

22nd August 1987
Devis Mine

MEET REPORT.
SWALEDALE WEEKEND AUGUST 22nd & 25rd 1987
Saturday 22nd Aug. Grinton moor mine workings.

Members present.

A C-P-Thomas..... Meet Leader.
S Sparkes.
D Webb.
D Borthwick.
M Mitchell.
A Danson.
S C-P-Thomas.(+Imogene)
C Wood-Johnson. Guest.

Having assembled at the appointed place, at the appointed time (although the meet leader was a trifle tardy) and after two members had dealt with the electrolyte which had spewed forth from a light cell in the back of their vehicle, we made our way up to Devis Hole Level (SE 0516 9605) looking in briefly at Grinton Smelt Mill on the way. At the entrance manway down to the level, where I was pleased to note that someone had made an effort to re-timber the original (1971 By M.S.G.) support, the meet leader stressed the particular hazards of this mine i.e. entrance crawl flooding in wet weather and also highlighted the fact that the weather fore-cast was unfavourable. At this juncture Mike kindly offered to remain as surface support and he, Cheryth and Sheila (with the C.A.T. crèche) went to inspect the other Grinton Moor workings.

A copy of the Moldywarps Speleological Groups description of the workings is attached (see M.S.G. journal No.7) upon which I have highlighted the extent of our investigations. It should be noted that the sumps marked on the survey are not sumps in the cavers' sense (which was what I was expecting since the levels intersect many natural water worn passages, hence we took no S.R.T. gear with us) but are in fact shafts down, and I have appended the approximated depth of each on the survey. Lower workings were noted down these shafts which would bear further investigation. In fact the real Devis Hole (the huge self opens or natural caverns after which the mine is called) are allegedly down here somewhere. These caverns are supposed to link Devis to Keldheads mine.

The natural passages that we inspected in the central maze area provided some amusing route finding fun, the conclusion of which, crystal chamber, was a real gem of a grotto sporting natural stal formations of a quality rarely seen outside of Easgill.

