 224.99 m AOD.



Test Pit 3 looking south showing the remnants of the north to south corridor wall at bottom of the photo and the junction with the east to west corridor wall running right to left in the upper half of the photo.

Test Pit 4

A circular depression in the north west part of the central range was investigated by excavating a 1.5 x 0.8 m test pit/small trench. It turned out to be a c 30 cm deep pit backfilled with stones and mortar taken presumably from adjacent walls. It does not appear to be structural, that is there is no evidence for a post setting, and it appears to post date the medieval building being full of material derived from that building. There were some post medieval finds but the reason for the pit is unclear. The turf level over the pit was at 224.95 m AOD and the bottom was at 224.63 m AOD.



Test Pit 4 can be seen in the middle of the photo.



The section across the depression shows the rubble and mortar fill within a roughly circular pit.

Test Pit 5

This was located against the exterior wall face in the north west corner of the central range. Test Pit 5 examined the potential for small rooms to project from this part of the building, as has been found on the north east side of the central range. The test pit was 90 cm long by 50 cm wide. It found that there was a thin layer of turf and mortar/soil that came down to natural yellow clay. It was clear that there is no wall extending off the corner of the building. So, the arrangement seen on the opposite north-east side, where two small rooms project out from the corner, is not mirrored here. This is the only example of non-symmetry in the whole building. The test pit did allow a closer examination of the exterior wall face. The dark yellow-orange bedding mortar could be seen under three courses of dressed stone blocks. The clay base was at 224.81 m AOD, and the wall surface on top of the stones was at 225.35 m AOD.



The photo shows the well-dressed base stones sitting on a bed of dark yellow mortar.

Test Pit 6

This was located to find an interior dividing wall on the opposite side of the north to south corridor to match that revealed on the west side of the corridor in Test Pits 1 and 2. The one metre square test pit exposed a one metre long section of surviving wall foundation for the eastern side of the north to south corridor. The interior wall was evident only as a patch of dark yellow-orange foundation mortar and a dark silty stain to indicate the shallow wall trench. So only slight vestiges of the wall survive but it is there. The corridor wall top was at 225.19 m AOD, the internal wall site at 225.04 m AOD and the natural cream coloured clay at 225.17 m AOD.



Test Pit 6 looking north with the vestiges of the internal wall showing on the right, running up to the much better preserved corridor wall.



The photo shows Test Pit 6 in the foreground, with the other side of the north to south corridor evident in Test Pit 2 at the top of the photo. Looking west.

Test Pit 7

The line of the interior wall revealed in TP 6 was confirmed where it joined with the eastern external wall of the central range. Again, the interior wall was much more fragmentary than the main wall it abutted. In this case, the interior wall was evident as crushed gritstone and yellow-orange mortar, whilst the east external wall survived as a level well-constructed wall foundation with dressed wall edges and the medium sized stones bound with yellow-orange gritty mortar - as seen elsewhere. The wall surface was flat and at 225.44 m AOD, the interior wall top at 225.34 m AOD and the natural cream coloured clay at 225.30 m AOD.



Test Pit 7 looking west. The eastern external wall of the grange's central range is in the foreground and the loose mortar of the interior wall can be seen beyond.

Test Pit 8

A test pit was dug across the northern external wall of the east range to examine a depression to see if there was an internal wall at this point. The base mortar layer of the main wall was evident but there was no sign of an internal wall. A sondage against the wall foundation material confirmed this, with just natural clay being encountered. The shallow, small depression was created by the low level of the 'robbed out' foundation. Not levelled.



Test Pits 2, 6 and 7 in the central range can be seen in the foreground with Test Pit 8 being dug in the background.



Test Pit 8 looking east. The northern external wall of the grange's east range is on the left, represented by clumps of mortar and a few stones. The sondage into natural on the right demonstrates that there is no internal wall here.

Test Pit 9

This was dug to confirm a junction for two walls defining the south-east corner of the middle chamber within the east range, which was accessed by the east west corridor. The junction was revealed in the corner of the test pit against the natural cream-coloured clay, with the wall foundation lines represented by dark grey silt and patches of dark orange mortar and occasional small gritstones. At the wall junction the top of the dark grey silt fill was at 225.57 m AOD and the turf level near the south-east corner was 225.71 m AOD.

