South West Shropshire Orefield

Terry Davies & Adrian Pearce, "Mining in Shropshire"

Within a 4 mile radius of the village of Shelve, lies an area consisting of moorland, woods and rocky outcrops, dotted with scattered farms and villages. Visitors who have the time to look can also find other features - spoil tips, tall chimneys and the roofless grey walls of old engine houses.

It is hard to believe but this pleasant rural scenery was once the site of a thriving mining industry which extracted lead, zinc, copper, barytes and other minerals. In 1875, this small area produced over 10% of the UK lead ore and up to the First World War produced about 25% of UK barytes.

The Romans were possibly the first to exploit lead in this area by means of open trenches and shallow levels and shafts. Mining methods changed very little in the centuries after the Romans left and workings continued to be relatively shallow, drained by levels driven from the valley sides. Lead continued to be a valuable commodity, however, and in 1181 Hugh Pentalf (Sheriff of Shropshire) accepted £55 from the King's lead mines at Shelve. In 1182 a church in Gloucester paid 10 guineas for 34 loads of lead for the roof and in 1278 three waggonloads of lead were sent from Shelve to Builth Castle.

As ore became exhausted, however, the miners had to go deeper and faced the problem of removing water from the workings. Where drainage levels from adjacent valleys could not solve this problem, the water was removed manually in barrels drawn up the shaft by windlass or horse whim. Other mines used waterwheels to operate pumps but the major problem with these was that the water supply tended to dry up in summer and freeze in winter, thus causing the lower workings to flood. This state of affairs continued until the late 18th century when the invention of the steam engine revolutionised the local mining industry. In 1775, Boulton and Watt formed their famous partnership and began to manufacture steam engines near Birmingham. The mine adventurers of Shropshire were not slow to take advantage of this new means of power and nine Boulton and Watt engines are recorded at local mines before 1800. After 1800, the Boulton and Watt monopoly expired and engines from other manufacturers began to appear on the scene. The mining industry began to expand and by 1850 the view from the Stiperstones would have included a dozen engine houses, each with its tall chimney capped with a plume of smoke. By the 1870s, it was said that there were 17 engines at work in the Rea Valley alone, with four more on order.

Steam engines worked by introducing steam into a vertical cylinder fitted with a moving piston, thus forcing the piston down the cylinder. This piston was connected to the end of a beam which was pivoted on the wall of the engine house, with the other end projecting over the shaft. As the piston was pushed
down the cylinder, it pulled down the "indoor" end of the beam and thus raised the "outdoor" end. In most engines, the outdoor end of the beam was attached to a series of joined pump rods in the shaft which were connected to pumps at the shaft bottom. As the piston came to the end of its stroke, the weight of the pump rods pulled the outdoor end of the beam back down and thus raised the piston back to the top of the cylinder. In other engines, the beam was attached to a crank which operated a winding drum or crushing machinery.

Boulton & Watt did not manufacture everything on their engines, only the more specialised parts. John Wilkinson's foundry at Bersham made the cylinders and the rest was made by local blacksmiths and mechanics on site, using plans and drawings supplied by the partners. Payment for the engine was also unusual in that it was not an outright sale. An annual payment was negotiated, based on fuel costs shown by the engine as compared with a Newcomen engine of the same power. These payments were to last until the partners' patent expired in 1800. In South Shropshire, where some of the mines found it hard just to keep in business, the partners must have found it difficult to collect their dues!

The erection of a new pumping engine at a mine was quite an important event and at the Bog Mine in 1838 "... Mr Cross of Chester put in motion a steam engine of 370 horsepower to conquer the deluge of water. About 1pm, this grand piece of machinery began to have fresh fuel added to its boilers and for several moments the spectators were breathless with anxiety till the beam lifted its majestic head and Mr Cross named her "The Queen Victoria" amidst the tremendous cheering of a vast multitude, the band playing "God Save the Queen". The company retired to a large booth where several hogsheads of most excellent ale and large quantities of bread and cheese were distributed to the workmen and multitude after which some hundreds footed it on the "light fantastic toe" to Cambria's favourite instrument, the harp and two violins, while members sat down to an excellent dinner in the office of the company and adjoining rooms..."

Production of lead reached a peak in the latter half of the 19th century but, by 1885, cheap imports from abroad had caused the price to drop from a high of £20 to only £11 per ton. This brought disaster to many of the district's smaller mines which could not make a profit at this price and had to close. Even the larger mines were on the wane by 1900 and they had to turn to mining barytes to make ends meet. Huglith Mine was the last large mine but this closed in 1947 and there has been no serious mining since.

Although miners were brought in from places such as Cornwall or Derbyshire, most of the men who worked here were locals. Their women and children worked on the surface crushing and preparing the ore for smelting (a process known as dressing the ore). They had to work in all kinds of weather with minimum shelter, a miserable life that would never be condoned today. Adjacent to many of the mines you will find ruins of houses which were abandoned when the mines
closed forever. If you visit the head of Perkinsbeach Dingle or Blakemoorgate you can see the remains of whole abandoned villages.

