

Ford Colliery Engine Houses

Ford and Etal Estate, Northumberland

Archaeological Evaluation : May 2016

for

Ford and Etal Estate

June 2016



The Moss Pit Engine Houses

Addyman Archaeology

Archaeology Heritage Consultancy Architecture

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Ford Colliery Engine Houses

Ford and Etal Estate, Northumberland

Archaeological Evaluation

Executive Summary

This report presents the results of a programme of targeted archaeological evaluation of structures at the Moss Pit site, a part of the Ford Colliery, a Scheduled Ancient Monument (No. 34236) near the village of Ford in Northumberland, which took place in May 2016. Five trenches were excavated against the standing structures of Engines Houses 1 and 2 at the Moss Pit in order to answer specific questions of the nature of ground conditions and structural details necessary for the planning of essential repair works at the site. These works were undertaken in conjunction with a series of three bore tests at the site, undertaken by Dunhelm Geotechnical and Environmental, also required to assess the local ground conditions.

A record of the results of the work undertaken (*OASIS ID: addymana1-256109*) has been deposited with the Online Access to the Index of Archaeological Investigations (OASIS) website hosted by the Archaeological Data Service.

1. Introduction

i. The project

Simpson and Brown Architects and Addyman Archaeology were commissioned by the Ford and Etal Estate to undertake survey work, analysis and wider architectural and condition assessment at the remains of pit-head structures at the Moss Pit, on the Ford Moss colliery site, near the village of Ford, Northumberland. The work was funded both by the Ford and Etal Estate and by English Heritage. The scope of the works reported here was discussed in detail at a meeting at the Ford and Etal Estate Office at Ford on 12 September 2012. A schedule of repairs provided by Simpson and Brown Architects, including a set of draft proposal drawings, was discussed in detail and a series of individual investigations identified as necessary to provide further information. Subsequent discussions were held with Charles Blackett-Ord regarding the precise siting of the proposed trenches as well as the location of the boreholes.

The evaluation was undertaken during a week in May 2016, by Philip Karsgaard, Jenni Morrison and Anne-Aymonne Marot. The borehole investigations took place on Thursday 19 May by Dunhelm Geotechnical and Environmental.

ii. The site, general setting, topography and geology

The Ford Moss colliery site, Scheduled Ancient Monument 34236, is located about 2.5km ENE of the village of Ford. Lying in an area of undulating grassland and rough grazing bordered to the south and west by conifer plantations, the Ford Moss mining complex lies on an area of slightly higher ground on the edge of a large bog or wetland to the south. To the north of the Scheduled area, improved land is currently under cultivation.

The underlying bedrock geology comprises Sandstone, Siltstone and Mudstone from the Scremerston Coal measure. This is overlain by superficial deposits of peat which formed up to 2 million years ago

in the Quaternary Period. The geology indicates a local environment dominated by wetlands, initially swamps, estuaries and deltas and subsequently swamps or bogs.¹

The Moss Pit itself lies at the extreme easterly extent of the wider Ford Moss colliery site (*figure 1*), situated, as its name indicates, close to the northern edge of Ford Moss itself. Here it occupies a slight eminence of the land that is in part natural, providing a better-drained construction site, and partly constituting accumulated material deriving from the mining operation itself. This colliery upcast material has had a significant impact, as will be seen below, on the preservation of the structures at the site. The site is constituted by two upstanding structures, Engine Houses 1 and 2, and a pit shaft, lying at the reentrant at the junction of the two engine houses where a circular depression marks its location.

iii. Sources of information and historical summary

A detailed assessment of the site's history was undertaken for Ford and Etal Estates by Pre-Construct Archaeology in 2010.² The present evaluation did not require additional research in this area, and the information is exclusively drawn from Pre-Construct Archaeology's report. See Volume 1, Conservation Statement³, for more detailed historical analysis of the development of the colliery. Further detailed information on the Moss Pit Engine Houses is also contained in the Historic Building Survey and Analytical Assessment produced by Addyman Archaeology⁴ and is not reproduced here.

The Moss Pit buildings date from between 1862 and the mid-1880s. Both buildings were altered several times in their working lifetime, which though brief was probably very intensive.

The buildings housed steam engines, one in each pair used for winding loads up and down the adjacent mine shaft, and the other used to pump water out of the shaft. The pumping engines may have pumped for 24 hour stretches, with only brief pauses for maintenance. The strain that the rocking beam put on the adjacent wall structures must have been considerable, explaining some of the subsequent repairs.

The Moss Pit appears to have been put out of use by 1898, appearing by then on the OS 2nd Edition map as a disused working with a substantial colliery upcast mound to its south. The colliery closed officially in 1920, and all the buildings were abandoned. However, residents of the village did not all leave until c.1945. The site was scheduled in 2002 as 'Ford Colliery 920m north east of Blackcrag Wood'. Further information on the statutory protection of the structures is in volume 1, conservation statement.

¹ www.bgs.ac.uk/opengeoscience - 01/08/12

² Pre-Construct Archaeology (PCA) 2010 *Archaeological desk-based assessment and topographical survey: Ford Moss colliery*.

³ Addyman, T, Macfadyen, K & Uglow, N 2013 *Ford Colliery Engine Houses, Northumberland: Volume I Conservation Statement*. Simpson & Brown unpublished report.

⁴ Addyman, T & Macfadyen, K 2013 *Ford Colliery Engine Houses, Northumberland: Volume II Historic Building Survey & Analytical Assessment*. Simpson & Brown unpublished report.

