

SURFACE REMAINS OF THE PINDALE AREA, CASTLETON, DERBYSHIRE

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Abstract: The surface remains of lead mines at the north-eastern end of Dirlow Rake on the north side of Pindale are described together with some comments on the branch veins splitting off the rake. The presence of toadstone under Siggate Head and Pindale is discussed.

INTRODUCTION

The area is located around NGR SK 158 824 on the western side of Pindale, one mile south-east of the village of Castleton. Dirlow Rake is one of the major lead veins in the orefield and at Siggate Head Mine near the head of Pindale the rake splits. One branch called Kytile (Kitle) End Vein ranges in a north-east direction along the crest of Pindale and the other branch, Pindale Side Vein or Lawyer Vein, runs obliquely down the steep side of the dale. A short parallel working to the south of Pindale Side Vein is known as Fire Scrin (Fig.1).

SIGGATE HEAD MINE (SK 1572 8230 see Fig. 2)

The surface remains at Siggate Head Mine, comprise the engine and climbing shafts, water storage pond and, probably, a crushing circle. The shaft was sunk directly into the rither point of Kytile End Vein and Pindale Side Vein. The shafts were until recently (1997) capped by several concrete railway sleepers and large limestone boulders. These have now been removed and replaced with a solid concrete cap. A short distance away two shallow, grass-covered hollows can be seen, the remains of the water storage pond and the crushing circle. The crushing wheel seems to have disappeared from the site, although it could be buried in the surrounding rough grass and hillocks.

KYTILE (KITLE END) VEIN (SK 158 824 see Fig. 4)

The course of Kytile End Vein is marked by undisturbed hillocks and hollows running parallel to the asphalt-surfaced Castleton to Tideswell road. Adjacent to Siggate Head Mine, on the line of the vein, a large, wide, quarry-like opencut is believed to be modern. In the opencut an isolated shothole can be seen located

in the side of a block of limestone that also contains a cavity with the appearance of being a very small pipe vein. The shothole is a good example of how the miners used to drill into very hard rock. It appears that a small diameter hole has been drilled first and then the hole has been widened using a larger diameter drill. Close inspection reveals radial grooves where the drill has been turned slightly with each stroke of the hammer (Fig. 3). The original form of Kytile End Vein is exposed in the south-east side of the opencut.

At SK 1582 8241 the vein is exposed at the surface in the form of a shallow, narrow opencut containing several stemple-holes in the walls and patches of blue fluorspar crystals. Two fairly narrow veins appear to have here been partially removed by the miners and close inspection reveals the position of the original base of a rither (Fig.4).

Further north-eastwardly, deep narrow stopes are open to the surface. Where the vein descends the steep hillside overlooking the minor road from Castleton to Pindale, a small entrance leads into a fairly large stope working at SK 1600 8250.

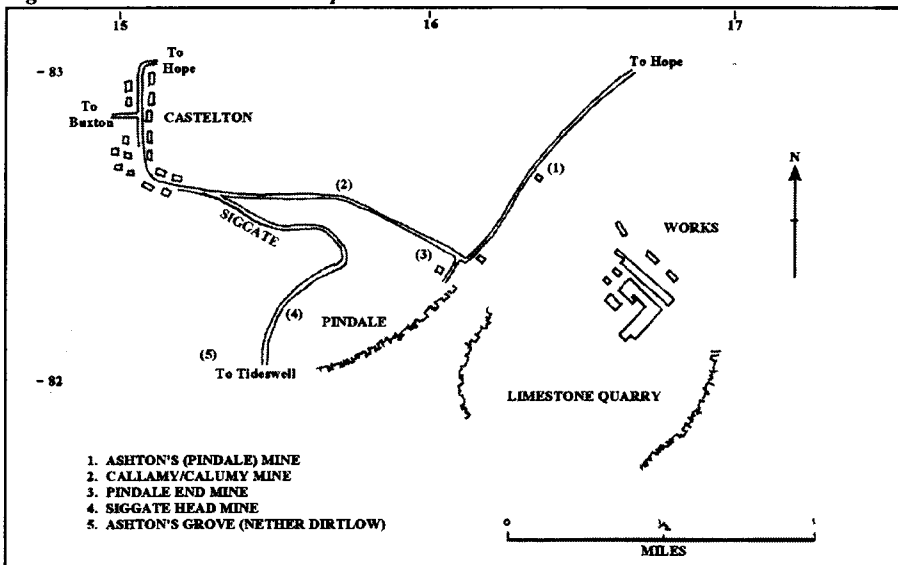
Old records mention that Clogg Buckle Grove and Luck-at-Last Mine were situated on Kytile End Vein, though their exact location is not known at the present time.

