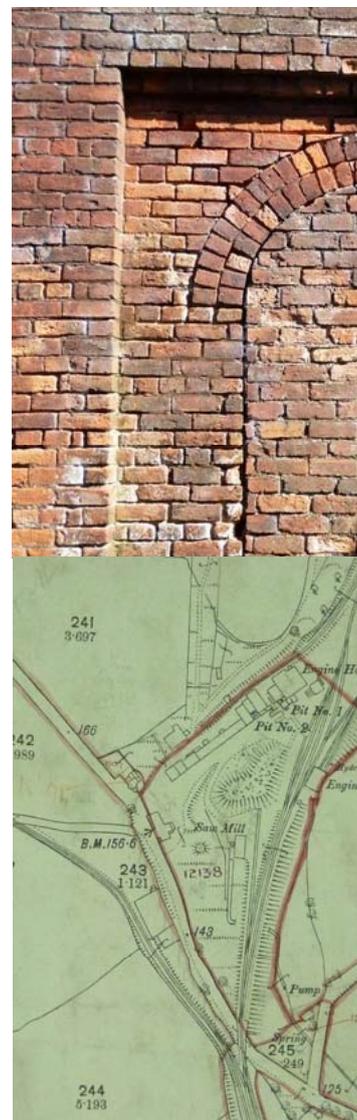


BARN ON LAND TO REAR OF ROSE COTTAGE, STANK LANE, STANK, CUMBRIA

Archaeological Building Recording



Client:
David and Kate Hornby

NGR: 323210 470755

Planning Application Ref.:
B13/2012/0163

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October 2012



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Non-Technical Summary

Following the submission of a planning application for the conversion of a former barn on land to the rear of Rose Cottage, Stank, Cumbria, a condition was placed on the application that an English Heritage Level 3 archaeological building recording be carried out. Greenlane Archaeology was commissioned to carry out the building recording, which was undertaken in September 2012.

The building dates to the end of the 19th century and formed part of the Stank Iron Mines, which were leased from 1871 until the mine was abandoned 30 years later. The specific purpose of the building when it was originally constructed was not revealed through the examination of any of the available original sources; however previous consideration of the site has identified it as the blacksmith's workshop.

The recording of the building confirmed that the building had indeed been constructed as a blacksmith's workshop, with four hearths. A number of alterations were clearly made to the building after it went out of use as a blacksmith's, including the blocking all the windows and smaller apertures, some rebuilding to provide a new doorway, and the removal of all of the hearths leaving only truncated remains of some of the flues. One of the two large doorways was also probably inserted or enlarged at this time. Later, concrete blocks were added internally to support a raised floor, and the smaller door was blocked. All of the later changes undoubtedly relate to its change of use for agricultural storage.

The building is a relatively unusual survival within the wider context of the mine, many of the more functional buildings having been demolished or now in ruins, while only the more polite buildings seem to have survived elsewhere. The conversion of the building into a domestic dwelling provides a means for preserving it for the future.

Acknowledgements

Greenlane Archaeology would like to thank David and Kate Hornby for commissioning the project, and Neil Price Limited, in particular Tim Coldrick, for providing the 'as existing' drawings of the building. Additional thanks are due to the staff of the Cumbria Archive Centre in Barrow-in-Furness (CAC(B)) for their help in accessing the records, and the local resident who provided useful information about the building.

The desk-based assessment was carried out by Tom Mace, the building recording was carried out by Dan Elsworth, and they co-wrote the report. The illustrations were produced by Tom Mace, the report was edited by Jo Dawson, and the project managed by Dan Elsworth.

1. Introduction

1.1 Circumstances of the Project

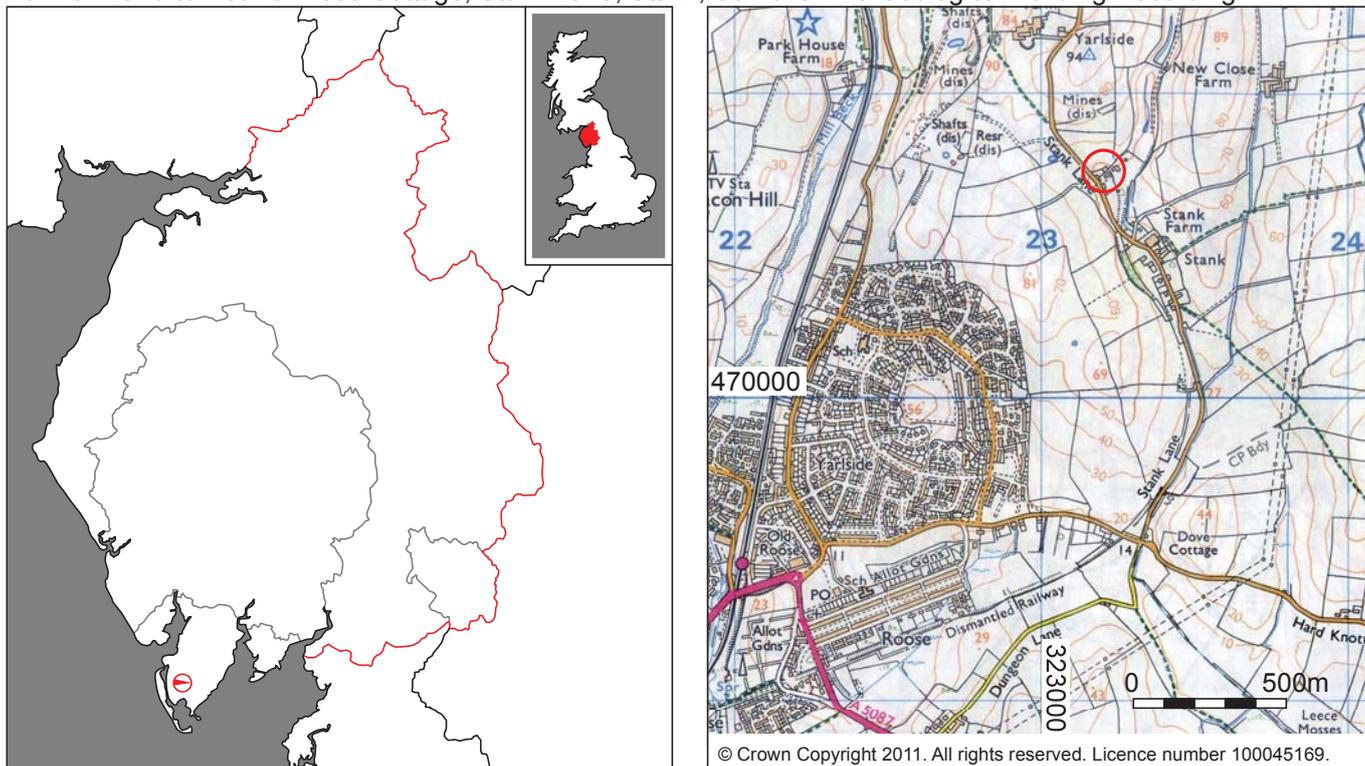
1.1.1 Following the submission of a planning application (Ref. B13/2012/0163) to convert a former barn on land to the rear of Rose Cottage, Stank Lane, Stank, Cumbria (NGR 323210 470755) into a domestic dwelling, a condition (No. 5) was placed by Barrow Borough Council that an English Heritage Level 3 type recording of the building should be carried out (English Heritage 2006). This is intended to provide a relatively detailed record of the building prior to its conversion as well as providing outline information about its development, form and function. Greenlane Archaeology was approached by Tim Coldrick of Neil Price Ltd on behalf of David and Kate Hornby (hereafter 'the client') to carry out the building recording in order to fulfil the condition of the planning consent. A project design was produced in response and the work was carried out in September 2012.