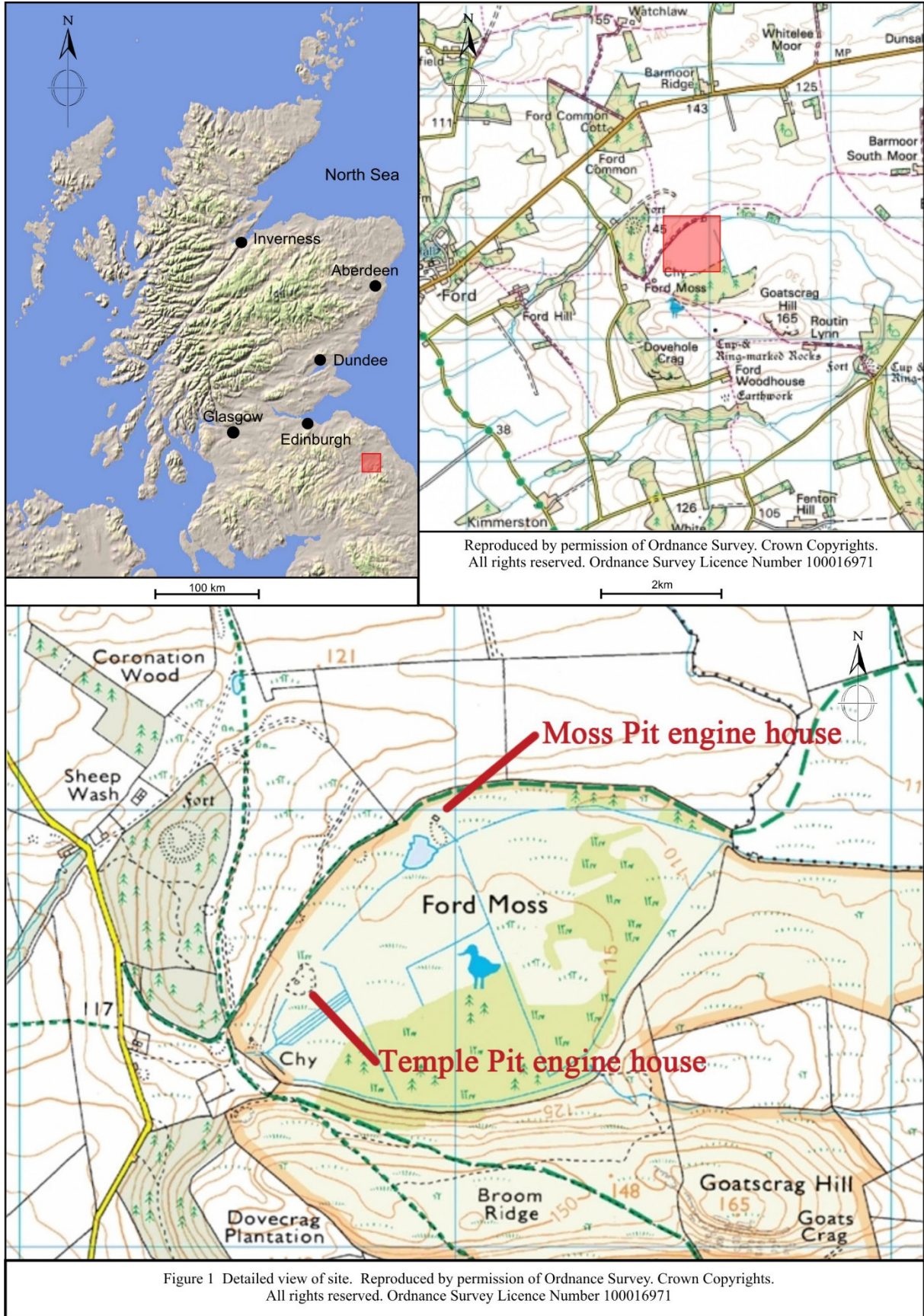


Figure 1 Site location

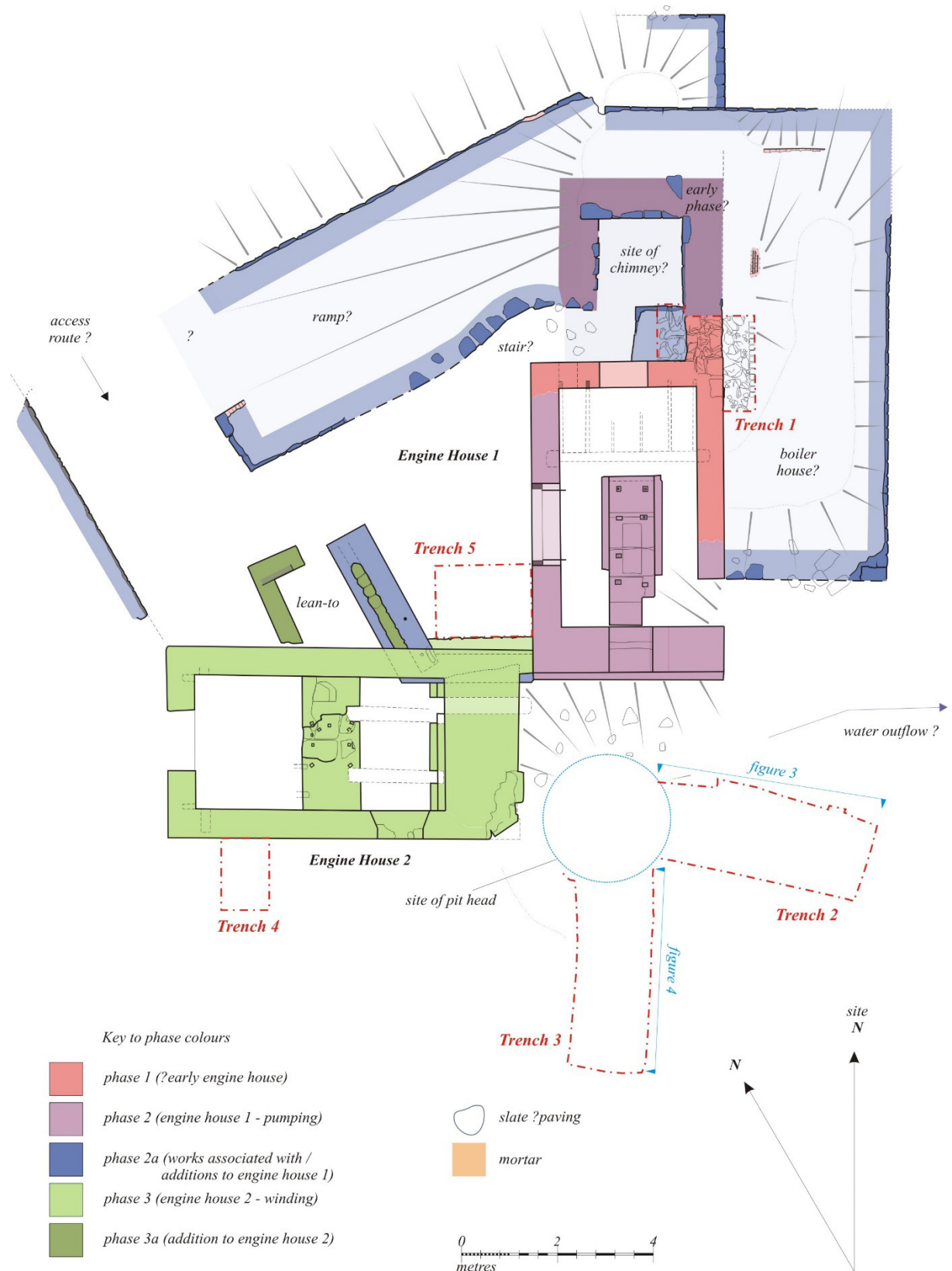


Figure 2 Moss Pit Engine Houses. Site plan with trench locations

2. *Archaeological Evaluation*

i. Methodology

Five trenches were excavated at the site. The trenches were placed to answer specific questions required for the understanding of the structures at the Moss Pit in order to facilitate conservation works. These specific questions are addressed trench by trench, below. Trench locations are indicated on *figure 2*. Trenches 1, 4 and 5 were de-turfed and excavated by hand by qualified professional archaeologists; at the end of works, the trenches were backfilled and turfs reinstated. Trenches 2 and 3, placed to locate the mineshaft, were excavated using a long-armed mechanical excavator (JCB) fitted with a toothless ditching bucket, under the supervision of an archaeologist. Further cleaning by hand and recording was undertaken only after ground conditions were assessed, and while securely anchored to a mobile person-anchor. Both trenches were backfilled and turfs reinstated where possible.

