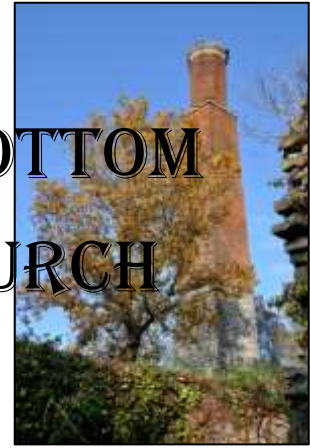


FRIENDS OF BRANDY BOTTOM COLLIERY, PUCKLECHURCH

Newsletter N° 11, May 2016



It has been a busy quarter at Brandy Bottom: The masons have been working on the Old Pit and the fan ducts; There have been 18 planned or impromptu work parties and site liaison visits since the last newsletter, compared with 29 during the whole of 2015; And three experienced industrial archaeology visitors came in April, bringing a fresh perspective to bear on interpreting the layout of the place.

Rebuilding in the Old Pit area is almost complete. It has strengthened the fabric of the walls and will hopefully prevent any further deterioration for years to come. The work parties have been clearing areas before the masons started to work on them, investigating some of the items they uncovered, and looking at new parts of the site.

The AIBT leases the land on which the buildings at Brandy Bottom are located from Ibstock Brick. We would like to thank them for producing bricks for use in the restoration (photo right), as they used their expertise to match the colour of the new bricks to the existing ones.



Progress: February – May 2016

(Photos 1-73 will be found on page 7 onwards)

A) Masons

CWS Landscaping continued with their conservation work on the walls of the Old Pit and the fan ducts. The buttress in the Vertical Engine House was completed by the end of February (photo right). It was built to support an overhanging section of masonry at the top of the wall, which had previously been held in place by ivy. Photo 1, taken from a slightly different angle, shows the gap between the original stonework of the south-west



wall of the Vertical Engine House and the brick top of the Old Pit heapstead. The two walls were must have been built at different times as they were not keyed together. Photo 2 shows the inside of the south-east wall of the building around the fireplace after rebuilding and capping.



The top of the north-west wall of the Old Boiler House has been patched and capped, and the northern corner of the building and part of the north-east wall have been rebuilt and capped. This has stabilised the wall fragments that were in danger of vanishing over time. Photo 7, which was taken from the top of the Old Pit heapstead, shows the area in mid-March after patching and/or rebuilding but before the wall capping was put in place. The state of the walls before the work started can be seen in photos 3 and 5, while 4 and 6 are the corresponding views of the rebuilt sections before they were capped. As can be seen in the photo on the right, there has been a change in the plans and the walls have been capped with cement and not bricks. This will make it easier to extend them upwards at a later date if required.



The fireplace in the northern corner of the Cornish Engine House has been rebuilt, and photos 8 and 9 are 'before and after' photos of that corner. The keystone of the arch above this fireplace has, like the one in the Vertical Engine House, been marked "AIBT 2016". Photo 9 was taken on a cold wet day in early March, hence the fire. The next two photos show the inside of the bob (north-western) wall of the engine house. The first, photo 10, was taken in July 2014 and shows how little of the left-hand end of the wall remained to support the weight of the masonry above the arch. The second, photo 11, shows the area after the supporting buttress was built.



In the area of the Pumping Shaft, part of the inside of the passage, the masonry supporting the capping of the shaft itself, and the wall and platform above it have been rebuilt. The photo to the right shows the area after the rebuilding was finished, while the original state can be seen in photo 12. Photo 13 is a close-up, showing the parlous state of the masonry below the concrete capping with all of the front face missing, while photo 15 was taken after the rebuild. When the masons removed the flagstones from the platform above the passage, prior to relaying them after the adjacent wall was rebuilt, they uncovered a stone-lined shaft (photo 19). Its position is marked in photo 18, and its purpose is one of the many things that have still to be determined. In photo 20, taken from the Cornish Engine House end, the wall has been rebuilt and the flagstones have been re-laid, however the area around the stone-lined shaft has still to be finished.



The tops of the fan duct walls have been built up and capped, and the northern duct has been given a cast concrete roof. The photo on the right was

taken from the top of the Horizontal Engine House in April, and shows the shuttering still in place around the newly-cast concrete roof. For comparison, photo 21 shows the ducts from the north before rebuilding, while photo 23 is a view from the top of the Horizontal Engine House after the duct walls had been rebuilt. The next photo, 24, was taken from the top of the New Pit heapstead before the new roof was cast, shows the layout of the ducts, fan housing and engine beds.