1.1.2 The building is thought to be late 19th century in date as it is not shown on the Ordnance Survey map of 1851 but is on the map of 1891.

1.2 Location, Geology, and Topography

1.2.1 The site is situated on the east side of Stank Lane, which is the main road through the village of Stank. Stank is located immediately to the east of Barrow-in-Furness (Figure 1). The underlying geological deposits around Barrow largely comprise red Sherwood sandstone of St Bees type, but there is a large area of Carboniferous limestone to the north-east (Moseley 1978, plate 1), overlain by deposits of glacial material such as boulder clay, which forms a hummocky rolling landscape outside of the urban area (Countryside Commission 1998, 27). The site is situated at approximately 48m above sea level.

1.2.2 The barn is located on slightly uneven ground approximately 50m to the north-east of Stank Lane in a field to the rear of Rose Cottage. The field rises gently away from the barn to the north-east and west.



Client: David and Kate Hornby

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Figure 1: Site location

2. Methodology

2.1 Introduction

2.1.1 The building investigation comprised three separate elements intended to provide a suitable record of the structure, in line with English Heritage standards (English Heritage 2006) and the guidelines of the Institute for Archaeologists (IfA 2008a). In addition a desk-based assessment was carried out in accordance with the project design and IfA guidelines (IfA 2008b) prior to the building recording, and a suitable archive was compiled to provide a permanent record of the project and its results in accordance with English Heritage and IfA guidelines (English Heritage 1991; Brown 2007).

2.2 Desk-Based Assessment

2.2.1 Information was gathered from the following locations:

- **Cumbria Archive Centre, Barrow-in-Furness (CAC(B))**: this was visited in order to examine early maps of the site and other primary sources as well as secondary sources such as trade directories in order to identify information about the development and use of the building;
- **Greenlane Archaeology library**: additional secondary sources were used to provide information for the site background.

2.3 Building Recording

2.3.1 The building recording was carried out to English Heritage Level-3 type standards (English Heritage 2006), which is a relatively high level of investigation intended to record the form, function and phasing of the building, while incorporating the results of the desk-based assessment in order to aid the interpretation of its development. The recording comprised the following elements:

- **Written record**: descriptive records of all parts of the building were made using Greenlane Archaeology *pro forma* record sheets;
- **Photographs**: photographs in both 35mm colour and colour digital format were taken of the main features of the building, its general surroundings, and any features of architectural or archaeological interest. A selection of the colour digital photographs is included in this report, and the remaining photographs are in the project archive;
- **Drawings**: drawings were produced by hand-annotation of printed plots of 'as existing' architect's drawings provided by Neil Price Ltd. The drawings produced ultimately comprised:
 - i. external elevations at a scale of 1:100;
 - ii. a floor plan at a scale of 1:100;
 - iii. cross-sections at a scale of 1:50.

2.4 Archive

2.4.1 A comprehensive archive of the project has been produced in accordance with the project design and current IfA and English Heritage guidelines (Brown 2007; English Heritage 1991). The paper and digital archive and a copy of this report will be deposited in the Cumbria Archive Centre in Barrow-in-Furness on completion of the project. A copy of this report will be supplied to the client, and one will be retained by Greenlane Archaeology. In addition a copy of the report will also be supplied to the planning department at Barrow Borough Council and the Cumbria Historic Environment Record (HER) in Kendal and a digital record of the project will be made on the *Online Access to the Index of Archaeological Investigations* (OASIS) scheme.

3. Desk-Based Assessment

3.1 Map Regression

3.1.1 **Ordnance Survey, 1851:** the site occupied an area of open field to the north-west of Stank at this time (Plate 1). The map was surveyed in 1847.

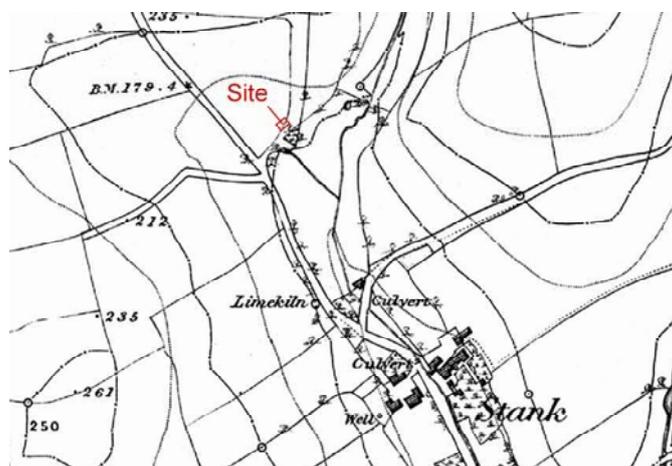


Plate 1: Extract from the Ordnance Survey map of 1851

3.1.2 **Ordnance Survey, 1890:** by 1890 the area had been developed as part of Stank Iron Mines, with railway lines passing round the site and various pits and engine houses marked as well as a saw mill shown to the south of the current site (Plate 2). The site is located to the south and west of pit numbers 1 and 2. It is located slightly north of the south-west end of a line of buildings the far north-west end of which is identified as 'Engine Houses'. The boundaries outlined in red are perhaps misleading since they relate to the rating valuation by the Commissioners of Inland Revenue c1910. Ignoring these later divisions of the site, the building's location is relatively central to the Stank Iron Mines and by virtue of its proximity to these other structures may reasonably be assumed to be associated with them in some capacity. A pencil line has been added at some stage to the rear of Rose Cottage, which approximately marks the current property/boundary wall (see Figure 1). It is unclear when this addition to the map was made. The rectangular footprint of the building is apparent, although a small section juts out at the north-east end of the north-west elevation (which is not shown as divided from the main structure) and a division is shown between the main section and a small square structure located at its north-east end (Plate 3).

