

Interim Report on
Archaeological Excavations at
Bottoms- Holcombe Moor

March to October 2016

Neil Coldrick
Holcombe Moor Heritage Group

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1.0 Summary

The archaeological excavations carried out on the site known as Bottoms during the 2016 season were a continuation of excavations started in 2013. Excavations were carried out from March through to October 2016.

Discoveries made in 2016 have shown that the site had three main phases of activity; the engine house phase, an unknown “middle” phase and the final conversion to cottages.

The excavations have led to significant breakthroughs in our understanding of the site and the story of the site’s history has started to come together.

The medieval area has been shown to extend further north under the building platform, particularly in the eastern bay. It is possible that the discovery of finds under the eastern bay flooring have finally given us the location of the bloomery hearth we have been searching for.

The western bay has been shown to have been the main location of the engine house and we now understand how this was a solitary building prior to the secondary phase. Excavations have found the pit wheel pit and an associated room.

Work in the central bay enabled us to finally find the bottom of the wheel pit and help us calculate the size of the water wheel as well as further understand the processes taking place in this bay.

Work also started on a new area, just to the west of the building that had been seen on early maps. This work was only started towards the end of the 2016 digging season and so is little understood at this time.

All in all, this was an incredibly successful year and I must thank everyone involved for their dedication and hard work, which has made this season the success it has been.

2.0 Aims of the 2016 Excavation

There were four main objectives for the 2016 excavation season.

1. The investigation of a possible feature attached to the outside of the western edge of the building.
2. Gather more information about the wheel pit in the central bay, including finding its depth to help calculate the size of the water wheel.
3. The search for more evidence of medieval activity and hopefully locate the site of the actual bloomery itself.
4. Investigation of features within the western bay to hopefully find evidence of the engine house.

3.0 Site Location and Description

The site known as Bottoms Mill (SD 7670 1690) is situated towards the northern end of Holcombe Valley on the West side of Red Brook. The site comprises of a pond to the North, a three-bay building situated to the South of the pond with its northerly wall built into the pond bank, and a flat plateau to the South of the building.

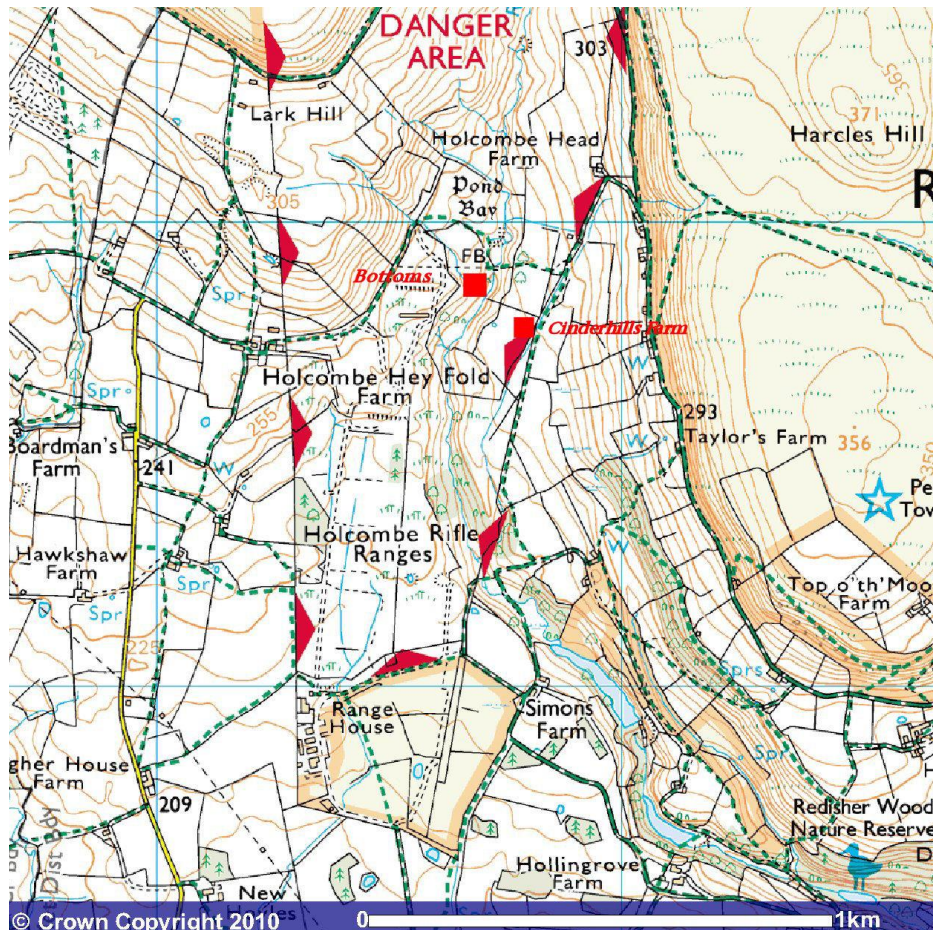


Illustration 1: OS Map showing the location of the site

The site is at the bottom of an upland river valley, directly adjacent to Red Brook. Up until roughly a hundred years ago, it was farmland. It is now part of the MoD's Training Area and is left unattended and allowed to grow wild. The site is roughly rectangular, with the bank of a millpond across its northern end, an old overgrown road to its western side and evidence of a leet system. On its eastern side is the brook that cuts across at the south east of the site and cuts off the land parcel along its southern side. Beyond this is a footbridge. A public footpath passes close to the site down its western side to the footbridge.

A flora survey has found 22 types of flowering plants and shrubs, 3 types of ferns, 7 types of grasses, rushes and sedges, 2 mosses and horsetails and 5 types of trees. None of the plant species are rare to the area or to Britain.

4.0 Archaeological and Historical Background

4.1 Historical Information

The surrounding area of the site has been known as Cinder Hill Estate since the 16th century and maybe even longer. Cinder Hill Farm was known to be occupied in the 16th century along with Holcombe Hey Fold. The first reference to our immediate site is in the Survey of Tottington in 1794, the site being referred to as an engine house owned, along with Cinder Hill Farm and other buildings, by Lawrence Brandwood of Holcombe Hey Fold.

Approximately 50m north of the site is a well-constructed weir which has the effect of raising Red Brook sufficiently high enough to feed the pond that is situated immediately to the north of our site by means of a series of culverts and leets.

Around 1825, John Parker, a cotton spinner from Manchester, took over the Cinder Hill Estate including the engine house. He proceeded to construct a new factory 200m downstream of the engine house and that was named Cinder Hill Factory. Around the same time the engine house was converted to 3 cottages and given the name 'Bottoms'. These were in use through to the end of the 19th century when the rural industries fell into decline.

Archaeological evidence on the site has pushed the date back for activities on this site to the 11th or 12th century, with the discovery of a possible water powered iron bloomery site.

At the beginning of the 20th century the Army took over the valley and the site was then completely lost as the training camp took over the area.

4.2 Past Seasons Findings

The discovery of the site in 2010 led to the start of the excavation project in 2013. These excavations led to the discovery of a slag deposit that was dated in 2014 to the 12th century. The discovery of the flooring and features at the rear of the building during the 2014 season seemed to suggest an industrial use to the building and reuse as cottages for the main part of the 19th century.

Work in 2014 also uncovered two drains outside the main footprint for the building and these were assumed to relate to the later cottage phase rather than the earlier mill phase. The slag deposit was removed during 2014 and revealed several sherds of Pennine Gritty Ware pottery that are dateable to the 12th to 14th centuries. During the removal of the slag, a piece of charcoal was discovered and was sent to Glasgow University for a carbon-14 test, the result of which was a date range of 1027-1182calAD. By the end of the 2014 season, the central bay had been mostly emptied of demolition rubble and the eastern bay was completely clear and a complicated stone feature had been uncovered running into the pond bank at the rear of the central bay.

The excavations in 2015 saw the complete removal of the demolition fill from the western bay, the discovery of the wheel pit in the central bay along with an unexpected feature built over the wheel pit backfill, and evidence that showed the medieval activity extended further than was first believed.

5.0 Methodology

The site, due to being on MOD land, could possibly contain potential hazardous finds and as such extra care was taken when excavating in the upper layers. Consequently, the MoD have very kindly given several members of the excavation team a lesson in ordnance recognition and any new diggers on site are given a Health and Safety briefing that includes the instruction to halt digging and inform the dig supervisor if a suspicious object is located.

The MoD have also carried out a complete sweep of the area and have declared the area safe to excavate.

The area has been swept with a metal detector set to reveal non-ferrous items such as the numerous expended cartridges before any excavation work was carried out. Due to the high ferrous content of the Siderite deposits we couldn't reliably detect any ferrous munitions, so excavation in the top 4" of the area was undertaken with extra care.

Once through the top 4" any areas that contained building demolition were cleared using shovels and if necessary mattocks to loosen the rubble. On areas of more delicate archaeology, trowels were used for excavation.