The tops of the Old Pit heapstead were cleared of vegetation and the brickwork built up where necessary to allow the walls to be capped. The visual effect of clearing the vegetation can be seen by comparing photos 27 and 29. These show the south-east wall of the heapstead in June 2013 and April 2016 respectively. Vegetation clearance uncovered the remains of two wire ropes clamped to the top of the south-western wall, and these are described on page 4. Rebuilding of the outer wall of the Old Pit heapstead ramp was completed and the top capped with bricks (photo right). Photos 30, 31, and 32 are 'before, during and after' views of the rebuild of the top of the wall above the Old Boiler House. Photo 33 shows the completed capping on the heapstead walls above the Vertical Engine House, while photo 34 is a view of that area from ground level.



Clearing the vegetation from the top of the north-west wall of the Old Pit heapstead showed just how dilapidated the brickwork had become, with empty slots running along the length of the wall. Fragments of wood showed that these had once been filled with wooden beams. These had rotted away leaving the brickwork above the slots unsupported. This can clearly be seen in photo 38. Reclaimed sleepers have been inserted into the slots and the surrounding brickwork has been rebuilt. Photos 39 to 41 show various stages of the rebuild. Photo 42 shows the rebuilt southern tippler slot.

The top of the outside of the chimney was repointed at the end of March (photo right). This photo was taken from the same position as photos 26-28 in Newsletter N° 10.



At the time of writing, rebuilding work in the Old Pit is almost complete, with a few finishing touches to be made to the north-west wall of the heapstead and the tippler slots, the top of the chimney and the platform above the Pumping Shaft passage. The fan ducts also need a few finishing touches.

The rebuilding/patching has made inroads into the accumulated stockpiles of building stone and brick. However the stockpile by the Vertical Engine House has been more than replenished with the building stone that has been recovered from inside the building.

B) Volunteers

Three industrial archaeology experts, with interests in ventilation, engines and industrial archaeology, and iron mining, made a site visit in April. They looked around the site with a fresh perspective, pointing out facets that the regulars had overlooked and suggesting new areas of interest. However even they were beaten at times by Brandy Bottom's layout. Their views have been incorporated into the discussions that often conclude a work party.

Work in the area of Fan Engine House has uncovered the base of the fan housing (photo right), confirming the comment made in the last newsletter (N^o 10). Unfortunately a post was driven into the middle when the site was fenced off, and this can be seen in the photo. The position of the fan housing is marked on photo 24. Based on design data on Sirocco fans taken from a 2000 book¹ on colliery ventilation, written by one of the April visitors, together with some site measurements, the diameter of the Brandy Bottom fan has been



estimated at 45". This would give it an output of between 43 000 and 51 500 cubic feet/min. Cleaning up around the eastern end of the central wall of the ducts uncovered a pair of holding down bolts and a semi-bullnosed brick still in-situ (photo 44). The former would have been part of the fan bearing supports. The latter might have been part of the fan inlet and helped to guide the air flow into the fan. A cement track showing the swing of a damper in the northern duct can be seen in photo 45. This damper would normally be in a vertical position, directing the air leaving the fan up the exhaust to the atmosphere. On occasions it could be swung into a horizontal position, allowing the air to be forced down the shaft into the mine workings. A pit was discovered in the southern corner of the Fan Engine House (photo 46). Intriguingly, this was well built, has a ledge on two sides to support a trapdoor, has no apparent connection to any other structure, and has a pipe running through the middle. As to what it was for ... that stumped our visiting experts. However they were able to confirm from the layout of the fan that it normally extracted air from the mine.

While clearing vegetation from the walls of the Old Pit heapstead, the masons uncovered two wire ropes set into the brick top of the southern end of the Old Pit heapstead. The eastern of these ropes can be seen in the photo on the right. Further investigations revealed that the ropes were anchored farther back from the edge (photo 47). The eastern rope was set in a block of concrete with the remains of a wooden beam behind it (photo 48), while the western rope was looped through an eye bolt (photo 49). The eastern anchor lies above an angled masonry slot at the bottom of the heapstead wall, which had been discovered in March 2014.



¹ *The history and development of colliery ventilation*, Hill A, Peak District Mines Historical Society, 2000, p.163

Investigations revealed a second slot at the base of the wall below the western anchor (photo 50). This still had a fragment of a wooden beam in place (photo 51). The ropes on top of the heapstead and the beams at the base appear to be part of a structure that can be seen running between the heapstead and the Horizontal Engine House in the 1881 and 1903 OS maps. It had been dismantled by the time of the survey for the 1915 map.