In all trenches, deposits and structures were excavated and recorded according to Addyman Archaeology standards and in line with standards as set out by the Chartered Institute for Archaeologists' (*CiFA*) recording standards. In the following report, cuts and structures are numbered in square brackets, and deposits and fills in round brackets.

ii. Trench 1

a. Strategy

Trench 1 was located on the north-east flank of Engine House 1 (*figure 2*). This trench was required to understand the nature of the junction of historic walling at the NE angle of Engine House 1. The information recovered will have a significant implication for the proposed approach to the consolidation and necessary stabilization of the upstanding walling of the much-robbed NE angle.

The specific uncertainty Trench 1 was designed to address is whether the quoining that had evidently existed at this point had been removed when an apparently later structure was added to its N side, or whether the quoining had simply been robbed after the building had fallen into disuse. In the former case the extraction of the quoining would have a considerably greater historic significance as part of the structural history of the building (and, in this respect, its interpretation). The trench was designed to examine the junction of walling, still surviving below existing ground surface, where the walling of a lost superstructure, possibly a chimney base, evidently runs in from the north.

b. Description

Trench 1 was deturfed by hand; this quickly revealed the underlying wall structures (*plate 1*). Immediately abutting the east wall of Engine House Wall (designated Wall [100] here) on its east side lay brick rubble derived from the walling of the possible 'boiler house' ancillary building to the east. This brick rubble, little more than a single brick deep, overlay the more substantial sub-angular sandstone blocks associated with this boiler house building clearly abutting Wall [100]. The clearance of this rubble in a small area, and the clearance of rubble and tumble on the west face of Wall [100], revealed the lower courses of the walling in the NE angle of Engine House 1. The stonework revealed that the east wall of Engine House 1 continues to the north as a single phase of keyed-in construction. The north wall of Engine House 1, Wall [101], is a keyed-in return to this wall, running east-west. This area to the north had been identified during building recording as a later phase of construction, possibly the chimney base. It appears, however, that the structure to the North of Engine House 1 also comprises elements contemporary with the original construction of Engine House 1.



Plate 1 Trench 1 post-excitation. Facing SW.



Plate 2 Trench 1. Detail of east face of east wall of Engine House 1, Wall [100], showing the wall line continuing to the north, beyond the collapsed return with the north wall of Engine House 1.

Plate 3 Trench 1. Detail of west face of Wall [100] with keyed-in return to North wall of Engine House 1.

c. Discussion

The east wall of Engine House 1, Wall [100], had been recognised during the building recording phase as being constituted by two phases of construction; the lower, northern section is the earlier phase, characterised by greyer, larger angular blocks, clearly visible in *plate 4*. This earlier phase appears on the evidence of the evaluation to have continued to the north, beyond the existing apparent corner of the building which has suffered collapse. This northern building, labelled 'site of chimney' on *figure*

2, appeared, during the building recording phase, to have been a later element inserted against the north wall of Engine House 1. It is clear that the south-eastern element of the 'site of chimney' structure on *figure 2* is indeed of a later phase, abutting the north-south Wall [100], but this must be a separate structural element to Wall [100] itself. It follows from this evidence that the north wall of Engine House 1, Wall [101], was, in its original phase, a keyed-in internal cross-wall, not the external north wall of the Engine House. In this case the stretch of wall now appearing as the NE corner of the building may not have been quoined at all. The collapse now apparent would then represent the collapse of a wall junction, rather than the collapse of a quoined building corner. If this northern element of the structure were later reduced, or the original structure was a single storey high, and a new external corner of the building created with inserted quoins, these may have been subject to the more pronounced collapse visible today. It is clear, however, that there is a degree of structural complexity at the north end of the complex.



Plate 4 Engine House 1 east wall [100] showing earlier construction phase of grey angular blocks in its northern extent. Facing west..

iii. Trench 2

a. Strategy

Trench 2 (as well as Trench 3, discussed below) was designed to locate the south and east sides of the pit head that lies within the re-entrant at the junction of the two engine houses. During the building recording phase, and at the time of writing the applicable *Written Scheme of Investigation*, the pit head was apparent only as a large depression some 4m in diameter, with no part of its masonry lining visible. One intention of the investigation therefore was to pinpoint the sides of the shaft head. Subsequent aims were to understand its level and construction details, identify the associated ground surface, and to record this information so that a proposed permanent capping detail can be properly developed. The eventual intention is to affix the capping directly to the pit head masonry; this will require the wider clearance of the perimeter of the pit head and a limited amount of fill within to permit suitable clearance for the capping, and the area of the pit head was therefore to be assessed archaeologically.