5.1 The 2016 Excavation

5.1.1 The Medieval Area.

At the start of the digging season, it was discovered that the Winter storms of 2015 had removed an area of 11m x 3m x 3m along the Eastern edge at the Southern end of the building platform. This had resulted in the loss of a large section of our Medieval area and meant that it was important to ascertain if any further loss of archaeology was imminent. So, it was decided to put in three 1m test pits 1m apart, along the eastern edge of Red Brook to the south of excavated area. The first test pit, TP05, was placed 13m South of the rear wall of the eastern bay. The western edge of TP05 was 40cm west of the 205-grid line and the eastern edge was 60cm east of the 205-grid line. TP06 was 15m south of the rear wall and TP07 was 17m south of the rear wall, both aligned as TP05 against the 205-grid line.

The three test pits all showed the same layer make up of:

- a) Topsoil and turf
- b) Loam
- c) Gravely fill
- d) Pea gravel layer
- e) Sand
- f) Stoney natural

TP05 had a deeper layer of loam than TP06 and TP07, and from this context the bulk of the pottery sherds from TP05 were recovered. The number of finds got less and less the further south the test pits went.

An area of stones was uncovered in TP07, so TP06 and TP07 were joined together to form TP06a and the layer of stones was fully uncovered in the new trench. These stones did not appear to have any form or function and so were listed as probable natural deposit overlying the sand layer. The test pits were then fully backfilled by hand having been recorded.

The area of stones, uncovered at the end of the 2015 season during the extension of the trench in the search for a possible bloomery, was given a good cleaning, and several of the loose stones removed. Several sherds of Pennine Gritty Ware pottery were recovered from the area but no evidence of any further activity or features was uncovered. A small sondage pit was dug through the stone layer to determine any function but revealed that the stone layer was most probably a natural deposit. After recording, it was decided to shut down the trench as no further investigation was deemed necessary in the immediate area.

5.1.2 The Eastern Bay.

As no further evidence of Medieval activity had been found to the South of the building, it was decided to lift the flagged floor (036) in the Eastern Bay, to ascertain if any Medieval remains could be discovered. The flooring was lifted from the front wall (012) of the bay, northwards for 3.75m. After lifting the flooring, a layer of sandy gravel (127), up to 15cm deep, was found and was probably the levelling layer for the floor (036). The removal of (127) revealed a very fragmentary small stone surface (138) and a sandy deposit (160).

There were also four discreet deposits of brick fragments (161a-d); one positioned just at the very south east of the bay (161a), just inside the front wall (012); and the other three positioned at the Northern end of the exposed layers, 3.75m to the North of the front wall. These brick fragments were very “dry” compared to the areas around them, and were reddish yellow in colour. The area around the south-eastern deposit of bricks (161a) was visibly darker (171) and more blackened than anywhere else in the trench.



Figure 1: Looking North in the Eastern bay showing brick deposits (161a-d) lying on sandy layer (160). Note the blackened earth (171) to the right-hand side of the photo.

In the sandy deposit (160) it was noted that there were numerous flecks of charcoal visible in the deposit which increased in number towards the south-eastern deposit of bricks (161a) and blackened earth (171). The stone surface (138) extended in places under the brick deposits (161a-d) and was partly overlying the blackened earth (171).

The blackened earth deposit (171) was found to be occupying a shallow hollow or bowl shaped feature into the sandy deposit (160), and measured 2m on the North South and 80cm on the East West alignments. The E/W alignment was, however, truncated by the erosion being carried out along the eastern edge of the site. The depth of the fill of (171) was 20cm at its maximum, along the eastern edge. The fill comprised of sand, charcoal, small slag fragments, small fragments of iron stone, some roasted iron stone, one sherd of Pennine Gritty Ware pottery and a brick fragment. The area under the fill of (171) was found to be a reddened gritty natural deposit.



Figure 2: Looking South in the Eastern bay. Here we can see the shallow hollow or bowl shaped feature which held the blackened earth (171).

It was noted that the small stone surface (138) had been cut through by both the front wall of the bay (012) and the western wall of the bay (032).

A small section of the flooring (036) was removed at the far North of the bay just south of the back wall (035). This revealed a black gritty deposit (152), depth 10cm which comprised charcoal, coal fragments, small gravel and ash. Interestingly a small ceramic egg was also recovered from the deposit, probably used in Chicken husbandry. On removal of (152) a continuation of the clay and cobble layer (057) found in the previous year's excavations was discovered in this area. There was no evidence of the continuation of any of the layers uncovered in the excavated area in the rest of the bay.

5.1.3 The Central Bay.

The excavations of the Central Bay during 2015 had been unable to ascertain the depth of the water wheel pit. As this was a vital piece of information that we needed, it was decided to remove more of the flagged surface (037), to give us a wider area to excavate and get to the required depths necessary to find the bottom of the wheel pit. Several layers were found directly under the flagstones and were associated with the demolition layers from the alterations to the engine house during the cottage construction phase.

On the removal of these layers, a stone capped drain (130) was uncovered running North South and appeared to be associated with the masonry feature found in 2015 (078) that sat on the backfill of the wheel pit (079). This drain (130) was also sat on the backfill of the wheel pit. The capstones were reused roofing tiles. After recording, the capstones of the drain (130) were removed to reveal a well-constructed drain with a slate base. These slates were overlaid to provide effective drainage along the drains length. The side walls were mortared together and onto the slate base. The dimensions of the drain (130) were: external width 40cm, internal width 12cm, length 5.4m, internal depth 12cm. The drain (130) exited the central bay under the entrance stone and ran for 87cm south of the front wall (062). The drain appeared to have been cut by the construction of the drain (031) running east west which had been assigned to the 1825 conversion to cottages phase. Directly underneath drain (130) was a layer of cinders and ash (131) that appeared to be a levelling layer that had been placed into the undulating layer of sandy gravel and clay (128). This layer (128) is the top of the water wheel pit backfill.



Figure 3: Looking North in the Central bay. Here we can see the drain (130) and how it is associated with the stone feature (078) at the very North of the bay, just visible to the left of the green sheeting.

Once recorded and removed it was then possible to open a wide area in search for the base of the wheel pit (104) by removing the backfill (128). Several layers were uncovered which made up the backfill to the wheel pit. Several of these layers showed signs of being tip layers which gave an indication of how the wheel pit had been backfilled fig. 5 below.



Figure 5: Looking Westwards in the Central bay at the Western wall of the wheel pit. This shows the "tip lines" suggesting that the wheel pit was filled in from the front of the bay.



Figure 4: Looking South East in the Central bay, at the eastern cut for the wheel pit. The fill shows nicely against the cut in the natural.

As the fill was being removed, it became apparent that there was a definite edge appearing on the eastern side which showed up well against the natural (999) fig. 4 above. This was the eastern cut of the wheel pit. The western edge of the wheel pit was a very, well-constructed stone wall (174) with even, horizontal courses. Built into wall (174) was a stone lined opening (176). This measured approximately 1m by 0.75m. Approximately, since the opening was filled with backfill and partly unexcavated, and the fact that the feature was very fragmentary, with no discernible northern edge. The southernmost edge was constructed by a single piece of flagstone placed vertically, 3.5m from the inside of the front wall (062) of the central bay.



Figure 7: Looking Westwards in the Central bay at the Western wall of the wheel pit. Also visible is the opening for the drive shaft to enter the engine house and the ledge running along the top of the wheel pit wall.



Figure 6: The remains of the Eastern wall of the wheel pit.

At a depth of 2.2m from TBM1 a series of fragmentary stones running North South alongside the eastern cut of the wheel pit was discovered and these were found to be the remains of the eastern wall (169) of the wheel pit. See fig 6 above. The wall, as discovered, was 30cm wide and gave a width of the wheel pit of 1.26m or just over 4'. At the very north end of the excavated section and securely in position against the wall remains was a solitary flagstone from the base of the wheel pit. A level was taken from this stone and gave a depth of 2.325m from TBM1.

An area just inside the central bay front wall (062) was excavated to ascertain the construction and position of the tail race for the wheel pit. The area involved, measured 1m North South, and East West for approximately 1.25m up to the eastern edge of the wheel pit cut (104). This revealed that the well-constructed western wall of the wheel pit (174) had been radically altered and rebuilt more haphazardly at some point prior to the wheel pit being filled in, for 1.5m from the inside of the front wall (062). This rebuild was stepped towards the front wall the deeper the trench got. The excavation also revealed that the front wall (062) of the central bay was constructed using the same haphazard manner and had been built onto the top flagstone of the tail race. The well-constructed wheel pit wall (175) continued underneath the central bay front wall (062) for 0.75m before appearing to make a return to the north end of the wheel pit as the eastern wall (169). The tail race mouth was found by "feeling" down the front wall until a break was discovered in the wall at a depth of 2.77m relative to TBM1. It was then ascertained that the depth to the base of the tail race opening was a further 40cm, giving a total depth of 3.17m relative to TBM1.