A large piece of Pennant stone was found at the bottom of the outer wall of the Old Pit heapstead ramp, with a groove cut into the north-western face (photo 52). Further excavation showed that there was no groove on the opposite face of the stone. This stone must have been recycled from elsewhere, as no one would cut an apparently unnecessary groove in a piece of Pennant without good reason. Or had the chiseller 'upset' the foreman and had been made to do penance?

A length of metal conduit was uncovered by the masons on the top of the north-eastern wall of the Old Pit heapstead when they cleared the vegetation. This is of the type used for electric lighting, and can be seen in photo 53. So far only 2 feet of the conduit have been uncovered, but it appears to be heading in the direction of the chimney. As can be seen from photo 54, the wall capping has been re-built around the conduit.

Once the masons had finished working in the Vertical Engine House, the volunteers were able to resume spoil clearance. Quantities of good building stone have been recovered, but very few artefacts. Spoil removal from below the engine bed in the Vertical Engine House has revealed what may be crow holes, used for adjusting the tightness of the bolts (photo right), below the engine bed. This is one of the areas currently being investigated. Another is the narrow slot adjacent to the winding drum pit, which is thought to have housed the flywheel. One of the few artefacts found was the 2½" long plug seen in photo 60.



A holding down bolt was spotted in the grass of the Old Pit heapstead, along what is thought to be the original line of south-east wall (photo 55). A test trench dug at the north-eastern corner of the heapstead has uncovered what may be the foundations of a building (photo 56), which would correspond with one of the structures seen in the 1881 map. Work continues in this area.

The cleaned-up half of the 8¾" diameter flanged wheel found in the tippler slot of the Old Pit heapstead can be seen in photo 57. It probably came from a coal tub, fits onto a square axle and has a ¼" flange on the outside edge that may be the result of wear. Another find, this time from the base of the Old Pit heapstead ramp, was a fragment of a hand grenade (photo right, 120316-1, 5 cm x 5 cm scale). How it got to Brandy Bottom is a



matter of conjecture. The grenade fragment might have been brought on site by the scrap metal merchants, or, dare one suggest, the site was used by the Home Guard in WWII for practising fighting around buildings. However it is worth pointing out that spoil clearance in 2014 in this area turned up a treasure trove of objects such as the pole end chain seen on page 1 of the May 2014 newsletter (Nº 3). There were also many non-mining artefacts such as glass bottles, and the Palmolive shaving soap container seen in photo 2 of the same newsletter. The remains of what are thought to be picks can be seen in photo 59. These were found on the top of the Old Pit heapstead, though other examples of the type seen at the top of that photo have been found elsewhere.

Use of the overlay facility for the maps on South Gloucestershire 'Know Your Place' website² has established that the roofless building beside the cycle path is probably a modern platelayers hut and is not the original weighbridge mentioned in the Ancient Monument schedule. A comparison between the 1881 and 2015 maps shows that the 1881 'weighing machine' is located some 40 m closer to the mine along the cycle path than the present structure. As well as showing details of the surface buildings at the time, the 1881 KYP map also shows what could be a gate house and a horse gin to the south of the Cornish Engine House. These do not appear in the 1903 map and none of these structures can be investigated as they lie on land outside the AIBT's lease area. An undated picture³ in a 2006 book shows the modern hut fully roofed and not far from one of the half headgear pulleys. It looks as if the pulley halves had recently arrived, dating the photo to the end of the 1980s or early 1990s. Another photo in the book shows the cycle path passing the New Pit heapstead in the 1980s before the area was fenced off.

Outline of Work for the Remainder of 2016

Now that the masons have almost completed the current programme agreed with Historic England, thoughts are turning to the needs of the New Pit enclosure. The tops of the walls of the heapstead need to be rebuilt and capped, parts of the north-west wall need patching, and the brick window and door surrounds need to be rebuilt. This work will probably take place in late 2016/early 2017.

Several relatively small areas of walls in the Old Pit area will be rebuilt by volunteers in 2016. The exploration of the Old Pit heapstead will continue, and the next area to be looked at will be the New Boiler Area.

Future Work Parties

Access to the site is limited to days when there is a work party in progress. The dates for work parties for the remainder of 2016 are currently: Wed 25 May; Sat 04, Wed 15, Sat 25 June; Wed 13, Sat 23 July; Wed 10, Sat 20 August; Sat 03, Wed 14, Sat 24 September; Wed 12, Sat 22 October; Wed 09, Sat 19 November; and Sat 10 December.

