Photo 1 – Steve H, Mark B and Mick working at the firebox end of the egg-ended boiler settings in March.

There have been eight work parties since the last newsletter, bringing the total for the year to date to thirteen. The focus has been on the excavation of the Egg-ended boiler settings, though there has also been further exploration of two water conduits and work has continued in the New Boiler area.

Progress: February - May 2022

Excavation has continued at the firebox end of the egg-ended boiler settings, and this has involved most of the volunteers at one time or another. (Photo 6 is a layout drawing of the photos taken at this part of the site) Since the last newsletter, more of the firing floor has been exposed in the direction away from the stoke hole. There was a considerable amount of coal dust in the spoil in this area. It looks as if the square metal plate, seen in the centre of photo 2 on the right, was laid to protect the floor. Two flagstones can be seen at the top of the photo, above a black/white ranging pole. When we dug down to this level, we found that the one on the left had been moved from its original position, leaving a hole which can be seen in photo 10. We had found a loose flagstone in this area at an earlier work party, and this was used as a replacement. This excavation has now reached a point where we cannot continue further to the south-west as we have almost reached the line of the new fence, as can be seen in photo 15. As this newsletter was being written, excavations to the south-west of the settings where the top of a brick wall was uncovered (photo 12).

Photo 2 – The firing floor of the Egg-ended boiler settings, seen from the Cornish Engine House end of the excavations. The metal plate mentioned in the text is in the centre of the photo, while above it are the two stone slabs. (Two 1 m black/white ranging poles at right angles)

One of the objects found in the spoil was the 6" long metal rail chair seen in photo 13. It is made from 1" thick metal and appears to have been made by a blacksmith rather than being cast like most chairs. Another, more conventional, chair was found in the same area at a later work party (photo 14). This has been taken off-site to receive the same heat/cola treatment as some of the other artefacts (see comments on p.3).

The pipe seen in photo 3 of the previous newsletter (N° 34) was found to extend only a short distance into the bank. Its purpose is still a mystery.

Exploration has continued in the New Boiler area, uncovering a brick floor that may have been part of the settings for the Lancashire boilers that we believe were in this area. The photo on the right (3) is a general view of this area from the top of the nearby heapstead while photo 20 is a closer view of the floor. The conveyor belt is used to protect the area in between work parties.

Photo 3 – View of the excavations in the New Boiler area, seen from the top of the Old Pit heapstead.

Exploration of the water conduit has also continued, using a radio sonde at the end of some drain clearing pipes. Bob's drawing (see p.2 of the last newsletter, N° 34) described there being metal plates at the end of the branches, so Derek used a metal detector near the Pumping Shaft passage to see if he could find the end of that branch of the conduit. A strong signal from a position between the shaft capping and the Cornish Engine House turned out to be coming from a 65" long buried metal plate (photo 21). As well as the plate there were fragments of two furnace bars and a broken fragment of a cast iron plate with one edge in a slight fish belly shape. All of them can be seen in photo 23, together with the rail chair mentioned above. (The photo shows that the two bars appear to fit together to make one approximately 36" long bar, and this was confirmed during cleaning) Under the plate were some bricks that appeared to have been laid as a path, possible to fill in a hollow that filled with water when it rained. The area has been backfilled with spoil, the firebars have been added to the artefacts collection, and we are no closer to solving where the water from both the Cornish Engine House and the Pumping shaft went to. Derek has also been plotting the route of the water conduit that travels towards the New Pit storage area, moving the sonde remotely to various positions and then marking its position on the surface. Photo 24 shows the results, seen from the storage area end. A combination of stakes driven into the ground and bricks laid on the surface mark out the route. Just why it goes in such a roundabout manner is another of Brandy Bottom's mysteries. One possibility was to avoid it running diagonally under the railway line that ran through this part of the site.

At the time this newsletter was being written, he was trying to see if there was a connection between one of the drains at the base of the winding drum pit in the Vertical Engine House and the shaft in the Old Pit heapstead alcove. He had reached a point outside the entrance to the alcove when the sonde was stopped by some as yet unexplained obstacle. The arrow in photo 25 shows where the sonde stopped outside the alcove. This drain was discovered when the pit was excavated in 2015 and is the one on the left hand side of photo 27. At that time our method of finding where it went to was limited to a visual inspection with a torch or the distance a camera on the end of a selfie stick would reach. Derek has been using a sonde, sometimes with a camera, mounted on a trolley that is pushed unseen up the drain. Photo 4, on the right, shows the sonde and camera at the start of the drain, which is full of silt.