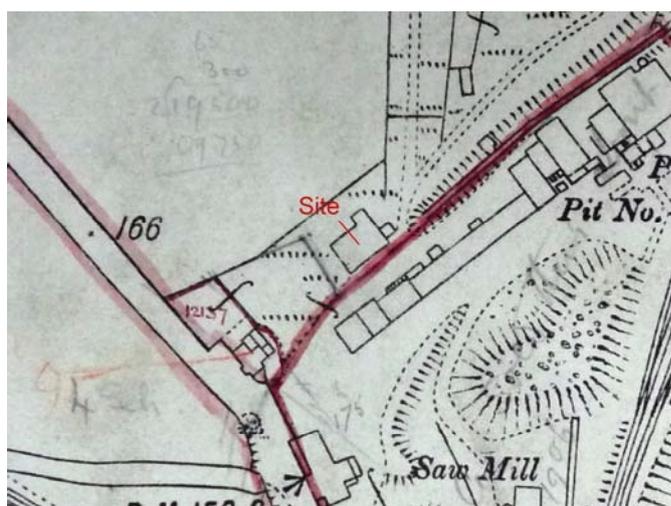


Plate 2 (left): Extract from the Ordnance Survey map of 1890, showing Stank Iron Mines

Plate 3 (right): Extract from the Ordnance Survey map of 1890, showing the site in more detail

3.1.3 **Artist's reconstruction of the site c1890:** a newspaper clipping dated 1983 reproduces an artist's impression of how the Stank Iron Mines would have appeared c1890 (Plate 4). The drawing is clearly based on a photograph of around the same date (Plate 5). Unfortunately, the site is located further left than the view shown.

3.1.4 **Photograph, c1890:** this photograph of the mines shows pit 1 in the centre foreground, pit 2 to the left, and pit 5 to the rear (Plate 5). The site is further to the left out of the picture.

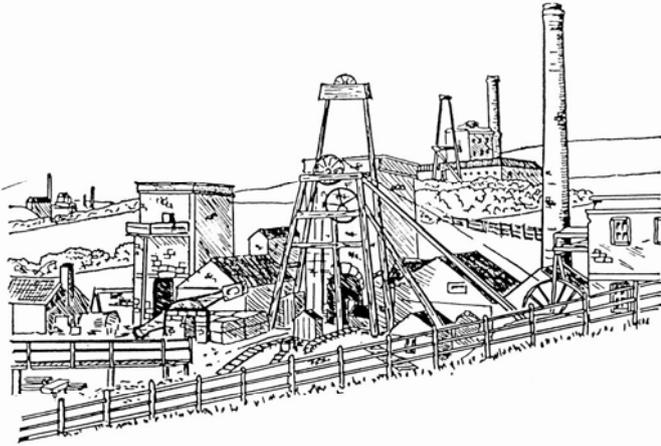


Plate 4 (left): Artist's impression of Stank Iron Mines c1890 (CAC(B) BDX 555/7/3 1983)

Plate 5 (right): Photograph of Stank Iron Mines (Kelly 1998, 119)

3.1.5 **Ordnance Survey, 1891:** the 1891 edition of the Ordnance Survey map shows the same detail as the earlier edition (Plate 6; cf. Plate 2 and Plate 3). The boundary added in pencil to the earlier map is not shown here and the division between the site and the saw mill to the south (outlined in red on Plate 3) is less apparent, although the division shown on Plate 3 possibly relates to sub-divisions of the site after the iron mines had closed (see Section 3.2.2).

3.1.6 **Stank Mines, 1899:** this plan of the mines from c1899 shows the building to the south-west of pit 2. The building has a large, square, unroofed, walled enclosure to the south-west. The small square structure to the north-east side of the building is not shown, although this might be slightly misleading and may be due to the sketchy nature of rendering the buildings; the plan is intended to show the location of the mines and the accuracy of showing the surface structures seems to be a secondary consideration.

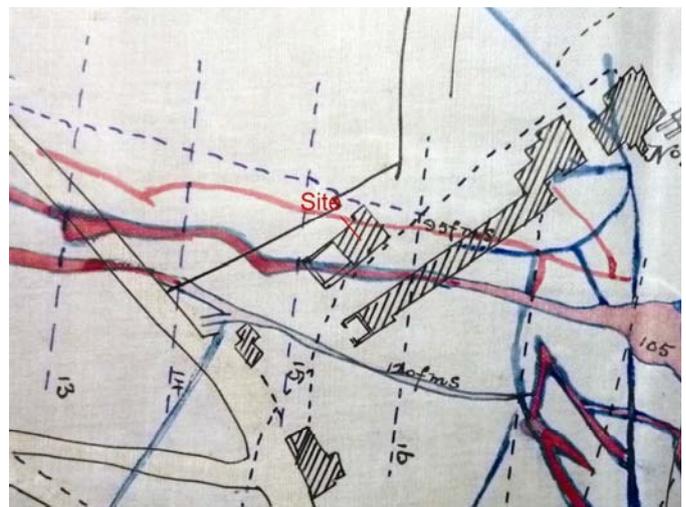
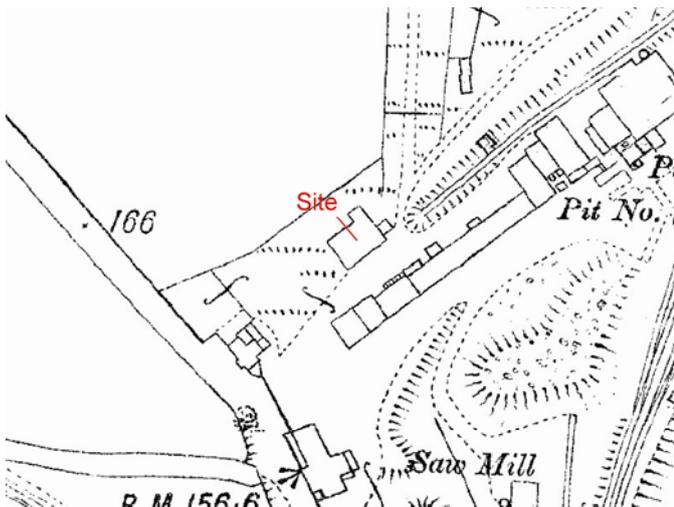


Plate 6 (left): Extract from the Ordnance Survey map of 1891, showing Stank Iron Mines

Plate 7 (right): Plan of Stank mines, 1899 (CAC(B) Z/2976 1899)

3.1.7 **Stank Mines, c1900:** this plan of Stank Mines also faintly shows the surface structures on the site (Plate 8 and Plate 9). The walled enclosure to the south-west is shown in more detail and the structures to the north-west and north-east of the building are both still present. It is a shame that the dating of this map is uncertain because if it is in fact earlier than the plan of the mines from 1899 (see Section 3.1.6 above) then that would date the removal of the structure to the north-east.



