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**Penpark Hole, A Roman Lead Mine**

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## PENPARK HOLE, A ROMAN LEAD MINE.

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Our aim in this paper is to add another item to the rapidly accumulating evidences which, concurrently, point to Bristol as the site of a settlement, and a place for the shipment of exports, in the time of the Romans.

The hill upon which the city is built is in form a peninsula, at the confluence of the rivers Avon and Frome. The Avon is the most southernly, and by far the larger river, and before 1373 it separated Somerset from Gloucestershire. The Frome flows on the north side of the hill. Rising in the Cotswolds it has a rapid descent, in a south-westerly direction, to its junction with the Avon, the latter portion of its course being through Bristol. This river, the Frome, was in Roman times crossed, most certainly, by the 14th iter of Antonine, which extended from Aqua Solis to Caerwent. However much antiquaries have differed as to certain parts of this iter, they all agree in placing it so that it must have crossed the Frome near to Wades, or Traitor's Bridge, in modern Bristol, and about three-quarters of a mile N.E. of the ancient walled burgh.

The Ridgeway, another Roman road running south from Gloucester, passed within half a mile of Penpark Hole, and it intersected Antonines road, as far as we can judge, about the top of Stoke's Croft. The distance from the point of intersection along the iter to Traitor's bridge would be less than 840 yards. The two roads, the 14th iter and the Ridgeway, pass near to two Cold Harbours and a Silver Street, both names being certain marks of Roman occupation.

Now, in the muddy bottom of the bank of the river Frome, close to Traitor's Bridge, there were found, some years since, two pigs of lead, weighing, respectively, 76lbs. and 89lbs., bearing the

inscription : IMP. CAES. AN - - NINI. AUG. PII. PP. . This gives us the date as between A.D. 139 and A.D. 161.<sup>1</sup>

We must remember that until the year 1809 the Frome was a tidal river ; the average rise of an ordinary tide would be about 10 feet, and considerably more at Spring tides, and on its soft muddy bottom the Roman galleys could securely lie at low water, whilst at high tide their decks would be level with, or even higher than, the land.

The following questions naturally arise : 1st. How came these heavy pigs of undoubtedly Roman lead in the bed of the river Frome ? And 2nd. Whence were they brought ? Our answer to the first of these questions is : They must have been dropped in by accident, when about to be shipped, in being passed along the plank from the shore to the ship, just as now, occasionally, we find blocks of spelter fall into our harbour which have to be recovered by a diver. These pigs were too heavy to be thrown in from the bank, and we can conceive of none other manner by which they could have found their way to the bed in which they had reposed for at least 15 or 16 centuries, than that which is above suggested. The next consideration is this : Whence did this lead come ? We know that the Romans mined lead upon the Mendip Hills. In July, 1876, amongst the old washings at Charter House, there were two pigs of lead discovered ; one weighed 143lbs., which had on it the name of *Vespasian* ; the other weighed 2cwt. 2qrs. 16lbs., and was inscribed with the name of *Titus* as well as that of *Vespasian* ; another had previously been found, weighing 223lbs., inscribed with the name of *Antonine*. At *Blagdon*, a mining village on the north flank of Mendip, there was, some years since, found a pig of lead, inscribed with the name of *Britannicus*, *i.e.* A.D. 49.

The Rev. Canon Scarth<sup>2</sup> thinks that Bristol was a lead depot in the Roman period, and that the produce of the Mendips was brought there to be shipped. We rather demur to this, inasmuch as there was the port of *Adaxium*, Brean Down, at the mouth of the river *Axe*, but a few miles distant, with a Roman road

<sup>1</sup> *Archæological Journal*, Vol. XXIII., p. 277.

<sup>2</sup> *Journal of the British Archæological Association*, June, 1875, p. 138.

communication, linking together the mines and stations on the hills.

