

FRIENDS OF BRANDY BOTTOM COLLIERY, PUCKLECHURCH

Newsletter N° 10, February 2016



As well as summarising progress from the start of the project in 2008, this newsletter covers developments in the period November 2015-February 2016, and outlines the plans for the rest of 2016.

Historic England has given the project a grant to pay for conservation work by professional masons. The aim is stabilise various walls on site, initially those of the Cornish Engine House, Vertical Engine House and Old Pit heapstead, by rebuilding/patching/capping/repointing and complete the repointing of the chimney. CWS Landscaping, who did the earlier work on the chimney, Cornish and Horizontal Engine Houses, started in early January. So far they have almost finished working on the Cornish Engine House, and are working on the south-east wall of the Vertical Engine House, and the north-western wall of the Old Pit heapstead ramp. They have yet to start on capping the walls of the Old Pit heapstead, and to finish working on the top of the chimney.

The volunteers have made further discoveries around the Fan Ducts and Fan Engine House, uncovering two more engine beds, the sloping floor of the northern fan duct, the remains of a damper at the shaft end of the southern duct, and what may be the location of the fan itself.

Progress: 2008 – 2015

(Photos 1-71 will be found on page 8 onwards)

As the AIBT has been working at Brandy Bottom since 2008, it is time to look back at the milestones so far. Some have not been recorded in past newsletters, as they were only started in November 2013. In addition, some features that were discovered in the early days have since been covered over again for their own protection, so for some readers this newsletter will be the first time they may have heard about them.

Contractors were employed to remove the worst of the trees and shrubs in 2008 and 2009, and the photo on the right (© S Grudgings, 2005) gives an idea of the amount of vegetation that had to be removed from the Cornish Engine House. Once the volunteers moved onto site in 2010, the priority was to establish what needed restoration, and how urgently. There were no ready sources of information about the site, so limited clearance work was started. The first area to be cleared down to a working surface was the passage under the Pumping Shaft crossover in order to give easier



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access to the New Boiler area. Hidden among the spoil was part of a stone slab (photo 1). The second piece was found later and the whole slab may have sat on the bob wall and supported the beam pivots. When the first slab was moved out of the way, one of the two parallel motion bearings from the beam of the Cornish Engine was found underneath it (photo 2). This bearing has been identified as being of the later, Boulton & Watt, pattern. So far the second bearing has not been found. Clearing spoil in 2011 from this point towards the walls of the Old Pit heapstead uncovered the capping of the Pumping Shaft. Inscribed into the concrete top was the phrase 'Finish 1923'. This can be seen in photo 3, where the inscription has been highlighted with chalk. Parkfield started to use electrical pumps underground in the 1920s, and this inscription suggests that the Cornish beam engine at Brandy Bottom was decommissioned at the same time. Hidden among the spoil in the area around the shaft capping was the well-dressed L-shaped stone (photo 4) and a 5½" long glass bottle with a bishop's crown embossed on the base (photo 5).

Tie rods in the Horizontal Engine House had been removed at some time in the past, possibly when a scrap metal merchant had been working on site. (From what we have been told by a passer-by, this was probably in the early 1960s as the adjacent mainline railway was still running.) The removal of the tie rods had allowed the walls of the building to move outwards, resulting in cracks appearing in the brickwork of the arched roof inside. New tie rods were fitted in July 2011 (photo above right), which have stabilised the structure. The outer (visible) layer of bricks in the arch had become detached in part of the eastern corner of the building (photo 6), and most of these bricks were replaced in 2013 (photo 7). This outer layer was secured to the inner layer of bricks by pressure grouting in May 2013. For some reason the two layers had not been bonded together when the roof was built.