Please note that these dates may be altered at short notice, so newcomers are advised to first make contact via the AIBT's email address of info@aibt.org.

² <http://maps.bristol.gov.uk/kyp/?edition=southglos>

³ *Walking the Dramway*, Lawson P, Tempus, 2006, p.40

Photographs



Photo 1 – Close-up of the top of the finished buttress in the Vertical Engine House, showing the gap between the original wall of the engine house and the brick top of the heapstead.



Photo 2 – The completed fireplace in the Vertical Engine House.



Photo 3 – Part of the north-east wall of the Old Boiler House in September 2014. The rebuilt section is marked as 'A' in photo 7. (30 cm scale)



Photo 4 – The same length of wall after rebuilding in March but before capping.



Photo 5 – The northern corner of the Old Boiler House in March 2014. The rebuilt length of wall is marked as 'B' in photo 7. (1 ft scale)



Photo 6 – The northern corner of the Old Boiler House in March after rebuilding.



Photo 7 – The rebuilt north-western and north-eastern walls of the Old Boiler House in mid-March, seen from the Old Pit heapstead. The letters A marks the section of wall seen in photos 3 and 4, while B marks the section seen in 5 and 6.



Photo 8 – Fireplace in northern corner of the Cornish Engine House before reconstruction ... (30 cm scales)



Photo 9 – ... and afterwards with a lit fire on a cold wet March day. (© M Taylor, 09 March 2016)



Photo 10 – Inside of the bob (north-western) wall of Cornish Engine House in July 2014 before reconstruction started ...



Photo 11 – ... and in March 2016 after the building of the supporting buttress on the left of the arch.



Photo 12 – The passage under the Pumping Shaft crossover in May 2014, with the shaft capping on the right.



Photo 13 – This February 2014 photo shows the state of disrepair of the masonry walls below the capping of the Pumping Shaft.



Photo 14 – Masons at work rebuilding the inside of the Pumping Shaft passage, and the wall above the shaft capping.



Photo 15 – The rebuilt base of the Pumping Shaft capping in March 2016.



Photo 16 – Rebuilding of the wall above the Pumping Shaft and inside the adjacent passage in progress.



Photo 17 – Inside of the Pumping Shaft passage, showing the rebuilt section of wall on the left.



Photo 18 – View of the platform above the Pumping Shaft passage, after the flagstones had been removed during the rebuilding of the wall on the right of the photo. The position of the stone-lined shaft seen in the following photo has been marked.



Photo 19 – The inside of the stone lined shaft located in the platform above the Pumping Shaft.



Photo 20 – The platform in May after the wall had been built up, and the flagstones re-laid. The area around the top of the shaft has still to be finished off and a grille installed.



Photo 21 – The fan ducts in March 2014.



Photo 22 – Clearing around the fan ducts in January 2016 in preparation for the reconstruction of the duct walls.



Photo 23 – View of the fan ducts in February from the top of the Horizontal Engine House.



Photo 24 – View of the fan ducts from the top of the New Pit heapstead. Taken at the end of February, it shows the new brickwork on the top of the northern wall and the position of the fan housing. A close-up of the small engine beds was shown in the photo on page 7 of Newsletter N° 10.



Photo 25 – A pillar is being built upwards to support the brick top of the north-western wall of the Old Pit heapstead.



Photo 26 – ... and the completed pillar.



Photo 27 – The south-eastern wall of the Old Pit heapstead in June 2013.



Photo 28 – The same wall in March during the rebuild ...



Photo 29 – ... and in April when the work was finished.



Photo 30 – A section of top of the wall of the Old Pit heapstead, located above the Old Boiler House, cleared of vegetation and ready for recapping ...



Photo 31 – ... a mason starting to lay the brick capping onto a damp proof membrane ...



Photo 32 – ...and the completed capping in place.



Photo 33 – Capping in place along the edge of the Old Pit heapstead wall above the Vertical Engine House.



Photo 34 – The same stretch of wall seen in photo 33 seen from below.



Photo 35 – The southern corner of the Old Pit heapstead in mid-March, before rebuilding started ...



Photo 36 – ... and the same corner in April after the top of the wall was rebuilt and capped.



Photo 37 – North-west wall of Old Pit heapstead, with the northern tippler slot in the centre of the photo and the southern slot on the right hand edge.



Photo 38 – The dilapidated state of the brickwork around the southern tippler slot before reconstruction started. The end of a slot which should have held a wooden beam can be seen in the centre of the picture.