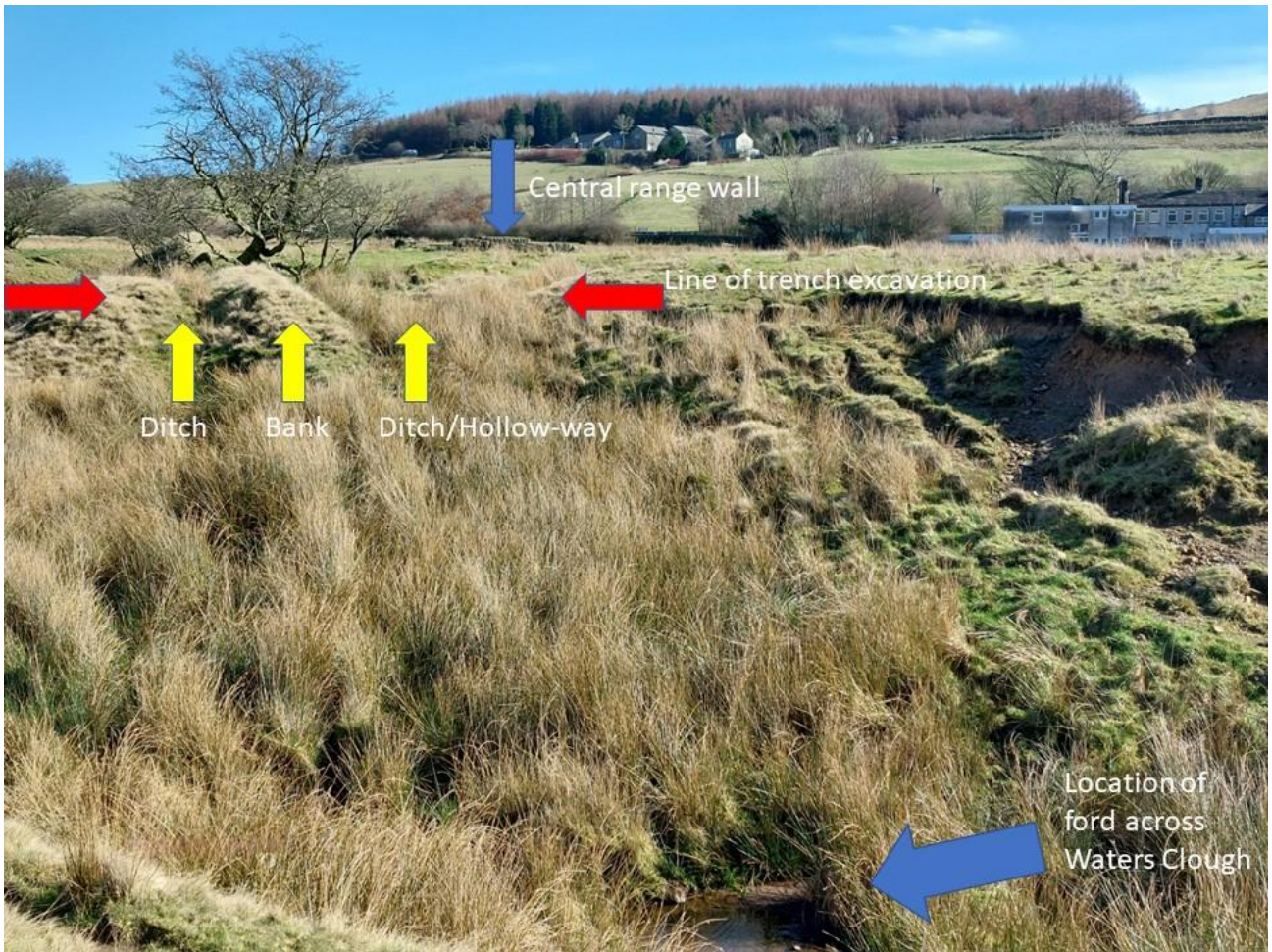


Photo of Test Pit 9 showing extensive robbing of the walls for their stones, with just some mortar and dark grey silt indicating the wall trenches – but in the top right corner the junction of the two walls is clearly visible. Looking south.

Trench 1

The most substantial piece of excavation at Waters Clough in 2022 took the form of a trench across a substantial earthwork just to the north of the western range of the grange building site. A steep bank overlooked Waters Clough (to the left of the photo below). Intriguingly, close to the bank top was a ditch flanking an artificial earth bank which is interpreted as a medieval field boundary associated with the monastic grange. Immediately south of the field boundary bank is another possible ditch in the form of a wider depression. It was felt that potentially this could be a hollow-way descending to a ford across the clough. The earthwork field boundary continues west to east along the top of the bank overlooking the stream which begs the question as to what purpose it served? Clearly, considerable effort was expended in its construction. To the west, it runs across the clough in a straight line and continues westwards before splitting into two. One possible theory is that it served to protect the grange building from animal ingress. Another theory is that the field boundary was in place before the grange building was constructed and was related to the initial setting out of fields for cattle management. It is also possible that the field bank was erected after the building was abandoned.