Plate 8 (left): Plan of Stank Mines, c1900 (CAC(B) Z/2978/1 c1900)

Plate 9 (right): Detail of the site from a plan of Stank Mines, c1900 (CAC(B) Z/2978/1 c1900)

3.1.8 **Ordnance Survey, 1913:** the walled enclosure south-west of the building and the jutting out sections to the north-west and north-east have all been removed by 1913 (see Plate 10). A boundary wall has been added between the current building and the row of buildings to the south but the one to the rear of Rose Cottage (pencilled in at some stage on the 1890 edition) is not shown. The row of buildings to the south has been greatly foreshortened and the nearby pits are both clearly disused.

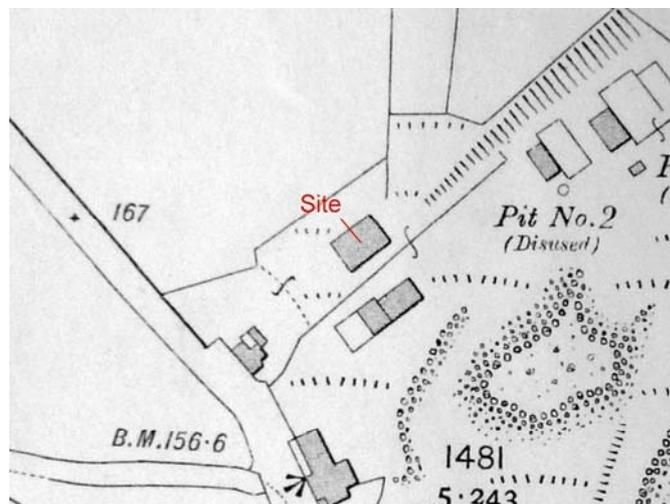


Plate 10: Extract from the Ordnance Survey map of 1913

3.2 Site History

3.2.1 **The Stank Iron Mine:** the Barrow Haematite Steel Co began mining iron at Stank after signing a 21 years lease from the Duke of Buccleuch, dated 25th March 1871 (Kelly 1998, 118; CAC(B) BDBUC/20/1/1 1871). Iron mining in Cumbria peaked around the 1880s; declining thereafter as deposits depleted and due to the relative cheapness of importing ore (Bowden 2000, 15). An influx of water became a problem at the Stank site; a letter written by the Duke's agent in 1879 shows that at that point in time 440 gallons per minute were being pumped out of pit 1 and 629 gallons per minute from pit 2

(Kelly 1998, 118). The lease was finally stopped and the mine abandoned in March 1901 (Kelly 1998, 120; see CAC(B) BDBUC/54/2 1901).

3.2.2 The Stank Mines site may have been sub-divided after it was closed, which would explain why the site occupies multiple entries in the rating valuation by the Commissioners of Inland Revenue c1910. The divisions relating to the rating valuation are annotated on the Ordnance Survey map of 1890 (see Plate 2). The site is at the southern tip of a section marked 'Pt. 12134'. It is interesting that Rose Cottage has a different number (12137) as does the row of buildings to the south-east, the saw mill, and pits 1 and 2, which form part of 12138. The rating valuation records houses and buildings and land at the site and lists 'Rt [presumably Robert] Hilton Edmondson' as its occupier (CAC(B) BT/IR 1/10 c1910). Unfortunately, entries for several nearby properties could not be checked since the next journal in the series containing entries after 12136 is missing from the archive, including Rose Cottage (12137) and the saw mill (12138).

3.2.3 The building subject to recording is not specifically labelled on any of the available maps and so it is not clear from any primary source what its function was. It has been suggested that it may have been a 'power house' (as suggested online at UK Mining Remains nd), although the evidence for this is not given. Anecdotally the building is said to have been the blacksmith's workshop, a suggestion that is also made by Marshall and Davies-Shiel (1969, 258), who state that the blacksmith's shop is situated 50 yards to the west of the remains of the engine house.

3.3 Owners and Occupiers

3.3.1 Unfortunately, entries in the census are insufficiently detailed to identify the owners or occupiers of the building in question, which may not have had a house name or number. The majority of the individuals living in Stank around the time when the iron mines were in operation were occupied in iron mining or farming, often living together in fairly large families (RG10/4243 1871; RG11/4292 1881). No later (or earlier) entries for Stank were found.

3.4 Conclusion

3.4.1 The area to the north-east of Stank was largely undeveloped before 1851. The site later formed part of the Stank Iron Mines, operated under lease by the Barrow Haematite Steel Co from 1871, and the building is clearly marked on the Ordnance Survey map of 1890. It had clearly taken on much of its present form by then, with smaller square structures attached to its north-west and north-east elevations. A square enclosure was added to the south-west side c1890s but this was removed along with the structures to the north-east and north-west sides of the building by 1913 and the arrangement of the building has remained largely unchanged following that date. The railway and pits associated with the mine, which ceased activity in 1901, have also since been removed.

3.4.2 Unfortunately, many of the plans of the Stank Mines held at the archive centre in Barrow-in-Furness relate to the location and depth of pits at the mine and considerably less attention is given to mapping surface structures at the site and no plans were found which specifically identified the function of the current building. Similarly, many of the archived documents held there relate to the operation of the mine as a whole, such as pumping activities at the site and details about the lease, and contribute very little to our understanding of the specific function of the building being recorded here. However, previous investigation of the site has indicated that the building was a blacksmith's workshop serving the mine, which seems likely.

4. Building Recording

4.1 Arrangement and Fabric

4.1.1 The building comprises a rectangular block, comprising a single large room, orientated north-east/south-west (Figure 1). The 'front' elevation faces north-west into the associated field. The building has most recently been in use as a barn and/or store.