The first major piece of reconstruction work was the November 2011 rebuild of the north-east wall of the Cornish Engine House by CWS Landscaping. Two of the photos on this page show the wall before the rebuild started (middle photo) and afterwards (bottom photo). As well as rebuilding the wall to eliminate the dogtooth gap, the base of the wall was rebuilt, especially at the eastern (left hand side of photo) corner. Photo 8 is a close-up of the dogtooth gap before rebuilding started, taken from the inside of the building. Photo 9 is the same area during the rebuild and photo 10 the



inside of the finished wall. Photos 11 and 12 are close-ups of the eastern corner of the building before and after the rebuild.

Spoil had first to be cleared from the inside of the Cornish Engine House to give a level surface for erecting the scaffolding. This uncovered the stone engine bed (photo right, 1 ft scale), which has a crack running across it. The photo also shows that the base of the cylinder had worn a groove in the bed. There is a difference in the amount of wear on either side of the crack. The north-eastern holding down bolt, seen on the left in the photo and in close-up in photo 13, has what appears to be an original, empty, socket on the outside. The connection, if any, between the crack and the empty hole is still a matter of conjecture. There is a hole where the south-eastern holding bolt should have been, big enough to get a small camera down. Photo 17 is one of those photos, and shows the north-east wall of the building below engine bed level. The stone slabs that make up the floor to the north-east of the engine bed can be seen in photo 14, and the clay ones in the alcove in the south-east wall of the building in photo 15. The floor of the engine house has since been covered in spoil to protect the bed and tiles.



Clearance work in 2012 around the walls of the Horizontal Engine House uncovered the floor of a lean-to along the base of the north-western wall (photo 18). The floor was made of bricks at the northern end, changing to coal and ash to the south of the western entrance to the building (photo 19). The lean-to was probably roofed with tiles, to judge by the cement fillets (photo 20) that were found on the north-west wall of the building. Examination of the 1915 and 1936 Ordinance Survey maps shows that the structure was built at some time between those dates.

Examination of the 1947 aerial survey photographs showed that there was a building at the top of the New Pit heapstead ramp, which may have been a checkman's hut. The remains of the foundations were uncovered in 2013 when some exploration trenches (photo right) were dug.



A suspicion that more structures associated with the fan ducts lay outside the boundary fence was confirmed by the discovery of the fan engine bed in March 2013 (photo 21). Since then the concrete floor of the house has been uncovered (photo 22).

There have been a number of occasions when the boundary fences have been cut and parts of the site vandalised. On one such visit, in May 2013, the manhole cover of the New Pit shaft capping was damaged. The opportunity was taken to photograph the inside of the shaft before the cover was

repaired by the Coal Authority, and one of shots is seen in photo 23. In it the brickwork supporting the concrete capping looks decidedly suspect.

The AIBT commissioned S Grudgings, a South Gloucestershire Mines Research Group (SGMRG) member, to write a history of Brandy Bottom. Entitled *Brandy Bottom Colliery Historical Research Report*, it was published by the AIBT in 2013. It covers the period from the sinking of the first shafts in 1836-37 until the mine's presumed closure at the same time as Parkfield in 1936. The report includes enlargements of the Ordinance Survey maps of the area for 1881, 1903, 1915 and 1936. Please contact mlduckhole@aol.com to arrange for a copy by post at a cost of £9.50, which includes £2.50 p+p.

The Horizontal Engine House has a concrete floor that conceals the engine beds. Why and when it was laid is yet another of Brandy Bottom's mysteries. A SGMRG member with caving experience wriggled his way into the under croft in September 2013, and took photographs and measurements. The photo on the right (© S Grudgings) shows the colliers' font in the northern corner, while photo 24 is a view along the under croft towards the heapstead end. There is still a coating of grease from the ropes sticking to the wall.



A nearby landowner allowed us to recover lias building stone from the spoil heap created during excavations for their new house. Photo 25 shows a volunteer sorting out good building stone from spoil. Several loads of stone were then transported to Brandy Bottom in a neighbour's pickup. So far the stockpiled stone has been used for the rebuilding of various walls at the mine site. The AIBT would like to thank both the landowner and the neighbour for their generous assistance to the project.