Figure 8: Looking South West in the Central bay where the front wall of the bay meets the west wall. Here we can see the later alterations to the western wall presumably when the front wall was added after the wheel pit had been backfilled. Also, we can see the western wall of the wheel pit turning, just to the left of the vertical ranging rod, where it becomes the wall holding the tail race mouth.

5.1.4 The Western Bay

After the removal of the demolition fill in 2015, we started to remove the subsequent layers in 2016. At the rear of the western bay was the remnants of the dark ashy deposit (093), situated to the west side of the bay in the rear full width “room”. From this layer, we managed to recover our first complete piece of ceramic, a bowl made by Sir James Duke and Nephew of Burslem, dated 1860-1863 (see finds section for more details). This layer had been placed on a sandy gravel layer (120) which had a depth of 20cm down onto the top of the natural (999). A drain or soakaway (136) had been cut into (120) along the northern and eastern sides of the rear “room”. This drain was 33cm wide and was capped with reused stone roof tiles. The drain ran under the small eastern room floor (108) and appeared to end abruptly just before the south wall of the eastern room. The average depth for the drain (136) was 10cm and an average internal width of 15cm.

The flooring (108) of the small eastern room was lifted and the levelling layer (135) was removed. This comprised of a mix of gravel and loam and contained a large selection of finds. The deposit was between 5-10cm in depth and was a dark brown colour. Under this layer was a deposit of roughly laid flat stones (139), possibly reused roofing tiles as seen in the drain (136) and being at a similar level to the top of the drain cap stones was possibly associated with the drain (136). When the cap stones were removed from drain (136) there was no evidence of any base stones for the drain and it was assumed that the drain has been allowed to drain or soak into the ground under the flooring to the room (108). Once the drain (136) and the surface (139) had been removed, a sandy layer (140) was revealed that was levelling a new sandy gravel layer (148) underneath. Under (148) was found a possible stone step (151) into the room and the original flagstone flooring (149) probably from the engine house (see fig 9 below). This was sat on a sandy clay deposit that was the top of the natural (999).



Figure 9: The engine house floor in the small eastern room of the western bay. Visible on the right of the photograph is the blocked-up opening connecting this room with the pit wheel pit just to the far right of the photo.

A similar exercise was carried out in the small western room of the western bay. Here the remaining flagstones (106) were recorded then removed to reveal a fine sand deposit (156). An 1807 George 3rd Halfpenny was recovered from the deposit (156) which didn't show much signs of wear and may be a good indicator of when the flooring was put down. This sandy deposit was sat on the natural (999) but an earlier wall was discovered sitting under the south wall of this western room and may be associated with the eastern room.

Evidence of a sunken feature (121) had been noted just to the south of the little eastern room, sunk into surface (061); alongside the eastern wall of the western bay, 3.4m from the inside of the front wall of the bay. This was excavated and the fill was found to be mostly stony gravel at the top of the deposit but gradually changed to a more loamy and sandy fill towards the base of the feature. The fill had a depth of 60cm and revealed a stone feature (141) at the base of the pit. The pit was stone lined to the west and to the south and there was evidence of a blocked opening to the east, into the eastern wall of the western bay, and a blocked opening to the north, into the southern wall of the little eastern room. The stone walls to the west and to the south were of a high quality of construction and comprised of 7 courses on the west side and 6 on the south side. A large boulder type stone had been placed in the south west corner of the pit. The dimensions of (121) are 1.3m N/S x 1.2m E/W externally and 76cm square internally.



Figure 10: Looking North at the Pit Wheel pit. Visible at the top of the photo is the blocked-up opening connecting the pit wheel pit with the small eastern room. Also, visible to the right is the blocked-up opening for the drive shaft of the water wheel.

5.1.5 The Western Annex

On early maps, a small rectangular extension to the Western end of the building was visible. A trench was opened over the area that this extension was believed to be in. A wall (154) running East West and with a width of 50cm was immediately located under the top soil. The trench was extended west and south to find the extent of the feature but we were unable to ascertain the extents due to time constraints. However, the extensions did provide more walls and surfaces and these will be excavated further in 2017.



Figure 11: Looking North at the Western Annex. A confusing array of features.

6.0 Finds

Once again, we have been very fortunate in the number of finds recovered from the areas of excavation. The number of finds as a total is down from previous years, but this was to be expected as the demolition layers had been totally removed during 2015 and excavations in 2016 were from earlier archaeological layers. The following is a summary of the finds count in 2016.

Type	Sherd Count	Weight (g)	Rims	Bases	Body
Bakestone- part	1	135			
Bone	28	372			
Bottle glass	4	26			
Brass object	9	340			
Brick fragment	1	107			
Button	12	40			
Ceramic Egg	1	48			
Ceramic Stud	1	2			
Charcoal	2	3			
Clay marble	15	72			
Clay pipe bowl	2	13			
Clay pipe bowl- part	12	17			
Clay pipe stems	131	305			
Clinker	4	50			
Coal	1	2			
Coin	2	16			
Corroded metal object	175	12,999			
Glass Bead	1	-			
Glass Object	7	116			
Lead window came	33	391			
Leather strap	1	6			
Metal Objects	10	197			
Pottery	1,575	14,086	275	88	1,197
Shell	18	15			
Stone	1	51			
Tap slag	59	1,698			
Thick window glass	71	8,786			
Thin window glass	377	786			
Unknown	2	6			
Vessel Glass	154	1,110			
Wood	6	43			
	2,716	41,838			

Once again, the pottery was the dominant component of our finds, and was the usual collection of 18th and 19th century pottery; comprising local earthen wares, transfer printed wares, industrial slipware, several sherds of medieval Pennine Gritty Ware, a complete bowl and plate, several sherds of slipware and a rather nice ceramic egg!



Figure 13: Bowl by Sir James Duke & Nephew 1860-63



Figure 12: A nice 19th Century Transfer Printed Ware plate.

Several items from the industrial past of the site were recovered. A large section of gearing, with an interesting arrangement of teeth was found in the small eastern room of the western bay. The teeth arrangement was a regular pattern of a deep tooth then 2 shallow teeth set at right angles to the spoke. This was a cast iron gear, possibly part of the pit wheel, especially as it was found just next to the pit wheel pit. Several pieces of machine parts were found, all undiagnostic due to the fact they could have come from any number of types of machines. A very nice complete brass gear was found and several other brass items, all from the earlier layers of the engine house.



Figure 14: A section of gearing, possibly from the pit wheel.



Figure 15: A collection of machine parts.

The two coins found were both 1807 George 3rd half pennies. One showed very little sign of wear, indicating it may have been deposited very soon after minting; this would support the theory of a major alteration to the engine house around the period of 1806-1810.

Another find of interest was in the form of many shells. These were mainly mussel shells with several cockle shells also discovered. The interesting thing was the location of these items. They were nearly all found in the backfill of the wheel pit, distributed through all the differing layers. Although we recovered many shells, they were of such a degraded condition that they were unable to be retained. It is most probable that the shells found here represent the “meal time” or “snack” from the workers who were performing the backfilling process sometime between 1806 and 1810. A lovely piece of archaeology.

A dozen buttons were found this season, mainly from the western bay, or engine house. These were of varying sizes and designs.



Figure 18: A fine blackware mug



Figure 17: Just two of the many different button designs found.



Figure 19: A typical assemblage of pottery.

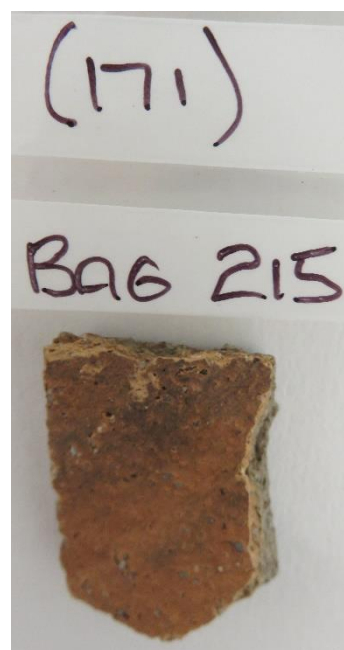


Figure 16: A sherd of Pennine Gritty Ware pottery

7.0 Discussion and Conclusions

With the excavation of the test pits along the eastern edge of the site revealing no discernible archaeology, the search for any further medieval activity in this area would probably not be successful, therefore further investigations were necessary elsewhere. We had already shown that as excavations went further to the west, towards the area in front of the central bay, there was a definite decrease in evidence of medieval activity. As Red Brook had already destroyed the area to the immediate east, it was felt that lifting the flooring in the eastern bay would give us the best opportunity to seek further evidence. The discovery of the fragmented small stone surface under the levelling deposit for the flooring was a surprise, and due to the fragmentary nature of the surface, any logical conclusion as to what period it belongs is hard to find. What we do know is the surface had been cut by the building of the west and south walls, and the deposits of red brick fragments were on the top of the surface. There is also a possibility of an association with a small fragment of similar style surface discovered in 2013 that had been cut by the building of the drain (031) running east west outside the front of the building platform.