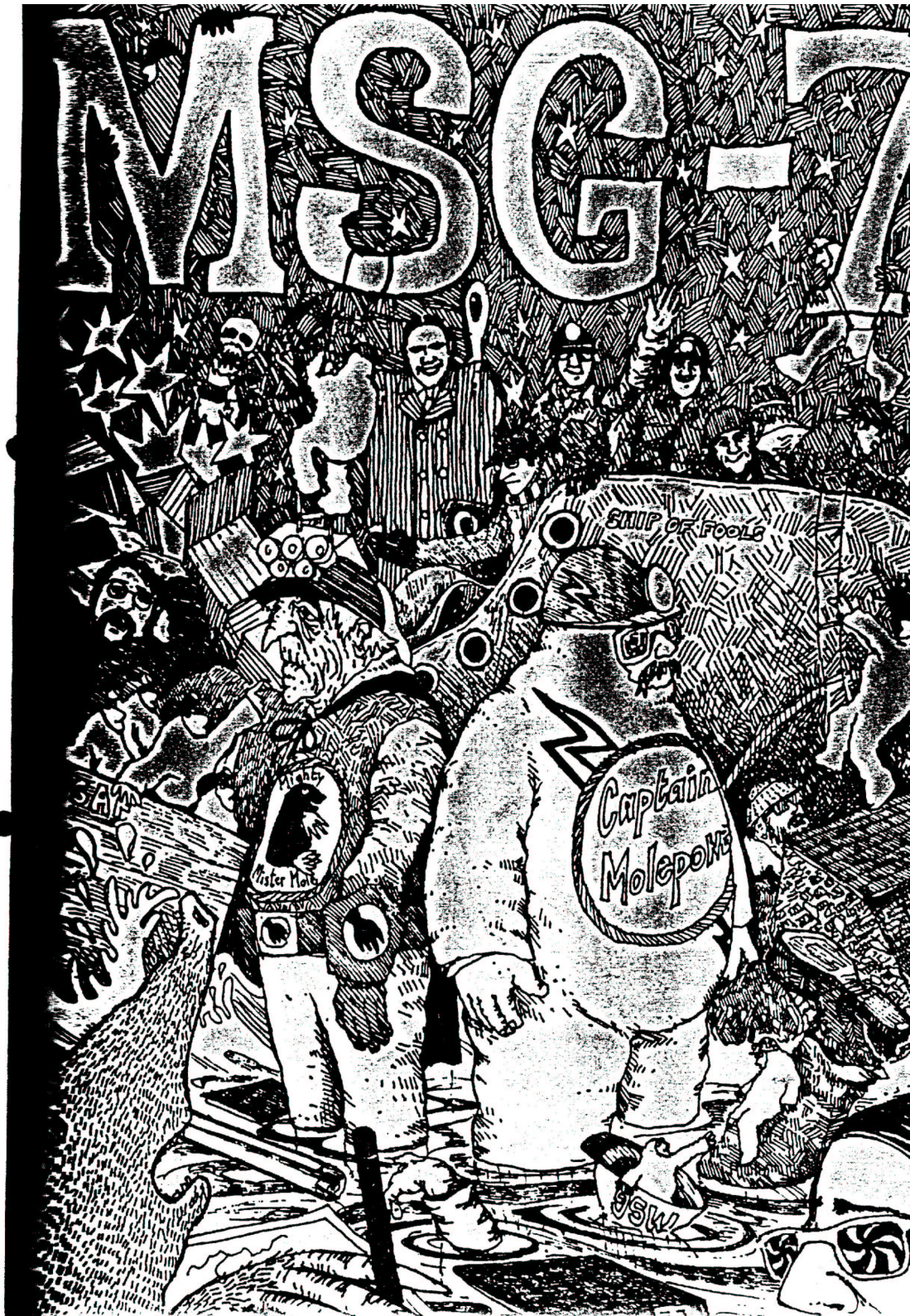
Don & Sam had left us earlier on (leaving Anne, Don and myself to do most of the exploration in Devis hole level) to have a look at other workings. They met up with Mike

& C0 and from what I can gather they inspected How level (SE 0426 9629) which they report as being stone arched for some 1500-2000 ft to a collapse.

Emerging then at about 4:50pm, we had a quick look over the surface of the workings to look for a surface outcrop of the vein or perhaps a shaft providing a second entrance to the mine. None were noted although visibility was low due to heavy mist. A fell walker made mention to Don of a level a few hundred metres downstream from the bridge over Cogden Gill (bridge at SE 048 969) which we did not investigate but may lead to lower workings of the Devis mine.

Conclusion. There is scope for further exploration here, especially down the shafts on South East level, this aside though; a major reason for visiting this mine must surely be the central maze area, an area which contains over a mile of phreatic passages in an area 400x150ft, an area of immense geological interest.

A. C-P-Thomas.
29/9/87



New Explorations.

Devis Hole Mine Cave, Cogden Gill, Grinton, Swaledale.

It has been known for some years that natural passages had been encountered in Devis Hole Mine, Cogden Gill, but no account or survey of these was known to exist, and apparently no proper inspection of the natural cave had been made before 1964, when the level ran in some 70' from its entrance. Within a few years, the remaining section of level had been choked by heavy silting.

In 1971 attempts to dig into the level were made by MSG members, a sizeable shaft being sunk, but abandoned without the level being entered or located. However, Earby Mine Research Group took over the dig, and located the level in one side of the dug shaft (this had been thought, from surface observations, to be dropping directly into the level, but a miscalculation had been made and the shaft had been sunk about 4' to the west of the level). The level, although the arching remained intact in this section, was silted to within a few inches of the roof, and the EMRG had a considerable task on their hands to effect entry into the mine - a trench had to be dug through the silt for 40', until the roof fall (which holds up the silt - in flood the surface stream flows into the level) was reached. They dug through this, and placed a 15" diameter metal tube, constructed from two oil drums, through the fall. The main interest of the EMRG was in the extensive mine workings. MSG members, finding, to their delight, the mine accessible, promptly started work on surveying and exploring the natural caverns, which proved to be far more extensive than had previously been thought. Several areas of natural passages were entered by a little digging, and had evidently never been explored previously.