Having completed exploration of the grange building it was time to start investigating its hinterland to understand the landscape and features associated with it. Trench 1 marks the start of that process. The trench was 7.5 metres long by 1 metre wide and ran on a south to north axis to section the earthwork features at right angles.



Immediately under the turf and a shall topsoil layer was exposed a deposit of flat stones laid on the south facing slope of the bank. They were very shallow, only one stone deep, and set within a loose dark grey-brown humic soil. The reason for the presence of these stones is unclear. They may have been laid to stabilise or protect the bank or could even have been discarded stones from the grange site.



The deposit of stones on the south facing slope of the bank.

Completion of the excavation showed that the bank was flanked by a ditch on either side and that the hollow-way did not exist.



Looking south-west across Trench 1 after completion of the excavation.



Looking north across Trench 1.

The following describes the east facing section from south to north. At the south end of the trench was a raised area which formed the south side of the potential hollow-way. The section revealed that this landscape feature was artificial and of relatively modern origin. The raised ground was created by a 60 cm

deep mound of spoil comprising mid-yellow-brown clay loam over a deposit of very dark grey silty clay loam which in turn covered natural. The spoil appears to derive from one of the 20th century drains that cut through this area.



South end of Trench 1 showing the spoil mound.

Moving northwards along the section revealed a ditch against the south side of the field boundary bank. Under a layer of loose dark grey silty clay loam (which held the flat stones) was a 50 cm deep layer of very dark grey brown clay loam which forming the ditch's fill. The ditch was cut into natural clay which contained frequent gritstones, so that the ditch edge was quite irregular. The ditch was about 1.7 m wide, forming a gently sided 'V' shape in profile, and was 65 cm deep from the top of the turf to the natural base. There were no finds from the ditch fill.



The ditch against the south side of the bank, with the irregular natural base shown below.



Vertical view of base of the ditch, showing the stones set in natural clay.

The field boundary bank itself was c 1.5 m wide and 70 cm high. A 'U' shaped feature was cut into the middle of the bank. This feature had a flat base and steep sides, measuring 50 cm wide at the base and 85 cm at the top, and was 55 cm deep. It was filled with a layer of mixed light grey and light yellow clay loam at the top, very loose mid-grey-yellow clay loam in the middle and a black humic layer at the base. This humic layer was formed of decayed vegetation, probably turf. The bank was made up of a layer of mid- orange-brown sandy silt loam overlying a grey silt layer with some iron stain bands in it. Above these was a very dark grey silty clay loam on the north side and a light grey clay loam on the south. All these deposits were cut through by the 'U' shaped feature except for the base layer of light grey clay. There were no finds. Only c 50 cm length of this feature was exposed so it is impossible to say too much about its function other than to postulate that this was dug to plant a hedge or erect a palisade to help with stock control.



The field boundary bank in section, showing the 'U' shape cut in its middle (marked in its base by the thick layer of black humus).