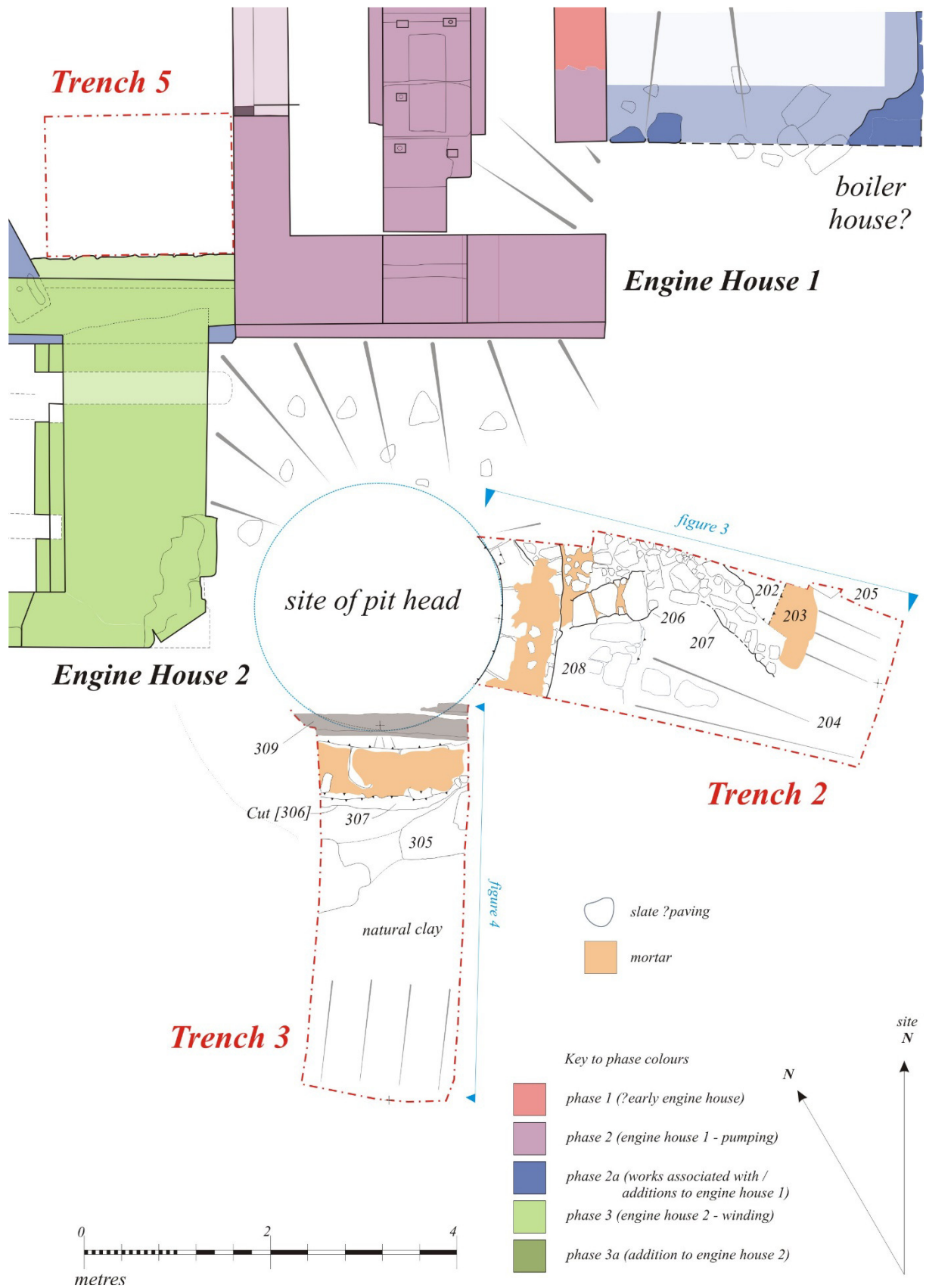


Figure 3 Detail of Trenches 2 and 3 with features identified

Both Trenches 2 and 3 were excavated using a mechanical excavator fitted with a bladed ditching bucket: all subsequent works were undertaken while securely tethered to a “man-anchor”.

Trench 2 ran from the mid-point of the pit head eastwards for 4m and was *c.* 1.80m wide (*figures 2, 3*).

b. Description

Trench 2 revealed some degree of archaeological complexity in terms of structures and deposits preserved in close proximity to the pit head. It was also immediately apparent that further collapse of the pit head, subsequent to the initial building recording phase of works, had revealed the inner line of the masonry lining the shaft, which is now revealed across most of its circumference. *Figure 3* shows the plan of Trench 2 and the features revealed. Investigations were confined to the first archaeologically significant horizons or features and their initial characterisation, rather than full excavation, so interpretations here remain preliminary.

The pit head lining itself was clearly identified in Trench 2. *Figure 4*, the south-facing section of the trench, shows that the coping stones as preserved lie below a thin layer of turf and topsoil (200) and a deposit of mixed blueish-grey humic silt containing ash, slate and colliery upcast material, (201); this overburden ranges from 0.30m to 0.52m in depth above the coping stones of the pit head lining.

The pit head lining itself (*plate 5*) is composed of angular grey fine-grained sandstone blocks, obliquely tooled into concave outer faces and roughly tooled flat on their upper surface. Stones are approximately 0.40m long, 0.30m wide and 0.20m deep. One coping stone is cut with a rectangular slot, 0.20m long and 0.10m wide. The lining itself is one course wide, curving gently to form the mine shaft, 2.66m in diameter. The outer face (that is, away from the mine shaft) of these lining stones is partially overlain and abutted by walling bonded in pale yellow lime mortar and composed of small and medium subangular sandstones for a width of *c.* 0.70m.

Immediately to the east of the pit head proper, Trench 2 revealed a number of additional features and structures not immediately apparent during surface survey. The underlying natural geology was not encountered in this trench.



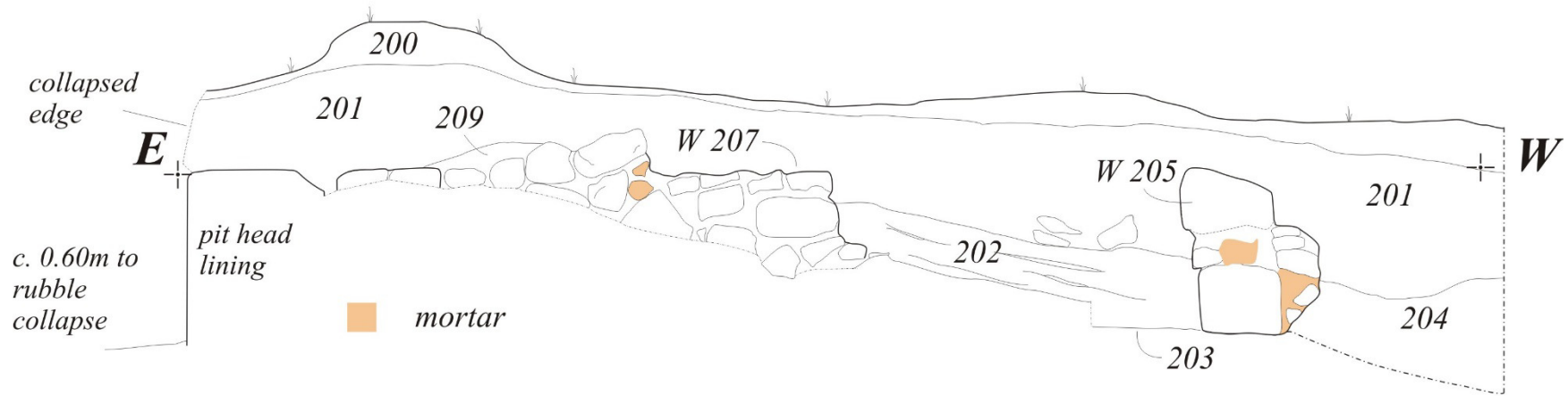
Plate 5 Trench 2. Detail of pit head lining. Facing west.

