

## Revelations at Great Elm

James Fussell

### Introduction

Bridge House, located in the Mells Valley north west of Frome, occupies the site of the Great Elm works, one of six factories in the area run by the Fussell family from the mid eighteenth century to the end of the nineteenth. The ironworks were mainly dedicated to the production of agricultural implements and, in particular, edge tools. The largest and most well known site is the Lower Works, Mells, situated in the Wadbury Valley approximately half way between Mells and Great Elm. The Great Elm works was on a much smaller scale and there is very little documentation associated with it - even less than there is for the Lower Works!

### The story so far ...

In the spring of 1999 Maureen Lehané Wishart, the owner of Bridge House, was innocently attending to her garden when her foot disappeared down a small hole. She was understandably concerned about this from the point of view of safety, especially as she has many visitors in her garden throughout the year in connection with the work of the Jackdaws Educational Trust which runs music courses and concerts on the site. Mrs Wishart had recently participated in a walk which I led along the Mells Valley for the Mendip Society. Knowing therefore of my interest in the industrial history of the Mells Valley, she telephoned me and I went down the following weekend to look at the subsidence.

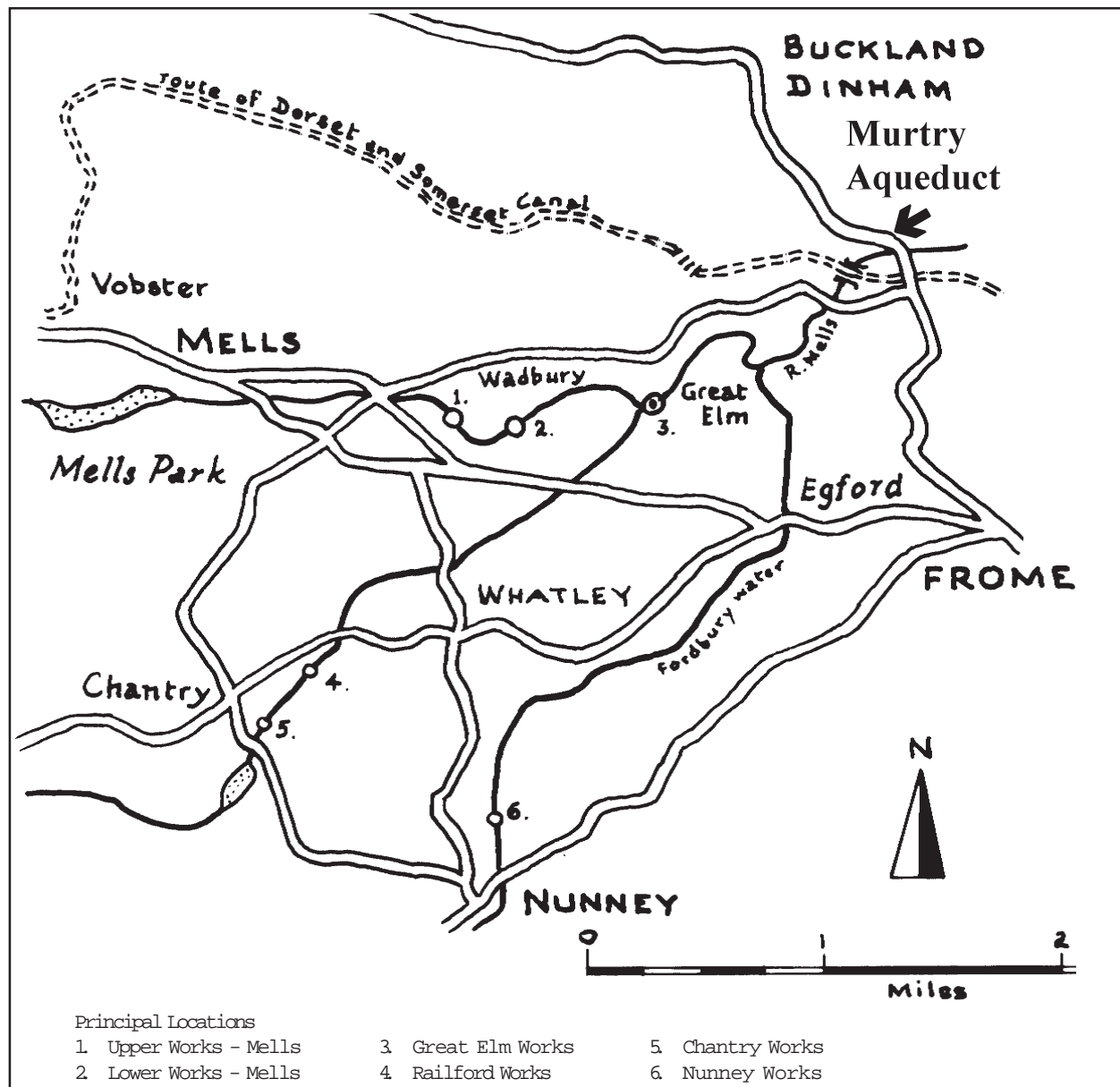


Fig 1 Location plan of the Fussell Ironworks, based on Robin Atthill's *Old Mendip*