Description of the Cave.

There are three main areas of natural passages in Devis Hole Mine:-

(i) The Central Maze

A very complex series of passages (totalling c.5,150' in all) intersected by the level 500'-600' from its entrance.

(ii) The East - West Level.

Much of this is modified natural passage, with several short natural branch passages opening off it.

(iii) Occidental Series.

At the far west end of the East - West Level, a smaller joint network series of natural passages.

The Central Maze.

Descending the 10' timbered entrance shaft, the visitor reaches this area after a 40' muddy crawl, a struggle through the iron drum (larger caverns may be frustrated here) and 400' of walking through mine level, with some scrambling over minor roof falls.

Three accessible natural passages enter the level on the r., and four on the l. Beyond these, on the l., is a branch level running for c.60' to a sump, with three natural passages leading off it on each side.

The area is far too complex to allow a detailed description, other than in the form of notes to be used alongside the survey. The area can be divided into four parts - on the r. of the level the Near West, beyond which, and only accessible through the constricted Coral Crawl is the Far West. The most complex series of passages is on the l. of the level - the Near East and beyond, and again only accessible via a single connecting passage (at cross-section 'c' on the survey), the Far East.

In the Branch Level, on the l. the first two natural passages connect with the Near East, the third is short and choked. On the r., the first two branches lead into a fairly short natural series, a continuation of the Near East. The third passage on the r., just before the sump, connects with the Far East.

(a) The Near West.

A series of generally small passages, with one larger, quite well decorated, passage or elongate chamber running parallel to the level, and having a 15' deep miners' sump in its floor. Apart from this sump, and a few walls of "deads", there has apparently been little modification of the natural passages. The passages,

as elsewhere in the Central Maze area, often show a square section at roof level due to collapse in a persistent well jointed and blocky mudstone band. Below this band is a bed, present in most of the Central Maze area but absent locally, of fossil corals (a compound coral, perhaps *Lithostrotion*). This is usually in the order of 9" to 1' in thickness, but in the region of Coral Crawl it reaches perhaps double this figure. Coral Crawl is a constricted passage formed entirely in the coral band, erosion having left the siliceous corallites standing proud of the walls and forming razor sharp "claws" which in a friendly manner attempt to detain the passing visitor.

(b) The Far West.

The major passage of this series, gratefully reached at the far end of Coral Crawl, is a large rift passage, up to 15' high, somewhat modified by collapse but nevertheless larger than anything seen in the Near West. The passages beyond are a joint network, less closely spaced than elsewhere in the Central Maze area, generally being narrow, with little collapse modification, and ending too tight or choked.

(c) The Near East.

An incredible complex of passages, developed on three sets of joints, and with four-, five- and six-way junctions every few feet. The passages are frequently narrow rifts c.10' high, being narrowest at floor level, and often showing the square roof section associated with the mudstone band, and the coral band below this. To the south (i.e. in the series on the r. of the Branch Level) the passages become higher and narrower, pinching out (this is also seen in the Far East). There is some collapse modification, notably in the chamber running parallel to, and a few feet from, the mid level, and also at some of the complex intersections of passages. One interesting feature is the abrupt termination of many passages running east (towards the Far East) in collapses or highly calcified beddings. It appears that the Near East and the Far East are separated by a narrow fairly linear band of ancient collapses (to judge by the degree of calcifying).

(d) The Far East.

An extensive joint network, less closely spaced than the Near East - only two joints appear dominant in at any rate the southern part of this area, which is an almost rectilinear network in places. To the north the passages are often only 2'-4' in height, but to the south they become high and narrow rifts, often 20' high, and only wide enough to be passable 10' above their floors. To the south-east there is fairly extensive collapse modification, which may be relatively recent.