It will be noted also that the pigs of lead found in Bristol are much smaller in size than those smelted on the Mendip Hills; and this fact may be allowed to have some little weight. But if this lead had been brought from the south, it is reasonable to suppose that it would have been shipped in the Avon, the larger and nearer river and one more suitable for shipment than the Frome. We can scarcely conceive that the carriers would, if they did not ship at Adaxium, when they reached Bristol pass another easy port of shipment, cross it in boats, for there is no sign of a bridge at so early a date, and carry their burden at least three-quarters of a mile by land, or a mile and a quarter in boats, to ship it at a, confessedly, more difficult place and further inland than the river's brink at which they first touched. We conclude, therefore, that if this Bristol lead had been from the Mendip Hills it would have been shipped in the Avon, instead of being brought, by tortuous ways, whether by land or by water, to the spot where it was found.

But if this lead did not come out of Somerset, whence did it come? We answer, from Gloucestershire, and probably from Penpark Mine, which is about three and-a-half miles distant from the spot where these pigs were found, and which lies upon a Roman road, the Ridgeway, so that there would not be the slightest difficulty as to carriage; in fact this port on the Frome would be the nearest point for shipment of lead from Gloucestershire. But is Penpark a lead mine? Without doubt. It was examined in 1669 by Captain Sturmy (I presume the title is that given by miners to the superintendent of a mine, who is to this day called Captain) who describing his descent, says: "On the 2nd of July, 1669, I descended by ropes affixed at the top of an old lead ore pit, four fathoms, almost perpendicular, and from thence three fathoms, more obliquely, between two great rocks, where I found the mouth of this spacious place, from which a mine man and myself lowered ourselves by ropes 25 fathoms perpendicularly, into a very large place, which resembled

to us the form of a horseshoe; for we stuck lighted candles all the way we went, to discover what we could find remarkable. At length we came to a river, or great water, which I found to be 20 fathoms broad, and 8 fathoms deep. The mine was altogether about 220 feet deep. The mine man would have persuaded me that this river ebbed and flowed, for we found the water had sometimes risen 10 fathoms above its present height; but I proved to the contrary by staying there from three hours flood to two hours ebb, in which time we found no alteration in this river. Besides its waters are fresh, sweet, and cool, and the surface of the water, as it is now, at 8 fathoms deep, lies lower than the bottom of any part of the Severn Sea near us, so that it can have no communication with it. As we were walking by this river, 32 fathoms under the ground, we discovered a great hollow-ness in a rock some 8 feet above us; so that I got a ladder down to us, and the mine man went up the ladder to that place, and walked into it about 70 paces, till he had just lost sight of me, and from thence cheerfully called unto me, and told me he had found a rich mine, but his joy was presently turned into amazement, and he returned affrighted by the sight of an evil spirit, which we cannot persuade him but he saw, and for that reason will go thither no more." Neither, it seems, would the Captain who continues: "Here are abundance of strange places, the flooring being a kind of white stone, enamelled with *lead ore*, and the pendant rocks were glazed with saltpetre, which distilled upon them from above, and which time had petrified;" *i.e.*, Stalactites and Stalagmites, as is shewn by the Captain's sketch, published in Bristol, A.D. 1792.

Four days after his return, Captain Sturmy was troubled with an unusual and violent headache, which he imputed to his being in that vault, and falling into a fever, he died in a few days.

Thirteen years after this descent, being in 1682, another mining authority, Captain Collins, paid the mine a visit. He found the shaft to be 39 yards deep from the surface. "The mine spread into an oblong irregular figure, its greatest length being 75 yards, its greatest breadth 41 yards, from the roof to the water was 19

yards. The water was then (Sept., 1682) in a pool at the north end, which was the deepest part; it was 27 yards in length, 12 in breadth, and  $5\frac{1}{2}$  yards deep; there appeared two rocks above the water, all covered with mud, but the water was sweet and good. There was a large circle of mud round the pool and reaching up towards the south end, which shewed that the water had been sometimes 6 yards higher than it was then. The tunnel, or passage down, was somewhat oblique, very rugged, and rocky; in some places it was two yards wide, and in some three or four; but nothing observable therein, save here and there some of that spar that usually attends the mines of *lead ore*. In the way, 30 yards down, there runs in southward, a passage 29 yards in length, parallel to the surface above; it was two or three yards high, and commonly as broad and alike rocky as the tunnel, with some appearance of spar, but nothing else in it except a few bats. The large cavity, or mine, below, was also irregular and rocky; the air was pure. The corner," he says, "where the land-waters gather, is 59 yards from the surface of the earth." And differing from his predecessor, Captain Sturmy, he calculated the bottom of the mine to be about 20 yards above the highest tide in the Severn, from which, he says, it is equidistant with Bristol: viz., about three miles.