4.1.2 The entire building is constructed from red brick, while the hipped roof is finished with local grey slate and grey ceramic bonnet ridge tiles. The course are typically laid in English Garden Bond, at a ratio of either three or five rows of stretchers to one row of headers and the bricks are relatively rough, unfrogged, and apparently hand-made and typically a dark orange-red in colour and 23cm long by 11cm wide and 7.5cm thick. Each elevation has a series of recessed areas between projecting columns and there is a plinth surrounding around most of the exterior topped with two rows of ovolo-moulded bricks. Later alterations generally use the same brick, although concrete blocks and some re-used yellow firebricks are also present. Dressed red sandstone has also been used for window sills throughout.

4.1.3 Internally the floor is largely covered with loose gravel chippings, although modern concrete blocks have been placed around the internal walls, which evidently at one time supported a suspended floor. A fragmentary poured concrete floor is also present against the north-west doorway. All of the timber in the roof is machine cut, the underside of the slates is mostly finished with plaster, and the lower part of the walls is finished with a concrete skim.

4.2 External Detail

4.2.1 **North-west elevation** (Figure 2): this has two recessed panels either side of a central wagon doorway (Plate 11). The north-east of these panels, and probably the rest of the associated wall, has evidently been rebuilt in a similar type of brick to the original build, and this area includes a small doorway with a slate lintel. This has been blocked with concrete blocks, leaving a recess. To the south-west of the rebuild is a window with a round header arch and red sandstone sill, although this has been cut through on the north-east side by the line of rebuild, and the whole window has been blocked with brick, including some re-used yellow fire brick (Plate 12). The wagon doorway has the remains of a timber sliding door in front of it, with a long timber rail and iron fixture attached above. The doorway has a timber lintel, and there is apparent rebuild around the south-west end, evident as concrete patching. The jambs are also finished with concrete and it is apparent that this doorway is wider and differently arranged to that in the south-east elevation, suggesting that it has been inserted or widened. To the south-east of the doorway there is another recessed panel, also with a blocked window with a round header arch and red sandstone sill. A short distance to the south-east of this is a short timber lintel at low level below which is a small aperture, which cuts through the moulded plinth but is blocked with brick (Plate 13).



Plate 11 (left): The north-west external elevation

Plate 12 (right): Blocked doorway, rebuild, and window, north-east side of north-west external elevation



Plate 13 (left): Blocked window and aperture with timber lintel, south-west side of north-west external elevation



Plate 14 (right): North-east external elevation

4.2.2 **North-east elevation** (Figure 2): as per the other elevations there are three recessed areas across the elevation, situated between a pair of columns either side of the centre and one at either end (Plate 14). The plinth has largely collapsed and is in places unrecognisable and the lower part of the south-east central column has also collapsed. In addition, there is a rectangular section cut out of the area above the south-east recessed area, which is topped with loose concrete blocks (Plate 15). The central recess has a window with a round header arch and red sandstone sill, which is blocked with bricks. The north-west recess has a horizontal piece of timber built in on the north-west side, which appears to be a lintel it does not correspond to any obvious opening. There are traces of limewash on the south-east side of the central recess and in the south-east recess.



Plate 15: Detail of the south-east side of the north-east external elevation

4.2.3 **South-east elevation** (Figure 3): this is broadly the same as the north-west elevation, although it is partially obscured by vegetation (Plate 16). There is a recessed area either side of a central doorway, although the doorway is different in style to that to the north-west, with recessed areas on both sides and a lower timber lintel with projecting brickwork above. The remains of a timber plank and batten sliding door are positioned in front of the doorway and they are fixed to a timber rail above (Plate 17). In the recesses to either side there is a single window with a round header arch, blocked with brick (the north-east including some re-used yellow fire bricks) and with a red sandstone sill.



Plate 16 (left): South-east external elevation, south-west end



Plate 17 (right): South-east external elevation, north-east end

4.2.4 **South-west elevation** (Figure 3): this is essentially the same as the north-east, although the plinth is better preserved. There are three recessed areas divided by projecting columns. The north-west is plain, while the central one has a window with a round header arch and red sandstone sill, which is blocked with brick (Plate 19). The south-east recess has a small low aperture with no lintel on the north-west side, which cuts through the plinth and is blocked with brick (Plate 20).