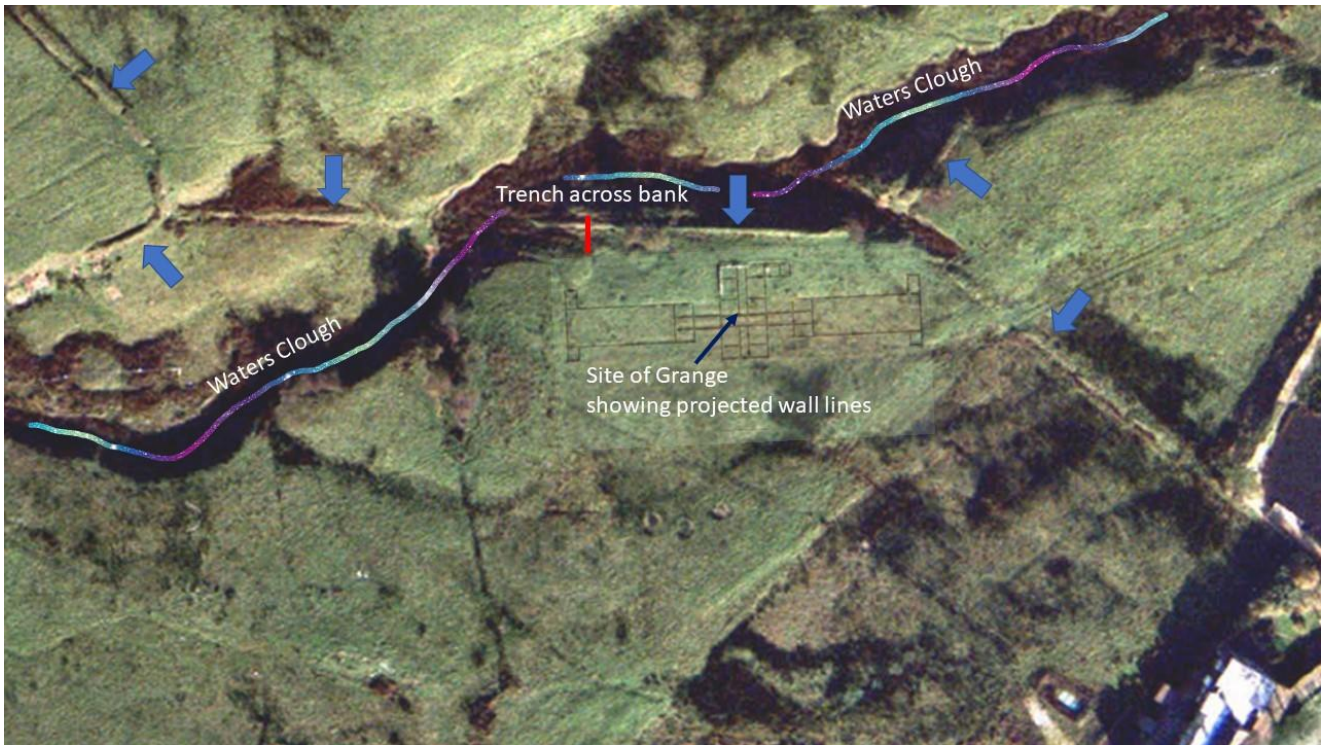
On the north side of the bank and close to the edge of the steep slope down to Waters Clough was a second ditch. This was shallower than that on the south side of the bank, being 40 cm deep, and was slightly less wide, at 1.5 m. Its upper fill was of very dark grey-brown silty clay loam, lying over a mid-orange-brown sand silty loam which also forming part of the bank and continued through to the northern end of the section. A compact and contrasting layer of mid-yellow grey clay loam mixed with small soft sandstones formed the base fill on the north side of the ditch. However, this material may be sub-natural as it was not dissimilar to the ditch base material of yellow-grey compact shale. If this is the case then the ditch is narrower, at 1.1 m. Its profile forms a gentle-sided 'V' shape, as with the north ditch. A body sherd of dark glazed earthenware possibly of 17th century origin was found in the lower ditch silt.

The theory of a sunken lane (hollow-way) running down to a ford across Waters Clough has been disproved. This is due to the earthwork on the south side being derived from upcast associated with a drain, rather than being natural ground that has been eroded (cut into) by the passage of traffic over time. There was no evidence for metalling required for a lane nor of cart ruts. Instead, we have evidence for a ditch against the south side of the bank. This partners one on the north side. There was a hedge or palisade on top of the bank which would accord with the idea of it being an early field boundary to control cattle. The bank was probably formed from spoil created by digging ditches on either side. The ditches then accentuated the height of the bank and, together with the hedge or palisade would have made a formidable obstacle to animals. The bank is indicated as a field boundary on all the historic maps going back to 1800 and could well be an original medieval feature associated with the grange which has seen some modification/re-use in later centuries.



