

# Spoil Tips and Mine Approach

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The Car Park at the Village Hall is where the coach will leave the group. There are toilet facilities here, and the group may also book the hall as a place to have a sandwich lunch.

On the opposite side of the road from the Car Park the land slopes steeply upwards. This is the edge of an old spoil tip from the mine which has now been stabilised and grassed over. The road signposted to Lordshill has old spoil tips on both sides.

The waste rock, or spoil from the mine, was dumped in large tips which came right down to the road. The path up to the mine goes up one of these, which has mainly been covered with soil. As the photograph shows, it now provides safe grazing for sheep.

Until it was reclaimed by Shropshire County Council, this was part of the 'White Tip' of discarded rock from the mine.



Sheep grazing on the former White Tip



The White Tip before it was reclaimed . Photograph from Shropshire County Archive PH/S/20/26

## Tip on the South side of the road to Lordshill

On the south side of the road the steep slope is clearly made of waste from the mine. It gives an impression of the way the landscape was disfigured by heaps of unstable spoil material on which nothing useful could be grown.

The place where the mineral vein would have outcropped at the surface is now hidden by the spoil heaps.

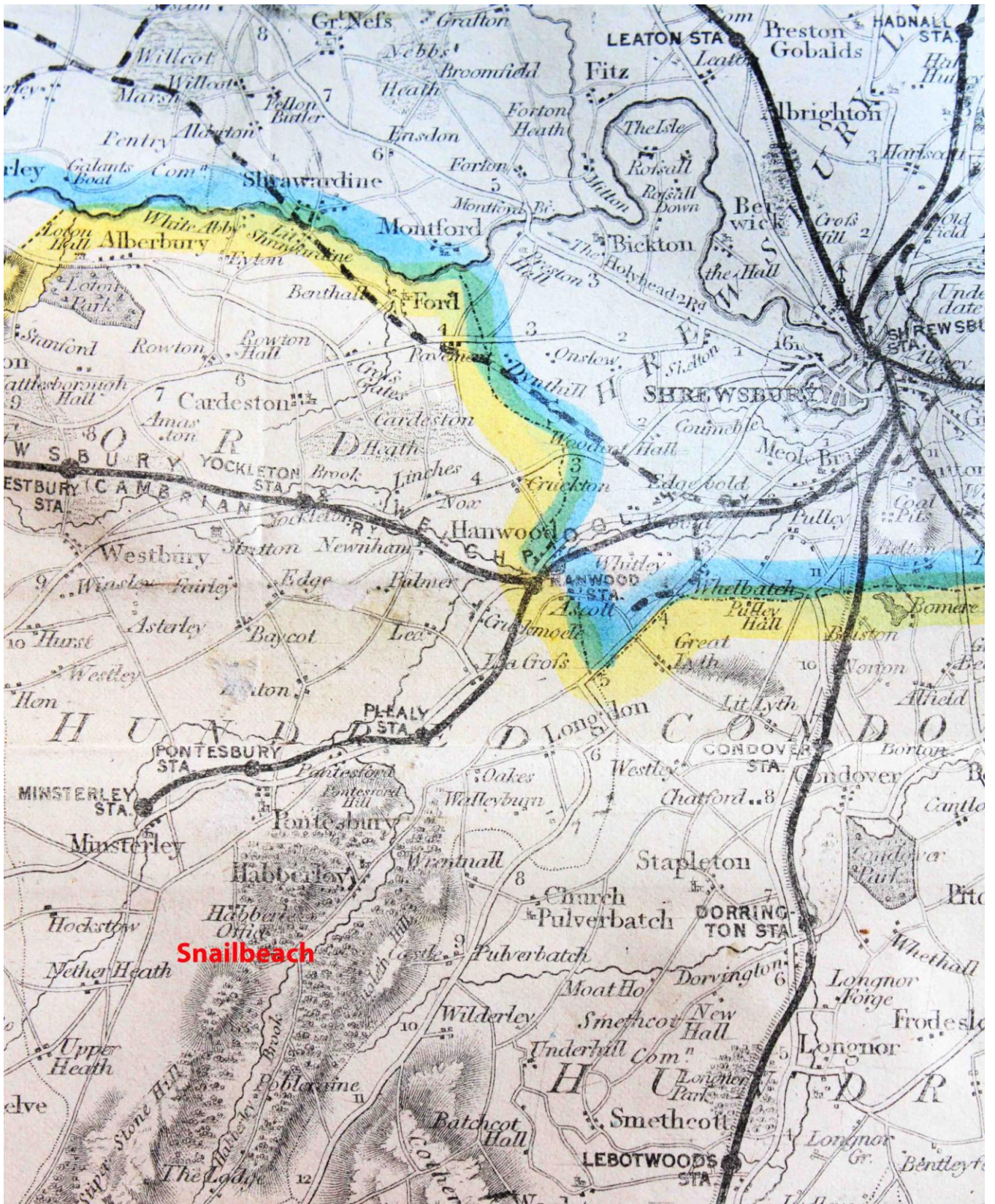
At the top of the path up the spoil heap is a further area which has been left uncovered by soil, to show the original appearance of the tips and provide a site for collecting specimens of rock.