PINDALE SIDE VEIN OR LAWYER VEIN (Fig. 5)

Pindale Side Vein traverses the steep western side of the dale directly opposite the large disused limestone quarry. The surface features at Pindale Side Vein SK 157 823 together with Kytile End Vein and Fire Scrin have recently been given Scheduled Ancient Monument status which highlights the importance of the area. The opencast stopes on Pindale Side Vein contain sweeping pickmarks almost entirely covering the walls. These may date from medieval times.

A short distance along the vein from Siggate Head Mine a large opencut (when inspected in 1997 it unfortunately contained the shell of a burnt-out car) can be entered. The north wall of the opencut is entirely covered in sweeping pickmarks from top-to-bottom. The vein continues downhill for about 15 yards (14 m) and at this location very narrow and quite deep stopes can be seen. Again the walls of the stopes are entirely covered in pickmarks and at the western end a semi-circular wall of deads can be

Fig. 1. Pindale area location map.



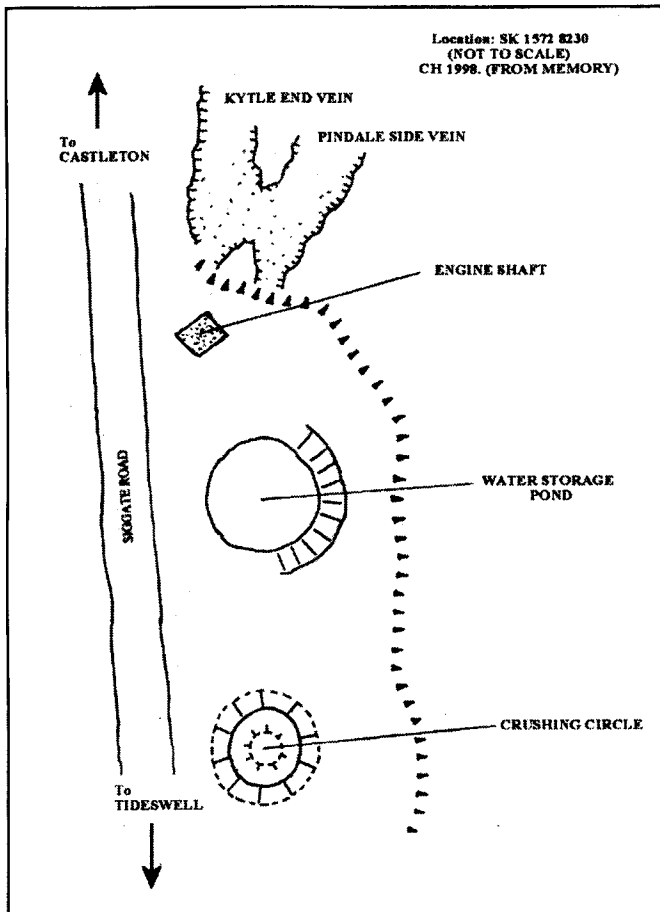


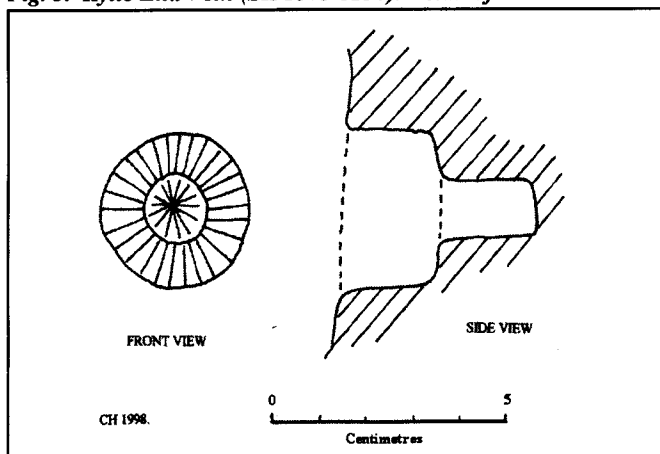
Fig. 2. Siggate Head Mine (SK 1572 8230). Sketch of surface area.

seen filling the stope. A short branch vein separates from the main vein in a north-east direction and ranges towards Kyle End Vein, its course marked by hillocks and hollows. Also in the vicinity a bridge formed of deads is seen spanning the stope.

