

Industrial Archaeology and the Avon Ring Road

John Cornwell

The winter of 1987-88 saw the section of the Avon Ring Road between Wraxall Road, and Baden Road, Warmley under construction. As the route of the Ring Road passed very close to several known mine sites, local BIAS members walked and examined the route of the road. It was expected that the excavations would probably reveal traces of these early colliery sites.

The earliest recorded working of coal in the Warmley area was that of the Jeffery Family, who were working coal in Lord Staffords liberty in 1670. The liberty of Lord Stafford was the smallest in the Kingswood Chase. It was a mere 47 acres, and was situated to the South of Grimsbury Lane now known as Baden Road.

The first major find on the site of the Ring Road was a large cast iron pipe, with one flanged end; this casting was dug up by the contractors some 100 yards to the east of the Wraxall Road crossing. This casting was spotted in the excavation by several members of BIAS who were walking the course of the new road. At the time it was thought that the cast iron pipe was part of a rising main from an old pumping engine, but as the pipe was covered in sticky yellow clay a detailed examination was not possible.

The casting was later donated to BIAS by the consulting engineer, and removed for safe keeping to Bitton by Eric Taylor, Alan Bryant and John Cornwell. With the removal of the clay from the pipe it soon became apparent that the section of rising main was in fact a sump suction-pipe of an early atmospheric pumping engine, with 'Jones & Co. Bristol. 4.3.77' cast into the upper end of the pipe.

John Jones was an iron founder in Cheese Lane, Bristol. He is recorded as supplying Atmospheric engine parts to the Dolcoath Mine Camborne, Cornwall, from 1750 to 1755. For further information on Jones foundry one should read the article on 'Winwoods of Bristol - part one', by Hugh Torrens in volume 13 of the BIAS Journal.

It is very likely that the suction pipe came from the Grimsbury Colliery, the date 1777 would

make this possible. But why was a heavy casting lying in a remote field some 500 yards from the pit - did it fall off a cart removing scrap iron from the colliery, or had the pipe been used by a farmer as a land drain?

Over the Easter holidays BIAS had received permission to investigate an area close to a known infilled shaft, 100 yards to the South of Baden Road. Here the roadworks had uncovered a section of wall to the south of the shaft, which was thought to be part of a colliery structure.

The first days excavations concentrated on following this section of wall towards the shaft. It soon, became obvious that we had uncovered the foundations of a typical keyhole shaped horse winding gin. An examination of the centre of the horse gin revealed that the pivot or socket stone was missing.

On the second day foundations of a stone structure were uncovered built against the south western wall of the shaft end of the horse gin. It was 3 feet 10 ins. across with a circular paved interior and an opening facing south east. This structure and the horse gin had both been razed almost to ground level. On the western side of the unidentified structure three broken clay pipes were found, all dating from the 1840s.