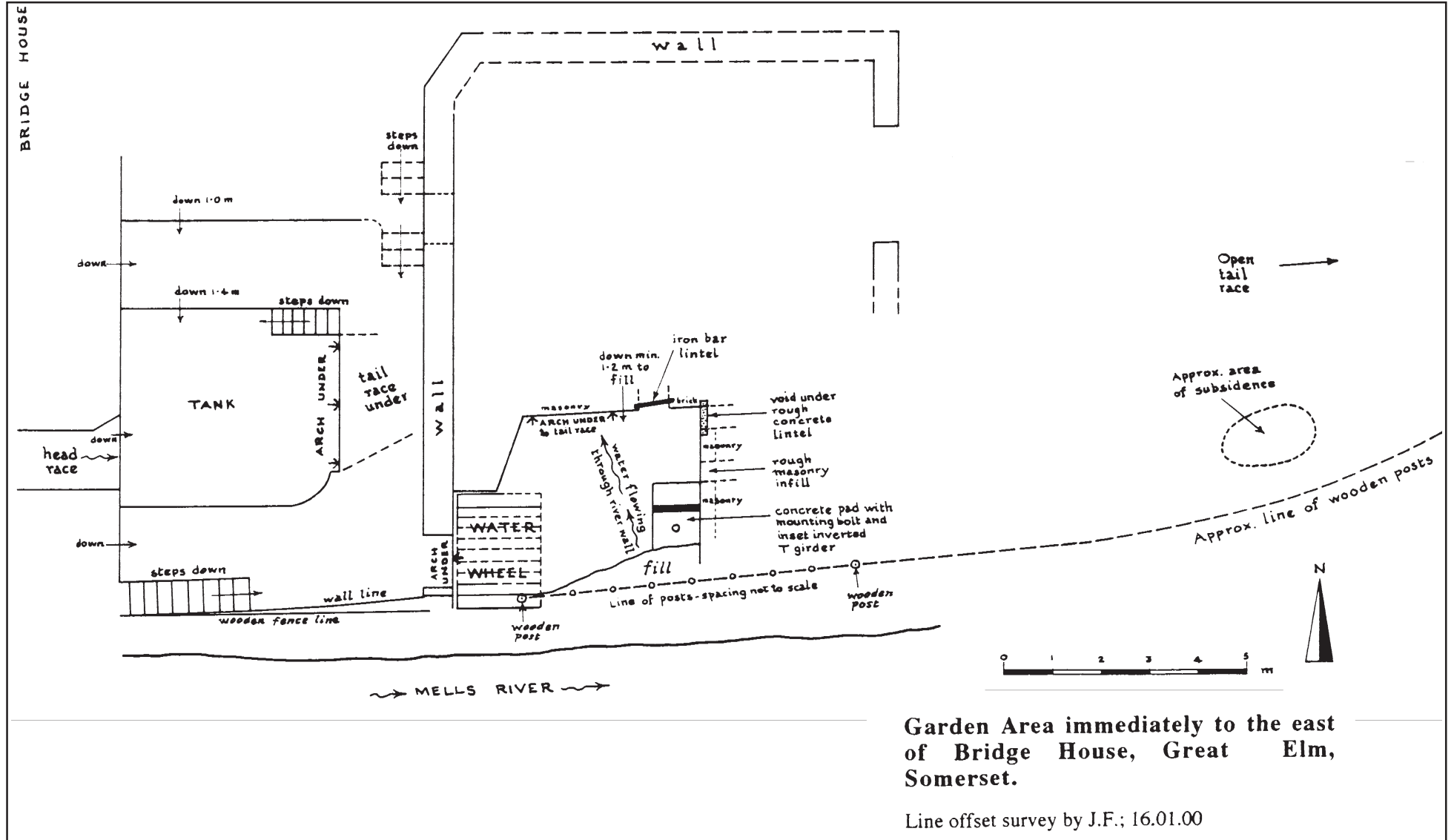


Fig 2 Site plan of the excavation at Great Elm, Mells

Although I obviously knew of the Great Elm works and had seen it from the other side of the Mells River while walking in the area, this was the first time I had actually been on site. Superficially there appeared to be little evidence of its past industrial history other than the provision for harnessing water power and the scant remains of a couple of buildings. So far as the recent subsidence was concerned there was at this stage little to see at the surface other than the aforementioned small hole. However, it was easy to access the tail race and I was able to look at the area of subsidence from within this.

Between the tail race and the area beneath the surface hole there was a low wide arch with what appeared to be a void beyond it and water flowing into the tail race through it. My surmise at this stage was that the river wall was leaking and that the flow of water had washed fill out of some buried remnants of the ironworks. I advised Mrs Wishart that it required investigation, from the points of view both of structural stability and safety and of industrial archaeology. Mrs Wishart accepted this and was very interested in the industrial history side, but decided that she would have to leave it until her season of courses and concerts was over. Before I left Mrs Wishart also showed me the cellars underneath her house which were part of the original ironworks structure.

In the autumn of 1999 Mrs Wishart brought in a local builder, who was also interested in industrial history, to excavate the area of the original small hole using a mini-excavator. He removed a considerable amount of spoil comprising mainly fine silt and demolition rubble, and exposed masonry walling and other structures, together with what appeared to be the remains of a water wheel in the south western corner of the excavation. At this point