The vein continues steeply down the side of the dale, marked by a single limestone wall and adjacent hillocks of spoil. In several places the wall has pickmarks. Amongst the hillocks a small trial working is seen which contains a forefield in calcite, pickmarks in several places and two large diameter shotholes. Closer inspection of the forefield reveals a superb example of radial calcite, located almost in the centre.

Lower down the course of the vein a short opencut can be

Fig. 3. Kyle End Vein (SK 1573 8230). Detail of shothole.



entered which contains sweeping pickmarks on both walls and several small riders of limestone. A square-shaped area can be entered at this location, in the left-hand corner of which can be seen the entrance to a completely hand-picked stope that is the continuation of the narrow stopes observed higher up the vein nearer to Siggate Head Mine.

Continuing down the hillside, around the edge of the limestone block last mentioned, another area floored by blocks of all sizes is encountered. One of the small blocks has the initials 'PT' carved into it, whether of a local miner is not known. At this location access can be gained into the floor of an impressive stope that is open to the day. The stope is quite wide and one wall is entirely covered in sweeping pick-marks from top to bottom. It is possible to walk up the stope floor and at the midway point a narrow rider of limestone is seen. Closer inspection reveals a single shothole in the lower part of the rider just above floor level. In close proximity to this feature the sweeping pick-marks can be seen to have been cut from two different directions, one down the vein and the other up. It is easy to imagine the miners of many years ago slowly working towards one another from opposite directions in the vein.

Continuing up the course of the vein towards the top end of the stope the vein appears to split into two branches. The left-hand branch contains the main vein and narrow hand-picked stopes that were noted earlier, while the right-hand branch appears to be a very narrow scrin-working that would have only contained thin strings of ore. It has been worked only for a very short distance. At this location a rather substantial wall of deads has been built at the base of another large rider of limestone located in the main vein. At the lower end of this large stope, nearer to the bottom of Pindale, there is what appears to be the rubble filled entrance to a handpicked level driven into a narrow scrin.

The vein continues down to the floor of Pindale but at this location it is hidden underneath large hillocks of waste materials, now disturbed and partially removed.

FIRE SCRIN (SK 156 822. see Fig. 6)

This feature is located to the south of and runs parallel to Pindale Side Vein. Fire Scrin takes the form of a wide and fairly deep opencut and is therefore a fine example of how the miners removed the vein-stuff to leave us with this visually stunning feature.

It is possible to enter the opencut (with care) at its lower end, down the steep grassy slope that gives access to the floor. At this point large baulks of timber have been placed across the width between the vein walls. Two are still *in situ* while one has fallen out of place. One of the timbers is an old railway sleeper showing that these items are from a later period of working. The reason for the timbers being placed at this location is not known but closer inspection reveals that originally (possibly in the 17th or 18th centuries), large timbers spanned the whole height of the opencut. The large picked notches where they were located can be seen in the left-hand wall. The walls of the opencut are entirely covered by pickwork from top to bottom, similar to the pickwork seen in nearby Pindale Side Vein. The walls have numerous small holes that have been cut deeper than the surrounding pickwork. Some of these holes are cut in a line vertically up the wall, others are aligned at an angle and in several locations they are placed randomly. Originally these smaller holes were thought to mark the locations of stemples and working platforms, but it is now thought that they represent marks of large hammers and gads used to spall away the sides of the vein adjacent to the limestone cheeks.

On the western wall, directly above a grass covered mound of

rubble, three shotholes are to be seen about half-way up the wall. Even though these shotholes are in close proximity to pickwork they are thought to be from a later period of working, the explosives being used to blast away large pieces of vein-stuff from the limestone walls.

The southern end of the opencut has unfortunately been used as an illegal dumping ground for general household rubbish and even a whole car. The exposed top few feet of the walls of the working consist of thinly bedded limestones that must have been quite easy to work, whilst the lower walls are developed in thick beds of limestone hence the need to use heavy picks and explosives.

