

# FRIENDS OF BRANDY BOTTOM COLLIERY, PUCKLECHURCH



## Newsletter N° 23, May 2019

(Photos 1-40 will be found on page [5](#) onwards. The blue underlined text are hyperlinks from the text to the relevant photos.)

There have been 9 work parties since the last newsletter, bringing the total to date for 2019 to 14.

The focus during the quarter has been on the Cornish Engine House, where the arched roofs of the two vaults were rebuilt and a drainage channel uncovered in the opening in the bob wall. There has also been preparatory work in the Vertical Engine House ahead of capping the top of the north-west wall, and on the shaft outside its entrance. Emergency repairs have had to be made to the wall at the south-west end of the Old Pit heapstead.

Brandy Bottom will be opened to the public on 14 and 15 September as part of the Heritage Open Days event.

### Progress: February - May 2019

Work continued in the Cornish Engine House. The new arched edge to the north-east vault was completed (photo right). The original arched edge was one brick thick, but the new edge has been built double thickness for extra strength. Photo [1](#) shows this under construction. The brickwork of the arch of the vault on the south-west side was found to be in an extremely fragile state. As it lies on the main route to the inside of the engine house, it has had to be completely rebuilt on safety



grounds. This has been done using reclaimed bricks, many of which came from the undercroft of the Horizontal Engine House. As can be seen from photo [3](#), the brickwork of the arch was not keyed into the masonry of the south-west wall of the engine house, something that has been copied for the rebuilt arch. Photos [4](#) to [8](#) show various stages in the rebuild. A strengthening course of bricks was built into the arch at the midway point, and the edge was also rebuilt with a double thickness. These can be clearly seen after construction finished in photo [9](#), which also shows that the top of the arch has been covered with a weak screed. Almost  $\frac{3}{4}$  of the roof of north-east arch was covered with the screed during the first work party in May (photo [10](#)). The intention is to lay a floor of stone slabs above the screed on both arches. Excavation of the spoil in the well between the vaults can resume once all the remedial work on the arched roofs has been completed.

More spoil has been removed from the area just under the bed of the Cornish Engine House, uncovering what is a definite semi-circular channel in the masonry (photo right). (This feature had only been partly excavated by the time photo 15 in Newsletter N° 22 was taken.) This may have fitted round the exhaust pipe from the cylinder. The layout can be seen in drawings of that period, such as the facsimile of the Williams' Perran Foundry Co. catalogue<sup>1</sup> published by the Trevithick Society.



The metal frame seen in the photo on the right was found in the spoil of the engine house (30 cm scales). Measuring 28" x 11" on the outside, it is made from 1½" wide by approximately ½" thick metal and over time had been broken into four pieces. It may well be part of a flange connected with the cylinder/condenser, as there are the remains of what could be a leather gasket attached to one part (photo [11](#)). Traces of wood were found nailed to another part (photo [12](#)).



Spoil clearance in the opening at the base of the north-west (bob) wall of the engine house has uncovered a channel that slopes from inside to outside. The fully uncovered channel can be seen in the photo on the right, with several pieces of lime scale replaced in their original positions. The wall towards the top of the photo is not an original feature, as it was built in 2017-18, when the masons were working on the conservation of the walls of the engine house. Photos [13](#), [14](#) and [15](#) shows the excavation of the channel at an earlier stage. A



piece of lime scale was found buried in the spoil nearby. This can be seen being held against the end of the channel in photo [16](#). It fits reasonably well against the scale still in-situ, suggesting that the channel extended beyond the inner edge of the bob wall towards the engine bed. There is a metal bracket at the back of this piece of scale (photo [17](#)), which has fragments of wood attached to it. This leads us to believe that the channel was made from wood, and the scale has been deposited on the inside. Some of the pieces, such as the ones seen in photos [18](#) and [19](#), show that the scale was deposited in layers over a period of time. A drain was uncovered at the Pumping Shaft end of the channel (photo [21](#)). Where it goes has not yet been established – the hole is about 4 feet deep and any water poured into it disappears. Discovering that has been added to the long list of interesting red herrings to be investigated another time.

<sup>1</sup> Williams' Perran Foundry Co. catalogue, dated early 1870s. Facsimile copy published by the Trevithick Society, 2005.

The edge of the platform outside the south-west wall of the Cornish Engine House has been levelled with new masonry (photo [23](#)). The intention is to form a level surface by laying stone slabs, which will make it easier to walk from the steps to the inside of the building. Jeff has started on designing safety handrails for the steps and the edge of the platform. At the same time the edges at the south-eastern end of the platform were rebuilt and the resulting void filled with a weak screed mixture. The photo on the right shows Hamish at work on this area in May.