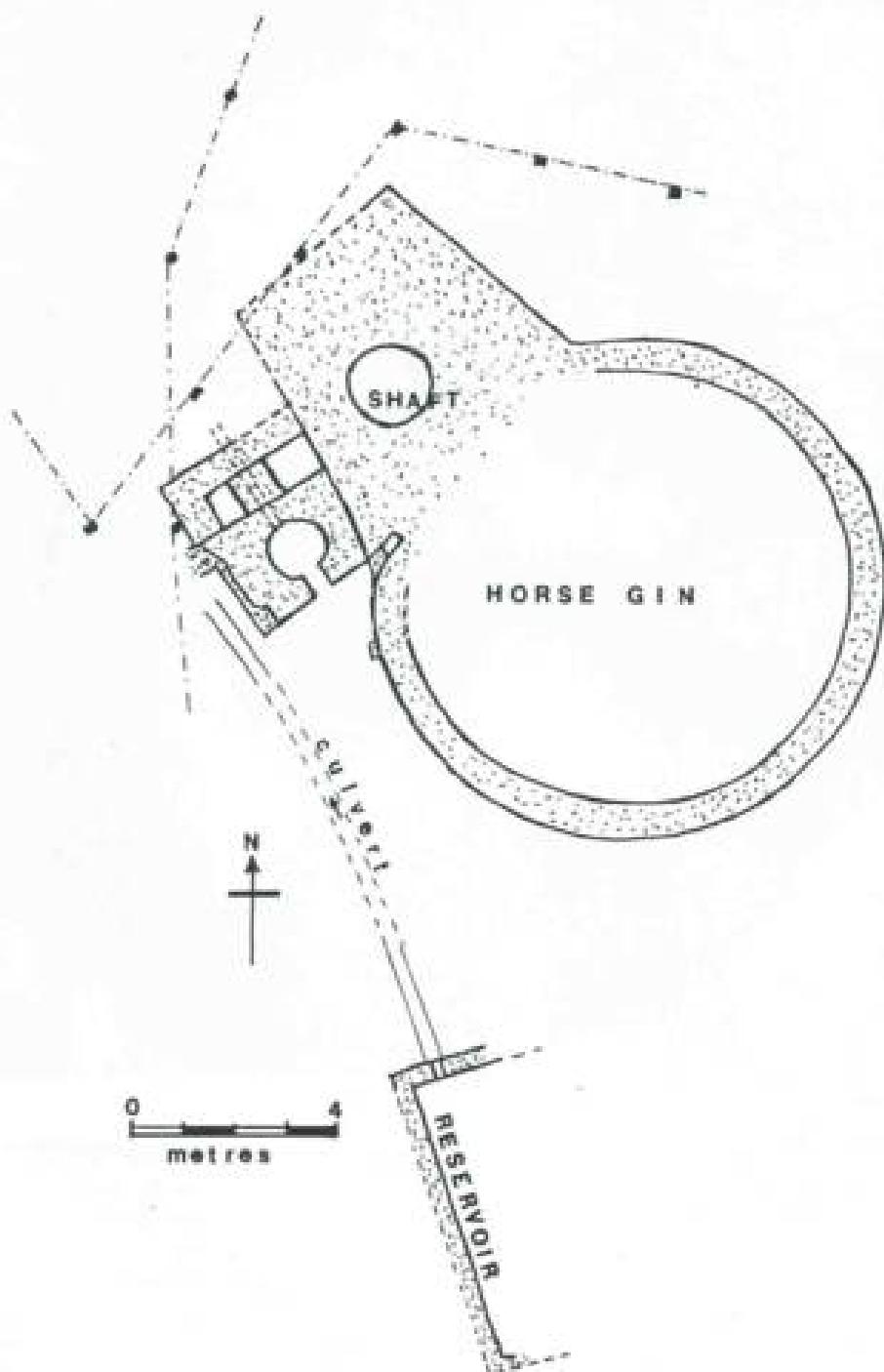
Twenty feet south of the gin circle a stone lined reservoir was found with a culvert running north west. This culvert was again located passing to the side of the unidentified structure.

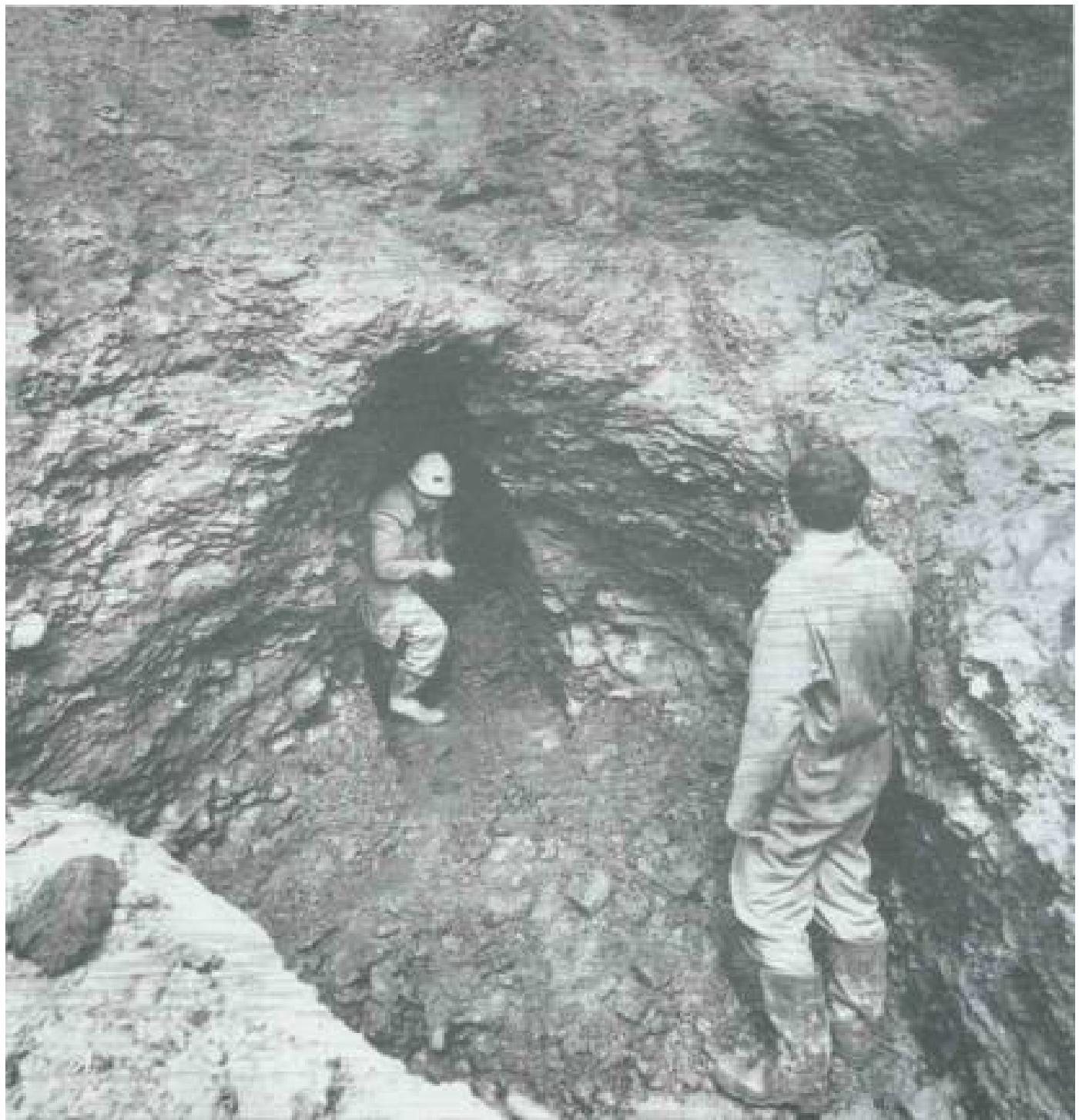
The shaft was typical of many in the area sunk between 1770 and 1820. It was a 5½ feet square shaft with rounded corners, but had been badly distorted into somewhat of an egg shape; this was evidently due to ground movement around the shaft. Only 18 inches of the shaft inside walling was showing, the shaft having been filled many years ago.