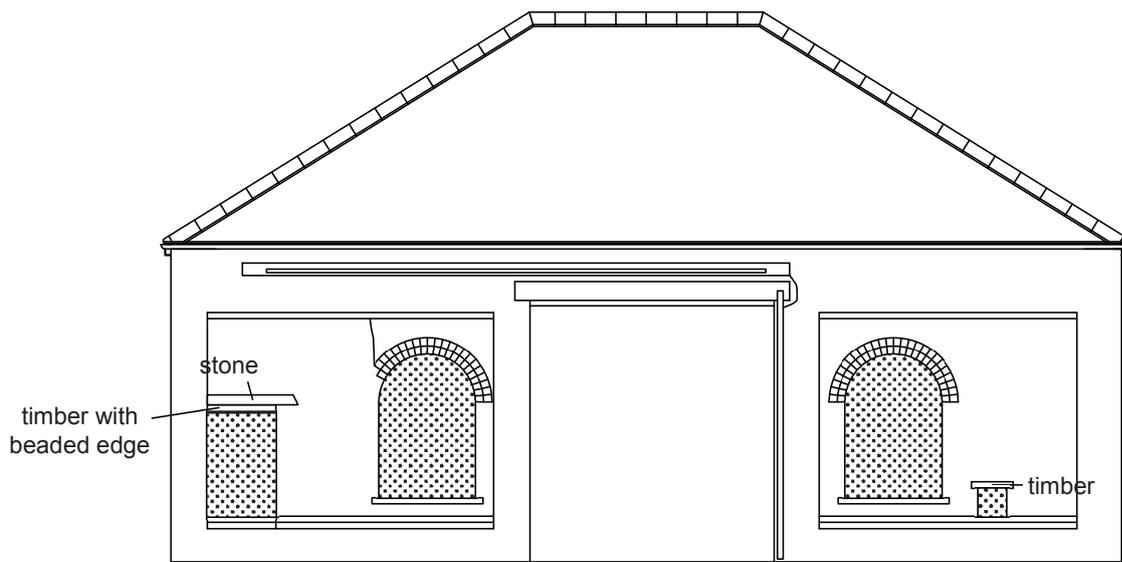


Plate 18: General view of the south-west external elevation

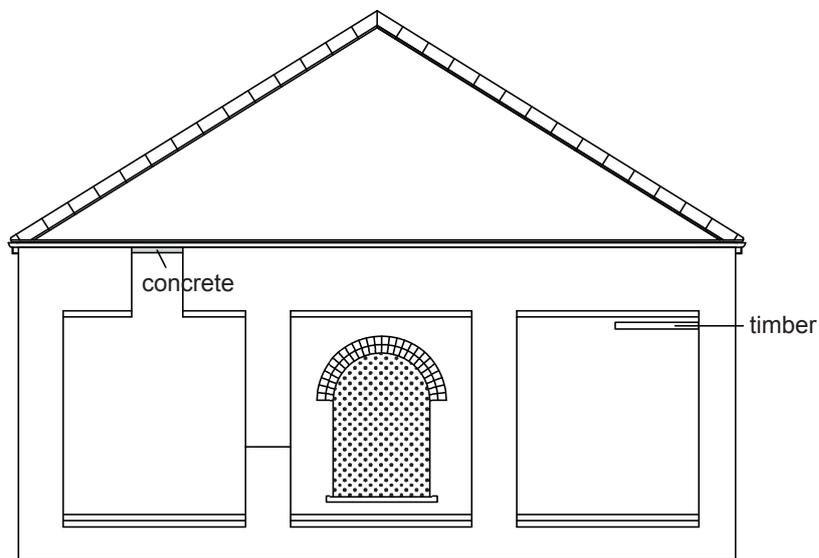


Plate 19 (left): Central blocked window, south-west external elevation

Plate 20 (right): Blocked aperture, south-west external elevation

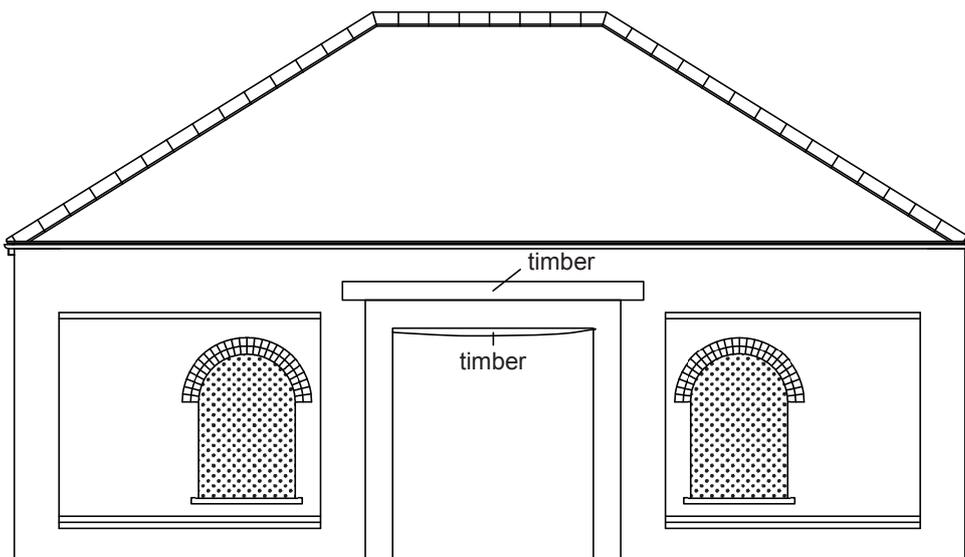


NORTH-WEST EXTERNAL ELEVATION

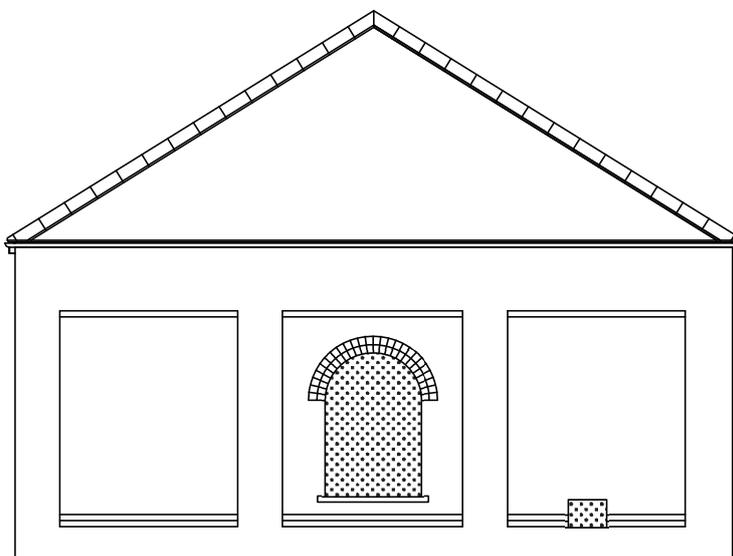


NORTH-EAST EXTERNAL ELEVATION





SOUTH-EAST EXTERNAL ELEVATION



SOUTH-WEST EXTERNAL ELEVATION

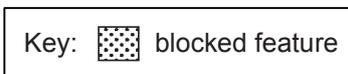
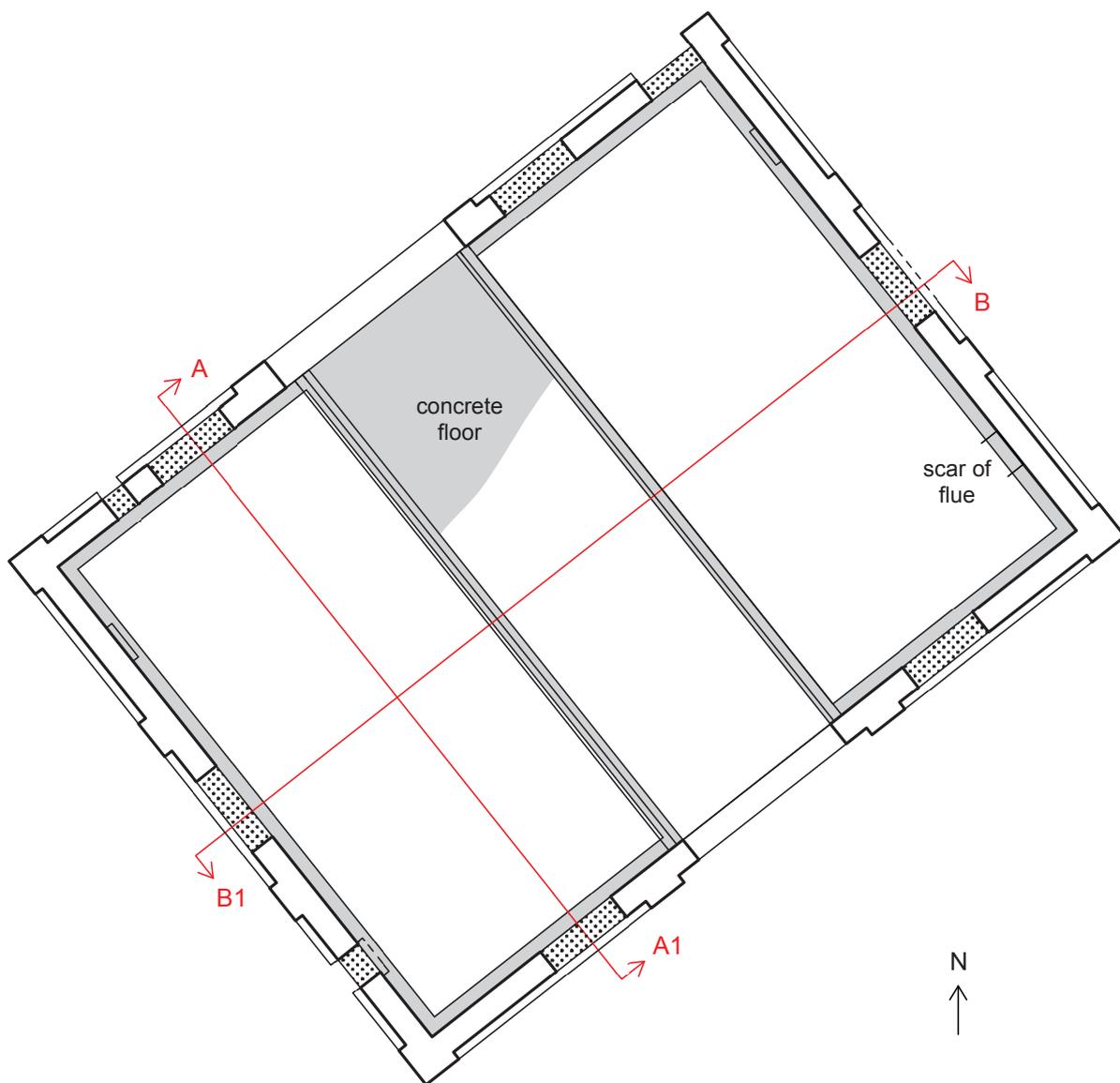