The fact that the sand layer under the stone had a significant scatter of small charcoal fragments included, seems to suggest that the medieval activity of iron smelting had been carried out in the immediate vicinity. The area to the extreme east of the deposit, against the bank of Red Brook, had a large blackened negative feature that contained a significant collection of slag fragments, charcoal and a solitary sherd of medieval Pennine gritty ware pottery. This depression in the sand layer, the top of the natural, seems to suggest that perhaps the main area of medieval activity was further out to the east of the site where Red Brook now flows, and in the process of changing its course, has inadvertently removed any evidence of a potential hearth related to the medieval iron smelting activity. The depression was perfectly in line with the main area of slag deposit outside the building platform.

The removal of the flooring in the central bay and its subsequent levelling layer revealed that a well-constructed drain had been built on the top the wheel pit backfills. This drain seemed to be associated with the stone “plinth” like feature that had been discovered in 2015, as both were perfectly aligned and the drain terminated directly at the southern end of the “plinth” (see figure in Appendix 3). The drain ran south and exited the central bay directly under the entrance threshold. The termination point of the drain seemed to suggest it had been cut by the later drain (031) running east west outside the building platform, but this was inconclusive. This discovery confirmed our theory that there had been a middle phase of activity on the site; post-dating the water wheel powered engine house, and pre-dating the cottage construction. What this phase was, however, remains a mystery. All that we know is that there was a need for a drain, therefore presumably the activity taking place had required water of some description. Was this activity to do with bleaching or finishing of textiles or was it perhaps some connection with a power change for the engine house; maybe converting to a small style steam engine? No further evidence has been found for any of these theories, but a significant number of shards of possible “carboy” glass have been discovered in previous excavations maybe suggesting that bleaching was the most possible likelihood.

Also, discovered after the removal of the flooring, was a ledge to the eastern side of the western wall of central bay. The ledge started 0.75m south of where the upper part of the west wall narrowed from 50cm to 40cm, 3.2m from the inside of the front wall. The later flooring, presumably from the cottage phase, had been positioned to sit on this ledge and dictated the level for the flooring in the central and eastern bays. The ledge terminated at a vertically placed slab of flagstone 0.1m north of a blocked up opening in the western wall. It is possible that this blocked up

opening was an inspection doorway to access the water wheel and the ledge enabled access along the western side of the wheel pit. (see plan of wheel pit in Appendix 3)

Once we could remove the drain, we were then free to take a large section down through the fill layers of the wheel pit to ascertain the depth of the wheel pit. The removal of the fill showed that the western wall of the wheel pit was of a high standard of construction, showing near horizontal courses of well laid masonry. The wall appeared to contain no evidence of having been mortared at any time. The remains of the eastern wall of the wheel pit were constructed with large blocks of masonry but were too fragmented to ascertain the quality of the construction. Having ascertained the depth of the wheel pit to be 2.325m from TBM1 we have been able to calculate that this would give room for a 10' diameter water wheel.

Visible in the western wall of the wheel pit was the vertical flagstone slab that had been noted at the northern side of the blocked opening. This appeared to be the southernmost edge of another opening in the wheel pit wall. The dimensions of this opening were calculated at 1m wide by 0.75m high as far as could be ascertained, due to the northern edge being badly damaged due to the partial collapse of the wall. The position in the wheel pit for this opening and the fact that we calculated the wheel size as 10', confirmed the opening as the axle base for the water wheel shaft to enter the engine house, confirmed later in the excavation when the pit wheel pit was discovered in the western bay. The blocked opening in the wall above the wheel pit was aligned so that the opening would have lined up with the southernmost edge of the water wheel, again suggesting an access point to the wheel.

Another trench was opened, this time just inside the front wall of the central bay, to ascertain the relationship between the front wall and the wheel pit. Upon excavation, it was noted that the western wall of the wheel pit showed signs of major alterations at the junction with the front wall. This extended back from the inside face for 1m towards the rear of the bay. This section of the western wall had been rebuilt to a much poorer standard than the rest of the wheel pit and matched the quality of the front wall of the bay, suggesting that the two sections of wall were contemporary. The front wall of the central bay ran in front of the western wall and further excavation in 2017 will hopefully give more clues as to the phasing of this section of building.

The tail race opening was discovered in the trench listed above. The front wall of the bay had been built over the top of the wall making up the tail race. The well-built western wall turned to the east at the front of the bay and extended 1m before turning to the north. This would have continued as the eastern wall of the wheel pit but had been robbed away. On top of the well-built southern wall of the wheel pit had been placed two large flagstone blocks of masonry overlapping each other and the wall itself to provide a stepped like top to the tail race opening. (see plan of wheel pit in Appendix 3). The depth of the bottom of the tail race at 3.17m showed that the base of the wheel pit must have been sloping, at least towards the tail race, in order to help the water drain away, once past the wheel.

The excavations in the central bay had confirmed that the engine house was situated in the western bay. Excavation started with the removal of the levelling layers for the robbed flooring that were found at the back of the western bay. This revealed a drain running along the northern or back wall of the bay and then turning and running alongside the eastern wall of the bay. This drain appeared to be taking any water that was seeping into the building from the pond and taking it away from the rear of the bay and letting it soak into the ground under the flooring of the small eastern room. This was confirmed when the cottage flooring and the subsequent levelling layer was removed from the inside the small room and revealed the drain and a layer of stonework possibly associated with the drain. Once these subsequent layers were removed, the final flagstone

flooring layer associated with the engine house was uncovered. Several machine parts were uncovered from this layer as detailed in the finds section. It was discovered that a blocked-up hole in the southern wall of this small room linked this room to the pit wheel pit excavated on the southern side. Whether this opening was an access point to maintain the pit wheel or whether it was there for machinery we cannot tell through the archaeology at this point.

Evidence suggests that the small room on the western side of the engine house bay was perhaps added during the second phase of engine house or perhaps the cottage phase. It was discovered that the southern wall of the room had been constructed on a much larger wall foundation that lined up with the southern wall of the east room and was added later. The style of construction also gave that impression.

Excavations carried out on the western annex, situated on the “outside” of the western wall of the engine house, have so far been inconclusive. However, excavations will be ongoing in this area in 2017.

8.0 Proposals for Future Work

2017 will probably be our last year of excavations on the immediate site of Cinder Hill Engine House, as we have nearly completed all our investigative work. Once again it will be the central bay that will take the bulk of our time and resources as we remove the stone “plinth” feature at the rear of the bay and remove the rest of the wheel pit backfill to expose the rear wall to plan and record the feature. This will also hopefully enable us to work out the method that the water was fed onto the water wheel.

In association with the above, we will also start to unpick the masonry features found running into the pond bank as this is highly likely to be associated with the water feed to the wheel. This will also include the emptying of the stone lined shaft at the rear of the central bay. Once all the features have been recorded and planned, the area will be backfilled and made good.

The rest of the central bay will be finished being backfilled and the flagstone flooring will be re-laid back in position. The eastern bay will also have the flagstone flooring re-laid as all work is now complete in that area.

Further work will be carried out on the early wall phase found under the “corridor” in the western bay to determine possible function and date. The “floor” level in the western bay will also be investigated and an area removed to ascertain the level of the natural and if there is any hint of earlier levels. The rear wall of the western bay will be exposed and any features uncovered recorded. All unplanned walls will be drawn, planned and recorded throughout the site.

The structure to the west of the building will be fully exposed and recorded and then backfilled and made safe.

In 2010 a geophysical survey of the southern end of the site was carried out and two “hot spots” were located. A trench will be opened over this area to investigate what these “hot spots” are, providing it is possible to relocate the survey grid.

Lastly, a trench will be opened over the projected outflow of the tail race to ascertain the exact point of discharge and the position of the stream bank in the 19th century. This will also show us the techniques used to construct the tail race, as we were unable to ascertain this in 2016.