The Western corner of the gin house which enclosed the shaft, unfortunately lay under a boundary fence of the Grimsbury Farm, also the









unidentified. Structure built against the gin walls ran under the fence so total excavation of the site was not possible. Information from local inhabitants confirmed our feelings that more structures had existed over the fence on the farm land.

Recently an old photograph came to light showing a tall structure covered in ivy which could have been a chimney standing close to site of the horse gin house. On the 1840 tithe map there is a standing structure shown which could be the horse gin, it also shows a small round structure but on the northern side.

As it was not possible to examine the section to the west of the boundary fence it is impossible to form a complete picture of the site. We can however safely say that the colliery dates from the 1770s, and was abandoned by 1840 as the tithe map indicates that the Grimsbury Coalworks were then unoccupied, and owned by Sarah Baynton. It would appear that the coal was wound by a horse gin, but it is possible that a steam engine was situated on the site. A possibility is that we may have found the base of a chimney, and that the boiler and engine are on the far side of the fence. This



pit could have had a layout similar to the colliery at Ram Hill, where a steam engine and horse gin worked on the same shaft.

It is very likely that this pit and the main Grimsbury Pit both worked the Kingswood Great Vein and the Gillers Inn Vein, and various other veins in the Lower Coal Series.

While work on the Grimsbury section of Ring Road was proceeding work was also underway on the site of a roundabout which was situated on Wraxall Road.