Before going on to examine the landscape here, it may be useful to look at the old map, created before Snailbeach was a significant place.



Tip on the north side of the road

# 1870 Railway Map



# 1870 Map

The map is an enlargement of part of a county map of Shropshire dated 1870. The railways are shown as continuous lines, and the railway to Minsterley from Hanwood, completed in 1861, is marked. Planned railway lines are shown as dashed lines, but not all of these would necessarily be constructed. All of the railway information is up to date because any railway required an Act of Parliament, and information about the line was published. Other information could be out of date.

The position of Snailbeach is indicated in red on the map. Note that the map makers have completely ignored all developments at Snailbeach. It is not yet regarded as a place to identify. Looking at the photograph of Snailbeach on Sheet 4, the only structure which is likely to have been present when the map was made was George's Shaft, marked on the ground today by the reconstructed pit head gear. Most of the significant mine buildings, like the chimney with the date 1881, are likely to have been built after the map was made. Miners would have lived on their smallholdings, and the steep valley sides of Snailbeach have never been suitable for growing crops.

Ore dressing, (separating the lead ore from waste rock and other minerals) would have been carried out here, but would not have needed any buildings. Most of the activity at the surface was near Pontesford where the Snailbeach Company had had a coal mine and the lead smelter.

Snailbeach Mine may once have been described as 'The richest acre in England' and the description highlights how small the important mining area was. There was nothing else in the Snailbeach valley to encourage commercial development, farming or housing.

When the rich mine was worked there was no concern to protect the surrounding environment. The waste rock was simply piled on the unused land.



Image produced from the Ordnance Survey Get-a-map service. Image reproduced with kind permission of Ordnance Survey and Ordnance Survey of Northern Ireland.

# 1 Landscape seen from the Spoil Heaps

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The photograph shows the view of the former mine on the South side of the Snailbeach Valley. The name SNAILBEACH originally applied to the valley, before there was a mine or a village. The word BEACH originally means a watercourse. Less than 2 kilometres south of Snailbeach there is a similar steep sided valley called Perkins Beach. The original natural vegetation of the steep sided valley is seen in the trees on the hillside.

The level area in the foreground of the photograph has been created by dumping mine waste, and it was levelled to accommodate mine buildings and equipment for 'dressing' the ore; that is, separating Galena, lead ore, from waste rock and other minerals.

Invite pupils to identify and describe the ways in which the landscape has been changed by mining.

- Identify the areas of the spoil heaps.
- Notice how the road up to Lordshill has to climb up and cross the spoil material.
- Identify former mine buildings. Should they have been cleared when the County Council made the site safe, or should they be kept as a sign of significant past activity?
- There are houses, enlarged and modernised from what would have been homes of miners and surface workers. Note that there would have been no homes and no employment here without the mine.
- Identify areas of farmland East of Snailbeach, which would have been worked for many centuries.
- Identify areas of steep wooded hillside which have always been unsuitable for farming.

