

A SURVEY AND THE GEOLOGY OF PUTWELL HILL MINE, MONSAL DALE

by R. P. Shaw

Some information has previously been published on this mine, especially on the recovery of two steam pumping engines from the mine by members of P.D.M.H.S. (Thompson, 1971 and Amner, 1974). A brief description and sketch survey have been produced by Bird (1972). Since then the accessible parts of the mine have been considerably extended by somebody digging through the fill at the end of the last stope on Bird's section.

The present article is intended as an up-to-date description of the accessible mine workings and is accompanied by an accurate survey, which was carried out using Suunto compass and clinometer (read to a quarter of a degree) and Fibron tape read to the nearest centimetre. The initial line survey was plotted by computer.

The mine is situated at SK 179 718 beside the disused railway just east of the old Monsal Dale station site. Part of the strong calcite vein is exposed on the south side of the railway where it enters a cutting. The concrete plug over the old easy entrance can be seen beside the vein. Entry to the mine nowadays is via an open stope surrounded by a fence just above the exposure. 15 metres of ladder and a 6 m belay to nearby trees are needed for the descent. An alternative entrance is via a small level on the east side of the open cast workings higher up the hill. This gives access to a 8 m deep shaft (ladder required) connecting to the inner workings of the mine.

The bottom of the stope is littered with scrap iron and fallen trees. Back towards the railway a small hole to surface can be seen. The stope ends at a well built drystone pack probably built at the time of the railway to support its foundations. In the other direction beyond the open stope, a large mound of deads has to be climbed, giving an impressive view of the stope. The vein here is about two metres wide and composed almost entirely of calcite (for which the mine was worked earlier this century). On its south side the vein carries some galena and baryte which was worked by t'owd man in a slit about 0.5 metre wide containing rotten stemples and deads, now partly calcited over.

From the bottom of the mound the size of the stope increases to about 15 metres high and 3 to 4 metres wide. Slickensides are clearly visible on both walls and indicate a horizontal movement along the vein. About half way along the stope a false floor has collapsed but this can be bypassed by climbing up on the left hand wall.

Near the shaft from which the steam engines were recovered the stope closes down to a level which ends overlooking a short drop to the bottom of the 30 metre deep shaft from the surface. Where the stope ends a climb up a rotten wood and iron ladder leads to an upper level and a traverse around the side of the shaft. The large level beyond the shaft contains some stacked deads and ends abruptly at a fall. Here a short climb up leads to another stope with one end composed of fallen and washed in material. At roof level this has been dug through to give access to more large stopes beyond. Immediately at the inside end of the crawl a climb up through boulders leads to a number of short, fairly modern levels with a climb up a steep slope to an unstable connection to daylight in the open cut beside the limestone quarry. The alternative entrance to the mine is via a short level and a ladder down an 8 metre deep shaft into this section of the mine.

A steep slope down from the crawl leads to the head of a 7 metre pitch, where a ladder 8 m long is necessary and can be belayed using a long rope to boulders at the top of the slope. From the bottom of the pitch the stope continues for about 30 metres and contains some massive fallen blocks; it eventually ends at a major fall.

Back under the pitch some stoping has been carried out but it is blocked by an extensive fall of fine grained tailings, possibly from the surface. Part of a level through deads with drystone walls and timber roof remains. This level obviously continued through the fall but the timbers have given way.

Throughout the mine the vein is 2 to 4.5 metres wide consisting mainly of calcite with some earlier galena and baryte on the south cheek. The easterly workings and the upper part further west are in limestone but in the western end at depth toadstone forms the walls. The toadstone is slightly altered and is weathered to a grey clay where exposed in the workings. This toadstone may be the continuation of one of the Millers Dale lavas. When in the toadstone the vein has irregular walls with pockets of calcite, sometimes with traces of sphalerite and galena. In the limestone the vein walls are smooth and often show nearly horizontal slickensides. Since the contact between the toadstone and the limestone is almost in the same position on both the north and the south sides of the vein there has been very little relative movement between the two sides.

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Putwell Hill Mine

True North

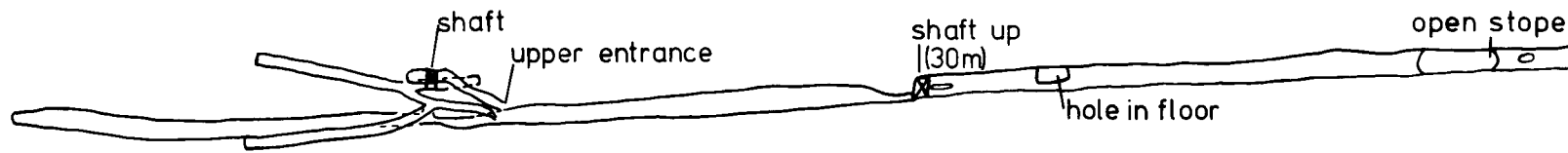


Surveyed by R.P.Shaw, F.S.Holland and K.R.Evans

28th. July 1979.

Drawn by R.P.Shaw July 1980.

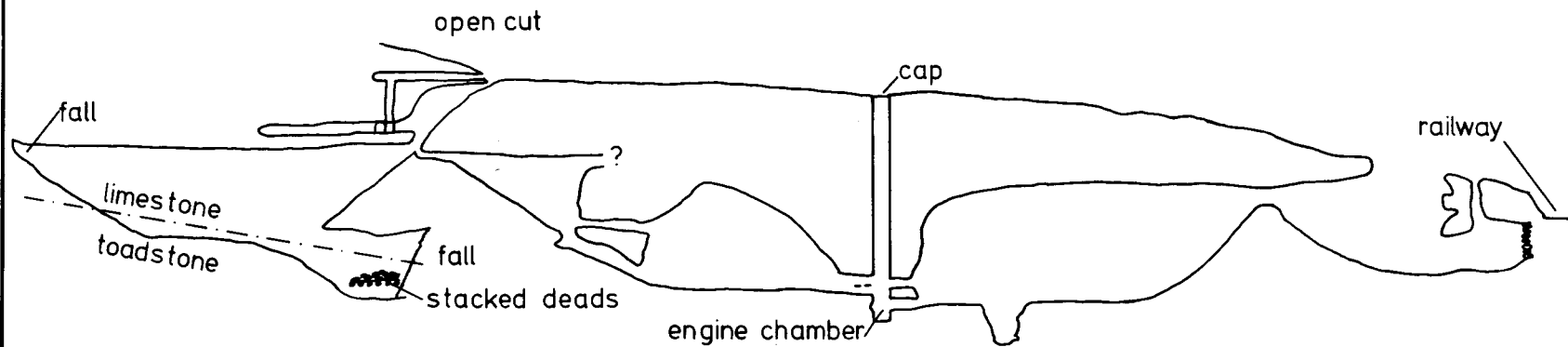
PLAN



PROJECTED SECTION

W

E



Scale:- 0 10 20 30 40 50 metres