9.0 Acknowledgements

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Norman Tyson – Bury Archaeology Group

Gerry McDonnell

The MoD – for their understanding and commitment to the project

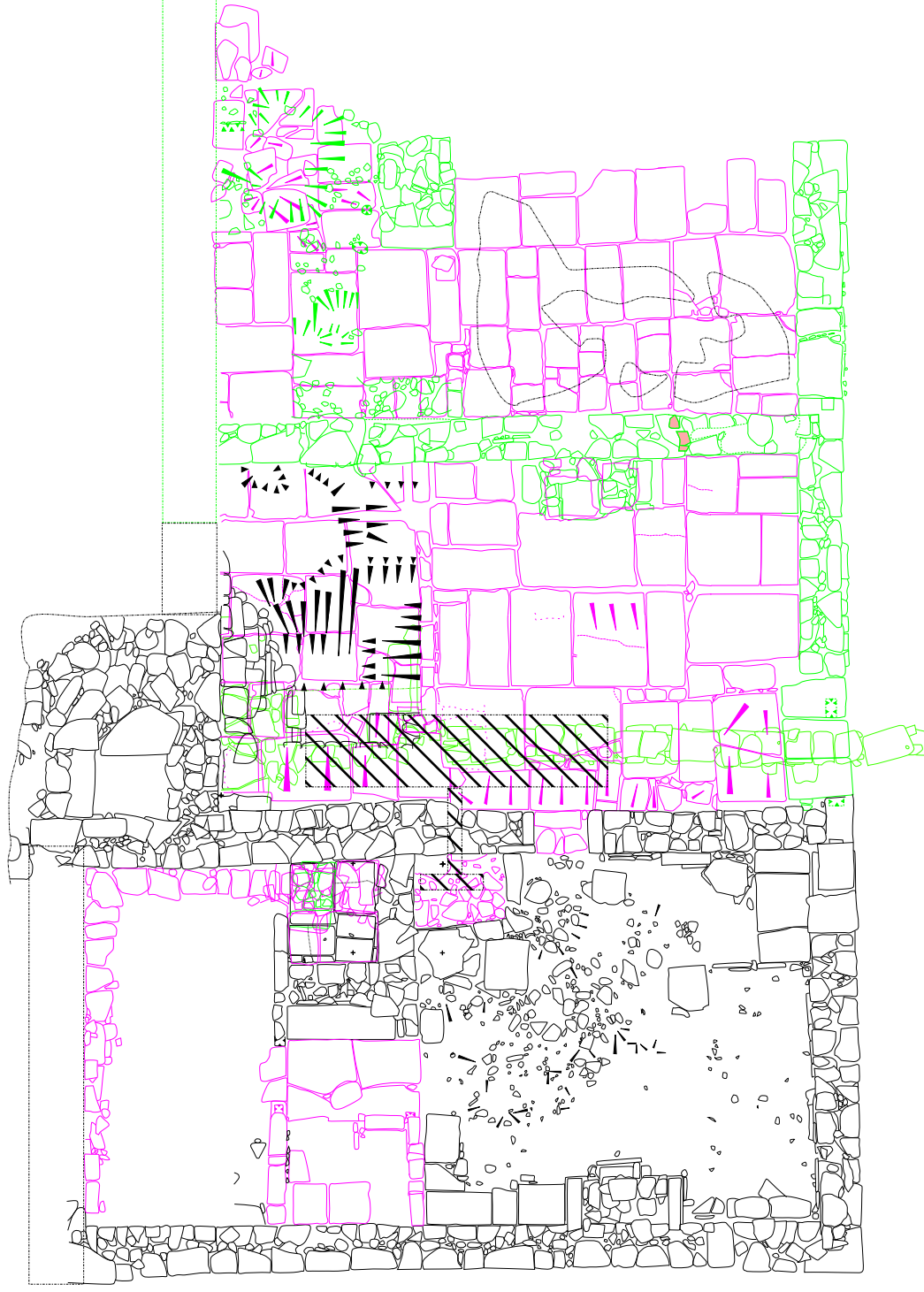
Norman Redhead – GMAAS

Pam Burrow - for washing and photographing the finds

10.0 References

Bottoms Mill- Evaluation Exercise October 2010 : R. Bowden and B. Simpson
Short Overview of Bottoms Dig : B. Simpson
A Note on Industrial Activity at Cinder Hill, Tottington : Norman Tyson
Holcombe Moor Site Visit Report April 2015 : G. McDonnell

Appendix 1



Building Phases

Water wheel and pit wheel shown in position

Phase 1 : Black - Mid 18th Century Original Engine House
Phase 2 : Green - Post 1806 Secondary Phase
Phase 3 : Pink - Post 1825 Conversion to cottages

2m

Appendix 2- Archaeological Context Descriptions

Context	Type	Grid Ref.	Description
001	Deposit	Test Pit 01	Topsoil : Brownish black silty loam layer. Very few inclusions, very small grainy stones. 10cm deep.
002	Deposit	Test Pit 01	Very loose orange brown gravel and stone layer. Pea gravel, size increasing to larger boulders as depth increased. 23cm deep. Fill is a stream deposit, thereby showing that this area is made up of stream deposits and the test pit was shut down.
003	Deposit	Test Pit 02	Topsoil : Greyish black loam. Firm. Very few inclusions. 10cm deep.
004	Deposit	Test Pit 02	Compact layer, mid brown black, sandy loam. Very fine gravel inclusions. Depth of 23cm as far as excavated. Weather stopped excavation.
005	Deposit	Test Pit 03	Topsoil : Brownish black silty loam layer. Very few inclusions, very small grainy stones. 10cm deep.
006	Deposit	Test Pit 04	Topsoil : Brownish black silty loam layer. Very few inclusions, very small grainy stones. Depth of 20cm to the West of the trench dropping to 17cm at the East.
007	Deposit	200/100	Topsoil : same as (010)
008	Deposit	205/100	Topsoil : Dry and compact grey black, fine sandy loam. Depth of 8cm turf and topsoil.
009	Deposit	205/100	Very loose rubble fill comprising large fragments of masonry and general demolition rubble. Depth of 18cm running 3m as excavated North South to the south of the flag stones running along the south of the front wall.
010	Deposit	200/100	Topsoil : Very loose grey black gritty loam. Very small gritty inclusions. Depth of 10cm.
011	Masonry	205/100	Flagged surface with an average depth of 6cm. Smooth flag stones. Runs along the front of the building.
012	Masonry	200/100	Building front wall.
013	Deposit	200/100	Very loose rubble fill comprising large fragments of masonry and grey white mortar. Depth of 28cm.
014	Deposit	200/100	Drain : Mid brown black fine sandy loam with fine gravel inclusions. Depth of 7cm. Loose fill build up overlaying drain.
015	Deposit	205/100	Compact mid yellow brown layer. Small pea gravel inclusions.
016	Deposit	200/110	Stone Tank : Behind the North wall of the building central bay, the rear wall, there was a fill of large river cobbles and larger boulders. There was a dark grey gritty silt mixed in between the rocks. This fill went to a depth of 1m as excavated. The fill extended North by 70cm where a secondary wall feature was located.
017	Deposit	200/110	Topsoil : Loose grey black fine loam. Depth of 5cm. Strip running North South up the pond bank at the rear of the middle bay of the structure. Runs down the bank and

			covers two thirds of the top of the rear wall of the structure.
018	Deposit	205/100	Compact mid brown black fine gritty loam. Small cinder pieces inclusions. Depth of 2cm. Surface directly under the flagged pathway (011). Assumed to be surface put down for pathway.
019	Masonry	205/100	Flat river cobbles and small flagstones running East West for 1.9m at a width of 20cm along the south edge of the flagged pathway (011). Depth of 6cm. Assumed to be surface runoff for pathway (011).
020	Deposit	205/100	Very compact rough cobble surface with grey yellow gritty fill. Depth varied from 5cm to 7cm. The surface extends 2m North South and 8m East West. Surface finishes against runoff (019). Layer extended over the North South Drain (025)
021	Deposit	200/110	Behind Rear Wall : There was an orange brown clay fill coming down the pond bank that had been put down over the secondary wall. It included a few pebbles and angular stones. The depth of the clay at the deepest point, (furthest into the bank) is 55cm as excavated. A 1797 Cartwheel Penny was found lying under the clay deposit and on top of the secondary wall feature.
022	Deposit	205/100	Compact grey yellow surface, patches of small pebbles and flat stones, average size 20-30mm diameter. Depth of 6cm. The surface extends 2m North South and 8m East West with the Drain (025) running North South cut through the surface. (019) runs into the drain (025) at the south of the entrance flagstone. (011)
023	Deposit	200/100	Same context as (022) but is to the West of the drain (025). Depth of 9cm.
024	Deposit	205/100	Ash loam layer : Fairly loose dark red brown layer, with fine gritty inclusions. Depth varying 2- 3cm. The layer extends 3m North South and 1.5m East West. This is a thin layer overlying (027).
025	Drain	205/100	Stone capped drain running North South from the entrance flagstone (011).
026	Deposit	200/110	Topsoil
027	Deposit	205/100	Very compact small cobble surface. Average pebble size 30mm x 15mm. Depth to the surface from the top of the entrance flag = 18cm. Depth to the surface from the top of the wall = 24cm. Surface slightly slopes to the Southern extremity. The small pebbles extend 90cm North South then the pebble size increases to 70mm x 100mm average. This change occurs where the surface starts to slope away to the south.
028	Cut	206/103	Cut made when the South wall of the building was being built.
029	Deposit	200/100	Fill over drain (031)
030	Cut	206/103	Cut made when the South wall of the building was being built.