Although some miners lived in villages, many more preferred to live in smallholdings scattered over the surrounding hillsides. Landowners encouraged their miners to "squat" on their land and to make small enclosures. In this way, they could collect rent from the miner as well as obtaining his labour. From his cottage, the miner used to walk many miles to the mine, both day and night in all kinds of weather. There was no social security in those days and the miner had a stark choice, if he didn't work he didn't get paid. To offset this, many miners formed friendly societies whereby they could receive a weekly payment if they were off work due to sickness or accident. Each cottage had a number of acres of land and this allowed the families to supplement their income by growing most of their own food. This led an irate mine owner of the 19th century to remark that, because of the need to cultivate their own land, the miners were not entirely dependent upon their earnings at the mine for subsistence. This was apparently an undesirable trait as it made the miners too independent! Their houses were small with no more than 2 bedrooms upstairs and a living room and pantry downstairs, occasionally with lean-to buildings at the side. The miners built their own houses out of local stone with a thatched roof, with neighbours often lending a hand. Outbuildings were also thatched but the walls were made with a frame of wood filled with a mixture of gorse, turves and mud.

The smallholding was usually sufficient to provide enough grazing for the milking cow in summer and hay to last the winter, while some miners also kept pigs for bacon or as porkers. Poultry were common, as were sheep which were allowed to roam the hillsides. Since the miner's family tended to be large, he was therefore of necessity a keen gardener, using his vegetable garden as an important additional food supply. The children were expected to help out by collecting whinberries and blackberries from as far away as the Long Mynd to supplement the family diet. This was so important that schoolmasters often had to close the local school at those times of the year when wayside fruits were ripe. A miner's main meal might consist of bacon and vegetable stew with homemade bread. To eat meat supplied by the butcher was highly unusual.

Being adjacent to the mines, these smallholdings were sometimes threatened by subsidence when workings approached too closely to the surface. A typical example of this occurred in 1897 when a Mr Jones complained to the Snailbeach Mine. A survey showed that the workings had approached to within 20 yards of the house and that they were 12ft wide at a depth of 14ft. The company offered to buy Jones' house to work the vein as an open cutting. Jones swiftly reached a decision about leaving his home and sold it to the company.

The system of working the larger mines was by shifts of men every 8 hours for 5 days per week. On Saturdays only a third of the miners were at work, between the hours of 6am and 12 noon. The remaining two thirds of the men were thus
idle from Friday night to Monday morning. These long weekends were not usual at the time and were unpopular with the mine owners who still had to keep the mines pumped dry. All attempts to introduce a full day's work on Saturday were as unsuccessful as that at Roman Gravels Mine in 1870. The workers from other mines induced the men to stop Saturday working by means of threats and intimidation, saying that they were breaking the rules of the country. In 1871, the miners were also taking a day's holiday immediately following the monthly payday. The lunch hour, taken during the shift, was a full hour or more. Both these facts appeared to cause the mine management a great deal of frustration.

Unlike modern mines, very few miners were actually full-time employees of the mining company. The exceptions were the mine captains, engineer, engine drivers and perhaps a few other specialists such as the men who maintained the shaft. It was even known for particularly skilled captains and engineers to be employed by more than one mine, dividing their time between them. All other workers were employed on a monthly contract and they had to compete to sell their skills in a type of auction known as the monthly reckoning. In this, the captain would offer different types of work for the forthcoming month and it would be given to the miners who quoted the cheapest rate. The men formed themselves into small teams and would offer to work a particular part of the mine for which the mining company would pay them an agreed rate for a set weight of ore brought to surface. Pumping and winding costs were borne by the company but the men were obliged to buy gunpowder and candles from the company. Depending on the custom, some mines accepted ore as it was brought from the mines, others required the mining teams to deliver it already dressed for smelting. In the latter case, the teams would have to employ their own people to dress the ore on surface. To prevent ore becoming mixed up, each kibble or wagon of ore was marked to show where it came from and was dumped at surface in separate compartments known as ore bins.

Underground, the teams had discretion in how they mined the ore. This was subject to some restrictions, however, and the mine captain was responsible for ensuring the safety of the mine, having the right to insist that timber supports were installed if necessary. This wasn’t particularly for the benefit of the men - he was more concerned that the workings did not collapse and interfere with the profits! A typical mining team consisted of two experienced miners, a labourer for the heavy shoveling and perhaps a young boy to carry the ore to the shaft bottom. The mine workings would be divided into many different working areas, each with their own mining team. It was always a gamble because, depending on the richness of the vein, a team could either make a big profit during the month or a loss. Surprisingly enough, this system was very popular with the miners who valued their independence and appreciated the chance it gave them to make good profits. It also suited the mining companies because it encouraged the teams to deliver as much ore as possible to surface.
The rate for a particular area of the mine could vary from month to month. If a team found a rich vein which was easily worked, they would obviously make a large profit. This would encourage the mining company to offer a lower rate for that area at the next reckoning and this ploy worked because there were always other teams willing to take on rich areas. Conversely, if an area proved poor during the month then teams would be unwilling to bid for it and the company would have to increase the rate before it was taken on. The monthly reckoning was a general holiday and there was no school that day. The reckoning at Roman Gravels Mine was accompanied by a fair held at the crossroads, where hard earned money could be exchanged for necessities.