Figure 3: South-east and south-west external elevations



FLOOR PLAN

| | | |
|------|-----------------|-------------------|
| Key: | blocked feature | A1 cross-section |
| | concrete | overhead features |



Figure 4: Floor plan

4.3 Internal Detail

4.3.1 **Ground Floor Room 1:** the interior of the building comprises only a single room, although it is open to the roof structure, which extends well above ground floor level. The floor is covered with gravel, but there is a poured concrete section against the north-west doorway and a plinth made of concrete blocks around the interior and either side of a passageway running between the opposing central doorways in the north-west and south-east elevations (Figure 4). Slots within this plinth along the north-east and south-west elevations denote the position of joists that originally supported a raised floor. The roof structure is supported by two king post trusses orientated north-west south-east (Plate 21). Each truss has a pair of angled braces running between the joggled end of the king post and a flat joint with the principal rafters (Figure 5). The king post too forms a flat joint with the principals and is fixed with a bolt through the underside of the tie beam. There is a long iron bracket bolted to the south-west face of the north-west end of the south-west tie beam (Plate 22), and there are numerous other bolt holes across both tie beams, most of which are empty. The trusses support two purlins on all four sides and a ridge plank orientated north-east/south-west. There are additional timbers around the apex and this, plus the fact that the slates are not plastered in this area, suggests that there was originally a louvred opening (Figure 5). In addition there are two similar patches within the slates in each pitch, indicative of flues or skylights and similar patches above the pairs of former flues against the north-east and south-west elevations (see Sections 4.3.2 and 4.3.3 below). All of the timber in the roof is machine sawn.



Plate 21 (left): Trusses

Plate 22 (right): Bracket at the north-west end of the south-west truss

4.3.2 The walls are all constructed from brick laid in English Garden Wall bond at a ratio of four rows of stretchers to one row of headers. The lower part is finished with a thin skim of concrete, which obscures all of the blocked openings visible from the outside, with the exception of the tops of the windows. It is apparent from holes in the external blocking that internally the windows are blocked with concrete blocks, leaving a central void. The brickwork exposed above this skim has the remains of a limewash finish over it. The north-west elevation has the round arches of the windows exposed either side of the central wagon doorway, which has a timber lintel with a shallow slot cut out of the underside on the south-west end. The north-east end has a clear, essentially vertical, line of rebuild north-east of the centre (Plate 23).



Plate 23: Blocked window and rebuild line, north-east end of north-west internal elevation

4.3.3 The north-east elevation has a central window, only the arched head of which is visible, the rest covered by the concrete skim (Plate 24). At a high level on the north-west side there is a projecting block of brickwork, evidently the truncated remains of a flue, extending between the roof and the concrete skim (Plate 25). The centre of the south-west face has an area of rebuild or perhaps rough blocking of a small aperture evident as a patch of concrete pointing. On the south-east side of the wall there is a scar at a similar level, again evident as a patch of concrete pointing, but also some broken brick, presumably denoting the original position of another flue, which is topped by loose concrete blocks (Plate 26). The south-east elevation has a pair of windows either side of a central wagon doorway, again only visible due to their round arches remaining uncovered (Plate 27). The doorway has a machine cut timber lintel, lower than that evident externally and there are rectangular patches of the concrete skim missing either side of the door jambs, presumably denoting the former position of a low wall or similar. The south-west elevation has a central blocked window, again only the top of which is visible (Plate 28). Either side, at high level, are the truncated remains of further flues, again extending between the concrete skim and the roof line and with patches of concrete pointing apparently denoting blocked apertures in the centre of the north-east face (Plate 29 and Plate 30).



Plate 24 (left): North-east internal elevation



Plate 25 (right): Detail of flue on north-west side of north-east internal elevation