Mrs Wishart called me in again. I returned to the site at the earliest opportunity and together with the builder extended the excavation to reveal more of the wheel and its surroundings. The hole was now of such a size that the builder's small excavator did not have the reach to take it any further. However, it was clear that there are more extensive remains of the ironworks than had been thought and that the water wheel was both in situ and of fairly large dimensions.

Several more visits ensued and a certain amount of work was done to expose more of the wheel and the surrounding walls. However, the general weather conditions were not propitious for extensive work. On one visit I was accompanied by Owen Ward and my fellow geologist Richard Arthur and Owen agreed

to make enquiries regarding advice from those who knew more about water wheels. At this stage the matter was also brought to the attention of BIAS.

On the 13th January 2000 I visited the site again to make a sketch survey based on line offset measurements (fig 2). Shortly after this Mrs Wishart and I met Penny Stokes of Mendip District Council, who expressed considerable interest in the Great Elm site both on its own account and in the context of the whole Mells Valley and surrounding area industrial complex. We were looking at possibilities for funding further work but there is unlikely to be any funding available directly from Mendip.

The most recent visit at the time of writing was on Sunday 13 February when Mike Bone, my daughter Anna and I shifted a considerable amount of spoil, with the hydraulic aid of a water supply piped from the mill pond. Although the weather was fine on this occasion, working conditions were difficult since the putative 'floor' of the wheel pit is thought to be some 0.5m below the present water level in the tail race. Few artefacts have been found to date but there are some interesting and as yet unexplained structures.