I find that between 1763 and 1768, the Rev. A. Catcott, whose father was the master of the Bristol Grammar School, and who, himself, was the vicar of Temple Church, and one of the fathers of geological science, although his views would now be pronounced absurd, visited Penpark, but did not, apparently, descend into the mine.

Mr. Catcott ascribed the Noachian deluge to a literal outburst of waters from an internal abyss, to which they afterwards retired by subterranean caverns and swallet holes.

I have his account in MS. of many caves and mines explored by him, among which are the following in our neighbourhood:—

"May 30th, 1775—Went to Almondsbury, in Gloucestershire (7 miles from Bristol), in company with Mr. Freeman, to view some lead works he was working. The vein had opened in many

places ; on the hill they found, frequently, small veins, or courses, as they called them, but the largest was not above 10 or 12 in. broad, this, too, mixed with spar and grit, could generally be traced about 20 yds. in length, as there were many of these on Almondsbury Hill and the parts adjoining, and these frequently not full, so it fully proves that there can be no veins here that are worth working. As these small veins were not full, so it follows that there was not a quantity of ore which settled in the body of the stone to fill them, and, of course, if there were larger veins they would not be full."

"The ore lay in perpendicular fissures, and though the veins were small they frequently had lesser branches running from them. I went down into one shaft on purpose to see *an old work* they had fallen upon ; it doubtless was such, but when it was made was quite uncertain, and none of the oldest persons in the place could remember that ore had been dug there until lately."

"This pit lies within about 200 yards of the place where the Bristol road from Felton to Gloucester meets the road from Mr. Chester's house, and is dug on the left hand side of the former road as you come from Bristol."

"July 7th—Went to Henbury to view what is called Pope's work ; a man there, of that name, has discovered small veins of copper ore, the place is about half-a-mile from Henbury, towards the Severn, on a high hill. The ore lies in small perpendicular fissures about 1 or 2 inches wide.

"July 15th—Went to Mr. Harmer's, at Penpark, which lies about a mile-and-a-half from Westbury towards the north ; had just time to view the hole. It appears to be more than a swallow, there are several lesser near it, which are thought to lead into the greater. Propose to examine more accurately."

"November 15th—Examined a fissure about 130 yds. N.E. of Clifton Camp, 5 feet wide throughout its course, which is S.E. to N.W. in nearly a straight line. That it was dug formerly is evident from the hollow places in the ground, about 6 or 8 yards distant from one another, and the heaps that are thrown up on

each side of these hollow places. I daresay that this fissure runs under both Clifton and Durdham Down."

This must have been at Litfield [Leadfield Place], Clifton Down. Both Penpark Hole and Litfield, are, we believe, on the line where the limestone is masked by the lias, and it seems that at the point of junction lead is found.

There is little doubt but that the Rev. gentleman's description of Penpark Hole, in his Essay on the Deluge, had excited considerable interest, and stimulated the curiosity of the public; and that it led to the following tragical occurrence:—

The Rev. Thomas Newman, one of the minor canons of Bristol Cathedral, son of Mr. Newman, the banker, went, after morning service, on March 17th, 1775, in company with two young ladies and a gentlemen to visit Penpark Hole. Mr. Newman, in trying to sound the depth with a string which he had purposely brought, went a little way down the inclined opening towards the mouth of the shaft in order to drop his line clear, trusting to a branch of an ash tree that grew over the mine and to which he clung with his left hand. The ground was wet and slippery, he lost his foothold, the ashen branch broke in his hand, he slid down the few feet of incline and fell over into the fearful pit. He was a man greatly respected, in the bloom of manhood, scarcely 26 years of age, and to add to the tragic interest surrounding the accident, he had that morning read, as part of the day's service in Clifton Church, David's reference in the 88th Psalm to his own troubles, "I am counted as one of them that go down to the pit. . . ; who are cut away from thy hand. . . . Thou hast laid me in the lowest pit, in a place of darkness, and in the deep, . . . My lovers and friends hast thou put far from me; and hid my acquaintance out of my sight." The coincidence was certainly very striking, and curiosity brought, daily, for some weeks a large concourse of persons to the spot to view the attempts that were being made to recover the body, many of whom descended, rather to view the gloomy cavern than to aid, practically, in the search. Amongst these visitors was Mr. George Cateott, brother

