MENDIP CAVING GROUP

JOURNAL No. 3

(1962)

MENDIP CAVING GROUP

The Journal. No.3. 1962

CONTENTS

ILLUSTRATIONS

The Editor wishes to thank all those who have helped in the production of this Journal,especially Eric Catherine, Malcolm Cotter, James Gibb, Anthony Knibbs, George Savage, Richard Woolacott and all those who contributed articles.

"Oh Yes, Ubley Hill Pot. What happened to that one". This cave was discovered after only two days digging and revealed many bones, including a number of human skulls. At the time of writing, June 1962, we are waiting for a report from the British Museum as to the age of the bones and as soon as this is received the rather precarious entrance will be properly shafted and access permitted.

"The Longwood/August Survey was done by the M.C.G. wasn't it". The survey took about 2½ years to complete and occupied over nine hundred man hours. Details of the survey are given on Page 5. A full report of the project with notes on the cave will be published separately and no article appears in this Journal. When purchasing the sheets it might be useful to realised why Sheet 2 was produced. The cave was surveyed to Grade 6 and it was felt that a scale of 1:120 was the smallest scale that could do this accuracy justice. The length of the system made this an impossible scale for the complete known cave, but a large scale plan was drawn of the completed upper series. The portrayal of this part of the cave on Sheet 1 should be treated as a very poor substitute.

One outcome of the survey was the opening up of Christmas Crawl. This joins the Great Chamber to the grotto above the Fault Pitch, thus enabling the caver to explore the system under very wet conditions, as it by-passes the wet chimney. It might also prove invaluable in the event of rescue.

LONGWOOD - AUGUST SURVEY

C.R.G. Grade 6.

Surveyed and drawn by Mike Rennie with the assistance of James Gibb and other members of the Mendip Caving Group.

Published in three sheets.

SHEET No.1. Plan of the complete known system.
Projected elevation of the system.
Sketch map to show the relationship to the surface above.
SCALE. 1 cm. to 10 feet. Price. 5/6.

SHEET No.2. Plan of the Upper Series only, on a larger scale. The scale used on Sheet No.1. is really far too small to depict the complicated Upper Series.
SCALE. 1 in. to 10 feet Price 4/-

SHEET No.3. True length elevation of the complete known system and Cross Sections.
SCALE. 1 cm. to 10 ft Price 4/6.

These prices do not include postage. Copies may be obtained from M.A.Rennie. 125 Cleveland Rd. Ealing, London. W.13.

" I heard something about a dig near your cottage. What is the latest news about that". This dig is called Blackmoor Swallet and began as a surface dig early in 1961 at the point of apparent disappearance of the stream that runs across the Charterhouse Mineries. The area is so riddled with swallet-like depressions that the caver can never be quite sure whether he is digging a swallet or a slag heap.

Digging was carried out at three places simultaneously and after two had collapsed , the third proved successful. A chamber was entered just below ground level with several short passages radiating from it. Although definite signs of mining were found the passages are for the most part natural.

It is hoped that this brief outline will show that the Mendip Caving Group are really doing things and it is further hoped that this Journal will prove to be an accurate and interesting account of the work that has been carried out.

BLACKFIELD HOLE

by Malcolm Cotter

The news that a binder wheel had fallen into a hole on Priddy Hill farm, led to the investigation of a small cavity. The machine was not stuck so when driven clear the haymakers decided to have a look.

To their surprise they saw a chamber "Large enough to turn a lorry in". We were soon heading for the site which was in a field next to Townsend Pond. Having obtained permission from the farmer we arrived at the hole, which was a narrow slit in the ground, about three feet long and one foot wide. A ladder was belayed to one of the stakes and the first man made a descent.

There was no way out of the bottom of the hole. The cavity was dome shaped with a cone of rubble on the floor, the top of which was some six feet below the entrance. The diameter was about ten feet and the depth about the same.

In one corner a narrow way on between rocks was seen some four inches high and eighteen inches wide. It did not appear to open out. The walls were covered with thick mud which masked the rock structure beneath.

It would certainly be interesting to remove all the debris to see if anything could be found lower down. The farmer has granted permission to dig if we so wish.