031	Drain	200/100	The drain runs roughly East/South/East- West/North/West along the front of the building.
032	Masonry	204/103	East bay West wall
033	Masonry	200/103	Central bay West wall
034	Masonry	200/110	Central bay North wall
035	Masonry	205/110	East bay North wall
036	Deposit	205/105	East bay flagstone floor
037	Deposit	200/105	Central bay flagstone floor
038	Deposit	200/100	Fill over drain (031) same as (029)
039	Deposit	200/100	Very compact stone cobble surface same as (027). This surface is to the west of the North South drain (025) and is a continuation of context (027). The small pebbles extend for 1m West of the drain (025) and 80cm South of the flag surface (011). Larger cobbles extend from 1m to 1.9m West of the drain (025) and South to the cut for the East West drain (031).
040	Deposit	200/100	Very compact dark orange brown clay and gravel layer possibly re-deposited natural. Depth of 15cm. The gravel comprises both angular and round pebbles 20mm- 30mm in diameter. The drain (031) has cut through this layer to the North.
041	Deposit	205/100	Drain Contents : Dark brown black slightly compact drain fill. Very small gritty inclusions. Even depth of 11cm across the drain. Area cleaned out was the junction between (025) and (031).
042	Deposit	205/100	Slag Deposit : A mix of slag and dark red brown loam. Deposit extends under the entrance flag and 1.35m out to the East edge of the site where the stream has eroded the bank, and approximately 1.20m South from the foundation cut for the front wall of the building. Large quantity of slag, both tap and honeycomb type. Depth of context 40cm.
043	Deposit	205/100	Loose mid red brown sandy loam and slag deposit. Deposit is a continuation of (042) and extends South from (042) lensing out towards the East West Drain (031), a distance of 2m. Contains a smaller quantity of slag than (042) with the bulk being towards the western edge where it meets the North South Drain (025). Context goes under (025) where a very substantial piece of very compact slag is seen in section, size roughly 45x25x17cm. Depth of context varies from 10-20cm, the deeper being at the Southern end of the deposit. Loam contains small fragments of hammer scale or small broken fragments of slag.
044	Deposit	205/100	Sand Layer : Light yellowish grey with patches of burnt orange scattered throughout the layer. Lenses of light grey visible in section and also in plan. Very level and fairly compact layer bounded by cobbles / stones on the North, South and possibly to the West under the drain (025). Cobbles / stones appear to be slightly arcing round under the entrance flag and drain (025). Depth of layer varies

			from 4cm at the North of the context to around 20cm midway and lensing out to the South.
045	Fill	205/100	Fill of (046). Dark red black friable fill. Contained small fragments of tap slag and pottery of various dates.
046	Cut	205/100	Oval feature cut through (044) down to natural (999). Size 73cmE/Wx49cmN/S. Depth at W 4cm, E 19cm, N 27cm, S 20cm. Break of slope 18cm from the west.
047	Deposit	205/100	Compact yellow orange sandy clay deposit to the east of the drain (025). Layer 1.35m N/S x 0.9m E/W 0.65m S from the entrance flagstone. Thickness averaging 2cm. Possibly thrown up from the excavation for the drains (025) and (031). Extends to the west of drain (025) for 1.5m. Contains patches of red orange clay.
048	Deposit	200/095	Topsoil. Same as (010). Comprises of a firm loam 9cm deep. Colour 10YR 2/1 Black
049	Deposit	200/095	Ash and loam layer comprising of ash and cinder fragments avg size 15mm x 10mm, depth of 4cm
050	Deposit	200/095	Stoney loam layer depth of 6cm. Comprises of various size pebbles avg size 50-60mm. Also fine grit in with the loam
051	Deposit	200/095	Stone cobble surface same as (023)
052	Deposit	200/100	Sandy silt layer around the base of the removed tree. Comprises of very fine grains of sand. Would originally have been under the flagstone pathway (064). Colour 2.5Y 2.5/1 Black
053	Deposit	205/105	Cinder and ash layer lying under the flagstones (036). Inclusions of mortar fragments, coal and lime wash render. Colour 7.5R 2.5/1 Reddish black
054	Deposit	195/105	Demolition rubble layer. Comprises loam, render and mortar fragments and frequent building materials. Depth of 40cm. Colour 10R 2.5/1 Reddish black
055	Deposit	195/105	Demolition rubble layer. Comprises loam and mortar fragments. Depth of 20cm. Colour 5Y 4/1 Dark Grey
056	Deposit	200/095	Sandy silt layer with small pebbles lying next to E/W drain (031). Extending 2.8m E/W and 0.6m N/S with an avg depth of 12cm. Colour 5YR 3/2 Dark reddish brown
057	Deposit	205/105	Undulating sandy clay and cobble stone layer with large bowl shaped depression at the east end. Extends 4m E/W x 2.5m N/S as excavated with a depth between 5cm and 8cm. Comprises small pebbles moderately sorted throughout the context. A metal spike was noted driven into this layer 1.46m from the west wall and 1.04m from the north wall. Colour 10YR 5/4 Yellowish brown
058	Masonry	205/105	Stone feature in eastern bay comprising of 3 walls but no internal floor. Size of feature is 82cm N/S x 1.2m E/W. Flagstone floor (036) butts up to the feature on N, S and W sides. N and S walls are 25cm wide and W wall is 46cm wide. Eastern wall missing due to stream erosion. Height of 34cm from the surface of (036) and 43cm from the inside of the feature. Feature cuts into (057) on North. Built from flat dressed blocks of stone, 7 courses high.

059	Masonry	195/110	Western bay North wall. Length of wall taken from inside the building is 4.4m E/W. Height of 1.35m. Comprises of well laid blocks of dressed stone. Evidence of mortar in use up to 80cm W of the Eastern wall then unmortared for the rest of the run of the wall.
060	Cut	205/105	Linear cut in (057) running N/S. Dimensions of 1.3m N/S x 70mm E/W. Depth of between 5cm and 8cm
061	Deposit	195/105	Sandy clay layer with river washed cobbles of varying sizes embedded randomly around the layer. Flagstone fragments and evidence of flagstone floor are also visible suggesting that the flooring that sat on this layer has been removed.
062	Masonry	200/100	Central Bay Front wall. 3 courses of roughly dressed sandstone blocks running 4m E/W to a height of 28cm. Width of 50cm. Loosely bonded with pinkish grey mortar. Front and back faced with a rubble core. Entrance of 118cm wide with evidence of sockets cut into wall for door posts. Threshold 76cm front to back.
063	Masonry	195/100	Western Bay Front wall. 10 courses of well laid dressed sandstone blocks running 4.3m E/W to a height of 68cm. Stones are of various sizes. Width of 50cm. Bonded with pinkish grey mortar. Entrance way 1m wide positioned next to eastern wall with evidence of sockets cut into wall for door posts. Threshold 50cm front to back. Examples of small vertical stones around the base of the internal wall.
064	Masonry	200/100	Flagged pathway outside the front wall of the Central Bay. Extends 4.6m E/W and 1.2m N/S. Same context as (011). Rough flagged pathway apart from threshold stone which has a smoother finish. Section of 1.1m missing just east of the entrance where a later tree has stood.
065	Deposit	200/095	Silty sand layer. Very fine and friable. Very few inclusions. Extends 3.8m E/W x 82cm N/S as excavated to a depth of 42cm. Bounded to the North by a row of rounded cobble stones sat on the edge of (023). Colour 7.5YR 4/2 Brown.
066	Fill	200/105	Loose brown black clayey silt fill of (068). Mix of topsoil, mortar and ash. Depth of 19cm.
067	Deposit	200/105	Sandy clay layer under the Central Bay floor (037). Friable with small gritty stones throughout. Same as context (073). This was a small intrusion through (037) of 50cm N/S x 48cm E/W and revealed a depth of 13cm. Colour 10YR 4/4 Dark Yellowish Brown.
068	Masonry	200/105	Sunken stone feature in the floor of the Central bay butting up to the eastern wall. The feature measures 1.46m N/S x 0.6m E/W with a central sunken area of 45cm N/S x 40cm E/W to a depth of 26cm. Two large truncated upright slabs are located at the North and South limits of the feature. The sunken area is constructed out of well laid, mortared flagstones on three sides of the area. The western side being unwallled. These walls are built onto a flagstone base.