The pit head lining structures are abutted by a large amount of rubble, some of which has to some extent obscured underlying features. Immediately against the pit head lining, however, appears to be a roughly NE-SW aligned wall, [206], of rough quarried sandstone bonded in pale yellowish-orange lime mortar. The northern flank of Trench 2 was particularly rubble-rich which partially obscures this wall line, but it appears to for a return with similar Wall [207] aligned NW-SE. The southern half of Trench 2, south of Wall [206], sloped downwards to the east and is characterised by loose slabs of slate, some burnt, and apparently worked flat slabs of sandstone and slate. This material, (206), may be a heap of colliery upcast material, possibly formed into something of a sloping surface or ramp up to the pit head itself.

Wall [207], running NW-SE, is associated with a deposit of black ashy material (202), which has accumulated against it; Deposit (202) sat on a flat, mortar-rich horizon, (203), which may represent a surface associated with this structure or its construction.

Towards the east end of Trench 2, another structure is represented by Wall [205], preserved only in the Trench's south-facing section. This sandstone and lime-mortar wall may have originally run roughly NE-SW; it appears to form the eastern boundary of mortared surface (202). It continues northwards beyond the edges of excavation of the Trench, towards the possible 'boiler house' building on the east flank of Engine House 1 (cf. *figure 2*).

Trench 2 South-facing Section



Trench 3 West-facing Section

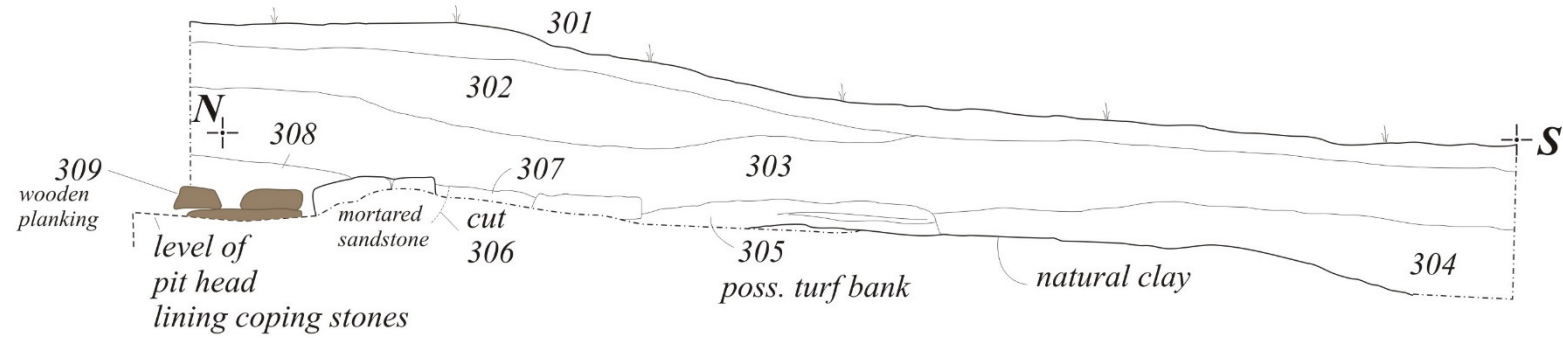


Figure 4 Trench 2, South-facing section

Figure 5 Trench 3, West-facing section

c. Discussion

Trench 2 was successful in revealing the nature and construction of the mine shaft lining and its associated features. It is clear that the area immediately to the south of Engine House 1 is characterised by a degree of archaeological complexity, with sub-surface features preserved in close proximity to the pit head itself. Natural clay was not uncovered in this trench: instead, colliery upcast material and mortared surfaces associated with stone-built structures slope downwards to the south and east, away from the pit head. This upcast material may have been formed into a ramp or surface; further archaeological exposure and investigation may be needed to clarify the nature of these deposits. The implications for the recapping of the mine head are discussed further in the section below, *Proposed Mitigation*.

iv. Trench 3

a. Strategy

The aims of Trench 3 were identical to Trench 2. It ran southwards from the exposed pit head for 4m and was 1.80m wide (*figure 3*).

b. Description

Trench 3 revealed the pit head lining, its original timber capping, a possible turf banking associated with the mine head, and the natural ground surface to the south of the mine shaft (*plate 6*). This area is characterised by less archaeological complexity than Trench 2 to its north and east.

The pit head lining, as expected, is essentially similar to that revealed in Trench 2, above. A notable difference is in the preservation of the timber beam capping (309), set into beam slots cutting the coping stones of the pit head lining. Because these beams are cut into the coping stones, the top edge of the pit head lining is lower in this area, and the surrounding backing wall stands slightly proud of the coping stones proper. *Figure 5*, the west-facing section of Trench 2, shows these relative elevations, and shows that the capping beams (309) and backing wall are overlain by turf/topsoil (301), and redeposited colliery upcast deposits (302) and (308) to a depth of 0.46 to 0.54m (*plates 7, 8*).

The coping stones and backing wall surround the pit head to a width of 0.76m. At the outer edge of this structure, the constructional foundation trench cut for the pit head, here termed [306], is visible cutting the natural clay at a depth of 0.50m below the surface. This foundation trench cut is filled with Fill (307), a mid orangey-brown sandy clay. Immediately behind (that is, away from the pit head) this cut appears to be the remnants of a possible turf bank, (305), with a single flat footing stone preserved. This turf bank may have been additional walling around the pit head, preserved as turves visible in the west-facing section of the Trench (*figure 5*). To the south of this possible banking, the natural clay horizon was revealed lying at a depth ranging from 0.30m (towards the north end of the Trench) to 0.50m (towards the south end).

c. Discussion

Trench 3 revealed less archaeological complexity than Trench 2 in the immediate vicinity of the pit head. A previous capping is preserved on the south side of the pit head in the form of wooden beams, (309), lying in beam slots cut into the upper surface of the coping stones. A lime-mortar and rubble wall backs these coping stones, and there is evidence for a preserved turf banking running around the south side of the pit head. The original ground surface is preserved in the level of the natural clay, 0.30-0.50m below the present ground surface.



Plate 6 Trench 3 post excavation with pit head and possible turf bank. Facing north



Plate 7 Trench 3 east-facing section at pit head with beam capping 309.. Facing west

Plate 8 Trench 3 west-facing section with pit head, beam capping and possible turf bank. Facing east

v. Trench 4

a. Strategy

Trench 4 was intended as a ground investigation required by the engineer in order to inspect the footing structure of Engine House 2 and its associated ground conditions. It was positioned aligned north-south, 1.5m wide and running 1.50m southwards, perpendicular to the wall foot. The trench was off-set towards the centre-western part of the south wall (*figure 2*), avoiding scaffolding which had been erected following the building recording programme.

b. Description

Trench 4 was excavated to a depth of 1.25m against the wall face of the south wall of Engine House 2 (*plate 9*). This revealed wall footings (*plate 11*) continuing to the full depth of the excavated trench, 1.20m, at which point excavation was ceased due to Health & Safety regulations and the difficulty of excavation by hand. The full depth of the wall footings, therefore, was not reached in these excavations.