It is also worth noting at this point that the entire side of Pindale below the Pindale Side Vein and Fire Scrin is covered in large hillocks of waste materials testifying to the considerable amount of mining that has been undertaken in this vicinity.

GEOLOGY AND HISTORY OF THE MINES OF THE PINDALE AREA

Pindale is situated on the boundary between the limestones of the Derbyshire Dome and the shales that floor the wide Hope Valley to the north. These limestones and shales contain a layer of pyroclastic, igneous, rock now known as the Pindale Tuff, though when the mines were active this layer was called channel or given the more localised, descriptive, term of "cat-dirt". The veins, considered above, are the north-eastwards continuation of the Dirlow Rake and at the foot of Pindale the veins were exploited from in and beneath the shales and channel.

Unfortunately, the earliest records that can be located for the mines only date from 1727 onwards. The impressive hand-picked stopes of Pindale Side Vein and Fire Scrin probably pre-date these records, possibly dating from pre-1600. Both veins were worked from 1727 until 1894 but only produced approximately 2400 loads (600 tons) of ore during this period, suggesting the earlier miners had taken the rich ribs of ore from the workings.

At Siggate Head Mine the main engine shaft was sunk in limestone to a depth of 120 feet (36.5 m) on to the top of the channel. It was then continued down through this stratum for a further 72 feet (22 m) into the underlying limestone to a total depth of 240 feet (73 m). Mining records note that the workings were at a depth of at least 288 feet (88 m) in 1843 at which time good ore deposits were being worked from beneath the channel. This mine was one of the locations visited by the French geologist Faujas de St Fond in 1784 who concluded that the channel was of sedimentary rather than igneous origin (Ford 1965). The mine was also visited by the geologists Mawe (1802) and Hedinger (c.1799).



Plate 1 (above). Fluorspar working above Pindale, viewed east to Hope Cement Works Chimney. Photo March 1961 by W.A.S. Sarjeant.

Plate 2 (below). Ashtons Mine, Pindale, Photo December 1966, W.A.S. Sarjeant.

Pindale End Mine at SK 1609 8249 is situated at the foot of the steep hillside that overlooks the minor road from Castleton to Hope. The surface features of this mine are sparse except for two climbing shafts. One of the shafts has excellently preserved ginging which includes recessed stone hand and footholds built into the stonework. The shafts at this mine were sunk directly into the top of the channel and were continued down until the underlying limestone was encountered at a depth of approximately 138 feet (42 m). Records for the mine show that it was measuring ore during the 1730s, 1760s and also in the late 1870s.

The cottage at the foot of Pindale opposite the old Pindale Quarry limekilns, close to Pindale End Mine, is all that remains of an old mining hamlet called Black Rabbit.

ASHTONS OR PINDALE MINE (SK 1622 8253)

This is one of the best known sites in the Castleton area. The site is dominated by the square Derbyshire-type chimney and adjacent engine-house, alongside which is the substantial hillock with the large hollow marking the location of the filled-



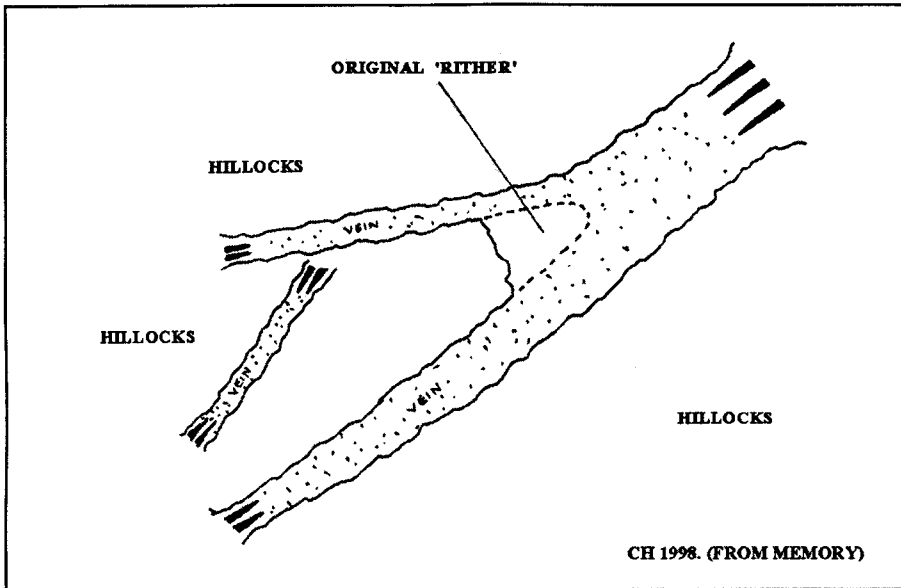


Fig. 4. Kytle End Vein (SK 1582 8241), surface exposure.