In what ways

- Has the landscape been damaged by mining activity?
- Has the landscape been improved, either by mining, or by the restoration of the landscape by the County Council?
- Could further improvements be made?

The first houses were built here by mine workers. Why would people choose to live here today? Are the reasons the same as those of the mine workers, or are they different?

# On the way to the Reservoir

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The path passes two significant buildings that were deliberately located away from the main buildings and activity of the mine.

## Candle House

One is the former Candle House, just below the road on the north side. It is not in the care of either the County Council or English Heritage, and is extremely dilapidated. This is where tallow, animal fat, was rendered down to make candles for use in the mine. The fat was likely to be old and rancid, and boiling it would have created a terrible smell. This explains why the Candle House was sited away from other mine activities.



## The Magazine

The Magazine, a building with strong double walls, was built here for safety. This was a store for gunpowder and other explosives used in the mine.

The roof would have been very lightly built so that if an explosion occurred inside, the roof would blow off but the walls would remain intact. The walls have remained in good repair because they were very strongly built, and the Magazine continued in use until mining of Barytes ceased in the 1950s.



The Magazine is labelled on large scale Ordnance Survey maps from 1880 and 1900. It is shown as having a double wall, with only the central part of the Magazine roofed.

## 2 By the Reservoir

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The reservoir fills the steep sided valley. It is positioned above the mine so that water will be supplied under pressure for use in mineral dressing. From the lower side of the dam it is possible to appreciate how steep the valley sides are and how deep the reservoir must be. Towards the far side of the dam is the former Valve House from where the flow of water could be managed.

The stream entering the reservoir (towards the right hand corner in the above photograph) has started to fill the reservoir with sediment. This has provided a habitat for marsh plants such as the Irises shown on the right.



### 3 Lordshill

Apart from farms, the most significant building on Lordshill is the former chapel. (The congregation which met here now meets in the restored former Ore House of the mine, in the village of Snailbeach.)

The significant question which any geographer must ask is why such a place should be built so far from any houses.

The explanation is that the land here belonged to the Earl of Tankerville, and was outside the land owned by the Marquis of Bath, who owned Snailbeach. It would appear that permission for a chapel on the Marquis of Bath's land was not granted.

The Earl of Tankerville had granted mining rights on his land in the hope of finding a continuation of the Snailbeach Vein, but success was very limited. Here a rock formation called the Mytton Flags, which had numerous lead bearing veins, is replaced by the underlying Stiperstones Quartzite rocks which form the top of the ridge. An old chimney is situated close to the limit of mining.

Beyond the former chapel is 'The Hollies' an area with ancient Holly Trees whose foliage used to be cut each autumn for animal feed. When most of the farmland was enclosed, making fields with private owners in the 18<sup>th</sup> century, the poor areas of what had been common pasture remained under shared ownership of the local people, commoners, who had rights to graze their animals.

The capped top of a mine shaft can be seen. It incorporates openings to allow bats to roost in the old mine workings.