Map Reference. ST 517521

Note. Further collapse of this cavity has enlarged the entrance and made the use of any tackle unnecessary.

UNTER DEN TANTALHOHLE

by John Rutherford

A report from the Austrian Expedition 1961

Members of the party: Malcolm Cotter, Don Dovaston, John Rutherford, Don Searle and the guide, Herr Felix Seiser.

After the usual hectic day and scramble to get out, we tore round to Felix's home in Salzburg at about 7.15 p.m. (We were due at 6.30). He was getting used to it by now. Stopping only for a beer and goulash in a roadside inn, we hurried on. We left the main road and were soon bumping up a small valley track. It was a beautifully clear night, and with the noise of a small river and the smell of pines we all felt great to be out and about.

After a good night's sleep on the open ground, we got up (to be more truthful we were practically dragged from our pits by Felix) at dawn and got under way about 7.30. The valley was reserved for private deer-shooting, but Felix had previously assured us that he had a permit, which he now proudly fixed to the Land Rover's windscreen. It was dated 1947 and valid for one season. Still he said, "Its better than nothing".

It was now that we realised the big disadvantages of packing gear to fit easily into a Land Rover. We had no framed rucksacs, and struggled on up the mountain in the very hot sun with a mixed assortment of baggage.

The sweat rolled off us and we made frequent stops as we were in poor physical shape. There was one fit member of the party - Felix. We got hotter, tireder and thirstier, and then Don Searle slipped on one of the rockier sections; half fell, to slither about 25 feet, damaging his shoulder. He also made a huge dent in his carbide lamp, and if he had not been wearing his helmet he might have seriously injured his head. Most of his kit was divided between us and we moved on more slowly than ever. We reached the permanent snow line, and gratefully conscious of our stupidity ate snow to ease our thirsty throats.

We reached the caving club hut at about 6,700 feet about 11.40 a.m., clapped out. It had taken us over four hours, double the normal time. By about 1.30 we felt fit enough to do the last leg up to the cave, about 300 feet higher up, entering it about three-quarters of an hour later. The entrance was in shadow and still completely blocked with snow, obviously unentered this year. There was a narrow entrance crawl followed by a 12ft fixed ladder pitch. There was a bitterly cold wind strong enough to blow a carbide lamp out, in this crawl, which was perhaps 40 ft long descending at an angle of 35 degrees.

We carried on down a scree type slope for a few hundred feet to see our first ice formations, they being permanent. We duly photographed them in

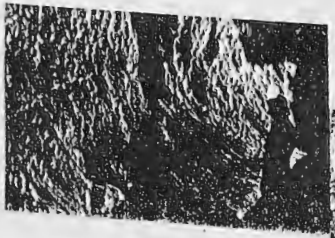
the usual weejy fashion, and moved on.

On the whole the interior of the cave is like a rather roomier and steeper version of Aggy-Aggy. There are long stretches of fairly flat and high mud passages with many mud formations. One of these long straight stretches is aptly called the "Autobahn" whilst the squeeze that brings it to an end is just as aptly called "The Mouse's Autobahn".

The route, however, is never a stream passage, it being possible to stay dry and warm (comparatively) throughout the whole trip. There were more scree-type slopes to descend whilst one or two places were similar to the descent into the Fault Chamber in August/Longwood System.

The descents are not difficult, but care must be taken, for if you slip there's a nasty run-down over sharp rock for anything up to 40 feet. These were often pitoned to an un-necessary degree or marred by having permanent iron ladders, where these were dispensable. In fairness to the "piton-bashers", however, it must be said that rescue in the event of injury would be far more difficult than anywhere in England, owing to the difficulty of access to the cave.

The cave has some very good ladder pitches, permanently slung with decayed electron ladder. We descended several between 30 and 50ft in depth. Items of outstanding interest included mud formations, the ice formations previously



TANTALHÖHLE.
DRY LAKE.
D. SEARL.

TANTALHÖHLE.
THE HUT 3 MILES IN. D. SEARL

WATERFALL ON THE WAY TO TANTALHÖHLE. D. SEARL.