Photo 4 – A camera sitting on top of the trolley at the winding pit end of the drain - note the depth of silt. (© D Hore, 2022)

The outer wall of the southern fan duct is being slowly straightened using a combination of Acrow jacks and home-made wooden props. Pressure from the material in the adjacent heapstead pushed it inwards over time. Hamish says that so far the wall has been pushed back by 1",

which is easy to measure if you are tending the jacks, but not so easy to judge if you are relying on photos. (Photo 29 is a recent one showing some of the jacks in place while photo 30, which was taken last year can be used as a reference)

Hamish has also been cleaning some of the older metal artefacts, as well as some of the recent ones, using the application of direct heat from his forge at home followed by immersion in a bath of Cola. (The Cola used was one of the cheap and cheerful brands, rather than a premium product) The use of Cola was suggested by an Internet article. Photo 31 shows a lump of metal that had been found when working in the Vertical Engine House in 2015. At the time we thought it was part of a thick cylinder flange, as the gap seemed to fit round a bolt, and we know that the scrap metal workers had broken up the cylinder. However, cleaning has shown that the lump is part of a cast gear wheel (photo 32), and Hamish has estimated that the wheel was around 6 feet in diameter. It could have been part of the drive wheel on the winding drum. As an aside, if the Cola cleans up metal what does it do to human teeth? It reminds the author about his time spent as a vacation student in the casting plant of a British steel works. It was hot work, so the company issued each gang with a ration of concentrated orange squash. Nobody he worked with drank it, preferring instead to use the squash to clean the tea mugs–a quick swirl of a measure of the undiluted concentrate around the inside of a mug, followed by a water rinse and all the tea stains had vanished.

Hamish has also built a model of a hoist fitted with a balance chain (photo 5 right). As explained in the caption, seen on the top left of photo 5 and enlarged in photo 33, the weight of hoisting chain in the shaft is constant. The effort needed to work the windlass is reduced and the men working the handles have only to raise the weight of the kibble, or bucket, and its contents. Hamish took the concept from one of mining's classic textbooks – Agricola's 1556 treatise entitled *De Re Metallica*. Agricola's original Latin text was translated into English in the early 1900s by Herbert Clark Hoover and his wife Lou Henry Hoover. (He was a mining engineer who later became the 31st President of the United States) The model should appear at this year's Heritage Open Days.

Photo 5 – Model of a hoist with a balance chain. A close-up of the caption, at the top left, can be seen in photo 33.

Daphne has continued her work on the flower bed by the egg-ended boiler and the areas around the two half-wheels. Jeff has continued to use his specialist metal-working and heavy object moving skills for the benefit of the project. He can be seen in photo 40 single-handedly hoisting one of the two half mine wheels into its storage position outside the Horizontal Engine House. He later did the same for the other half wheel.

The fungus seen in photo 43 was found inside the Old Pit enclosure at the end of March. An app on Mick's phone showed it as one of the Morel family, but the app would not commit itself to the species. Consulting a field guide when back at home suggests that it is a Common Morel, based on background information not asked for by the app. The guide states that the species is widespread but uncommon. That begs the question–why is it called the Common Morel if it is uncommon?

The author would like to thank the other photographers for allowing him to use their photos, and to Ken for proof-reading the draft of this, and many earlier, newsletters.

Visitor Access, Future Work Parties, and Joining In

At present there is only visitor access to the site on days when there is a work party in progress. It is usually possible to give small groups a guided tour during the work parties on a 'turn-up on the day' basis, but that depends on both the number of volunteers present and the work in progress. Special arrangements can be made for parties of 10 or more people by making contact through our email address of info@aibt.org.

The dates of work parties in 2022 are: Wednesday 01, Saturday 11, Wednesday 22 June; Saturday 02, Wednesday 13, Saturday 23 July; Wednesday 03, Saturday 13, Wednesday 24 August; Saturday 03, Saturday 10 and Sunday 11 (Heritage Open Days), Saturday 17, Saturday 24 September; Wednesday 05, Saturday 15, Wednesday 26 October; Saturday 05, Wednesday 16, Saturday 26 November; Wednesday 07, Saturday 17 December.