Near the centre of this area the Miners' Sump (25' deep and climbable with care on a rope) intersects several passages. It appears that the major rifts contain a considerable depth of clay on their floors - the miners have excavated the clay fill for several yards along one major rift running south from the sump.

Along the eastern fringe of the area, the passages generally end too tight to pass, or, further south, in collapses. There is some indication of another linear belt of collapse running north-south, but by continuing southwards this can eventually be passed into the series of passages around Crystal Chamber. This small but well decorated chamber lowers southwards to an impassably low but wide bedding - somewhat uncharacteristic of the system.

There are several chambers and roomy square-sectioned passages in the Far East area, produced by collapse. Evidence of the depth of fill is seen in the floors of Greater and Lesser Sandpit Chambers, evidently dug by the miners - who have otherwise left the natural passages unaltered.

The East - West Level.

Beyond the Branch Level leading to the Miners' Sump and connections with the Near East and Far East areas, the main Devils Hole Crosscut continues, passing one shaky section and a 70' long branch on the r. (which appears to be a modified natural passage) for 384' to a junction with the main vein workings, running both east and west. The entrance crosscut continues for a further 307' to a forehead, passing a small rise and a 15' deep hole in the floor leading down into some short and tight natural rifts.

Both east and west levels have sections which are little modified natural cave passage, and for much of the first hundred yards of east level, and the west level throughout its length, at least one waterworn natural wall can be seen.

In part of the west level a thin vein of galena can be seen exposed in the narrow unmodified natural roof rift.

570' from the junction with the entrance crosscut on the west level is a branch to the south, also showing natural features. At the end of this passage is a 10' deep sump into a short sublevel.

The west level, beyond this junction, runs through an area of massive collapse, much of it recent. At the time of writing, this section may well be blocked again. After much climbing and crawling through a series of falls, collapse chambers and precarious boulder ruckles, more solid ground is eventually met, and the level continues to a forehead, where a clay filled natural rift, which the miners had been following, can be seen to continue. On the l. shortly before the end is a short side branch, with a similar termination. Before this branch level, and also on the l., is an open natural rift, the entrance to -

Occidental Series.

A series of natural rifts, 510' in total length, which are generally small and fairly constricted. These passages had been thoroughly examined by the miners in the hope of finding ore - at one point stalagmite flows have been cut away to allow a tight squeeze into further passages. There are no chambers of any size or especial features of interest

Some thoughts on the development of the system.

Two distinct types of phreatic cave system seem to be represented in Devis Hole Mine, both limited in their development by the relatively thin limestone bed in which they are developed.

The Central Maze area is an example of a 2-dimensional maze, as is also seen in Windegg Mine Caverns (see MSG Journal 5, June 1972). This system of passages probably owes its origin to slow solution without directional flow. Whether similar networks of passage (apart from the minor Occidental Series), totally clay filled, exist elsewhere in the mine, is uncertain. There are certainly many clay-filled fissures and small passages visible opening off the workings, notably off the East - West Level.

The East - West level poses some interesting problems, its original form before mining interference being uncertain - there may or may not have been a total clay fill. The majority of the clay filled natural passages opening off this level are of very small dimensions, and this would seem to indicate that the passage was a discreet phreatic tunnel (except in the neighbourhood of Occidental Series) rather than part of a network. The general form and extent of the passage merit a tentative suggestion of its originating by directional flow under phreatic conditions, an approximation towards Bretz's "phreatic water main type cave" (see Bretz. J.H. 'Vadose and Phreatic features of limestone caverns', The Journal of Geology, Vol.50 No.6. Part II (1942), pp.675-811). The direction of the passage is apparently controlled by a minor fault which has subsequently been mineralised.