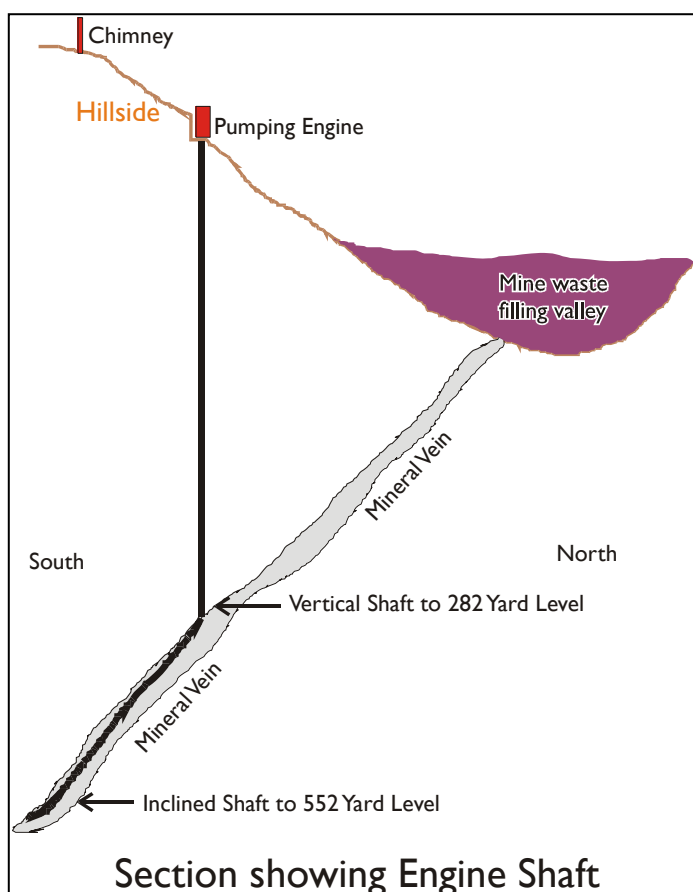


## 4 Upper Works

Returning towards Snailbeach, where the road bends to the right a steeply sloping track leads to the Upper Works of Snailbeach Mine. These were started in 1848, much higher on Resting Hill than the original Shaft, now known as George's Shaft. The explanation for this very costly re-equipping of the mine, with a new shaft, pumping engine and all associated plant, can be understood from the Underground Plan on Sheet 9.

The various LEVELS are horizontal tunnels which follow the line of the Snailbeach Vein. The depth of each tunnel, measured in Yards, is calculated from the top of George's Shaft.

The Levels twist and turn, following the irregular path on which miners found the richest part of the vein, and they run roughly from East to West. The shallowest Levels are towards the north of the mined area, and the deepest Levels are further South. This shows that the mineral vein is inclined. It dips, or 'hades' to use the geological term, at a steep angle to the south.



This means that as George's Shaft was made deeper it missed the mineral vein completely. But because the Mine Manager was confident that more lead could be mined by going deeper, a new shaft was dug to the South of George's Shaft. As the map indicates, Engine Shaft meets the lead vein at the 282 Yard Level. Then, in order to follow the vein to a greater depth, it was extended as a steeply sloping shaft. This would have saved the expense of making another shaft even higher on the hill.

By making a sloping shaft along the vein, the miners knew that they were continuing to find more lead. A new deep vertical shaft could have proved an expensive mistake.

As the plan shows, the mineral vein comes to the surface (outcrops) somewhere north of the mine workings,

but the actual location is covered by mine waste which now fills the valley floor.



# Lordshill Engine Shaft

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The steel mesh covers a shaft which descends 450 metres. The shaft is vertical for about 300 metres and then it descends at an angle, following the vein of Lead Ore. The lower part of the shaft cannot be explored because water needed to be pumped out of the mine constantly, and the pumping engine was turned off 100 years ago.

**Do not throw stones down the shaft. There may be people below. The end of the Day Level tunnel is directly below here.**

The opening at the top of the shaft looks quite small. The top has been reconstructed and is narrower than it originally was. This shaft was used to raise Lead Ore as far as Day Level, and it also housed the long rod connected to the pumping engine. This is because it wasn't used by men to reach the mine. Nor was it used to bring Lead Ore out.

As the name implies, there were two large engines here.

This engine house was the site of a fatal accident in 1896 which had nothing to do with work at the mine. Young men used to meet in the engine house on Sunday mornings, and on this occasion, went up the steps and started playing on the huge beam of the steam engine. Normally it had a guard around it, but the guard had been removed for cleaning. Thomas Davies fell off the beam and was crushed by the engine.