Please note that work parties, and their starting and finishing times, may be altered at short notice. The nominal opening times are between 10.30 am and 3 pm, but these timings are not fixed so we may start later and/or finish earlier. Because of this, newcomers who would like to join a work party should first make contact via the AIBT's email address of info@aibt.org. A responsible adult must always accompany youngsters.

We would like to thank the volunteers and near-by residents who keep an eye on the site when there are no work parties in progress.

There is a location map on a dedicated page of the website www.aibt.org, together with directions on how to reach the site. This page can be found by a link on the main Brandy Bottom project page.

Information on the AIBT Website

There are copies of all earlier newsletters on the Archive page of the AIBT's website: www.aibt.org. The Brandy Bottom section has pages covering a brief history of the pit and reports on work parties, as well as many photographs of the buildings, work parties, artefacts and structures discovered, and of some of the wildlife and wildflowers.

Photographs: February – May 2022

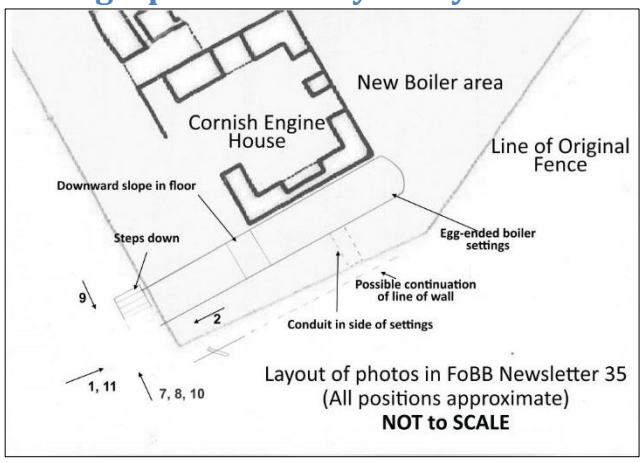

Photo 6 – Location of photos at the firebox end of the Egg-ended boiler settings.

Photo 7 – Excavation in progress of the south-west end of the Egg-ended boiler at the end of March …

Photo 8 – … and in early April.

Photo 9 – The south-west wall of the settings in March.

Photo 10 – The south-west end of the Egg-ended boiler settings at the end of April, with the new fence line just out of site on the left. The light coloured area at the centre of the bottom of the photo marks the spot where a stone slab had been removed …

Photo 11 – … and a view with the replacement slab ready on one side.

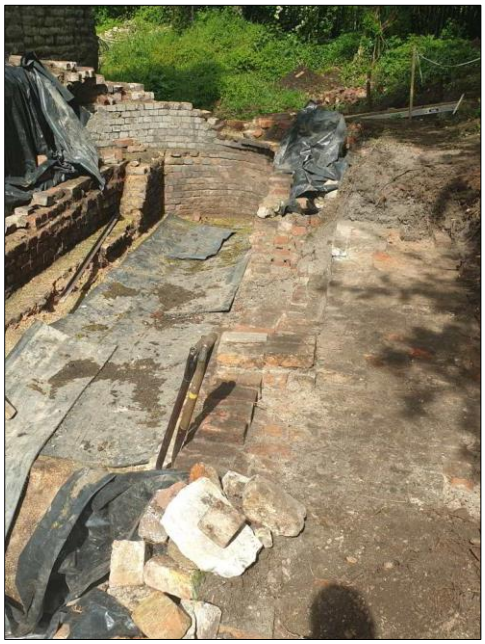

Photo 12 – The top of a brick wall has been uncovered to the south-east of the Egg-ended boiler settings in early May. The eastern corner of the Cornish Engine House can be seen in the top left of the photo. (© M Fletcher, 2022)

Photo 13 – This rail chair, looking as if it was made by a blacksmith rather than a machine shop, was found in the spoil at the firebox end of the boiler settings. (30 cm scale) that may change after it has been given the heat/Cola treatment. (30 cm scale)

Photo 14 – A light gauge railway chair found in the Egg-ended boiler settings. It looks to be of the same design as the one shown in photo 15 of the last newsletter (Nº 34), but that may change after cleaning.