Conservation of the iconic chimney by CWS Landscaping started in 2014. Work progressed in stages, as each had to be completed before the specification for the next one could be drawn up for approval by Historic England. Before any work started, a bonfire was lit outside the entrance to the flue in January 2014. The natural draft up the chimney drew the smoke into the flue and out of the top (photo right). The first stage saw the installation of a ladder up the inside. But before that could be completed the brickwork at the top of the inside of the chimney had to be repointed, to provide a solid structure for securing the ladder (second phase). Only then could the top be inspected and the specifications for rebuilding the top agreed with Historic England. Gaps between the stones at the top were visible from ground level, but a close-up inspection showed they were caused by the loss of the mortar between the stones, and not by any displacement of the masonry (photo 26). In September 2014 the top was



rebuilt, including the installation of the reinforced concrete ring which is bolted to the brickwork beneath it (photo 27). The fourth stage was to repoint the stonework at the top (photo 28), when it was noticed that the top 6 feet or so of brickwork also need repointing. That is scheduled for completion in February 2016.

A waterproof membrane was laid on the roof of the Horizontal Engine House in November 2014, again by CWS Landscaping. This has stopped water percolating down to the roof, where it caused spalling of the bricks in frosty weather (photo right), and formed puddles on the floor. Now the building is dry inside, it can be used for the storage of construction materials, and also provide a shelter for the volunteers should it rain during a work party. Photos 29-31 show various stages in the clearance of vegetation from the roof and photo 32 the membrane in place.



The volunteers rebuilt the base of the chimney in the Old Boiler House in 2014-15. Photo 33 shows the base of the chimney. In the close-up, photo 34, the remains of the flue to the chimney has been marked by an arrow. The presence of bricks around the edge of the area of missing masonry is evidence of an earlier rebuild. Photo 35 shows the completed rebuild, and photo 36 is a close-up of the rebuilt flue. The volunteers also rebuilt part of the north-east wall of the building, and braced it against the heapstead by installing a wooden beam between the two structures (photos 37-39).

The winding drum pit of the Vertical Engine House was cleared of the remaining spoil in September 2015. At the bottom was a drain that ran towards the Old Boiler House in one direction and the alcove in the Old Pit heapstead in the other (photo 40). An engine bed was discovered in the northern corner (photo 41) in November 2015 when clearing spoil from the walls before they were patched/repointed/rebuilt. One nut is still attached to the bolt, together with a fragment of the cylinder casing. An attempt had been made to split the nut with a cold chisel, clear evidence that the cylinder did not surrender to the scrap metal men without a fight. Photo 42, taken from the top of the nearby heapstead, shows that corner of the building.

The AIBT has had a stand at both the 2014 and 2015 South Gloucestershire shows, and there are plans to repeat this at the 2016 show. In 2014 it shared a stand with the SGMRG, while in 2015 they had adjacent stands (photo right). Copies of the display boards used at the 2015 show can be seen on the Brandy Bottom pages of the website, and there are laminated A4-sized copies on display in the storage container. Many passers-by at Brandy Bottom stop and ask about the conservation work, and are given a copy of a



2-page A4 handout. Several parties of archaeological students have visited Brandy Bottom as part of their tours of conservation sites in the local area.

Progress: December 2015 – February 2016

Clearance work in the northern corner of the Vertical Engine House in December uncovered a channel in the south-east wall. The opening can be seen in the lower left centre of photo 52, and leads to a vertical channel on the outside of the wall. The top of the latter channel is located below ground level and is sealed, so the direction of the channel will have to be investigated at a later date when specialist equipment is available.