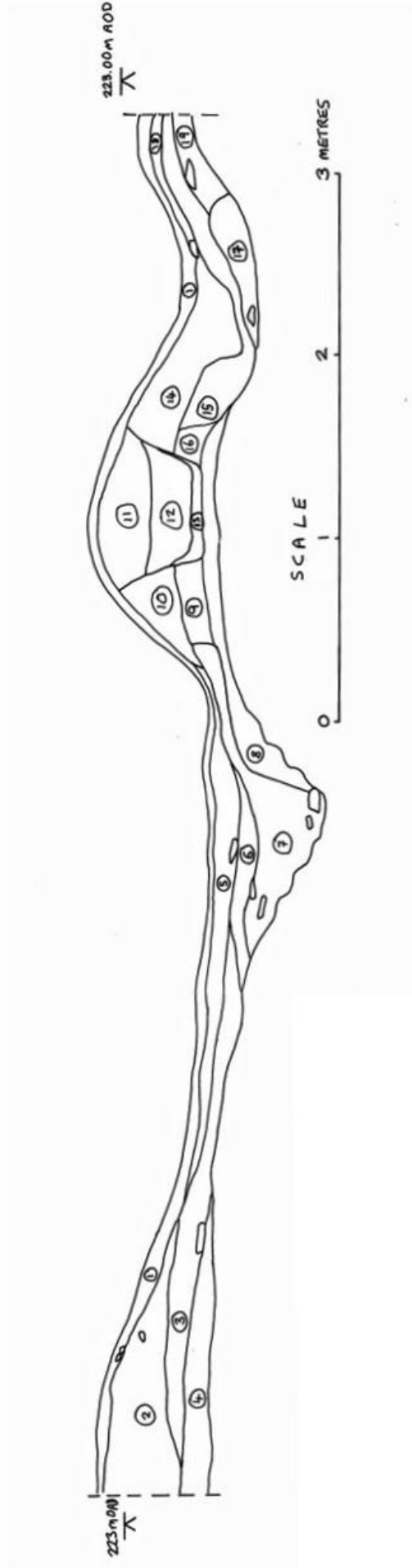
The second ditch, which flanks the north side of the bank.

The aerial photo below shows the earthen banks in the vicinity of, and their relationship to, the grange building (indicated by blue arrows). The trench across the bank and ditches is shown in red. The impressively straight line of the bank just north of the grange, subject of the trench excavation, is apparent. It does not deviate as it crosses Waters Clough.



Aerial photo showing the grange site in its immediate landscape context, with the position of Trench 1 marked in red and the location of earthwork field boundaries in close proximity to the grange site.

Section drawing of Trench 1



Key:

1 = topsoil and turf, 2 = mid- yellow-brown clay loam, 3 = mid- orange-brown silty clay loam, 4 = very dark grey silty clay loam, 5 = loose very dark grey silty clay loam and stones, 6 = dark brown silty clay loam, 7 = soft dark grey-brown silty clay loam, 8 = light grey silty clay with banding of dark brown, 9 = mid-brown silty clay loam, 10 = light grey clay loam, 11 = mixed light yellow and light grey clay loam, 12 = very loose mid- grey clay loam, 13 = soft black humic material, 14 = very dark grey-brown silty clay loam, 15 = mid- brown sandy silt loam, 16 = light yellow and orange sandy silt loam, 17 = compact mixed mid- yellow clay loam and small sandstones, 18 = light grey sandy silt loam, 19 = mixed mid- grey and orange patches of sandy silt loam.

As part of the investigation of the potential lane leading down to a crossing over Waters Clough, the area of the possible ford or bridge was examined. A stepped foundation of stone, evident on the west side of the brook, was thought to represent a former bridge crossing. Vegetation and silt were cleared away to reveal the character of this area. At this point the clough is quite shallow which allowed easy access to carry out this work.



Prior to clearance work, the stepped stonework can be seen on the far side of the clough. Looking west.