Spoil has been removed from behind the top of the north-west wall of the Vertical Engine House (photo [27](#)). The aim is to give enough room to work on the top of the wall, and the top few inches of the outside, without spoil falling from the batch onto the working area. The top of the wall can then be capped to stop rain from soaking into the masonry. There has been more repointing of the outside of the walls of the engine house.

At the work party on 30 March, it was thought that the crack running up the side of the brick extension to the south-west wall of the Old Pit heapstead (photo [28](#)) was widening. No measurements had been taken in the past, but a comparison with a photo (photo [29](#)) taken for another purpose in November 2013 showed that this was indeed the case. At present the cause is unknown. Steps were taken on 06 April to minimise the chances of the wall collapsing, by bracing the outside wall against the ground with an Acro prop and cementing the first three stainless steel ties across the crack (photo right). More ties will be added once we have been able to reduce the outward pressure on the wall. A start has been made on this by removing some of the spoil from behind the wall, starting at the Cornish Engine House end and working towards the cycle path end. Photo [31](#) shows the progress made by the end of April. The excavated spoil has been put to good use. It contains a significant amount of ash, making it ideal for use as the filler in the weak screed mixture used in the Cornish Engine House. The intention is to save the wall, rather than demolish and then rebuild it. But there is more work to be done before we can make that decision.



There was more work on the shaft outside the Vertical Engine House. The brickwork around the top was fully exposed, allowing repairs to be made (photo [33](#)). Jeff has made a metal cover (photo [34](#)), which will be bolted down to the top and the brickwork will be flanchued to protect it. The cover will allow visitors to peer safely down into the shaft. However, based on experience, it will not stop any kamikaze frogs from making the leap to the water.

And while some volunteers got on with the glamorous tasks of excavating and rebuilding, others did the less glamorous work of repairing fences (photo [35](#)), clearing the accumulated leaves from various parts of the site (photos [36](#) and [37](#)), and tending to the hawthorn growing around the perimeter fences (photo [38](#)). The hawthorn whips planted out in early 2017 have started to thicken out, and this will help to make the fence more secure.

2019 marks the 25<sup>th</sup> year of the Heritage Open Days series of events, and we have decided that we will open on Saturday 14 and Sunday 15 September. Further information will be given closer to the date, probably in the next newsletter after this (N° 24). As well as Hamish's 1:50 scale model of the New Pit, seen for the first-time last year, we are hoping that



we will have taken delivery of a model of the Cornish Engine House to the same scale. It has made by a university student as part of their coursework and is currently still needed for the associated presentations. The idea of modelling the engine house was a piece of serendipity at the 2018 Heritage Open Days weekend. One of the visitors was a lecturer at the university, who just happened to be looking for a suitable modelling project for one of his students.

When told that the 1900 auction of Cossham's mining interests raised £60 000, one visitor was interested in what that represented in today's money. If, and this is a big if, the right fudge factor has been extracted from data on the Office of National Statistics' website, then the equivalent purchasing power in today's money is around £7 000 000. Which begs the question – could one build a basic hospital for that sum, let alone one with all the high-tech equipment that is required in a modern hospital? Probably not, so we are no closer to being able to give visitors an idea of the current value.

### Visitor Access and Future Work Parties

At present visitor access to the site is limited to 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 though this cannot be guaranteed as it depends on there being sufficient volunteers present. Special arrangements can be made for parties of 10 or more people by making contact through our email address of [info@aibt.org](mailto:info@aibt.org).

The dates for work parties in 2019 are: Wednesday 15, Saturday 25 May, Saturday 08, Wednesday 19, Saturday 29 June, Saturday 06, Wednesday 17, Saturday 27 July, Saturday 03, Wednesday 14, Saturday 24 August, Saturday 07, Saturday 14 and Sunday 15 (Heritage Open Days), Saturday 28 September, Saturday 05, Wednesday 16, Saturday 26 October, Saturday 02, Wednesday 13, Saturday 23 November, Saturday 07, Wednesday 18 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 hard and fast so we may start later and/or finish earlier. Because of this, newcomers who would like to join a work party are advised to first make contact via the AIBT's email address of [info@aibt.org](mailto:info@aibt.org). Youngsters must be accompanied at all times by a responsible adult.



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

## Photographs



Photo 1 – Hamish building a new edge to the north-east vault of the Cornish Engine House. A view of the finished edge can be seen on [p.1](#).



Photo 2 – Mick, Ken and Pete working on spoil removal from the inside of the Cornish Engine House.