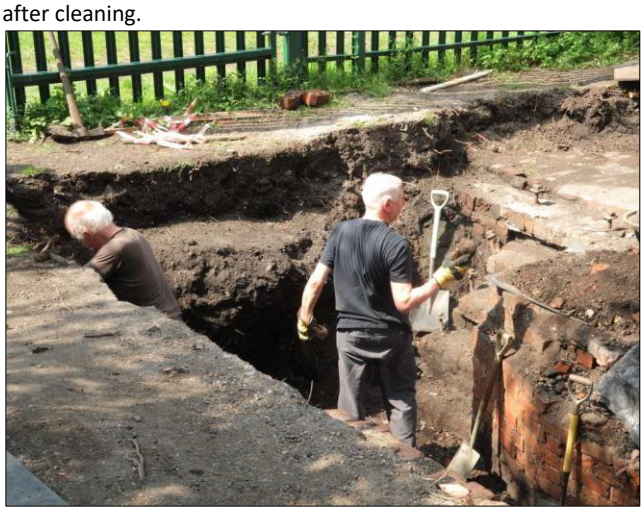

Photo 15 – Mick and Tom working at the firebox end of the Egg-ended Boiler settings ... (This photo shows how close we have got to the line of the new fence)

Photo 16 – … while Steve G and Mick discuss a find …

Photo 17 – … Ken looks down at one wall at the north-east end …

Photo 18 – … and Steve H puts down one tool, no doubt to pick another up.

Photo 19 – A ground level view of the excavation in the New Boiler area.

Photo 20 – A close-up of the floor seen towards the top of the previous photo (19).

Photo 21 – 65" long piece of metal found buried under the ground beside the Pumping Shaft capping.

Photo 22 – The bricks laid in the ground opposite the Pumping Shaft capping. (See comments on p.2) (30 cm scale beside the bricks)

Photo 23 – The two firebars found under the metal plate beside the Pumping Shaft can be seen in the foreground. Above them is the rail chair seen in photo 13, while at the top right is a part of a cast iron plate. One edge is shaped like a fish belly, which led us initially to think it was part of a firebar. (30 cm scale)

Photo 24 – Marker poles have been placed above the line of the conduit leading to the New Pit yard.

Photo 25 – The white arrow points to the stake marking the further point the radio sonde reached when pushed down the drain in the winding drum pit. The drain lies behind and to the left of the pale stone wall above the arrow, which is located just outside the right-hand edge of photo 26.

Photo 26 – The inside of the Vertical Engine House, showing the location of the winding drum pit.

Photo 27 – The base of the winding drum pit in the Vertical Engine House in 2015. The drain under investigation on p.2 is the one on the left. (The one on the right runs in the direction of the Old Boiler House)

Photo 28 – Pete digs down at the spot in the New Pit yard where we think there should be a buried metal plate at the end of a conduit, watched by Derek while Hamish looks on from a distance.

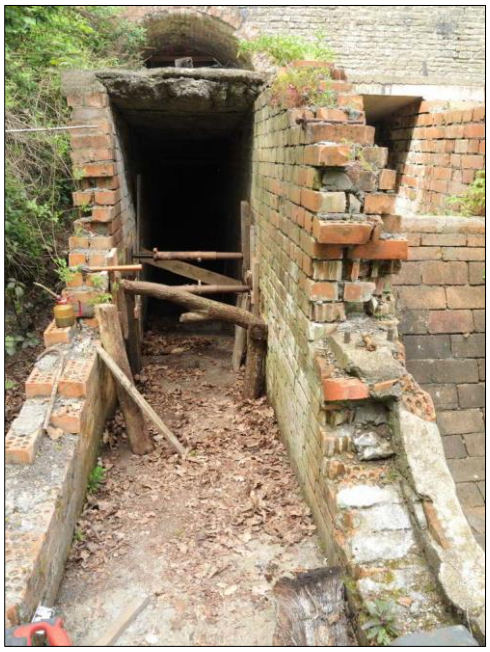

Photo 29 – View along the southern fan duct, looking towards the heapstead. Two Acrow props and a couple of home-made wooden props are being used to correct the inwards bow in the left hand wall.

Photo 30 – For comparison this is a view along the same fan duct in April 2021. The 1" movement achieved so far is too small to be picked up from photographs.