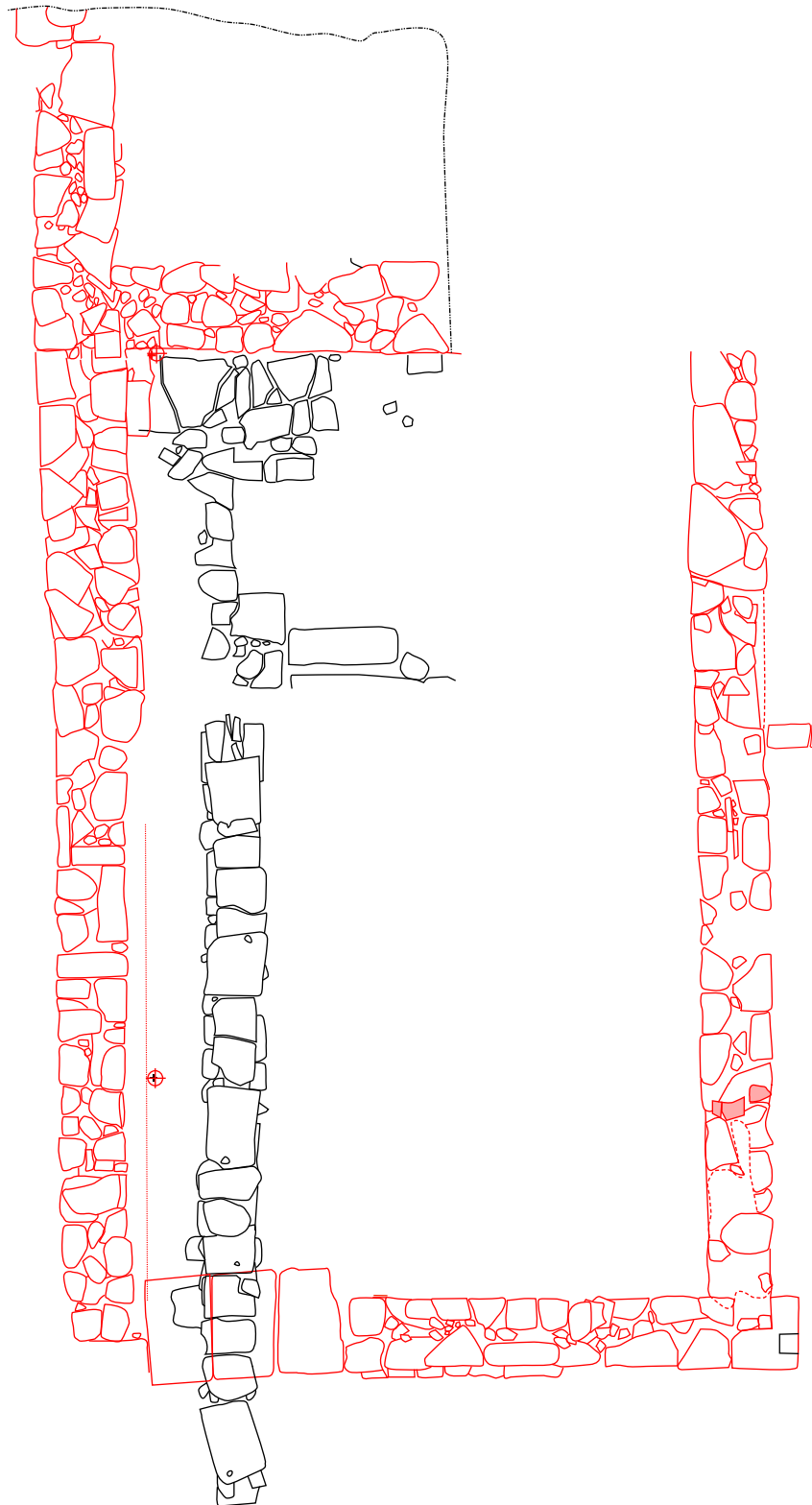
069	Deposit	200/105	Soft silty sand layer with rubble inclusions throughout. Depth of between 10-20cm. Colour 7.5YR 5/2 Brown. Same as (079)
070	Deposit	200/100	Soft clay sand layer to the west of the drain (025). Same as context (043). Contains medieval pottery and a heavily compressed slag deposit running N/S. Depth of 30cm at the N end lensing down to 6cm at the S. Very fine quartz inclusions less than 1mm diameter. Colour 2.5YR 3/2 Dusky Red.
071	Deposit	205/095	Loose cobble layer to the South of the drain (031). Comprises assorted river cobbles avg size 60mm x 35mm. Slightly undulating surface. Extends 1.7m E/W x 0.80m N/S as excavated. Depth of 4cm.
072	Deposit	200/105	Demolition rubble layer lying under the floor in the NW area of the central bay. Mix of mortar, rubble, clay and loam. Extends 2.3m N/S x 1.3m E/W as excavated. Large deposit of coal fragments 35cm x 120cm. Coal deposit overlying slightly context (076)
073	Deposit	200/105	Loose sandy coarse sand layer under the North end of the flagstone floor in Central Bay. Same as (067). Small stone inclusions throughout the layer. Extends 2.8m E/W x 2.3m N/S to a depth of between 12cm and 15cm. Colour 10YR 4/4 Dark Yellowish Brown.
074	Deposit	200/105	Firm silty sand layer comprising mostly coal and cinder. Extends 2.2m E/W x 2m N/S with depths of 7cm at the E and W sides and 5cm at the mid point. Colour 10R 2.5/1 Reddish Black.
075	Deposit	200/105	Firm clay layer that has been tamped down to provide a firm layer. Extends 1.9m E/W x 1.7m N/S with depths of 5cm at the E and W sides and 4cm at the mid point. Colour 10YR 5/3 Brown
076	Masonry	200/105	Flagstone layer under demolition layer (072). Extends 1.4m E/W x 60cm N/S. Depth of 3cm. Flagstones have been broken into smaller fragments.
077	Masonry	200/105	Large stone block lying E/W under (073) and sat on (080). Dimensions 78cm x 27cm and a depth of 10cm.
078	Masonry	200/105	Stone feature running N/S under the demolition layer (072). Dimensions of 1.6m N/S x 0.8m E/W. Sat on (079).
079	Deposit	200/105	Silty sand clay and mortar layer. Extends 3.1m E/W x 2.3m N/S. Depth of 1.1m.
080	Deposit	200/105	Clayey sand compact mortar layer extending 1.3m N/S x 1.7m E/W with depths of 3cm at the E and W sides and 5cm in the mid-point. Colour 2.5Y 7/3 Pale Brown
081	Deposit	205/105	Redeposited compact coarse sand natural thrown back around the East Bay West wall foundation. Extends 1.7m N/S x 0.47m E/W as excavated. Depth of 20cm. Inclusions of quartz fragments, pebbles of varying sizes and large boulders up to 50cm. Colour 10YR 6/4 Light Yellowish Brown

082	Deposit	200/105	Firm clayey silt fill under (079). Extends 1.8m N/S x 1.9m E/W with a depth of 0.7m. Very sticky fill getting increasingly stickier and wetter the deeper the fill went. Very few inclusions, mostly pebbles and grit. Colour 10YR 5/6 Yellowish Brown
083	Deposit	200/105	Firm very fine sticky clay fill under (082) towards the bottom of the wheel pit (104). Extends 1.3m N/S x 0.7m E/W as excavated. Depth of 0.85m. Colour 2.5YR 5/1 Reddish Grey
084	Deposit	200/105	Demolition rubble under (083) towards the base of the wheel pit.
085	Deposit	195/100	Mix of topsoil and demolition rubble outside the front wall of the Western Bay. Extends 4.3m E/W x 1.6m N/S as excavated. Depth of 50cm. Colour 2.5YR 2.5/1 Reddish Black
086	Deposit	200/105	Loose sandy sand levelling layer for (076) comprising black ash and cinder. Extends 0.90m E/W x 0.70m N/S to a depth of 10cm. Colour 2.5Y 3/1 Very Dark Grey
087	Cut	200/105	Cut in natural (999) along eastern edge of wheel pit.
088	Fill	200/105	Stoney loam fill of (087)
089	Deposit	200/105	Demolition rubble lying making up the foundation of the Central Bay Eastern wall. Depth of 30cm.
090	Deposit	200/105	Very loose black loam and mortar layer lying under (089) and over (999). Depth of between 10cm to 20cm.
091	Deposit	200/105	Gritty pebble fill
092	Masonry	195/100	West Bay flagged floor. Very fragmentary. Only a few flagstones remain in situ, around the entrance and just North of the fireplace (097) in the western wall (094) and between the two side rooms. Would originally have extended 4.3m E/W x 8m N/S. Evidence of edging stones around the perimeter of the walls. Several piles of flagstones visible around the bay. Depth where noted of 8cm.
093	Deposit	195/100	Loose silty sandy layer used as a levelling layer for flagstone surface (092). Comprises of cinder and ash. Extends 4.4m N/S x 4.3m E/W to a depth of 6cm. Colour 7.5R 2.5/1 Reddish Black.
094	Masonry	195/100	West Bay West wall. Extends 9m N/S with a width of 50cm. Fireplace (097) built into the wall 1.5m from the front wall (063)
095			N/A
096	Fill	200/100	Tail Race backfill
097	Masonry	195/105	West Bay Fireplace. Fireplace is built into the western wall (094) 1.5m from the front wall of the bay (063). The feature has two upright slabs 0.85m in height to the North and South extents. These uprights are keyed into the wall (094) by 14cm at the North and 8cm at the South. The full width of the fireplace is 1.02m and is 50cm from front to back.
098	Deposit	195/105	West Bay Sandy fill.