It was clear, as in Trench 2 (above) and Trench 5 (below), that the site is characterised by a large accumulation of colliery upcast material, which has in some cases directly affected the preservation of the structural elements remaining. The west-facing section of Trench 4 (*plate 10*) shows a sequence of deposits related to this colliery upcast material. Below c. 0.20m of turf and topsoil (402), Deposits (403) – (411) represent a series of compact cinder-, gravel-, coal- and clay-rich layers, none of which can be definitively identified as the natural underlying geology. The natural clay found in Trench 2 (above) was not apparent in Trench 4. Further, it was impossible to identify any foundation trench in which the south wall of Engine House 2 was sitting, and these deposits therefore presumably represent colliery upcast material accumulated against the building during its working lifetime. It also implies that the natural clay subsoil, apparent at around 0.50m below topsoil in Trench 2, must at this point lie considerably deeper.



Plate 9 Trench 4 general view post excavation. Facing north-east



Plate 10 Trench 4 west-facing elevation showing colliery upcast deposits. Facing east

Plate 11 Trench 4 detail of S wall of Engine House 2 S elevation. Facing north

c. Discussion

The full depth of the wall footings in this area could not be ascertained in a small hand-dug trench, nor could a definitive existing ground level be identified. It is clear, however, that the wall footings lie at a depth of greater than 1.20m below the present ground surface, and are abutted by colliery upcast material to that depth. The borehole data are consistent with this finding; borehole MBH2, to the SW of Trench 4 and closer to the southern fringe of the upcast mound, showed made ground to a depth of 1m from the surface, with underlying peat to a depth of 2.60m before the clay horizon was encountered⁵.

vi. Trench 5

a. Strategy

Trench 5, located on the north side of Engine House 2 (*figure 2*), was intended as a ground investigation required by the engineer in order to inspect the footing structure of the building at the eastern exterior side of its north wall, and associated ground conditions. At this point there is some structural complexity, a masonry skin having been built against a pre-existing section of upstanding walling now embedded within the existing superstructure. At this point the masonry skin on the exterior side of the earlier walling is showing some instability – the investigation is intended to examine the reasons for this so that proposal for the remedial repairs of the walling above can be properly judged.

The trench was located along the existing wall foot running westwards from the junction with Engine House 1, and measured 2m east-west by 1.50m north-south.

b. Description

The initial clearance of Trench 5 involved the removal of accumulated rubble in the corner between Engine Houses 1 and 2, in the south-east corner of the trench. Topsoil (500) was removed, exposing Deposit (501), loose purpleish colliery upcast material containing burnt shale and coal. This material sloped downwards precipitously from west to east, downwards towards the corner of the west wall of Engine House 1 and the unstable masonry skin (here termed Wall [507]). From the approximate east-west mid-point of the trench eastwards, this downwards sloping mound of upcast material (501) was

⁵ Dunhelm Geotechnical and Environmental Site Investigation Report for Ford Moss Colliery, Berwick. Appendix D: Exploratory Hole Records (2016)

sealed with a coarse lime mortar surface (503). Above Surface (503) a loose ashy deposit, (502), had accumulated. Surface (503) continued towards the corner of the west wall of Engine House 1 and the masonry skin Wall [507], but fades into very loose, ashy material, Deposit (504), in the very corner itself.

A slot was excavated through colliery upcast material (501) on the west side of the trench, revealing a similar, loose mid-blueish deposit of burnt shale and slate-rich colliery upcast material, (506).

A slot was also excavated through Surface (503) in the far east of the trench, along the Engine House 1 west wall footing, revealing further ashy material (504), and a further buried feature which may represent a further mortar-faced or rendered pit, though this feature was not investigated further.

This excavation revealed the collapsing masonry skin, Wall [507], down to its foundations and somewhat below them. It became apparent that the stones of Wall 507 had been built directly on very loose, friable ashy material – Deposits (504) and (501). It is likely that Surface (503) represents a constructional surface of Wall [507], perhaps an attempt to stabilise what was then essentially a mound of colliery upcast material on which this section of walling was built. By contrast, the walling of the west wall of Engine House 1 continued downwards beyond the level of excavation in Trench 5, and, by extension from findings in Trench 4, may be deeply founded indeed.

c. Discussion

It seems likely that the cause of the state of collapse of Wall [507] may be attributed to its shallow founding on a pre-existing mound of loose, friable, and ashy colliery upcast material. The skin of masonry of Wall [507] had been added as a separate facing to the earlier wall, the north wall proper of Engine House 2, which is itself of a later phase than the earliest structural elements apparent on site. The earliest elements appear to be the oblique wall running into the north wall of Engine House 2. It appears possible, therefore, that the area north of Engine House 2 and west of Engine House 1 preserves earlier colliery activity, deposits and installations not immediately indicated on the surface.



Plate 12 Trench 5, general view post-excitation. Facing south-east



Plate 13 Trench 5, facing south, with Wall [507]



Plate 14 Trench 5, detail of east end with mortar surface (503). Note collapsed basal stone of Wall [507] and ashy deposit (504) directly underlying. Facing south.



Plate 15 Trench 5, detail of west end with Deposits (501) and (506) directly below Wall [507] footings

3. Proposed Mitigation

a. Trench 1

The evaluation works at the Moss Pit colliery buildings have produced additional information on the structural history and structures at the site, although the investigations were limited in extent. Preliminary answers to the specific questions posed have, however, been obtained.

Trench 1 revealed that the collapse on the north-eastern corner of Engine House 1, and apparently missing quoins, are to be understood as a result of the presence of early phase structures on the north end of Engine House 1. The relationship between the possible chimney site, boiler room, and Engine House 1 itself, is poorly understood from surface and non-invasive investigations alone, and presents some degree of complexity. Any ground-disturbing works taking place in this area would no doubt be subject to watching brief conditions at the least. Targeted archaeological investigations of the north end of the complex, even if limited to deturfing or minor rubble clearance, may, of course, provide more information as to the structural history of this part of the Engine House.

b. The Pit Head: Trenches 2 and 3

Collapse since the initial programme of building recording has revealed the inner edge of the stone mine shaft-lining along its entire circumference. The pit-head is covered with from 0.30m to 0.54m of overburden (of little archaeological significance). Trench 2 revealed that, in the area to the north and east of the pit head, sub-surface structures, surfaces and deposits exist, and exist with some degree of complexity. Features to the east immediate abut the pit head lining and would be subject to disturbance during any groundbreaking works. Excavations around the pit head would enable mitigation through preservation by record, requiring a small-scale archaeological excavation. A pit head capping involving the minimum disruption to the pit head and its surrounding area, therefore, is strongly recommended, and a surgical insertion of an internal gridded-structure, such as those capping wells at other Scheduled Ancient Monuments, may be appropriate in this instance.

