

Archaeological Discoveries at Deep Ecton Mine in May 2019

At Deep Ecton Mine, which in the 18th century was one of the most important copper mines in Britain, there are large flooded workings that extend down to 300m below river level (Figure 1). These have not been seen since the later 1850s after the mine pumps were turned off. The UNEXMIN dives, done in partnership with the Ecton Mine Educational Trust, allowed an exciting opportunity to enter workings not seen for over 160 years.

While the primary aim of the dives was to test the two submersibles, we were also able to explore workings for which our prior knowledge was minimal. The most useful source of historical information on where now-flooded features lie is a schematic and over-simplified cross section through the workings dating to 1858. During the ten dives undertaken there was only time for less than 10% of the recorded workings to be entered, with explorations concentrating on the two main shafts and the upper parts of the massive ‘pipeworkings’ in the mineral deposit. Open leads were left and hopefully these will allow future access to unexplored parts of the flooded workings, which include further vast mined caverns, an underground canal level at 62m down and various tramway levels.

The main pumping shaft was explored to *c.* 125m to a blockage, while the winding shaft was choked at *c.* 115m. These are sunk through bedrock, where the bedding was often near-vertical, with the base of saddles in the folding also seen. Both shafts had levels leading off their sides at various depths, some connecting the two shafts, others going elsewhere. In the pumping shaft there were various substantial timbers, thought to be for helping retain the now-removed pump pipes, entrances to levels and perhaps also ladders. Other features here included two mineral workings in ‘side pipes’ and a ‘level’ at or just below the underground canal horizon with a walled ‘dam’ at its entrance.

In the main ‘pipeworking’, entered from a launch site in a chamber at river level, a route through convoluted passages led down to a massive ‘pipeworking’ with highly irregular sides that descended from *c.* 20m to a little under 40m. This got progressively larger as it went down. Below here much of the working had been backfilled with mine waste, but a route on led diagonally down above this, via two low retaining walls holding back stone dumps, to the present base of this working at *c.* 59m. Here a short level led to the main winding shaft, with a part-choked working leading off beyond. No intact timber working-platforms remained in the ‘pipeworkings’, but on the rubble floors there were scattered displaced timbers and also such items as iron tramway rails and the wheels of a tramway waggon.

Dr John Barnatt – June 2019

Figure 1: The approximate extent of passages explored during the UNEXMIN dives undertaken in May 2019 at Deep Ecton Mine, with these superimposed on the schematic 1858 mine section where recorded depths of levels are also given (the scale of the 1858 drawing is only approximate as it shows the lower parts of the workings at a slightly larger scale than those parts above).

**UNEXMIN dives May 2019
superimposed on the 1858
mine section**