to the gentlemen previously named, a man who aimed at eccentricity, who had been the friend and patron of Chatterton in a small way, the partner of Burgum, and who was then the Librarian of the City Library. He descended twice, once on Monday, March 20th, 1775, and again on Easter Monday, April 17th, eight days before the body of Mr. Newman was found. It had, probably, been swept into one of the lateral tunnels, out of which it could only float when the spring land floods had abated. To Mr. Catcott, and chiefly to Mr. White who descended several times, the last being in the autumn of 1776, we are indebted for a plan of the place, and for a minute description and somewhat bombastical account of the perils he encountered, or rather dreaded.

From his narrative, divested of its extravagant verbiage, we see plainly that it was a mine which had been freely worked, its shaft opened to the surface, close to the ash tree before mentioned, but 120ft. to the east was another opening, 49ft. deep, which led into a working 42 feet in length and 14 feet in width. At the extreme western end of this, another descending tunnel, with a gradual slope, ran about 90 feet westward, until it opened into the main shaft. Now, not only have several main lodes, apparently, been followed here, but smaller veins of ore have been worked, which Catcott describes as small tunnels running upwards amongst the rocks. Thirty feet from the surface is a tunnel, which is from 8 to 10ft. high and 30ft. in length; also another to the westward, which, about 60 feet in, was choked up by a fall from the roof. The shaft thence descends perpendicularly for between 30 and 40 feet, to an incline formed, apparently, by the refuse of the workings from the tunnels and large stones of a ton weight that had fallen from the roof and sides. The west tunnel is 78 feet long by 16 broad, and at the entrance, 20 feet high, which decreases until it terminates in small workings running in amongst the rocks. He considers "the total depth of the mine to be about 200 feet, and at the lower part is a spacious apartment, about 90 feet long by 52 feet broad, and the height, when he visited it, was, from the surface of the water, about 30 feet, but, he thinks, from the bottom of the pond it would be quite 90 feet." He adds that with the light of the torches the roof could not be seen.

Crossing on the floating stage, which had been brought down to search for the corpse, Catcott came to Sturmy's ghost-hole, about 8 feet above the water. "The entrance to this tunnel is about 10 feet broad and 5 feet high, resembling the mouth of an oven. Our explorer's courage failed him here—he let 'I dare not' overcome 'I would'; but on the authority of a gentleman who traversed it to the end, he describes it as "being nearly as long as the large one, but much narrower." The rock is veined throughout with semipellucid spar, especially is this the case in the large cavern, and although Mr. George Catcott endeavours to accommodate the small funnel-shaped workings to his brother's theory of these being the funnels by which the waters of the deluge retired to the internal abyss. We have no hesitation in ascribing them to the miners of the early centuries in the Christian era.

Archæology, like her sister science, Geology, was, in the 18th century, but in its infancy. No attempt was made to discover the rude tools of the miner, or to fix the date at which it had ceased to be worked. But it is evident that skilled men in their profession, the mine captains, Sturmy and Collins, in the 17th century had recognised Penpark as an old long disused lead mine, and could testify to its being rich in mineral.

The land has recently come into the possession of William Smith, Esq., who, to prevent accidents, has securely closed it. This then, we contend, is the most probable source whence the pigs of lead found in the Frome were derived, and we submit that, not only were they dug and smelted in the 2nd century but that Bristol was, at that period, a Roman place of export.

Mr. Kerslake, in corroboration of the above view, stated that he had seen a deed relating to land at Penpark, which bore the signature of King Alfred (883), in which it was named as a "place of diggings."

Since this paper was read, a discovery of an enormous quantity of second and third brass coins of the lower empire has been made at Filton, within a mile of Penpark Hole. By far the greater proportion are those of Constantine the Great.