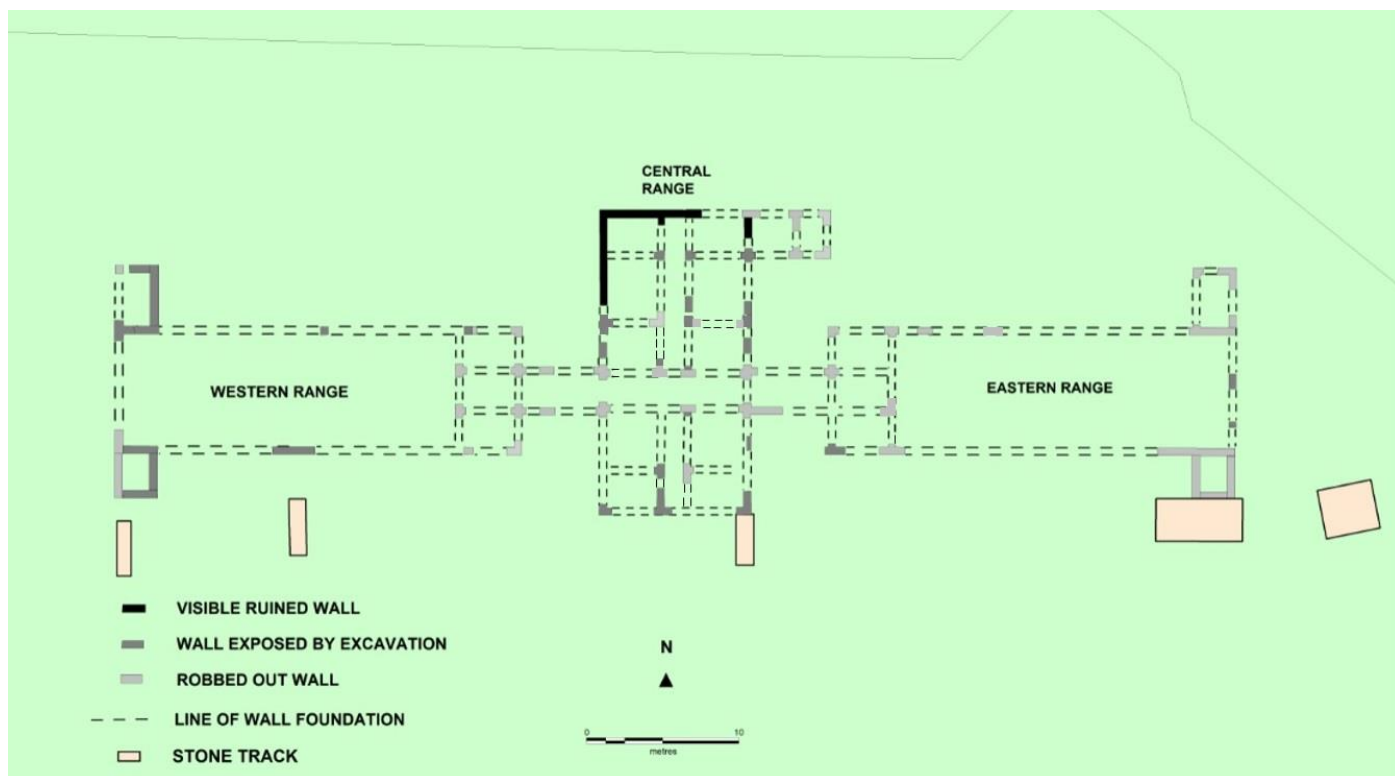
After cleaning off the silt and some vegetation it became apparent that the crossing was formed of a substantial rectangular slab of iron packed in with stones on its south side. This iron is likely to be of more recent origin and not medieval. It is not clear if there was an earlier crossing here that has been reconstructed in the 19th or 20th centuries.



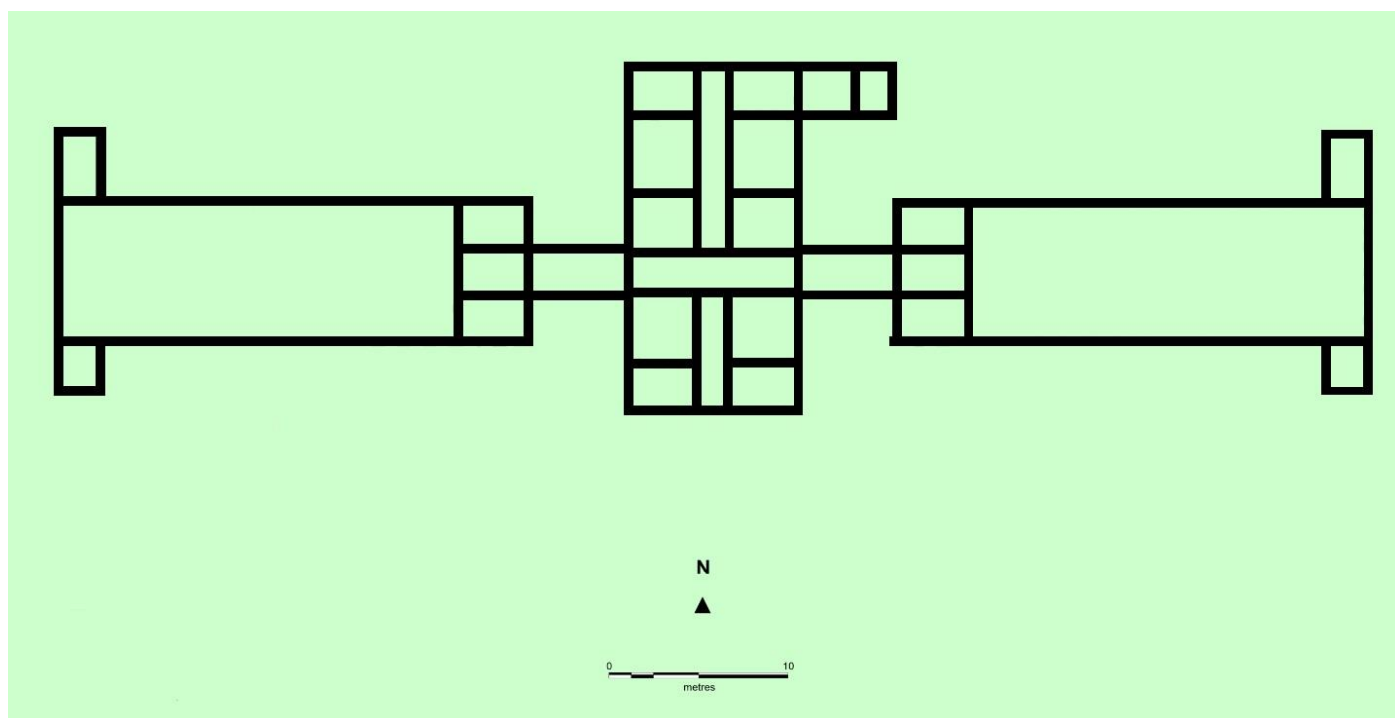
Looking east from the stepped stones across the cleaned crossing, showing the slab of iron with a line of stones marking its southern edge.