In January 2016 Historic England agreed to fund restoration work, mainly in the Old Pit area, and CWS Landscaping returned to site in the second week of the month. The southern corner of the Cornish Engine House had been rebuilt by the end of January and work on this building was largely completed by the middle of February. The south-east wall can be seen in the background of photo 43, taken from the Old Pit heapstead in September 2013. It also shows how much vegetation was still growing on the tops and side of the walls. Photos 44 and 45 show the top of the south-east wall at as the rebuild progressed, while photos 46 and 47 show the finished walls from different parts of the site. A buttress is being built at the southern end of the bob (north-west) wall to support the arch in the wall (photo 48). The area around the alcove in the south-east wall has also been patched, and photos 49 and 50 show the alcove before (July 2014) and after patching respectively.



The masons are also working in the Vertical Engine House, where the south-east wall is currently being partly rebuilt. This includes the reinstatement of the fireplace seen to the left of the door in photo 51, dated 1982. This part of the wall can be seen in photo 52, at a time when spoil had been cleared away and just before rebuilding started. The position of the holding down bolt in front of the fireplace suggests that the latter may have been a later addition. Photo 53 shows an intermediate stage of rebuilding, while in photo 54 the arch above the fireplace has been rebuilt. The photo on the right is a close-up of the inscription on the keystone. A buttress is being built against the south-west wall between the winding drum pit and the adjacent engine bay to support an overhanging section of wall that is currently held up by ivy roots. This can be seen in photo 55, while photo 56 shows the wall of the Old Pit heapstead ramp being rebuilt.



Clearance work by the volunteers at the heapstead end of the southern fan duct uncovered the bottom of one of the dampers (photo 57) still in place. It is still sitting against a cement seat (photo

58) in that (southern) wall, and there is a mark on the opposite wall where it must have hit when closing the northern duct. The northern duct has been cleared of spoil, revealing a sloped bottom (photo 59). Photo 60 has been taken from the other direction to 59, and it shows the end wall of the slope. The bottom two courses of bricks have been laid on their edges. Spoil clearance outside and to the north of the ducts, at a position marked on photo 61, has uncovered two square engine beds (photo right). Adjacent to them is a length of armoured power cable. An 8 $\frac{3}{8}$ " long glass bottle, marked 'Holbrook & Co' was found in this area (photo 62). Spoil clearance outside the fence has uncovered what may be the position of the fan. A curved brick built structure has been found under the ground level, aligned with the engine bed found in 2013. Work here is continuing, so no photos are currently available.



The masons stripped back the ivy and other shrubs growing along the top of the Old Pit heapstead walls so that the tops of the walls could be capped at a later date. This uncovered two structures (photos 63 and 64) that were probably tippler slots for loading railway wagons and these were investigated by the volunteers. One artefact found here was part of a spoken wheel, probably from a coal tub (photo 65). Cleaning off-site separated it into two pieces, the remains of the wheel and an unrelated piece of bent pipe. This area is still being investigated.

Outline of Work for 2016

Following discussions with Historic England about a grant, it was decided to use professional masons to rebuild/patch/repoint/cap various walls in 2016. This will stop further deterioration of the structures by sealing surfaces against the ingress of rain. As well as the work on the Cornish Engine House, Vertical Engine House and Old Pit heapstead ramp wall that has already been described, the contract includes capping of the tops of the Old Pit heapstead walls and repointing the brickwork on the outside of the top of the chimney. Other work that will hopefully be completed this year is the capping of the top of the New Pit heapstead walls, rebuilding the edges of the doors and windows in the Horizontal Engine House, and repairs to both the brickwork of the passage under the Pumping Shaft crossover and the fan ducts.

There is still plenty for the volunteers to do. As well as continuing their work in the Fan Engine house area, there are a number of features elsewhere that have been uncovered by the masons and which need investigating. There are a number of walls that need rebuilding and repointing. And by the time they finish that lot, Brandy Bottom is bound to have pulled something else out of the hat.

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: Sat 27 February; Wed 09, Sat 26 March; Wed 13, Sat 23 April; Wed 04, Sat 14, 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.

Photographs



Photo 1 – Stone slab in-situ in the Pumping Shaft passage (1 ft scale). The parallel motion bearing in photo was found underneath it.