# Lordshill Pumping Engine House

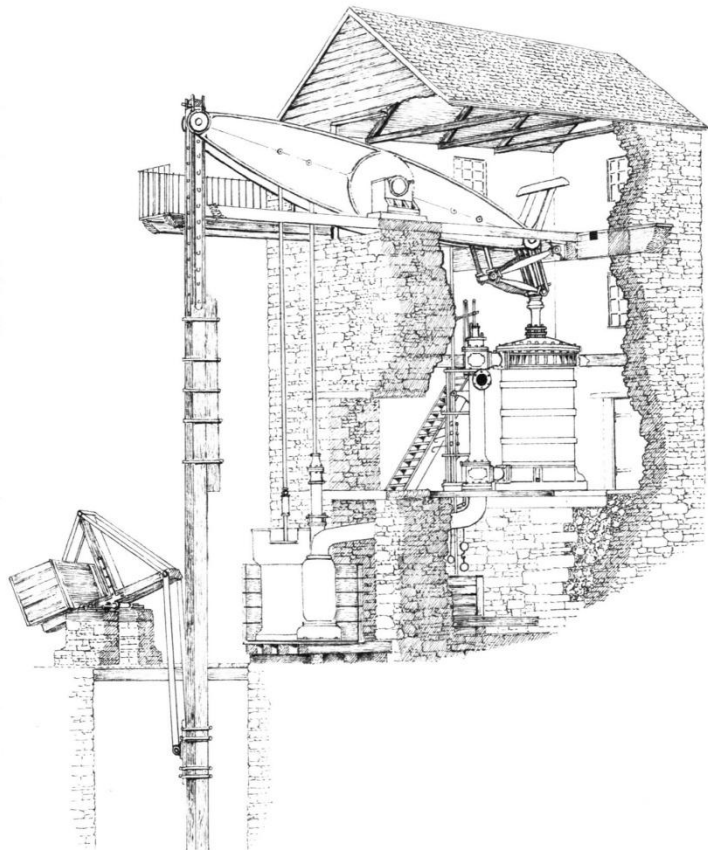
The diagram below shows the machinery contained inside this building. It was a huge steam driven pumping engine completed in 1858.

The low wall facing the photograph was the strongest part of the building, because it supported the weight of a massive beam which stuck out of the building, and was connected to rods which went down the mine shaft. To balance the weight of the long rod, weights in a balance box, shown on the left of the diagram would have given some support. Today there is only a depression in the ground to show where this would have been.

The cylinder of the steam engine which powered the movement of the beam had a diameter of about one and a half metres.

The engine ran for about six hours a day, Monday to Friday. More pumping was needed in winter than in summer. The water did not need to come to the surface here. It was lifted as far as the Adit which drained the mine at Wagbeach in the Hope Valley.

Presumably this engine ran for 50 years until pumping stopped in 1910. It must have proved remarkably reliable, and it would have needed careful maintenance. Notice the platform from the building going to the end of the beam to allow the engine man to grease the joint at the end.



Pumping Engine by M. Newton 1

# Lordshill Winding Engine House

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There is no indication of the machinery which filled this building but its size gives an impression of the power of the boilers needed to raise Lead Ore and waste rock up the mine shaft. There appear to have been two large boilers side by side. There was no need for a large head gear like the one over George's Shaft because the rock was not brought to the surface.

Since the man operating the winding engine would not be able to see how far to raise and lower the cages in the mine, a good signalling system would have been necessary.

## 5 Resting Hill Chimney

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The chimney, which can be seen from a distance, is reached by walking up resting Hill using the path on the West side of the Pumping Engine House. On the way an information board provides details of the Stiperstones, an Area of Outstanding Natural Beauty.

The chimney was built to serve the Smelter constructed a mile north of here at Snailbeach and connected to this chimney by a mile long flue.



# Stiperstones National Nature Reserve

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A sign beside the path up to the chimney on resting Hill points out the Nature Reserve, centred on the jagged Quartzite Tors known as the Stiperstones. The rocks support only a poor vegetation, but the Bilberries, Heather, Cowberry and Crowberry which are found here provide cover and food for red grouse. Whilst a large fire in summer could be catastrophic, burning patches of the shrubs in winter encourages new growth. The area has never been enclosed into fields under private ownership, and Commoners still have the right to graze their animals here.