Photo 39 – The southern end of the north-western wall of the Old Pit heapstead, showing the gap in the brickwork where the wooden beams had been.



Photo 40 – The same area as the previous photo, with the replacement beams in place ...



Photo 41 – ... and with the rebuild of that part of the wall almost finished on 04 May.



Photo 42 – The rebuilt southern tippler slot on 14 May.



Photo 43 – The wall above the Old Pit heapstead ramp on 14 May after recapping was completed.



Photo 44 – The holding down bolts, located at the eastern end of the fan ducts, are thought to be part of the supports for the fan bearing.



Photo 45 – The fan end of the northern duct, showing the cement track associated with the movement of the damper.



Photo 46 – Pit in the southern corner of the Fan Engine House.



Photo 47 – Two wire ropes were uncovered at the south-west end of the Old Pit heapstead, clamped to the wall. The photo shows their anchorage points after the area was cleared of spoil, with the remains of a wooden beam running along the line of bolts. The anchorages can be seen in close-up in the next two photos. (30 cm scales)



Photo 48 – The eastern rope has been bent back on itself and anchored in a block of concrete. The winding shaft lies out of view on the left of the photo. (30 cm scale)



Photo 49 – While the western rope has been passed through an eye bolt whose inner end has yet to be uncovered. (30 cm scale)



Photo 50 – The holes show where bracing beams had been positioned, thought to support the bridge seen in the 1881 map between the Old Pit heapstead and the Horizontal Engine House. A close-up of the timber in the nearest hole can be seen in the next photo. This area has been covered up again.



Photo 51 – Remains of timber bracing beam at base of southern wall of Old Pit heapstead.



Photo 52 – Close-up of the pennant stone at the base of the Old Pit heapstead ramp, showing the groove cut into the face. (30 cm scale)



Photo 53 – The top of the south-eastern wall of the Old Pit heapstead squared off ready for capping. This photo also shows the position of the conduit seen in the following photo.



Photo 54 – The conduit poking out of the rebuilt wall.



Photo 55 – North-eastern corner of Old Pit heapstead, showing the position of the building foundations (photo 56) and holding down bolt mentioned on page 5.



Photo 56 – The foundations of a building emerging from the spoil in the north-eastern corner of the Old Pit heapstead, above the Vertical Engine House. (30 cm scale)



Photo 57 – The remaining half of a flanged wheel, found in the southern tippler slot of the Old Pit heapstead, after cleaning. This can be seen in the 'before cleaning' state in photo 65, Newsletter N^o 10. (030216-1, 30 cm scale)



Photo 58 – Glass bottle with 'Holbrook & Co' embossed onto the side and neck, found alongside the fan duct's small engine beds. (100216-1, 30 cm scale)



Photo 59 – These objects have been identified as the ends of two different picks. The remains of the attachment points for the shafts are on the right of each pick. (130416-1, 130416-2, 30 cm scale)



Photo 60 – 2½" long plug found in the flywheel slot, Vertical Engine House. (140516-3, 30 cm x 15 cm scale)



Photo 61 – Backfilling the trench along the base of the Old Pit heapstead wall with rubble in March.



Photo 62 – A group of visitors are given a guided tour in March, while some volunteers, also bundled up against the cold, listen in.



Photo 63 – The visiting experts confer with AIBT and SGMRG members in April.



Photo 64 – Clearing the narrow trench between lines of holding down bolts in the Vertical Engine House in April. This probably housed the flywheel.



Photo 65 – Work in progress on the tippler slots of the Old Pit heapstead, with stockpiles of builder's supplies on the right of the photo.



Photo 66 – The entrance to the Horizontal Engine House, seen from the top of the Old Pit heapstead on 06 April. The willow on the right is covered in small catkins, and the building will soon be hidden by them ...



Photo 67 – ... on 23 April ...



Photo 68 – ... on 04 May when the leaves are starting to appear ...



Photo 69 – ... and on 14 May.



Photo 70 – Peacock butterfly beside cycle path, April 2016. It has lost part of its left rear wing, possibly left behind in a bird's beak as it escaped.



Photo 71 – Bee feeding on a wildflower beside the cycle path near the mine on 23 April.



Photo 72 – A wildflower growing alongside the cycle path near the mine on 23 April. (Is anyone able to identify this and the flower in the next photo?)



Photo 73 – And another unidentified wildflower growing alongside the cycle path near the mine on 23 April.

Unless otherwise stated all photos are by R Whitworth (© R Whitworth 2014-2016).