in engine shaft. On the opposite side of the hillock can be seen the well-preserved powder house. The history of the mine can be traced from the 1730s until its final closure in 1890. In 1869 the mine was under the ownership of Robert How Ashton of Castleton. He had the combined winding and pumping engine installed at the mine in the following year. The engine shaft was sunk through the shale and at a depth of 90 feet (27 m) the channel was encountered. Sinking was continued in this stratum until the limestone was met at an approximate depth of 240 feet (73 m). At this depth a cartgate was driven along the sole of the vein in a westerly direction. Records show that good ore was worked in stopes situated directly beneath the channel in the vicinity of Pindale End Mine in the period 1875-1878. The cartgate had reached a total length of 550 yards (just over 500 m) west of the engine shaft in 1878 at which time it was

apparently abandoned due to poor ore deposits.

PINDALE SOUGH AND ITS RELATION TO THE MINES (Fig. 8)

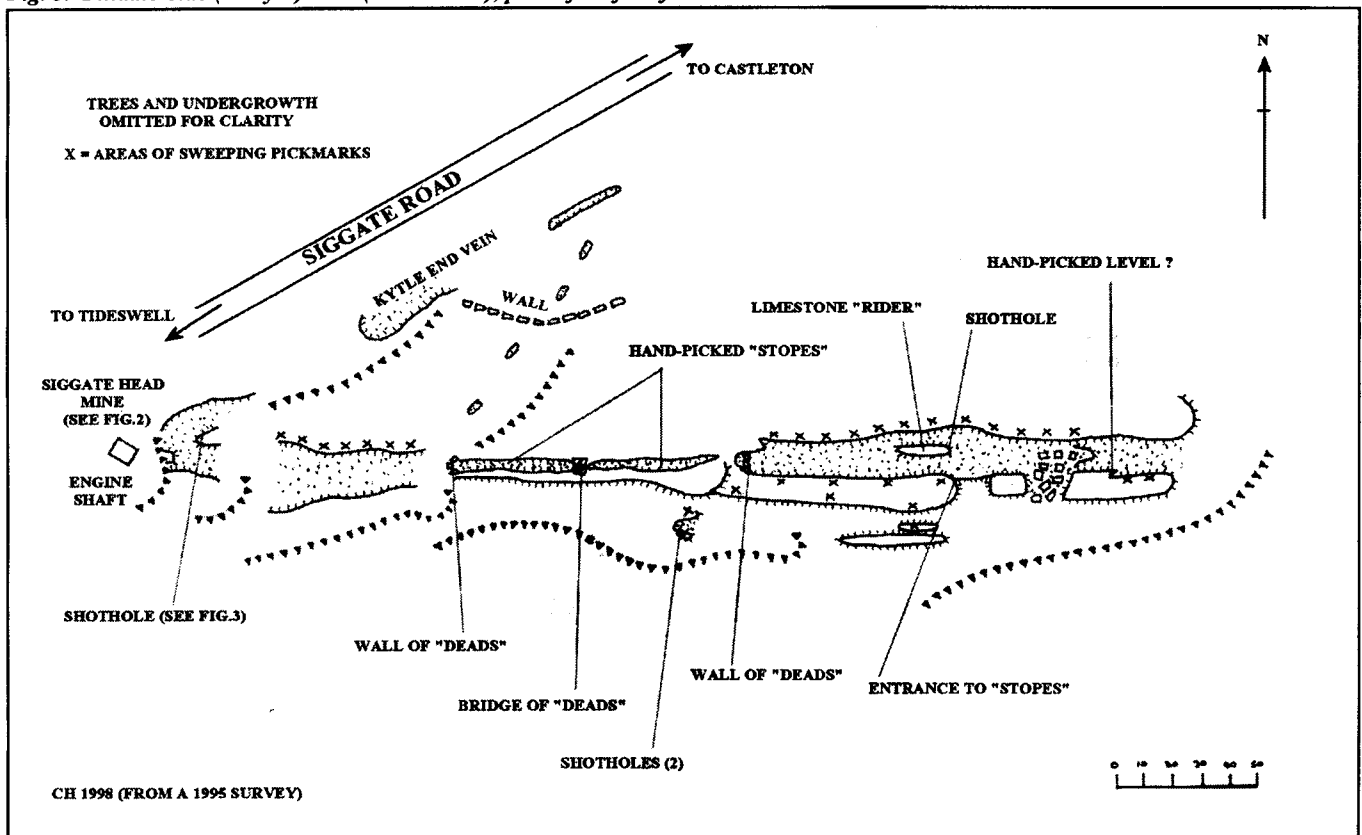
An agreement dated 1743 (SCL, Eyre Deeds 2604), relates the proposal to drive a sough from the side of Peakshole Water at SK 1644 8312 to Pindale End Mine at the foot of the dale, although it is now thought that the driving of the sough was not commenced until the late 1740s or early 1750s. Records for the mine show an increase in ore production in the late 1750s, possibly marking the date when the sough entered the limestone located beneath the channel.