Another example of these two types of phreatic system occurring in close proximity to one another, in Yoredale limestone, is perhaps seen in Silverband Mine Caverns (see Myers, J.O., 'The Caverns of Silverband', Northern Pennine Club Journal, Vo.3. no.1. (1967), p.34 et seq.).

Devis Hole Mine and notes on its history.

A miners' map dated 1774 shows the mine workings very much as they exist at present - thus the mine is quite early by Swaledale standards. The workings shown on the map are all still accessible - if they were not extended further in the 19th century, very little length of passage can be concealed behind the roof falls which terminate East level and its branches, with the exception of Horns Level (the first south branch set on following East level from its junction with the entrance crosscut), which, if the roughly scaled map is to be relied upon, originally extended a further c.400' beyond the 20' accessible at present.

The total length of mined passage surveyed during MSG work totals a little over 1,100'. Apart from some short sub levels in East level, two reached down 10' holes in

the floor and one up an 8' rise, and the short sub level at the end of the southern way along West Level, all this was in the form of haulage levels approximately at the altitude as the entrance crosscut. Numerous rises and three sumps (which would require were noted but have not yet been investigated. G.M.Davies (of the YURT), who visited the mine in the early 1960's, reports that one of the two deeper sumps near the end of East Level gives access to several hundred feet of "old man's workings".

Although the mine is reported to have been reasonably productive, remarkably mineralisation is seen in the workings so far explored, apart from a thin string of Galena in the roof of West Level. The major vein workings may well have been up rise

The name 'Devis Hole' is interesting (also given to the surface stream which is past the entrance - however this may have been named from the mine) - a tentative suggestion is that it is a corruption of 'Devil's Hole' (a name which occurs in the Coniston Copper Mines, used in reference to a natural cavity), probably given by the who were very superstitious as regards natural "self-open" caves and cavities which encountered in their workings.

Flood Danger.

After heavy storms, or periods of prolonged rainfall, the stream which flows past the mine entrance can back up from the marshy area in which it normally sinks (to pass under the mine tips and reappear a little lower down the valley) and flow into the entrance, through the initial low crawl and the iron drum, to sink in natural fissures in the level floor a few yards beyond the iron drum. If a party were in the mine at time of a flood they could well be trapped for some time - although the floodwaters apparently do not affect the workings themselves beyond the initial hundred feet or

The iron drum, and the roof fall through which it passes, are apparently fairly stable at the moment, but with repeated floodings through the winter this situation may well change, and unless a more permanent means of shoring the fall is found, the mine may well become inaccessible again within a few years.

It must be borne in mind that sections of the old workings are extremely unstable and the greatest possible care should be taken.

Cross Pot, Swindale, Brough.

Introduction.

Cross Pot is a stream sink adjacent to the Brough to Middleton-in-Teesdale road which has attracted MSG attention, and excited speculation, since the early days of the Group. New ground was first broken on 19th September 1968 when Alan Brook of UIS lured north by the promise of a free dinner, passed a tight rift (Afterdinner Squeeze) and entered the chamber below, returning to report the possibility of horizontal development. Since that date a number of further assaults by the thinner MSG members and attempted assaults by thicker ones (who cannot pass the squeeze) have resulted in further exploration of a complex system of small passages developed at the base of the limestone. A situation has now been reached where further progress is unlikely without blasting - thus the system is now being "published".

The significance of Cross Pot is twofold. Firstly, it is the only Northern Dales pothole sink which can be followed down into horizontal passages, and secondly, it lies at the head of the theoretical "Swindale Master System", and has considerable potential as regards length - the rising is 2 miles away.

An account of the hole, and of the initial MSG explorations, appeared in MSG Journal 2 (1968), but a more complete description seems in order here.

There are three open holes at Cross Pot - on the E of the road is a large rock cross-shaped shake (giving the name) with at its N end the two small entrances of Cross Pot II, which only takes a small wet-weather stream. Beyond this is the active stream sink, Cross Pot I. On the opposite (W) side of the road, cunningly concealed in a rubbish tip, is the short dry Cross Pot III.