There was extensive discussion on this visit of possibilities for funding further investigation and, in



Plate 1 General view of the excavation looking east





Plate 2 The remains of the waterwheel in the south west corner of the excavation



Plate 3 View through the waterwheel showing the second wheel beneath the arch

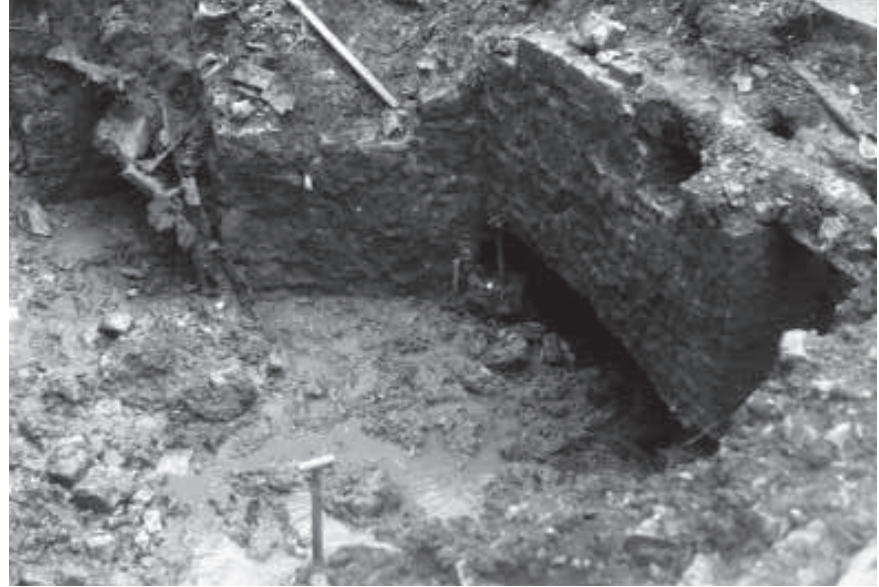


Plate 4 Masonry arch leading to the tail race on the north side



Plate 5 Masonry structures on the eastern wall of the excavation

particular, conservation, and it was agreed that a number of avenues would be followed up. One suggestion was that a date be arranged in the near future for a BIAS working party. It is felt that a full day's work by a relatively small number of volunteers would result in the wheel and its immediate surroundings being cleared to such an extent that a realistic appraisal of future plans could be made.

### Description of the excavation and adjacent area at 13 February 2000

This is a preliminary description. Approximate measurements have been made and photographs taken but fully detailed recording must await clearance of the fill which still occupies the whole floor area of the excavation.

The waterwheel is obviously the first item to demand attention. Approximately 2.3m in diameter and 1.7m wide, it has cast iron sectional framing, the top sections of which have been broken off and are not visible. They may be present beneath the silt and rubble which still fills most of the bottom half of the wheel. The same observation applies to the missing radial spokes. The wheel has a wrought iron plate skin to which very steeply angled buckets are riveted. These are badly damaged in the part which is exposed at the moment but looking down at both sides the rest of them seem to be in relatively good condition. There is a void, albeit a fairly narrow one, between the wheel and the fill adjacent to the river wall with running water at the bottom. Where the wheel abuts onto masonry walls the clearance is very small, of the order of 2cm.

Running through the central axis of the wheel and sloping down to the east is a massive baulk of timber. This is some 0.5m square in section at the western end and at least 3m long. It has a large slot cut into one side at the mid point of the wheel and seems to have snapped immediately to the east of this. There are signs of possible charring on this timber although this has yet to be confirmed. First thoughts were that the timber was a large beam which had fallen from the roof of a room constructed above the wheel pit, possibly during a fire, and broken through the top of the wheel as it fell. There are difficulties with this scenario, not least of which is that the western end of the timber baulk is well *under* the top of the second wheel mentioned in the following paragraph. It is difficult to imagine the timber having been moved in view of its undoubted weight but the wheel, or part of it, may have been moved over the timber.