The sough was driven south-west beyond this point, below the floor of Pindale until it reached Pindale Old Engine Shaft at SK 1581 8230 located immediately outside the entrance to the

disused limestone quarry. It is not known if the sough was continued along the sole of Pindale Side Vein towards Siggate Head Mine, but a plan dated 1875-1878 (DRO, BSA LP68-LP69) shows a line drawn from Pindale Old Engine Shaft through Siggate Head Mine to Ashton's Grove at SK 1533 8215 on Nether Dirtlow, which could mark a possible continuation.

The sough was driven in shale in a south-west direction from Peakshole Water for a distance of 250 feet (76 m) at which point an airshaft at SK 1641 8390 is located. The sough then turned south-south-west and continued in shale for a further 250 feet (76m) where another airshaft was sunk at SK 1639 8302, alongside the footpath from Castleton to Hope. From this point the sough turned almost due south and continued driving in shale for a further 600 feet (183 m) until it reached another

Fig. 5. Pindale Side (Lawyer) Vein (SK 157 823), plan of surface features.



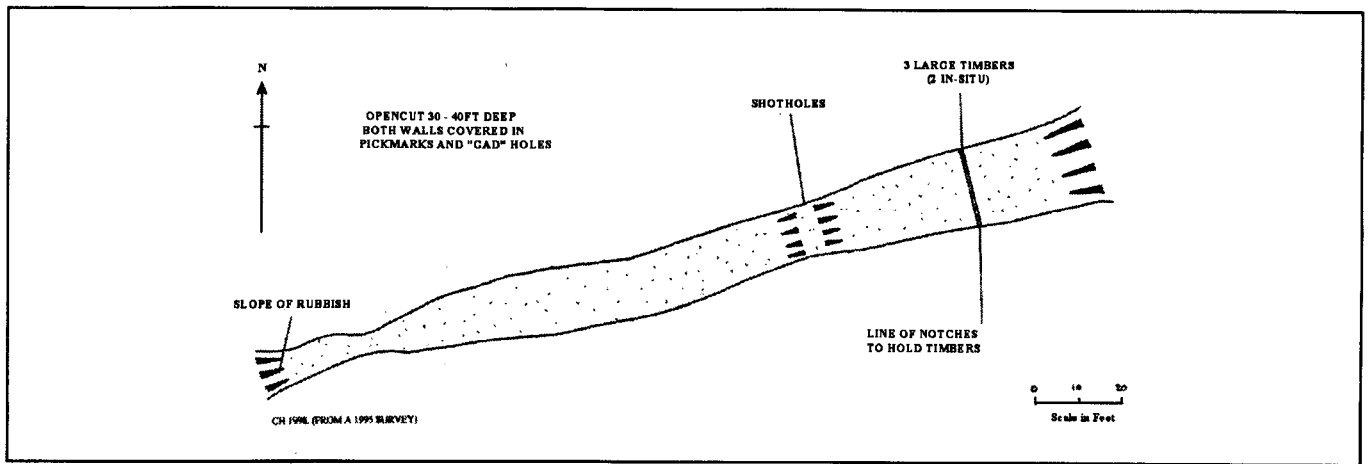


Fig. 6. Fire Scrin (SK 156 822). Plan of surface features.