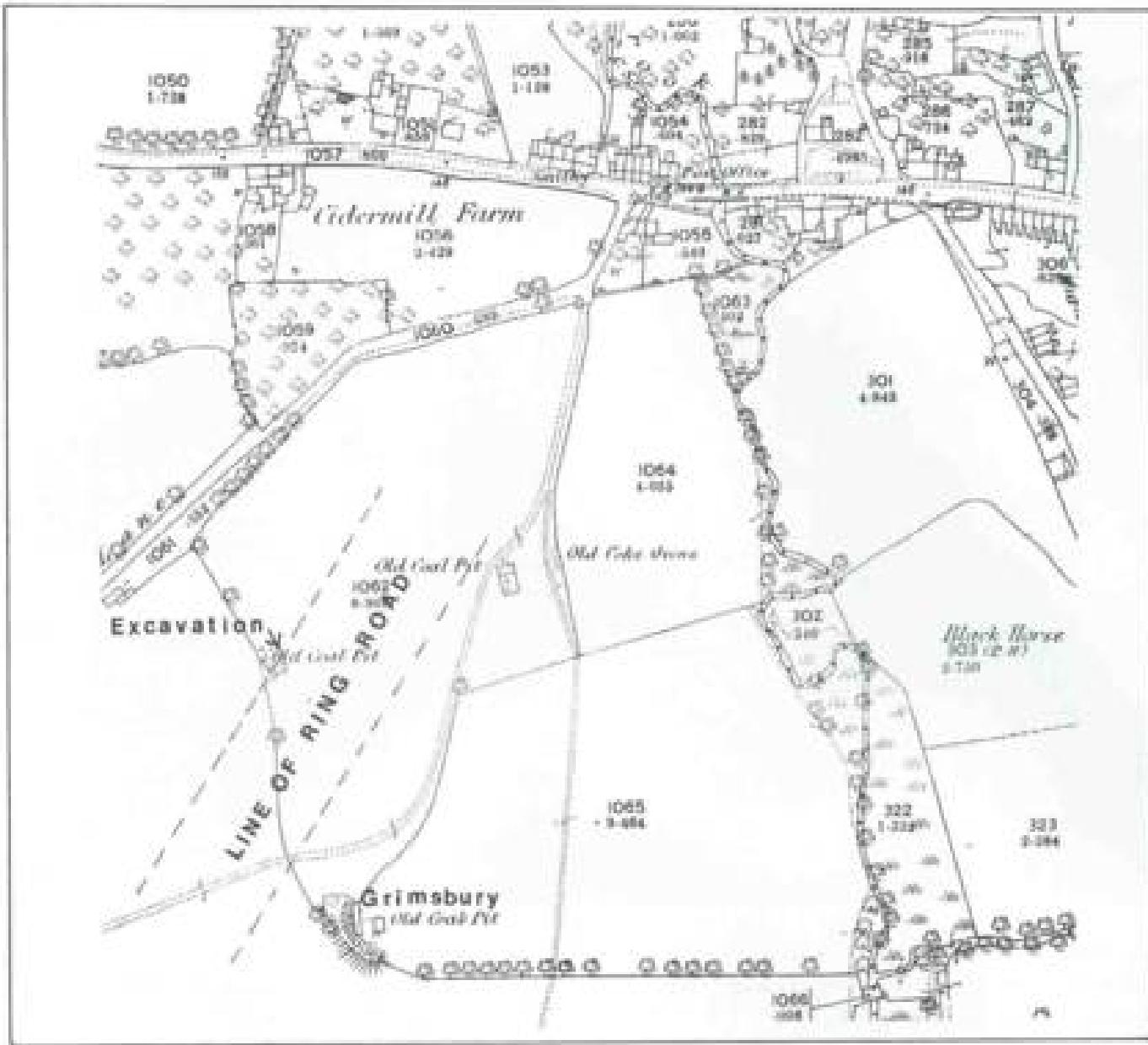
The first stage of construction of the roundabout consisted of excavating a large section of the hillside on the western side of Wraxall Road, to take the foundations of an underpass. When the contractors cut into the hillside a 5 feet thick seam of soft coal was exposed. As the contractors proceeded to cut through the seam a large quantity of dirty water was suddenly discharged flooding the excavations.

Several weeks later as the contractors were widening the excavation they broke into a cavity

which was just 8 feet below the surface, and 15 feet from Wraxall Road. Once the spoil had been cleared away, and the face of the excavation cleaned up, it was obvious that the cavity was an old mining water level.

Old records show 2 mine shafts and a large spoil heap on the crest of the hill to the west of Wraxall Road, with a third shaft on the opposite side of the road, just below the crest of the hill. It soon became apparent that the level was connected to some or all of these shafts on top of the hill, the date of shafts and level are not known, they would probably have been at work in the early part of the 18th century.

It was too dangerous to enter the level, due to the presence of noxious gases; when inspecting the level at night from its entrance with a powerful lamp a white vapour could be seen some 15 feet inside. This inspection revealed that the heading appeared to run northwards in the direction of the shafts. The level was originally $4\frac{1}{2}$ feet high, 2 feet wide at the roof widening to 3 feet at floor level.



Based on Ordnance Survey Map, 1/2500 Scale, 1882

In some places spalling had taken place, and about a foot of roof had fallen to the floor. In this material a number of pit prop fragments were found, all were of hawthorn, with a diameter of 4 inches. With the props were one or two planks which were thought to be elm; the planks would have been placed above the collar or lintel piece which in turn would have been held in place by two props. The form of timbering found in this level is known as the 'Welsh Notch', and is still in use today in pits in South Wales. An interesting point is the use of hawthorn for mine timber, which would indicate that in the early 18th century this area of Kingswood was still largely covered in hawthorn and scrub.

Although a coal seam was exposed close to the level the heading itself was driven through siltstone and hard mudstone, and no coal was observed in the small section examined. It would appear that the entrance to the level was situated right in the area excavated by the contractors; a small drain built from sandstone slabs was found in the floor of the contractors trench but was then lost under their new foundations. This drain obviously took the water away from the level, and was about 12 inches by 12 inches in section. In clearing away fallen material from the area around the entrance the floor was found to be almost flat, with just enough fall to allow the water to flow. It was noticed that even in the dry spell of early summer a small quantity of water was still flowing over the floor.