It is thought that there was possibly another similar

wheel alongside it immediately to the east, although this is *almost* pure speculation at present. However, there *is* another wheel immediately to the west, with the top forming the support for the low arch which can be seen in plate 3. This wheel is not fully accessible as yet. The geometry of its position and the adjacent masonry means that it cannot be *in situ*; it is possible that only the top section is present and that it was moved to its present position simply to provide support for the arch. However, it is unlikely to have been moved far.

Within the current excavation a number of features are visible although none have been satisfactorily explained as yet. In the interests of stability, no attempt has been made to cut back to the river wall. The northern wall of the excavation is mainly of masonry construction over the flat arched opening leading to the tail race. What appears to be a small water channel leads off to the west under the western end of the arch. A small slot is cut back into the wall near the top above the eastern end of the arch. To the east of the arch there is a 0.6m gap within which a corroded vertical iron plate holds back loose fill material. The gap is bridged by a thick iron strip lintel with mortared rubble on top of it. Both sides of the gap are formed of brickwork and this material also forms the structure of the wall to the east of the gap which extends into a spoil choked 0.5m wide slot between it and the eastern wall of the excavation, the gap being bridged by a rough concrete lintel.

The eastern wall is again of masonry construction. After some 0.6m there is another 0.4m slot, this one being filled with rough masonry. The masonry wall then continues into the fill adjoining the river wall, though the masonry construction is breaking down before it reaches the fill. There is a masonry pad on the floor of the south eastern corner of the excavation, butting onto the eastern wall. Bedded into the top of this are a length of J section girder and at least one large mounting bolt. A copious flow of water resurges from beneath the corner of the pad nearest the river and this is clearly the leak through the river wall which instigated the original collapse.

The area between the current excavation and the mill pond has been remodelled, probably during the first half of the 20th century. It may be possible to obtain some information on this from elderly local inhabitants. The cement rendered 'tank' shown on the plan was apparently used as a small swimming pool or plunge pool. The steps leading down into it look as though they pre-date the rendering and there are somewhat ill-defined slots for a sluice gate to shut off the arch leading to the tail race. The area sur-

rounding the tank is laid with patio slabs which Mrs Wishart is willing to have lifted. This will be helpful immediately to the west of the main water wheel, where they cover the second wheel mentioned above and whatever is beyond that. Between the slabbed area and the river wall there are some wrought iron stanchions which appear to be old and look as though they may well have carried a launder which would have supplied water to the main wheel.

### Conclusion

To summarise the situation, the Great Elm ironworks site, which is significant both in its own right and as part of an important widely scattered 18th/19th century industrial complex, is on private land. The owner is very interested in the site and would like to see both further investigation and conservation. However, there is a conflict in that the area involved is her garden and, critically, is extensively used for events attended by significant numbers of people including young children. Hence safety and continued access is a prime consideration. There is no known documentary record of the layout of the Great Elm works so that the nature and arrangement of its component parts will have to be wholly synthesised from the results of on-site investigation.

In addition to investigation of the ironworks, remedial work will have to be carried out on the river wall, leakage through this wall being the initial cause

of the subsidence which led to the exposure of the remains. At the point of the current excavation there is at least 1m height differential between the water levels in the river and the tail race. There is a further area of subsidence adjacent to the river wall further down the garden and this is almost certainly also due to leakage into and through buried ironworks structures. The remedial work on the river wall will be a necessary adjunct to conservation of the ironworks remains.

Work on the Great Elm site should be considered as one discrete part of a much larger project to compile an economic, social and industrial history of the unique area referred to as 'Fussell country' in Robin Athill's 'Old Mendip'. Perusal of the parish records and census returns for Mells, Great Elm and the surrounding villages reveals an astonishing situation in which, at times, a good 50% of the working male population was employed 'at the ironworks'. Compare this with the proportion employed in the production of road-stone today when the quarries are said to be the major local employers of labour. The noise and bustle of this 'rural' edge tool industry, exporting not only nationwide but all over the world, must have had an all-pervading influence on life in the vicinity which is all but unimaginable to one viewing the present peaceful idyll (quarries excepted) of the country scene.