Local political feeling ran strongly at times and elections were occasionally accompanied by violence between bands of rival villagers. The Hope Valley was a Tory stronghold whilst Snailbeach was staunchly for the Liberals. The supporters of each party were in the habit of attempting to prove their superiority by punching the heads of their supposed inferiors!

Compared to some areas, the district was very well served by schools. Although most were small, they were very numerous and each small village had its own. The free school at Snailbeach, founded in 1843, was a typical example of one of the larger ones. It was erected at the joint expense of the Marquis of Bath and several gentlemen of the Snailbeach Company, with accommodation for 100 pupils and average attendance being about 80. The company provided an endowment of £40 per annum towards the running costs and each miner was expected to pay 6d per quarter to the schoolmaster. As the mine at this time employed 500 men collecting an average total of £2,000 per month, it would seem that education was quite cheap. The schoolmaster's wage would have been £100 per annum (twice the average miner's wage) unless he chose to pay an assistant.

The mining communities were very religious and there was a strong chapel following in the district. It is significant that, of the seven men killed in the Snailbeach disaster, three were lay preachers and the other four were steady attenders. Five were Methodists and the remaining two belonged to the Church of England. The Wellington Journal of the times records that Mr Henry Wiggin of London, known as the "Weeping Preacher", visited Snailbeach and had large audiences for night after night.

Sunday Schools thrived and the big occasion of the year was the 'Treats'. In hard times, these might only consist of marching behind a local brass band, followed by a picnic on top of Corndon Hill. Later trips were made with the children riding in horse drawn wagons and eventually in charabancs to places as far away as Rhyl. The chapels organised Eisteddfodau at holiday times with singing competitions and another popular local activity was football. Thrift was encouraged by means of the Chapel clothing clubs and charity took such forms as paying a child's school pence when the father died.
Accidents were common in the local mines and a typical example was the Snailbeach Mine disaster which cost seven lives on 6th March 1895. The winding system at George’s Shaft consisted of two separate cages (later converted to a single cage), each of which had its own rope passing over pulleys on the headgear to the same drum. The ropes were wound on the drum so as to bring one cage to surface at the same time as the other cage was at the shaft bottom. On the morning of the accident George Williams, the engineman, ran the cages three times through the shaft as a test. He then raised two cage loads of night shift men before lowering the morning shift. It was while the third cage load of seven men were half way down the shaft that the rope broke.

One of the miners at the shaft bottom was W Holyoake, who stated ".. When we got down we lighted our candles and waited till the next party should come down. In two or three minutes we heard the cage coming down. The noise was like thunder. The cage crashed down with the bodies in it. The cage was smashed up. The rope came down on top of the cage. We signaled up at once and proceeded to take the rope away by drawing it along the level. The rope was knocked about. We had to knock the cage to pieces to get the bodies out. There was no sign of life in any of them. I had every confidence in the rope and it always looked perfectly safe."

The top part of the winding rope recoiled out of the shaft and George Williams the engineman had a narrow escape. Members of the day shift waiting at the shaft bottom were treated to the sight of the 7ft 6ins high cage reduced to a mere 18ins by the smash and yet, when the rescue party descended the ladders to recover the mutilated bodies, it is said that a watch worn by one of the dead was still ticking. After adjustments to the winding engine, the bodies were brought to surface in the second cage. The verdict at the inquest was "accidental death caused by the breakage of a defective rope", the jury thought that the rope had not been properly looked after and had been used too long. Although the Mines Inspector felt that the company and their agents should be censured, there was no breach of the Metalliferous Mines Regulation Act as it stood at that time.

Rope breakage was not the only danger faced at the mine. In 1897, a particularly lucky miner named William Lewis slipped off a ladder while climbing up the shaft at the 282 yard level. He fell to the bottom, suffering nothing more serious than a few bruises. An investigation revealed that the ladders were in good working order and concluded that Lewis had been careless. Like in many hard rock mining areas, Shropshire miners also had to face the problem of silicosis when rock drills were introduced. It wasn't until later in the 20th century that regulations were introduced to reduce the amount of dust produced by these machines. Most drills used water to damp down the dust emission but Huglith, Gatten and Sallies Mines used suction containers to collect the dust and the miners wore masks (see Figure 84). For many miners, however, the regulations came too late and they were condemned to die early from pneumonia and other dust-related diseases.