c. Trenches 4 and 5: Foundations and Collapses

Trench 4 was not able to investigate the full foundations of the south wall of Engine House 2, as the sub-surface footings extend beyond 1.20m below the present ground surface. It is clear from bore-hole data, however, that the walls of Engine House 2 are abutted by colliery upcast material – which may mask underlying earlier structures – and may be overlying a raft of peat which occurs above the

natural clay. In the case of the masonry skin on the north side of Engine House 2, its collapse may be attributed to a shallow foundation on ashy, loose colliery upcast material. It should be noted that the structure immediately to the west of Trench 5, which underlies Engine House 2, represents an early phase of building – perhaps even a previous Engine House? – and that the evidence from Trench 5 suggests the possibility of previous structures, features, and deposits existing in the area north and west of the existing pit head. These deposits and features may be crucial to understanding the structural history of the site as a whole, and particularly its early phases, and therefore, particularly given the site’s status as a Scheduled Ancient Monument, are particularly sensitive. Any groundbreaking works here would no doubt have watching brief requirements imposed.

Appendix A Context Register

Context No.	Trench	Type	Description	Dimensions	Date	Initial
100	1	Wall	North-South Wall, Engine House 1		18/05/2016	AM
101	1	Wall	East-West Wall, Engine House 1		18/05/2016	AM
102	1	Wall	Sandstone and lime-mortar wall abutting 100		18/05/2016	AM
103	1	Wall	Brick wall/facing abutting Wall 102		18/05/2016	AM
200	2	Layer	Topsoil		20/05/2016	PK
201	2	Deposit	Mixed mid blueish-grey silt with colliery upcast		20/05/2016	PK
202	2	Deposit	Laminated ashy and mortar-lens above-surface deposit		20/05/2016	PK
203	2	Surface	Possible mortar surface		20/05/2016	PK
204	2	Deposit	Loose charcoal, coal and slate-rich colliery upcast		20/05/2016	PK
205	2	Wall	Cut sandstone wall in W section		20/05/2016	PK
206	2	Wall	East-West wall abutting mineshaft lining		20/05/2016	PK
207	2	Wall	Possible sandstone rubble crosswall		20/05/2016	PK
208	2	Surface	Possible paving or collapse		20/05/2016	PK
209	2	Deposit	Ashy lens above wall 206		20/05/2016	PK
301	3	Layer	Topsoil		19/05/2016	PK
302	3	Deposit	Mixed mid orangey-brown ashy colliery upcast		19/05/2016	PK
303	3	Deposit	Mid brown silty humic buried soil		19/05/2016	PK
304	3	Deposit	Loose shale-rich colliery upcast		19/05/2016	PK
305	3	Wall	Peaty, humic mid brown silt; turf banking		19/05/2016	PK
306	3	Cut	Foundation trench cut for mine shaft lining		19/05/2016	PK
307	3	Fill	Mid orangey-brown silty clay fill of [306]		19/05/2016	PK

308	3	Deposit	Loose mid-grey ashy colliery upcast		19/05/2016	PK
400	4	Wall	Sandstone rubble masonry wall		18/05/2016	JMM
401	4	Structure	Coarse lime mortar of wall 400		18/05/2016	JMM
402	4	Layer	Topsoil/turf		18/05/2016	JMM
403	4	Deposit	Very compact cinder deposit		18/05/2016	JMM
404	4	Deposit	Coarse sand and gravel deposit		18/05/2016	JMM
405	4	Deposit	Coal-rich lens		18/05/2016	JMM
406	4	Deposit	Redeposited natural clay		18/05/2016	JMM
407	4	Deposit	Grey clay layer		18/05/2016	JMM
408	4	Deposit	Dark grey clay layer		18/05/2016	JMM
409	4	Deposit	Friable clay and coal layer		18/05/2016	JMM
410	4	Deposit	Grey clay layer		18/05/2016	JMM
411	4	Deposit	Coarse sand and gravel deposit		18/05/2016	JMM
500	5	Layer	Topsoil		19/05/2016	PK
501	5	Deposit	Mixed purple colliery upcast		19/05/2016	PK
502	5	Deposit	Dark grey-black ashy deposit above 503		19/05/2016	PK
503	5	Surface	Mortared (constructional?) surface		19/05/2016	PK
504	5	Deposit	Mixed loose ashy colliery upcast		19/05/2016	PK
505	5	Cut	Possible mortar-lined pit cut		19/05/2016	PK
506	5	Deposit	Loose blue-grey colliery upcast		19/05/2016	PK
507	5	Wall	Sandstone wall skin		19/05/2016	PK

Appendix B Drawing Register

<i>Dwg No.</i>	<i>Type</i>	<i>Scale</i>	<i>Sheet</i>	<i>Description</i>	<i>Date</i>	<i>Drawn by</i>
1	Plan	1:20	1	Plan of Trench 3	18/05/2016	PK
2	Plan	1:20	2	Plan of Trench 4	18/05/2016	JMM

3	Section	1:10	2	West-facing section, Trench 4	18/05/2016	JMM
4	Plan	1:20	3	Plan of Trench 1	19/05/2016	AM
5	Elevation	1:10	3	Elevation of Wall 100	19/05/2016	AM
6	Elevation	1:10	3	Elevation of Wall 101	19/05/2016	AM
7	Section	1:20	1	West-facing section, Trench 3	18/05/2016	PK
8	Plan	1:20	1	Plan of Trench 5	19/05/2016	PK
9	Elevation	1:20	4	N-facing Elevation, Wall 507, Trench 5	19/05/2016	PK
10	Plan	1:20	4	Plan of Trench 2	20/05/2016	PK
11	Section	1:20	4	South-facing section, Trench 2	20/05/2016	PK