TANTALHÖHLE.
CIRCULATORY STAIRCASE. D. SEARL

TANTALHÖHLE.
THE SUPER HIGHWAY.
D. SEARL.

mentioned and the clearly visible bed of an old underground lake with much scalloping below the obvious water mark but a complete absence above. The lake bed extended for approximately 200 ft. There was also an amazing formation called the Spiral Stairway, which is an exact description of how the passage abruptly ascends. The stairs themselves were 10-15 ft wide ascending for about 40 ft.

About 11p.m. we came to a hut made of a solid timber framework and alloy sheeting with a board floor. We had taken over nine hours to reach this point, double the normal time. We eased our aching bodies, ate and then went to the glorious comfort of our sleeping bags.

Having risen and breakfasted the next day saw us on the return journey at about 8 a.m. By the time we had climbed up all the pitches and screes we had previously climbed down, stopped at frequent intervals to take photographs and at other frequent intervals to nosh and/or rest, we were glad enough to reach the entrance at 6. p.m. We cheered up at the thought of seeing daylight again after 28 hours. What would it be, scorching sun or a gentle breeze and fleecy clouds ?. Would there be a magnificent mountain vista, or would the distant peaks be shrouded in the mysterious mists ?. We reached the surface. Yes, gentle reader, you are completely right, we couldn't see a thing and it was absolutely pouring down with rain.

PINETREE POT

NGR. ST 51945571 Alt. 825 ft

Discovery and Description

by Antony J. Knibbs

The depression in which Pinetree Pot is situated was first noticed by the author on September 7th 1959. The actual name of the cave is derived from the line of coniferous trees growing immediately south of the nearby dry-stone wall. The depression is one of a number of shakehole depressions in the field opposite the gate into Warren Farm, the others being of less significance.

Permission to excavate was obtained from Mr. Brown of Warren Farm and work began during October 1959. Initially the size of the shaft was 7ft long and 5ft wide, but at a depth of 5ft it was modified to avoid a ledge of bedrock, which incidentally provided a useful working space.

The excavated material was principally a matrix of brown mud and rocks weighing up to 3 cwt. Our main "tools of work" were entrenching tools, two crowbars and a 14 lb hammer, which, when attached to Pat Walsh and applied to large rocks, gave a good imitation of a rock crushing plant. By the time a depth of 6ft had been reached it was evident that shoring materials and a lifting apparatus were essential. Suitable timber

and corrugated iron were obtained, mainly from Mr. Fry of Stirrup Cup Garage, and a visit to a disused quarry provided two lengths of bull-head iron rail. A special running pulley-block was designed by the author and constructed by Peter Goddard and Bob Knott. By placing the rail over the shaft and fitting up the pulley and a buckot our lifting tackle was complete. Later on a sheave block was added at the bucket to assist hauling heavier rocks.

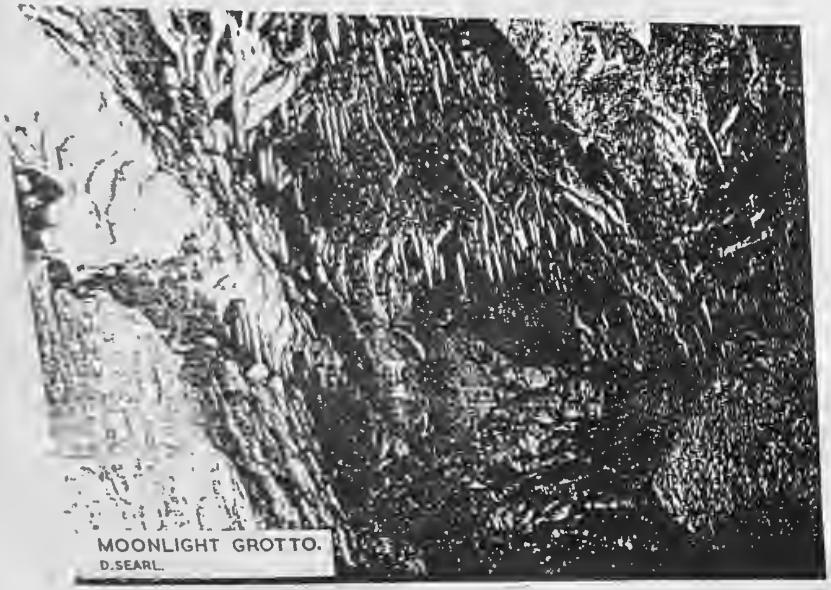
From the very beginning progress was most encouraging. Numerous cavities were encountered and these brought forth ferocious digging from the workers and much speculation by the onlookers. Throughout the winter the diggers continued undaunted by the bad weather. On rainy days old tin, wood and tarpaulins were erected over the rail for a shelter. On several occasions food and drink were prepared on the site.