Photo 2 – Parallel motion bearing found in passage under the Pumping Shaft crossover. (1 ft scale)



Photo 3 – Inscribed into the concrete of the Pumping Shaft capping is the phrase 'Finish 1923'. (1ft scale)



Photo 4 – Dressed stone found by Pumping Shaft capping. (1 ft scale)



Photo 5 – Bishop's crown embossed on the bottom of 5½" long glass bottle found by Pumping Shaft capping.



Photo 6 – Eastern corner of the inside of the Horizontal Engine House. The dark area in the middle of the photo shows the area where the outer layer of bricks had fallen. Running through that area is a crack in the next layer of bricks.



Photo 7 – Eastern corner of the inside of the Horizontal Engine House after most of the missing bricks had been replaced.



Photo 8 – The dogtooth gap of missing masonry in the north-east wall of the Cornish Engine House, taken from the inside of the building.



Photo 9 – The inside of north-east wall of Cornish Engine House during the rebuild ...



Photo 10 – ... and afterwards.



Photo 11 – Close-up of the eastern corner of the Cornish Engine House before rebuilding ... (1ft scale in centre of photo)



Photo 12 – ... and afterwards.



Photo 13 – North-eastern holding down bolt in Cornish Engine House with an empty socket beside it, seen from the north-east. (This feature has been reburied to protect it) (1 ft scale)



Photo 14 – Stone slabs covering part of the floor of the Cornish Engine House, with the engine bed in the

foreground. (This feature has been reburied to protect it) (1 ft scale)



Photo 15 – Clay tiles laid in the area around the alcove in the south-east wall of the Cornish Engine House. (This feature has been reburied to protect it) (1ft scale)



Photo 16 – Plumbing the depths of the cavity below the floor of the Cornish Engine House.



Photo 17 – Views of the north-east wall of the Cornish Engine House, taken through a hole in the floor.



Photo 18 – View of the brick floor at the northern end of the lean-to on the north-west side of the Horizontal Engine House. (This feature has been reburied to protect it) ...



Photo 19 – while at the southern end it was a coal-ash mixture. (This feature has been reburied to protect it).



Photo 20 – Remains of roof tile fillets located on north-western wall of Horizontal Engine House.



Photo 21 – Fan engine bed, with the fan ducts located just beyond the top right corner of photo. (1 ft scale)



Photo 22 – View of the fan engine house, with the remains of the north-east wall in the foreground. The engine bed seen in photo X is under the pile of recovered bricks in the top right.



Photo 23 – The underneath of the New Pit shaft capping.



Photo 24 – The undercroft of the Horizontal Engine House. There is still grease sticking to the far, heapstead end, wall. (© S Grudgings)



Photo 25 – Sorting out lias building stone from a dump.



Photo 26 – The top of the chimney in 2011 showing the poor state of the stone capping, and the gaps between the stones where the cement had crumbled away. (This and photos 27 and 28 were all taken from approximately the same spot)



Photo 27 – September 2014 after the top had been rebuilt, but before the ornate stone top had been reported...



Photo 28 – ...and in February 2016 when the ornate stonework at the top was being repointed.



Photo 29 – A large hawthorn stump, and other vegetation, had to be removed from the roof of the Horizontal Engine House before the waterproof membrane could be laid...



Photo 30 – ...and a work party sets to on clearing it.



Photo 31 – The roof of the Horizontal Engine House after the removal of the vegetation but before final levelling...



Photo 32 – ...and the finished membrane in place.



Photo 33 – Base of the chimney in the Old Boiler House in April 2014.



Photo 34 – Close-up of the base of the chimney in the Old Boiler House in May 2014...



Photo 35 – ...and the finished result.



Photo 36 – Close-up of the rebuilt flue in the Old Boiler House.



Photo 37 – The bulge in the north-east wall of the Old Boiler House can be seen in the left of the photo. This has been caused by pressure from material in the batch to its left.