Photo 31 – A 2015 photo of a lump of iron found in the Vertical Engine House … (30 cm scale)

Photo 32 – … and in 2022 after cleaning when it was found to be part of a gear wheel – see comments on p.3. (© H Orr-Ewing, 2022)

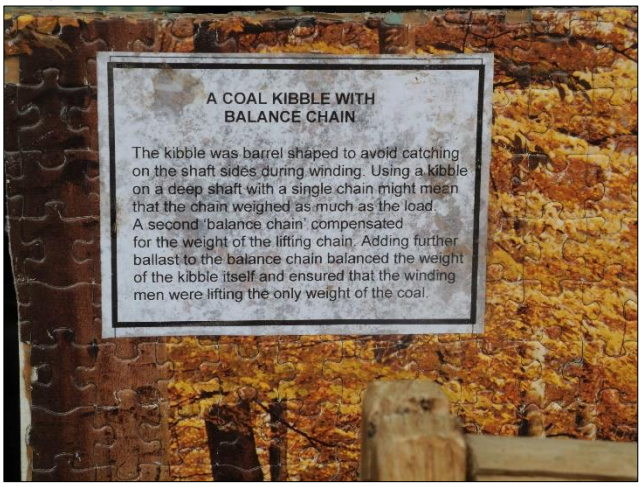

Photo 33 – A close-up of the caption seen on Hamish's balance chain model (photo 5). (See comments on p.3)

Photo 34 – Hamish laying a flashing on top of the bracing beam in the Old Boiler House.

Photo 37 – Derek, Hamish, and Daphne beside the flower bed in the space between the two lines of fencing.

Photo 35 – A view of the western end of Daphne's carefully tended flower bed outside the New Pit storage area fence in April…

Photo 38 – This stone sculpture was made by an anonymous passer-by, who entitled it "Jack Hammer". He probably left the small piece of cardboard seen on the left of the photo.

Photo 36 – … and the eastern end at the same time.

Photo 39 – Steve H and Jeff ease a half mine wheel through the gate in the old fence around the New Pit enclosure.

Photo 40 – Jeff hoisting one of the half mine wheels into its storage position outside the Horizontal Engine House.

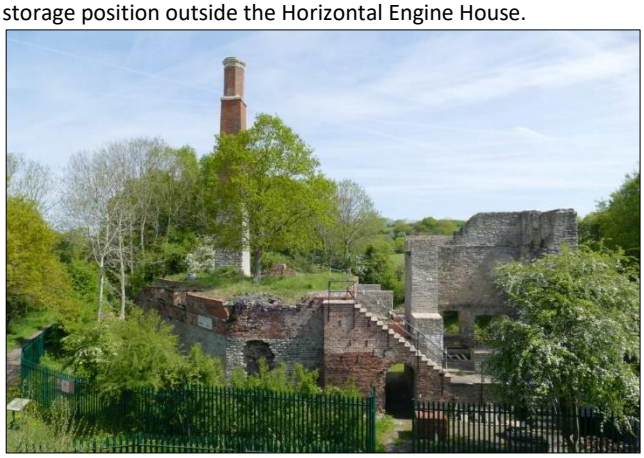

Photo 41 – The Old Pit seen from the roof of the Horizontal Engine House on a sunny day in April.

Photo 42 – A robin on the wall beside the path near the egg-ended boiler. It might be looking for another handout of worms, as one robin was well-fed with worms at the preceding work party.

Photo 43 – Common Morel in the Old Pit enclosure (see comments on p.3). (5 cm x 5 cm scale)

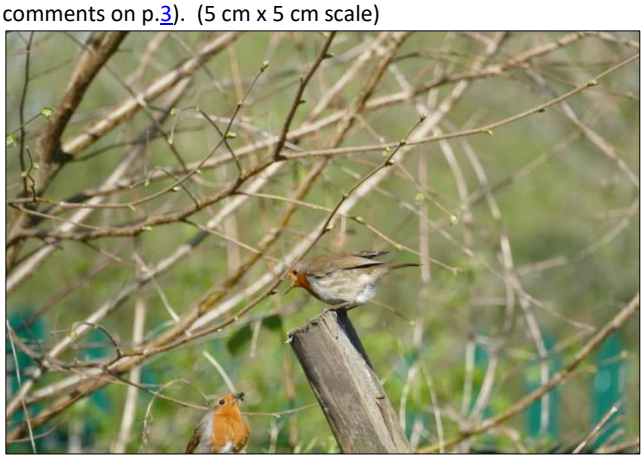

Photo 44 – With its beak wide open, the robin at the top appears to be complaining about the speed of the food service. I was concentrating on it, so did not spot the second robin arriving as I pressed the shutter in early April.

Website:www.aibt.org email: info@aibt.org