Photo 3 – This view of the inside of the south-west wall of the Cornish Engine House shows that the bricks of the arched roof of the vault on that side were not keyed into the masonry of the wall. (30 cm scale)



Photo 4 – The arched vault on the south-west side of the Cornish Engine House was rebuilt using this former. A second one was added later so that half of the vault could be rebuilt during a single work party.



Photo 5 – Ken and Hamish start on rebuilding the arch using bricks recovered from around the site, including those found in the undercroft of the Horizontal Engine House ...



Photo 6 – ... working towards the meeting point ...



Photo 7 – ... and the completed first half of the arch.



Photo 8 – A weak screed layer has been laid on the top of the first half (foreground) and work is in progress to build the second half.



Photo 9 – The completed arch, with a layer of weak screed laid on top.



Photo 10 – Ken dumping a bucket-load of weak screed mixture onto the top of the arched roof of the north-east vault.



Photo 11 – Remains of what appears to be a leather gasket attached to part of the frame seen in the photo on page 2. (5 cm x 5 cm scale)



Photo 12 – Another part of the same frame had what appeared to be wood attached. (5 cm x 5 cm scale)



Photo 13 – An early stage in the spoil removal from the channel in the bob wall of the Cornish Engine House.



Photo 14 – Spoil is being removed from the channel in the bob wall, with a piece of lime scale still in its original position to the left of the scale. (30 cm scale)



Photo 15 – View of the channel in the bob wall, seen from a position above the engine bed. Work has just started on excavating the roof of the south-west vault, seen on the left below the volunteer's boots.



Photo 16 – A piece of lime scale found in the spoil around the arched vaults is matched up to another piece still in situ. (See text on p.2, 30 cm scale)



Photo 17 – The reverse of the piece of lime scale seen in the previous photo. There are traces of wood attached to the metal plate. (30 cm scale)



Photo 18 – This close-up of one of the pieces found in the channel in the bob wall shows how the lime scale has been built up layer by layer. (30 cm scale)



Photo 19 – Close-up of another piece of limescale found in the channel in the bob wall, with more layers of lime scale build up. (30 cm scale)



Photo 20 – Two more pieces of lime scale from elsewhere in the channel. The rough surface of the one on the left would have been in the flow of water, while the smooth surface of the one on the right was against the wooden edge of the channel. (5 cm x 5 cm scale)



Photo 21 – Drain hole discovered at the Pumping Shaft end of the channel in the bob wall of the Cornish Engine House. (See text on p.2)



Photo 22 – The end of the wall of the platform outside the south-west wall of the Cornish Engine House has been built up, and the resulting void is being filled with a weak screed mixture.



Photo 23 – The outer edge of the platform outside the south-west wall of the Cornish Engine House has been built up, and a weak screed mixture has been laid on the area behind the edge.



Photo 24 – Jeff studies the layout of the steps outside the Cornish Engine House as he takes the measurements he needs for making a set of handrails.





Photo 25 – Mark gets stuck into the task of clearing spoil from behind the north-west wall of the Vertical Engine House ...



Photo 26 – ...watched by Pete and Mike ...



Photo 27 – ... and the result of the spoil clearance work by both Mark and Pete. (See text on p.3)



Photo 28 – Crack in the brick extension to the south-west wall of the Old Pit heapstead on 30 Mar 19. (See text on p.3)



Photo 29 – For comparison this photo of the crack was taken on 16 Nov 13.



Photo 30 – Mick chases out the pointing at the south-west end of the Old Pit heapstead before fitting the stainless-steel ties.



Photo 31 – Spoil has been removed from above the entrance to the Pumping Shaft passage, and part of the area behind the brick wall at the end of the Old Pit heapstead. (See text on p.3)



Photo 32 – Mike removes spoil from behind the wall above the Pumping Shaft passage, aiming for a wheel barrow parked out of camera shot.



Photo 33 – The brick top of the shaft outside the entrance to the Vertical Engine House has been fully exposed, ready for repairs. (30 cm scale in foreground) (See text on p.3)



Photo 34 – Jeff has constructed a frame to cover the shaft.



Photo 35 – Jeff and Mike repairing damage to the fence near the Old Boiler House.



Photo 36 – Mike sweeps up the accumulated leaves in the Old Boiler House at the end of March ...



Photo 37 – ... while Jeff does the same in the Old Pit alcove.



Photo 38 – Martin tends to the hawthorn planted along the Old Pit perimeter fence.



Photo 39 – Pete, Jeff, Ken, Mick and Mark enjoying the unseasonable warmth of the sun at lunchtime during the work party on the 23 February.



Photo 40 – Leopard slug found when moving materials from the base of the south-west wall of the Cornish Engine House. Scale is given by the fingers of the glove it is resting on.

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