Conclusion and Discussion

The investigations across the two days in June 2022 have allowed us to provide a final plan of the grange building, which is shown below. Research is ongoing but this remarkable structure appears to be unique amongst monastic grange buildings.



Plan of walls revealed by excavation together with projected wall lines, updated to reflect the 2022 results.



Final interpretive plan of the grange building, based on test pits and trenches.

It can be seen from the plans that the building layout is symmetrical, except for the curious pair of small rooms projecting from the north-east corner of the central range. It comprised 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).

The 2022 investigations have completed our picture of the central range which is divided into 10 rooms of unequal size. There are 3 chambers either side of a north to south corridor in the northern two thirds of the central range with 2 chambers either side of this corridor in the southern part of the range, separated by an east to west corridor. This corridor projects into the west and east ranges where it terminates and serves a suite of 3 chambers of equal size running on a north to south axis. Beyond these chambers most of the west and east ranges appear to be formed of a large open space with no subdivision evident. At the corners of the west and east ranges are projecting chambers, with the northern pair being longer than those to the south. All the walls are of 45-50 cm in width and built in a consistent way. A dark orange-yellow mortar has been laid in the base of the foundation trenches to support the walls which are uniformly constructed of gritstones which have been dressed on the exterior to provide an even wall face. There is a narrow core filled with small stones, all bounded in the same yellow-orange gritty mortar. The foundations have been cut into a terrace of natural cream or yellow coloured clay which provides a solid material on which to build. The exterior walls, which are load bearing, are slightly deeper than some of the internal room wall foundation slots. Some of the latter are severely truncated and survive only as smears of dark grey silt and patches of mortar.

The only evidence for the structure of the building other than the walls are a small dump of possible stone roof slates. No decorative architectural pieces such as door or window surrounds, arched vaulting or corbels have been found. No floor tiles or domestic debris have come to light. A crude gritstone metal track was laid tight against the southern walls to provide access to carts for the dismantling and reclamation of the building stones. Three sherds of medieval pottery of 13th to 15th century date have been found on the track. Other than the historical records, these are the only indicators of a date for the building. Removal of the stonework has been thorough but inconsistent. Many walls have been totally 'robbed out' to leave only the foundation slot filled with mortar and grey silt. In other places the bottom two courses of stonework have survived. In the northern part of the central range, three sections of wall survive up to 60 cm in height. This part of the building showed evidence for re-use and may have survived the dismantling of the rest of the building, perhaps to act as a storage shed or animal byre.

It is not known whether the walls supported a single storey or two storey building, or if they acted as dwarf stone walls for a timber framed structure. A two-storey stone walled building seems improbable given the narrow width of the wall foundations. In searching for comparative excavated sites, it is impossible to find another example of this size and plan form. Only one excavated grange building comes close to the one at Castleshaw in terms of scale and that is Building XII of the grange at Waltham Abbey (Huggins 1972) which is sited right next to the mother house and is brick-built and of much later (15th century) date. Whilst there is a paucity of excavated grange buildings, the ones that have been revealed are much smaller in scale. Therefore it is suggested that the building at Waters Clough represents a 'type site' as it is a unique plan form.