099	Deposit	200/100	Redeposited natural
100	Deposit	200/100	Grey sandy clay
101	Cut	200/100	Cut in (100)
102	Cut	200/100	Tail Race cut
103	Masonry	200/105	Wheel Pit North wall
104	Cut	200/105	Wheel Pit
105	Masonry	195/105	West Bay West Room walls
106	Masonry	195/105	West Bay West Room floor
107	Masonry	195/105	West Bay East Room walls
108	Masonry	195/105	West Bay East Room floor
109	Deposit	205/097	Firm garden loam
110	Deposit	205/095	Gravelly fill
111	Deposit	205/093	Gravelly fill
112	Deposit	205/095	Pea gravel
113	Deposit	205/093	Pea gravel
114	Deposit	205/095	Sand layer
115	Deposit	205/093	Sand layer
116	Deposit	205/093	Stone layer
117	Deposit	200/095	Stone layer
118	Deposit	205/095	Compact slag layer
119	Deposit	205/110	Top soil over East Bay North Wall
120	Deposit	195/110	Dark yellowish brown coarse sandy layer
121	Masonry	195/105	Pit wheel pit
122	Deposit	195/105	Fill of (121)
123	Deposit	205/097	Compact stone layer
124	Deposit	205/097	Gravelly fill
125	Deposit	205/110	Rubble fill behind East Bay North Wall
126	Deposit	200/105	West side of Central Bay demolition fill
127	Deposit	205/100	East Bay sandy gravel
128	Deposit	200/100	Central Bay sandy gravel
129	Deposit	200/105	West side of Central Bay demolition fill
130	Masonry	200/105	Drain
131	Deposit	200/105	Cinder and ash layer
132	Deposit	200/105	Sandy layer
133	Deposit	200/105	Fill of (130)
134	Deposit	200/100	Central bay black loamy fill
135	Deposit	195/105	Fill under (108) West bay
136	Masonry	195/110	West bay drain/soakaway
137	Masonry	200/105	Line of stones possible internal wall position
138	Deposit	205/100	East bay small cobble surface
139	Deposit	195/105	Rough stone surface under (135) West bay
140	Deposit	195/105	Undulating sand layer under (139)
141	Masonry	195/105	Stone feature inside (121)
142	Deposit	195/105	Fill of (141)
143	Deposit	195/105	Gravel layer inside (121)
144	Deposit	190/105	Topsoil outside western edge of building platform
145	Deposit	205/105	Dark fill under East bay floor (136)
146	Deposit	205/105	Fine sand layer under (145)
147	Deposit	195/110	Fill of (136)

148	Deposit	195/105	Layer under (140) & (136)
149	Masonry	195/105	Flagged surface under (148)
150	Masonry	195/105	Fireplace (097) Final phase fill
151	Masonry	195/105	Possible step into West bay East room (108)
152	Deposit	205/105	Fill of East Bay North sunken feature (153)
153	Masonry	205/105	East Bay North sunken feature
154	Masonry	190/105	Walls under (144) on Western edge of site
155	Deposit	205/105	Surface inside (153) under (152)
156	Deposit	195/105	Fine sand layer under (106)
157	Deposit	195/105	Fine sand layer under (149)
158	Deposit	195/105	Clay fill under (149)
159	Deposit	195/105	Fill under the hearth stone of (097)
160	Deposit	205/100	Sand deposit under (138)
161	Deposit	205/100	Brick fragments under (127)
162	Masonry	190/105	Flagged surface under (154)
163	Masonry	195/105	Fill of blocked doorway (164)
164	Masonry	195/105	Blocked doorway in (033)
165	Deposit	200/100	Black loam and mortar deposit under (128)
166	Deposit	200/105	Black fill under (170)
167	Deposit	200/105	Clay fill under (166)
168	Masonry	200/105	Base of Wheel Pit
169	Masonry	200/105	East wall of Wheel Pit
170	Deposit	200/100	Gravel and clay deposit under (128) & (165)
171	Deposit	205/105	Dark sandy fill under (138)
172	Masonry	195/105	West bay dividing wall foundation under (173)
173	Masonry	195/105	West bay "Corridor" flagstone floor

Appendix 3



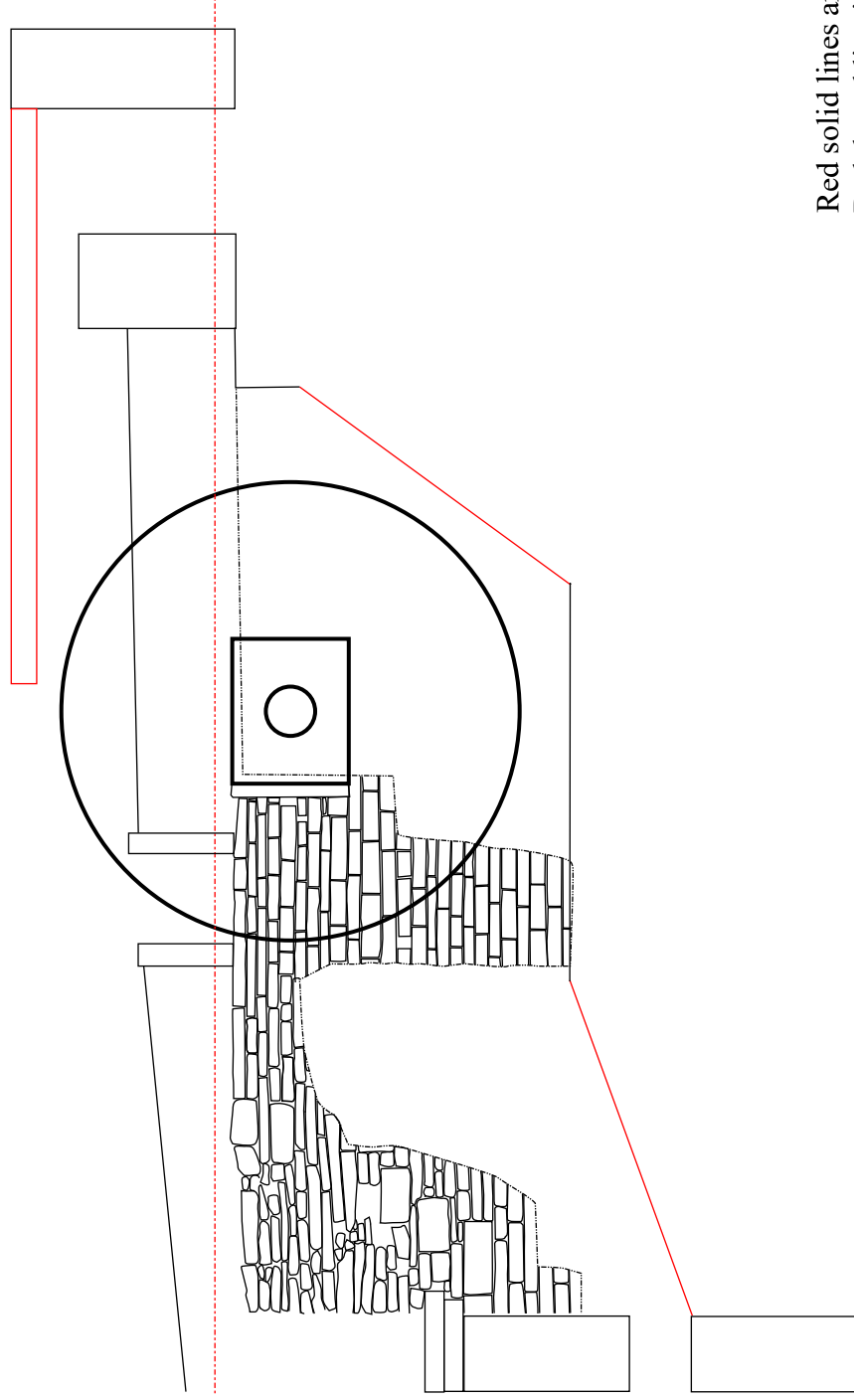
2m



Holcombe Moor Heritage Group 2017

Central Bay

Drain (130) shown with stone feature (078)



Red solid lines are conjecture
Red dotted line is TBM line
10' Water wheel shown in position

Scale 1:50

East Facing Section Wheel Pit
Bottoms Engine House

Holcombe Moor Heritage Group 2016

October 2016