Plate 26 (left): Scar of flue, south-east side of north-east internal elevation



Plate 27 (right): South-east internal elevation



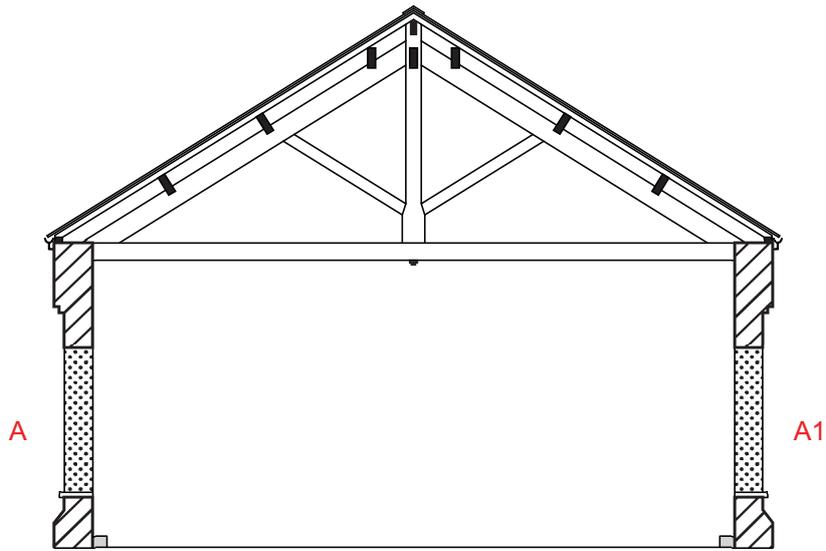
Plate 28: South-west internal elevation



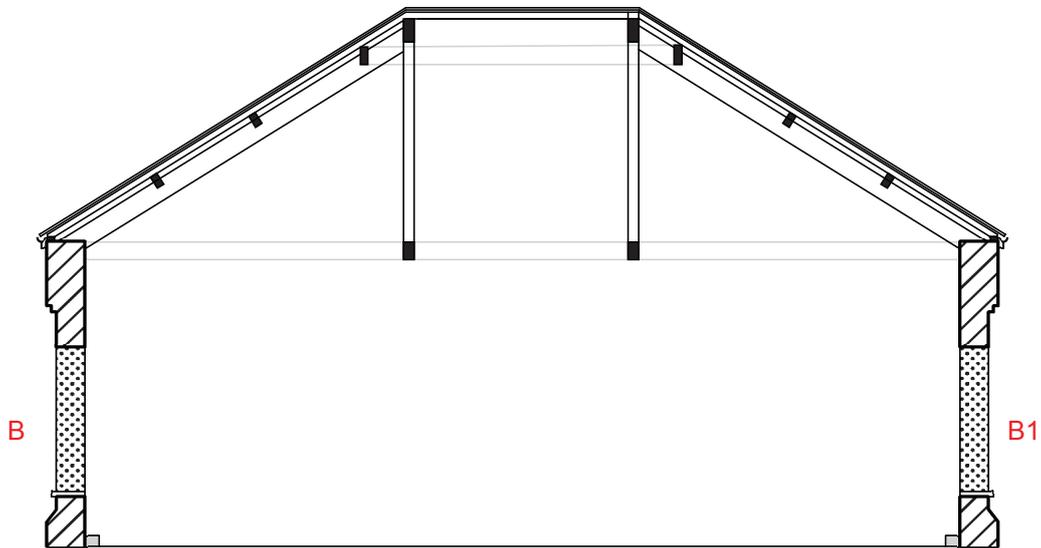
Plate 29 (left): South-east flue, south-west internal elevation



Plate 30 (right): North-west flue, south-west internal elevation



CROSS-SECTION A-A1, LOOKING NORTH-EAST



CROSS-SECTION B-B1, LOOKING SOUTH-EAST

| | | | |
|------|------------------------|-----------|----------------------|
| Key: | blocked feature | concrete | cross-sectional wall |
| | cross-sectional timber | iron bolt | features to the rear |

Figure 5: Cross-sections A-A1 and B-B1

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5. Discussion

5.1 Phasing

5.1.1 **Introduction:** the building clearly retains a considerable amount of original fabric but with a number of later alterations and modifications. In total, three phases of development were identified.

5.1.2 **Phase 1 (late 19th century):** the building was constructed as part of the development of the Stank Iron Mines, which were leased from 1871. The building is located close to pits 1 and 2, in the centre of the Stank Iron Mines, and given its prominent position, close to the earliest shafts at the site, it may relate to some of the earliest iron mining activities at the site. The building is certainly shown on the Ordnance Survey map of 1890, although at that time it had additional structures to its north-west and north-east sides and a short-lived walled enclosure was added to the south-west side c1890s (Plate 2). It was evidently built as a blacksmith's shop, and has already been previously identified as such; the notion that it was a 'power house' is evidently incorrect. It was originally equipped with four hearths, one in each corner with two against the north-east and south-west walls, and so could presumably be worked by four people at once. The structure of the actual hearths was clearly removed in a later phase, with only the truncated remains of three of the flues and the scar of the fourth remaining. The multiple windows were evidently intended to provide plenty of light to work by, as were the possible skylights and perhaps also the louvred roof, although this was more likely to have been used to ventilate the building and remove any smoke that got inside. The two small apertures visible externally are apparently original but less easy to explain. They may have been for removing ash from the hearths and so there may have been two others, connected to the western and northern hearths, which have been lost by subsequent alterations and the decay of the structure. It is also possible the north-west doorway was not an original element of the building as it has clearly been modified and does not have the same form as that to the south-east. A single point of access from the south-east side would perhaps seem more logical, as this would link the building directly with the other mine buildings to the east.

5.1.3 **Phase 2 (early 20th century):** the mine was abandoned in 1901 after which time the Stank Mines site may have been sub-divided (see *Section 3.2.2*). The small square structures and walled enclosure were removed from the sides of the building by 1913. It is likely that the building was converted for use as a barn during this period. Some or all of the windows may have been bricked in at this time and it is likely that the hearths were removed (their bricks probably used to block the windows and other apertures) but the footprint of the building probably remained unchanged following the removal of the outshuts to the north-west and north-east. The rebuild evident at the north-east end of the north-west elevation probably relates to this phase, and was undoubtedly carried out to facilitate the addition of a pedestrian doorway. The wagon doorway in the north-west elevation was also either added or enlarged during this phase, probably to allow easy access for agricultural vehicles or livestock.

5.1.4 **Phase 3 (late 20th century – early 21st century):** recent changes to the appearance of the building have been fairly superficial, including a doorway in the north-west elevation being filled in with modern breeze blocks, but probably also the blocking from the inside of the windows, also with concrete blocks, and the creation of a raised floor, although this has subsequently been removed. The building undoubtedly continued to be used as an agricultural storage building in this phase, indeed, as it was during the building recording, which has resulted in it recently being described as a barn.

5.2 Significance

5.2.1 The building originally served as a blacksmith's workshop for the Stank mines, one of the numerous ancillary buildings that no doubt originally existed at the site. Its survival is due it having been converted for use as an agricultural building after the mines went out of use. Other elements of the mine did not survive; a former engine house remains, but in a ruinous condition, while other buildings were successfully converted into houses, including both Rose Cottage and Glenfield House (see UK Mining Remains nd), and so still remain. The building is therefore of importance to the history of the site as one of the few remaining elements still extant and in reasonably good condition, and so sympathetic conversion would seem an appropriate means of preserving it for the future.

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