Appendix C Photographic Register

Image No.	Direction Facing	Date	Trench / Building part	Context No.	Description	Initials
233	SE	17/05/16	5		Trench 5 general view, pre-excavation	PK
234	S	17/05/16	5		Trench 5 general view, pre-excavation	PK
235	SE	17/05/16	5		Trench 5 general view, pre-excavation	PK
236	SE	17/05/16	5		Trench 5 general view, pre-excavation	PK
237	S	17/05/16	1		Trench 1 general view, pre-excavation	AM
238	E	17/05/16	1		Trench 1 general view, pre-excavation	AM
239	W	17/05/16	1		Trench 1 general view, pre-excavation	AM
240	N	17/05/16	4		Trench 4 general view, pre-excavation	JM
241	W	18/05/16			General view of pit head, pre-excavation	PK
242	SW	18/05/16	3		Trench 3 pre-ex., with pit head	PK
243	SW	18/05/16			General view of pit head, pre-excavation	PK
244	N	18/05/16			Exposed pit head with beam capping	PK
245	S	18/05/16	1		Trench 1 mid-excavation	AM
246	N	18/05/16	3		Trench 3, N end, post-excavation	PK
247	W	18/05/16	3		Pit head coping stones and beam capping	PK
248	W	18/05/16	3		Trench 3 E-facing section, N end	PK
249	S	18/05/16	1		Trench 1 mid-excavation	AM
250	S	18/05/16	1		Trench 1 mid-excavation	AM
251	W	18/05/16	1		Detail of bricks E of Wall 100	AM
252	N	18/05/16	3		Trench 3 post-excavation	PK
253	W	18/05/16	3		Trench 3 post-excavation, N end	PK
254	E	18/05/16	4		Trench 4, W-facing section	JM
255	N	18/05/16	4		Trench 4, general view post-excavation	JM
256	N	18/05/16	4		S-facing elevation of Eng. House 2 S wall	JM
257	N	18/05/16	4		S-facing elevation of Eng. House 2 S wall	JM
258	NW	18/05/16	3		Trench 3 post-excavation, N end	PK
259	W	18/05/16	3		Trench 3, E-facing section, S end	PK
260	E	18/05/16	3		Trench 3, W-facing section, S end	PK
261	E	18/05/16	3		Trench 3, W-facing section, S end	PK
262	W	18/05/16	1		Trench 1, general view wall junction	AM
263	SW	18/05/16	1		Trench 1, general view wall junction	AM
264	W	18/05/16	1		Trench 1, detail of bricks 103	AM
265	S	18/05/16	1		Trench 1, general view post-excavation	AM
266	S	18/05/16	1		Trench 1, general view post-excavation	AM
267	S	18/05/16	1		Trench 1, general view post-excavation	AM
268	S	18/05/16	1		Trench 1, general view post-excavation	AM
269	vert	18/05/16	1		Trench 1, detail of bricks 103	AM
270	W	18/05/16	1		Trench 1, detail of Wall 100, 101 junction	AM

271	S	18/05/16	1		Trench 1, general view post-excavation	AM
272	SE	18/05/16	1		Trench 1, general view post-excavation	AM
273	vert	18/05/16	1		Trench 1, detail of Walls 100, 101 W face	AM
274	E	18/05/16	1		Trench 1, Wall 100 W elevation	AM
275	E	18/05/16	4		Trench 4, W-facing section	JM
276	NE	18/05/16	4		Trench 4, W-facing section, N end	JM
277	E	18/05/16	4		Trench 4, general view post-excavation	JM
278	N	18/05/16	4		Trench 4, general view post-excavation	JM
279	N	18/05/16	4		Trench 4, Engine House 2 wall S-facing elevation	JM
280	N	18/05/16	4		Trench 4, Engine House 2 wall S-facing elevation	JM
281	N	18/05/16	4		Trench 4, Engine House 2 wall S-facing elevation	JM
282	W	19/05/16	1		Trench 1, Wall 100 E-facing elevation	AM
283	NW	19/05/16	1		Trench 1, Wall 100 E-facing elevation	AM
284	SE	19/05/16	1		Trench 1, Wall 100 W-facing elevation	AM
285	SE	19/05/16	1		Trench 1, Wall 100 W-facing elevation	AM
286	SE	19/05/16	1		Trench 1, Wall 100 W-facing elevation	AM
287	E	19/05/16	1		Trench 1, Wall 100 W-facing elevation	AM
288	SE	19/05/16	5		Trench 5, general view post-excavation	PK
289	E	19/05/16	5		Trench 5, general view E end post-excavation	PK
290	E	19/05/16	5		Trench 5, general view E end post-excavation	PK
291	S	19/05/16	5		Trench 5, general view post-excavation	PK
292	S	19/05/16	5	503, 505	Trench 5, E end with mortar surface (503) and possible pit cut [505]	PK
293	S	19/05/16	5	507	Trench 5, N-facing elevation Wall 507 showing collapse	PK
294	S	19/05/16	5	507	Trench 5, N-facing elevation Wall 507 showing collapse	PK
295	S	19/05/16	5	507	Trench 5, N-facing elevation Wall 507, W end	PK
296	S	19/05/16	5	507	Trench 5, N-facing elevation Wall 507, W end	PK
297	S	19/05/16	5	503, 501, 506	Trench 5 post-excavation with surface 503 and colliery upcast deposits 501, 506	PK
298	E	19/05/16	5		Trench 5, general view post-excavation	PK
299	S	19/05/16	5		Trench 5, general view post-excavation	PK
300	W	20/05/16	2		Trench 2, general view post-excavation	PK
301	W	20/05/16	2	206	Trench 2, pit head lining and Wall 206	PK
302	W	20/05/16	2		Trench 2, pit head lining detail	PK
303	W	20/05/16	2		Trench 2, general view exposed pit head	PK
304	NW	20/05/16	2		Trench 2, general view exposed pit head	PK
305	NW	20/05/16	2		Trench 2, general view exposed pit head	PK
306	NW	20/05/16	2	206	Trench 2, Wall 206	
307	N	20/05/16	2	206, 208	Trench 2, Wall 206 with possible ramp paving 28	PK
308	N	20/05/16	2	206, 208	Trench 2, Wall 206 with possible ramp paving 28	PK
309	N	20/05/16	2		Trench 2, S-facing section, W end	PK
310	N	20/05/16	2		Trench 2, S-facing section, W end	PK
311	N	20/05/16	2		Trench 2, S-facing section, W end, detail	PK

312	N	20/05/16	2		Trench 2, S-facing section with Wall 206	PK
313	N	20/05/16	2		Trench 2, S-facing section, mid section	PK
314	N	20/05/16	2	202	Trench 2, S-facing section, detail Deposit 202	PK
315	N	20/05/16	2	202, 203	Trench 2, S-facing section, detail Deposit 202, mortar surface 203	PK
316	N	20/05/16	2	205	Trench 2, S-facing section with Wall 205	PK
317	W	20/05/16	2		Trench 2, N-facing section, W end	PK
318	W	20/05/16	2		Trench 2, N-facing section, W end	PK
319	W	20/05/16	2		Trench 2, N-facing section, W end	PK
320	W	20/05/16	2		Trench 2, N-facing section, mid section	PK
321	W	20/05/16	2		Trench 2, N-facing section, E end	PK
322	S	20/05/16			General view pit head with lining	PK
323	S	20/05/16			General view pit head with lining	PK
324	NE	20/05/16			Working shot	AM
325	W	20/05/16			Working shot	AM
326		20/05/16			Working shot	AM
327	NE	20/05/16			Working shot	AM