# 6 George's Shaft & Buildings

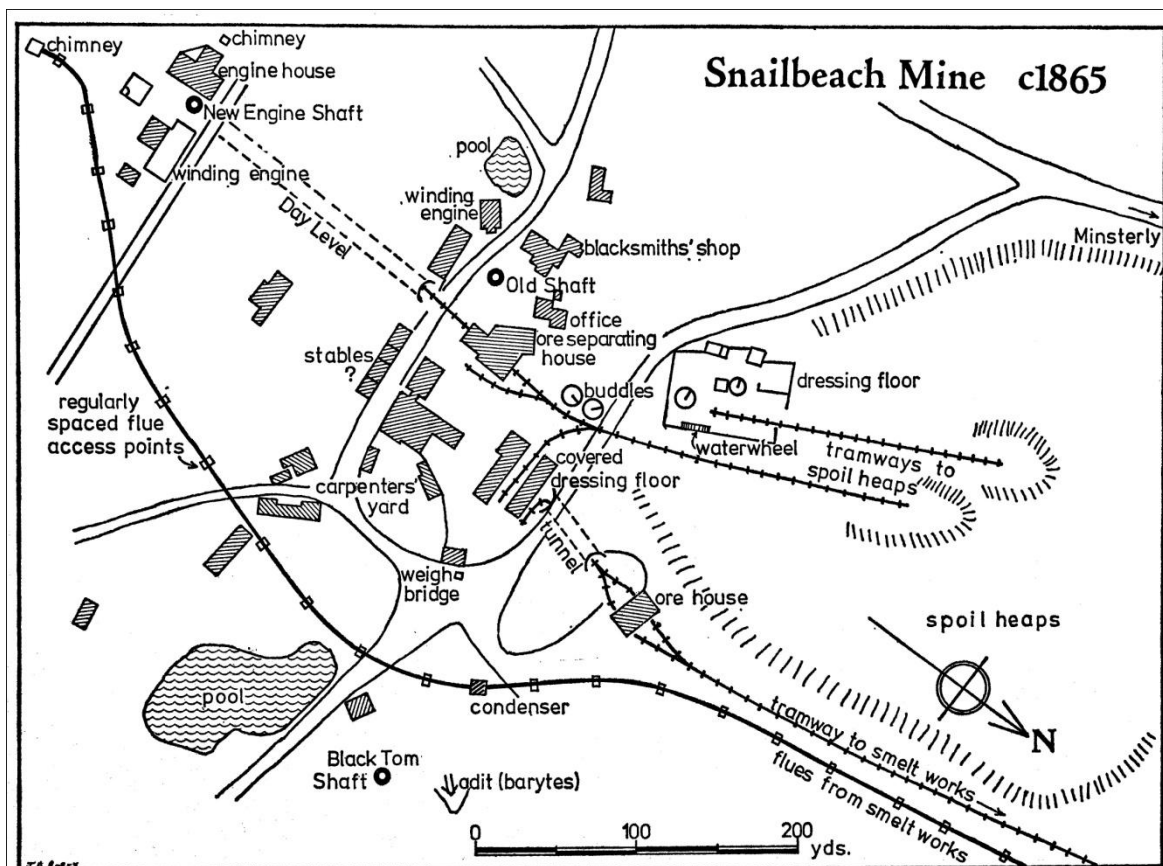
After seeing the top of resting Hill, the final part of the visit is made to the buildings around George's Shaft. A full description of these is given in the sheets which describe the visit to the mine.

The places where the lead vein was once visible at the surface have been buried, both by early mine working and by being covered by spoil from the mine. The headgear for George's Shaft marks the point where the Snailbeach Company began digging the shaft in 1783. The company had been formed because a huge investment was needed to make mining worthwhile. It would involve