airshaft at SK 1637 8287, then in the same direction for a further 600 feet (83 m) to the airshaft at SK 1634 8270, alongside the road from Pindale to Hope, a short distance from Ashtons (Pindale) Mine. From this point the sough turned to the south-west and continued driving in shale for a further 400 feet (120 m) until it breached the shale/channel interface immediately to the west of Ashtons (Pindale) Mine at a depth of 90 feet (27 m) below the surface. The sough was driven in the channel for a further 900 feet (274 m) until the underlying limestone was encountered in the vicinity of Pindale End Mine at a depth of 150 feet (45 m) below the surface. The sough continued in the limestone for a further 550 feet (167.5 m) under the floor of Pindale until it reached Pindale Old Engine Shaft which it intersected at a depth of 228 feet (69.5 m).

REDSEATS VEIN SK 157 826

This east-west orientated vein is located at the foot of the steep hillside, below the minor Castleton to Pindale road. When this vein was being worked a considerable amount of calamine (smithsonite or zinc carbonate) was obtained. This cream-coloured porous mineral, which was used in the brass-making process was known to the miners as "dry-bone" on account of its colour and texture.

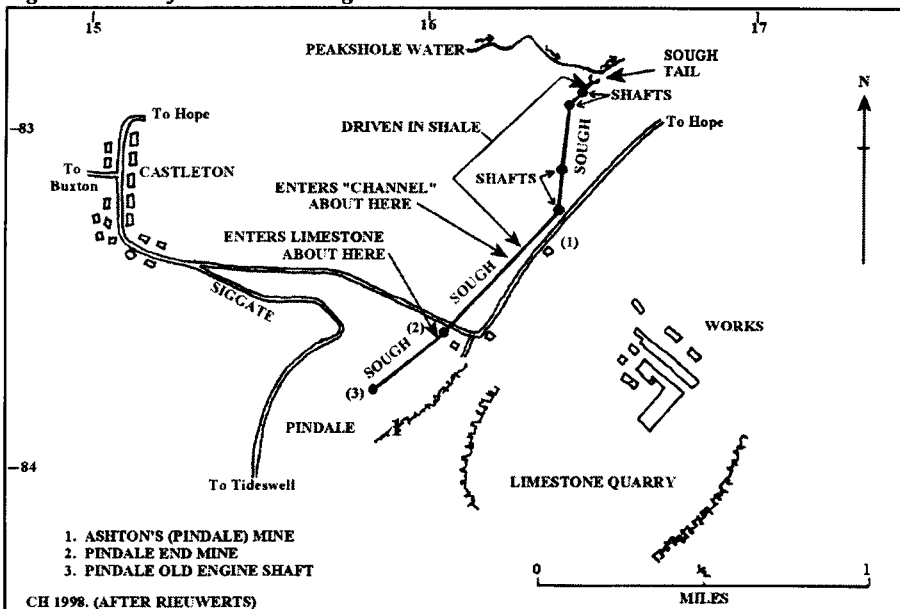
The surface expression of the vein remains untouched, comprising large opencuts in the vein and grass-covered hillocks of spoil. At SK 1563 8261 a large barn-like building could originally have been part of the surface installations of the

Callamy/Calumy Mine. Near to this building a round water-storage pond can be seen amongst the hillocks. It is not known if the mine workings penetrated into the channel below the limestone and, if so, to what extent, and very little is known about the mine's history. After heavy rain a stream of water issues from the foot of the hillside below the vein and flows into the flat area of cultivated fields to drain away. Alongside the point of emergence at SK 1578 8269 there is a round water storage pond (or shaft hollow?) and until recently a large hillock of spoil, which has now been removed. It is not known whether this is a natural spring draining the limestone/vein or a short and very shallow sough level driven into the vein. If the latter is the case then the sough would only be about 200 feet (60 m) in length and it would have intersected the vein at a depth of approximately 50 feet (15 m).

CONCLUSION

The Pindale area is both geologically and historically important. The area contains the surface remains of sites that have seen mining activity over a period of at least 300 years: a strong reminder of the skill and perseverance of the miners of the area. The surface features and veins that have been noted have been virtually untouched by modern day mining activity, except for small scale working of the hillocks in the floor of Pindale on the course of Pindale Side Vein. It is an important survival.