It was on Whit Monday, June 6th, 1960 that the break-through was made. Having worked all day the shaft was just 14ft deep when it was decided to finish work. During the cleaning up process falling material was heard at a promising cavity. Fired by this, it was decided to resume work and penetrate this cavity. At fever pitch a rock was shattered and shouts went up as a small passage was revealed.

The passage entrance was cleaned up

PINETREE POT

PINE PITCH. M.A.RENNIE.


MOONLIGHT GROTTO.
D.SEARL.

and made safe before Arthur Spain crawled in. His return was greeted with great cheers and excitement as he announced a sizeable shaft after the short passage.

It was getting dark as the happy group returned to the cottage for a meal and to make preparations for the first descent. Refreshed and full of expectation we returned to our discovery.

A party of four made the first descent , Peter Dyer, Pat Walsh and Mike Rennie led by the author. The first pitch of 36ft was descended and christened Pine Pitch. The bottom of the pitch offered a choice of ways on. The most obvious way was over Rumble Pitch - a drop of some 15ft with loose boulders at the top. A by-pass was found by digging through mud in a passage at floor level and to the right of Rumble Pitch. The first few feet into this by-pass were a veritable mud-bath; hence the passage became termed The Wallow.

Following the passage down we soon reached the bottom of Rumble Pitch and continued downwards over a floor of fallen, and occasionally unstable, boulders. At the end of the rift we retraced our steps and cleared a passage down through the boulder floor giving access to more passage and a short rift. The rift terminated at a passage of dissapointing dimensions. It was roughly between 3 and 4ft high and some two feet wide. Difficulties started immediately with numerous

sharp right angle bends with very short distances between them. This passage became gradually tighter- earning its deliberate misnomer of Easy Street. After proceeding some 70ft in this tortuous meander we turned back to where Mike and Pat were busy completing a Grade 3 survey.

The return to the surface was made via a climb up Rumble Pitch and much stopping to examine odd side passages. Leaving the less accessible passages for a later date we rejoined the group waiting at the entrance. It was a highly elated group of cavers that arrived back in London at 4.15 a.m. the following morning,

Since the discovery of Pinetree Pot much further exploration has been carried out. At the end of Rumble Rift a small well decorated grotto, Moonlight Grotto, has been found. Easy Street has received a great deal of attention, in particular from Sonya Carruthers who has reached a point at which the passage levels out and becomes impassable due to mud deposit. Of the two avens in Easy Street the far one seems to hold a promise of some extension. The Back Passage Route, entered 8ft above the floor of Pine Pitch has been followed upstream to a rising shaft with a large jammed boulder 15-20ft up. Downstream the passage leads back into Pine Pitch at floor level whilst a side passage leads, via a tight muddy squeeze to a small sloping tube ending in a muddy sump. An aven has been

scaled, a short distance off Pine Pitch to a point where the holds become too dangerous. Further searching in the cave may reveal more discoveries but the possibility of any major extension appears remote.

The entrance has been improved by means of three sections of concrete pipe which have been lowered into position on a prepared base. Debris has been introduced around the pipes and a steel plate lid has been added.

No direct scientific work has been carried out in Pinetree Pot but no doubt this will be remedied in time. The water in the cave may possibly supply a rising situated near the road between Ubley and Compton Martin, just below Compton Wood on the North Eastern slopes of Mendip. NGR. ST. 535557. The vertical interval between Pinetree Pot and this rising is 550ft and the distance about 1½ miles. A large amount of work remains to be done on this area of Mendip and doubtless further digging at the more promising locations will prove rewarding.