Photo 38 – Rebuilding of the north-east wall of the Old Boiler House in progress, with the bracing beam in place. The stone section of the wall has still to be built up to support the overhanging part of the brick section.



Photo 39 – Rebuilding of the north-east wall of the Old Boiler house almost complete.



Photo 40 – Drain in base of winding drum pit, Vertical Engine House.



Photo 41 – A close-up of the engine bed in Vertical Engine House. Part of the cylinder casing is still attached to the bolt in the top left corner. (30 cm scale)



Photo 42 – View of engine bed area of Vertical Engine House from top of Old Pit heapstead.



Photo 43 – Top of south-east wall of Cornish Engine House in background in December 2013.



Photo 44 – Top of south-east wall of Cornish Engine House in background on 23 January 2016 after repairs to masonry of southern corner...



Photo 45 – ...and on 30 January 2016 when the whole of the top of that wall had been repaired.



Photo 46 – Cornish Engine House from New Pit heapstead on 10 February 2016.



Photo 47 – Northern corner of the Cornish Engine House from the Old Pit heapstead on 10 February 2016.



Photo 48 – A buttress is being built at the southern end of the bob (north-western) of the Cornish Engine House.



Photo 49 – Alcove in south-east wall of Cornish Engine House in July 2014... (30 cm scale in window slit to the right of alcove)



Photo 50 – ...and on 23 January 2016 after reinstatement of the arch and patching of the wall.



Photo 51 – The inside of the south-east wall of the Vertical Engine House in 1982. Note the fireplace to the left of the door opening in the centre. (@S Grudgings)



Photo 52 – Inside of south-east wall of Vertical Engine House before the rebuild started. The fireplace was located behind the remains of the holding down bolt, and the hole to its left is a channel through the wall. (30 cm scale)



Photo 53 – A relatively early stage in the rebuilding of the south-east wall of the Vertical Engine House. (© K Kemp)



Photo 54 – The rebuilding of the south-east wall of the Vertical Engine House, and its inset fireplace, on 10 February 2016.



Photo 55 – Building of a buttress against the south-west wall of the Vertical Engine House in progress on 10 February 16.



Photo 56 – Rebuilding the wall of the Old Pit heapstead ramp in progress on 10 February 2016.



Photo 57 – Remains of a damper in the southern fan duct. (30 cm scale)



Photo 58 – The damper in photo X closed against this cement seat in the southern wall of the duct. (30 cm scale)



Photo 59 – The sloping floor of the northern fan duct, viewed from the heapstead end of the duct.



Photo 60 – The northern fan duct, looking towards the heapstead.



Photo 61 – View of the fan duct area on 10 February 2016, taken from the top of the New Pit heapstead. The northern duct is in the centre of the picture.



Photo 62 – 8½" long glass bottle, marked 'Holbrook & Co', found when removing spoil from the area round the engine beds seen on page 7. (30 cm scale)



Photo 63 – View of the southern tippler slot on the Old Pit heapstead, with the northern slot at the top of the picture.



Photo 64 – View of the northern tippler slot.



Photo 65 – Fragment of a spoked wheel, probably from a coal tub, found in the southern tippler slot of the Old Pit heapstead. Cleaning of-site separated the length of bent pipe (on top) from the remains of the wheel.



Photo 66 – Spoil clearance, and a discussion, at the base of the north-east wall of the Cornish Engine House.



Photo 67 – A hawthorn stump is uprooted from the top of the New Pit heapstead.



Photo 68 – Spoil, including a brick, flies out of the winding drum pit towards the wheelbarrow.



Photo 69 – An early stage in the rebuilding of the base of the chimney.



Photo 70 – A break for lunch, sitting on seats made from trees cut down on site.



Photo 71 – A Harris Hawk on the arm of the falconer. It was being flown to scare away seagulls from the nearby tip.

Unless otherwise stated all photos are by R Whitworth (© R Whitworth 2010-2016).