Fig. 7. Course of the Pindale Sough.



ACKNOWLEDGEMENTS

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Plate 3 (above). Kytle End Vein, viewed west to Siggate Head Mine.

Plate 4 (below). Meer at Siggate Head Mine, viewed east to Hope Cement Works.

Plate 5 (bottom). Overgrown crushing circle, Siggate Head Mine.

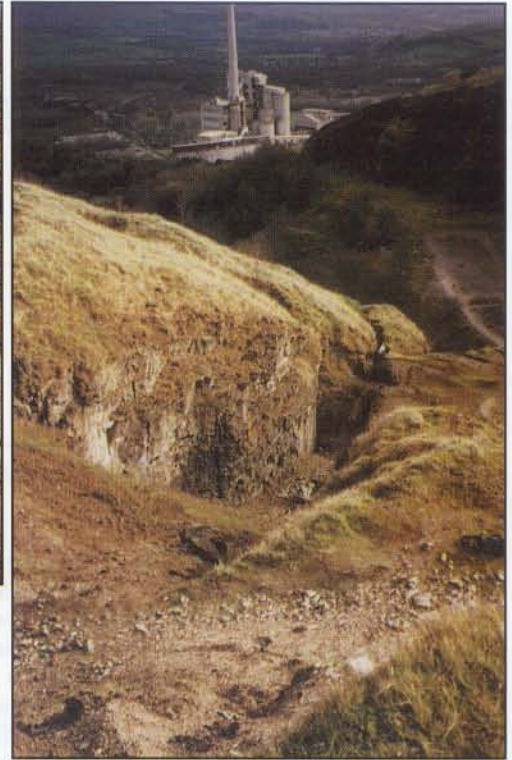
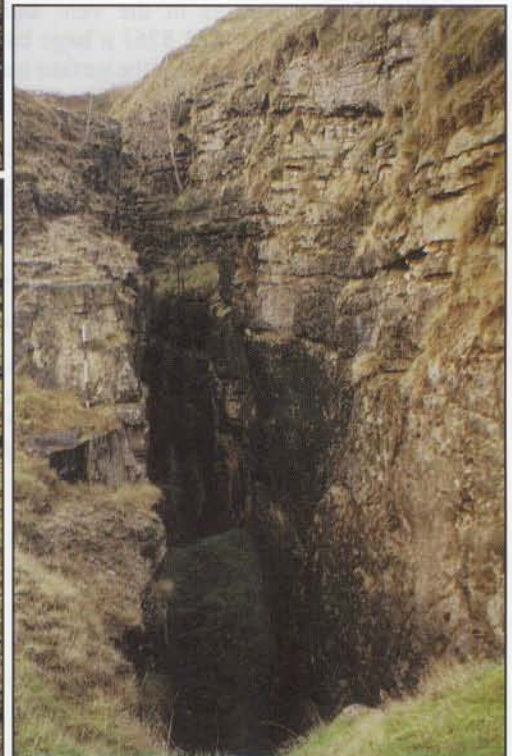


Plate 6 (above). Pindale Side Vein, viewed east to Hope Cement Works.

Plate 7 (below). Open stope of Fire Scrin, viewed to the west.

Photos by Lynn Willies.



REFERENCES

Documents

Barmasters Collection, Chatsworth House.
DRO, BSA. Derbyshire Record Office, 11540. British Speleological Association Collection.
SCL, Eyre. Sheffield City Libraries, Archive Dept. Formerly Eyre Deeds, now included within the Bagshawe Collection.

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Printed Sources

- Chatburn, H.F. 1962 The Surface Remains on Dirtlow Rake. *Bull.PDMHS*, Vol.1. no.7, pp22-6.
- Ford, T.D. 1965 Faujas de St Fond. *Bull. PDMHS*, 2:5, pp.236-240.
- Ford, T.D. and Rieuwerts, J.H. 1975 *Lead Mining in the Peak District*. Peak Park Joint Planning Board, Bakewell.
- Hedinger, J.M. c.1799 *A Short Description of Castleton*. Derby.
- Mawe, J. 1802 *The Geology and Mineralogy of Derbyshire*. London.
- Rieuwerts, J.H. 1993 Elias Pedley, A Castleton Lead Miner and his Contribution to Early Geological Thought. *Bull.PDMHS*, 12:2, pp.57-59.