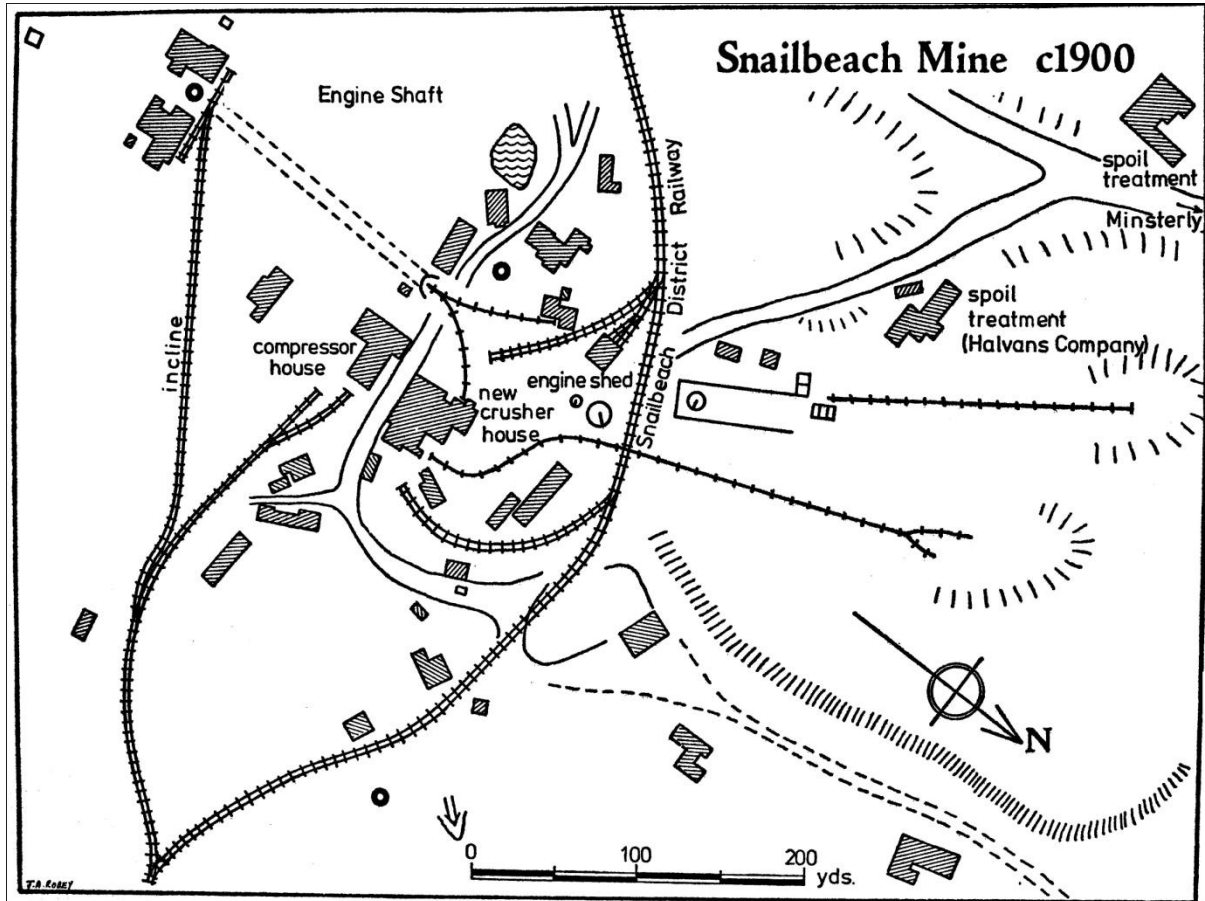
- Digging a Shaft
- Installing a pumping engine to remove water
- Digging a horizontal Adit to drain the mine to Wagbeach
- Installing a water wheel at Wagbeach to pump the mine
- Starting the Nag's Head Colliery at Pontesbury to provide coal for smelting lead.

Transport, in the days before railways, might appear to us to have been a major problem. But all lead mines had the same difficulty, that they were in remote places, not normally supplied with good roads, and the only transport available was horse and cart. Snailbeach had first class road and river transport links fairly close by, in Shrewsbury, where there were established lead works.

The reproduced plan shows the extent of Snailbeach Mine in 1865. As the plan is not oriented with north to the top, it has been included towards the end of the visit when visitors will have some idea of the layout of Snailbeach.



# Plan of Snailbeach Mine in 1900



Activities based on these mine plans are available in the pack. They may be best tackled in the classroom rather than in the field. The plan shows

- Spoil Treatment, where the Village Hall Car Park is today
- Halvans Company spoil treatment, of which only a foundation of the building remains
- Outline of Spoil Heaps
- The former Smelter and its mile long flue are no longer in use
- Railway, including the new incline up to the Engine Shaft on Resting Hill