The few sherds of medieval pottery that have been found fit with the historical framework that suggest a medieval origin for the building. This is supported also by the dates for several iron smelting furnaces that were excavated in the 1990s at the head of the valley. Radiocarbon and archaeomagnetic dating produced 13th century dates (Redhead 1993). The furnace excavations also yielded a handful of Pennine Gritty Ware pottery sherds which are consistent in date with those found at the Waters Clough site.

Historical documentation attests to the Cistercian Abbey of Roche being granted the land at Castleshaw in AD 1199. This was one of many granges (farming estates) owned and managed by Roche Abbey near Rotherham, although it was one of the furthest from the mother house. In 1245 Robert de Stapleton granted Roche Abbey full pasture rights across all Friarmere. The substantial earth bank (and hedge) field boundaries, an example of which has been sectioned by Trench 1 in 2022, may well have been constructed around this time, subdividing the land into large pasture fields (heys) for cattle ranching (Buckley 2017). A lay subsidy of 1297 refers to a grange at Ildebrigtop (the early name for Friarmere). By the time of the Dissolution in 1538 there were five tenant farmers in Friarmere. It is suggested that, in keeping with the pattern seen elsewhere across the Pennines, the estate that had been managed by a lay brother (acting directly on behalf of the mother abbey) was given up in favour of tenant farmers. The reason for this change in policy is unclear but may have been due to one or more of the following factors: the Cistercians

making a significant policy change to move away from the use of lay brothers, a series of poor harvests in the early 14th century that made marginal upland granges such as Castleshaw uneconomic, continued border warfare and unrest with Scotland, or even a series of devastating plagues that struck in the 14th century.

It is not the purpose of this report to repeat the discussion and conclusions of the 2018 and 2019 reports (Redhead) which set out in detail the arguments for the function and date of the Waters Clough building. But taking all the evidence together, it is suggested that the structure was abandoned before completion, perhaps in the late 13th or first half of the 14th century. The materials were recycled for use elsewhere and the site faded into obscurity.

Excavation of the trench across the field boundary bank and ditches can be seen as the start of investigations into the character of the grange building's immediate hinterland. It has been a useful exercise in dismissing the interpretation of a linear depression earthwork as a sunken lane leading down to a ford across Waters Clough. The bank was found to be flanked by two ditches and to contain a feature cut into its top, probably for a hedge or perhaps a fence. Further survey and investigation should continue to examine other field boundaries and earthwork features to help piece together the medieval landscape and disentangle these elements from the later farming activity, industrialisation and late 19th century reservoir construction.

The recently revised Historic Research Framework for the North West of England (Nevell & Redhead eds, 2023) has a section dedicated to research questions under the Late Medieval agenda theme in Chapter 6 (King 2023, 164, 166). Two of the questions have relevance to the current investigations at Castleshaw:

Q 30 *How can we better understand the layout and function of grange estates?*

Q 42. *How can we contextualise Medieval industrial remains within estate-based surveys of monastic and secular based buildings and land holdings?*

For Q 30, the recent investigations in the Castleshaw Valley have thrown considerable light on an upland grange belonging to Roche Abbey. The short-lived and unique building revealed beside Waters Clough raises questions on the purpose and function of grange estates, the types of building they were served by and the vulnerability of estates in a marginal farming environment. Further survey and research on landscape features in the valley has the potential to enable a better understanding of the wider grange estate, although this medieval landscape has been compromised to varying degrees by industrialisation, housing development and late 19th century reservoir construction.

For Q 42, the recent investigations at Waters Clough have provided context for the industrial remains of the 13th century iron smelting furnaces at the head of the Castleshaw Valley which were excavated in the 1990s. There appears to be a pattern of monastic estates across the Pennines utilising iron smelting furnaces. Recently, excellent remains of 13th/14th century bloomery furnaces have been excavated by the Holcombe Moor Heritage Group in another valley which was under the control of a monastic order. As the evidence base develops through ongoing research into the character of the granges in these valleys it will be possible to define the key ingredients for the creation of industrial activities. Clearly, the availability of raw materials such as iron ore and charcoal (and access to water?) were essential, along with skilled labour, but what about the infrastructure that facilitated the processes such as finance, smithies, accommodation, transport systems etc. At Meadowcroft Fold near Pilsworth in Bury, there is a deserted medieval settlement where iron smelting was taking place at a secular site. This site is subject to ongoing archaeological investigations and will make an interesting contrast to iron working on monastic grange estates.

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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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The excavation team on 26th June 2022