EASY STREET - Pinetree Pot

1.

by Sonya Carruthers

I first heard about Easy Street during my first caving trip with the N.C.G., only a couple of weeks after the discovery of Pinetree Pot. It was, it seems, one of those infinitely tight, unbelievably twisted, incredibly strenuous passages which, for a weary tantalizing distance, obstinately refuse to become quite impassable. For all practical purposes, however, this one terminated about 120ft along in an S bend so tight that no normal human could pass it.

Being but slightly over five feet tall and narrow in proportion, I was interested at once, but it turned out that the most difficult part of an Easy Street trip, next to climbing the ladder afterwards, lay in getting someone else to come down with one. Those who had already been were curiously reluctant to repeat the experience, and their reports discouraged the others; it was not until a few weeks later when someone who had not seen it innocently expressed interest in the new cave, that I had a chance to try the passage.

It turned out that the difficulty was, not so much a real lack of room, but a rather poor arrangement of what room there was. One could not accurately call it a spacious tunnel, but for the first 100ft or so it was frequently possible (for me) to crawl and even now and again to stand up; and only occasionally was it necessary to inch along sideways on one hip. Indeed, had it not been for the many, closely spaced, sharp bends, the trip would have been quite disappointing.

In the last 10-15ft before the famous bend, the passage finally became tight-it always annoys me when the helmet jams as one tries to turn one's head - and the bend deserved its reputation. It was a sharp S, enter on the right hip, sit up inbetween and leave on the left hip. Easy enough in principle, but the thigh bones of most people were just too long to get round the first corner, and jammed across the widest diagonal. Incidentally, the return, which had to be feet first, turned out to be slightly worse, as there was only one position in which the legs could be encouraged out again, and this often took a while to find.

Have you ever been in a place where you know, positively, that no-one can follow ? it is a thought best dwelt upon afterwards, and for the moment I distracted myself by debating whether that loud thumping noise in my ears was really audible or not, and by observing my new surroundings, which, for general comfort, closely-resembled the old. The shape of the passage, however, had changed abruptly. From being a fairly high, narrow affair, it had become a tube, a few inches wider than the shoulders, but too low to enable one to hold the head normally erect while lying flat. About 20ft along, a slightly smaller passage, nearly filled with soft mud, joined the main passage from the left, and shortly after this, mud washed in from this passage began to fill an appreciable proportion of the available space. On a

subsequent trip I partly removed the first mud bank, but its efforts revealed more; and digging, never a favourite pastime, quickly loses what charm it may in happier circumstances possess, when the digger must lie upon the stomach in a tiny stream, using a trowel at arm's length to convey soggy gobbets of wet mud into a small bag which must be periodically dragged back about 15 feet to empty. (There is no room to pass it back.)

That's Easy Street, as full of mud and promise as ever. The difficult bend has been opened by blasting to admit cavers of more usual dimensions, and a couple of other bends have been made easier. Although no longer quite so sporting, the passage can still provide a pleasant afternoon for someone in need of exercise, and enough mud remains to make a worthwhile trip for a digging enthusiast. After all, it must go somewhere.....

EASY STREET - Pinetree Pot

2.

by Malcolm Cotter

My first introduction to Pinetree Pot was two week-ends after the initial descent. The entrance had fallen in and

we were forced to reexcavate it.

I must admit that the pitch came as a bit of a surprise after the description I had received of it. Eventually Barry and I found Easy Street which we were determined to follow to the bitter end,in the hope of making a new discovery. The passage is narrow and meandering with a small stream running along the floor between pools, just enough to wet one thoroughly. We came to a "widening" which was a small aven, the inlet of which was blocked. Just round the corner a trickle of water ran over a boss of Calcite which we later found useful for filling carbide lamps. By this time Barry was well ahead of me and reported no enlargement of our tight trail. I caught him up at the third aven where we found some pieces of straw.

I now took the lead and rounded an exceedingly difficult S bend, but fortunately the passage enlarged enough on the far side to to enable one to stretch. Beyond was another bend which I found impossible to pass, nevertheless a continuation could be seen on the far side.

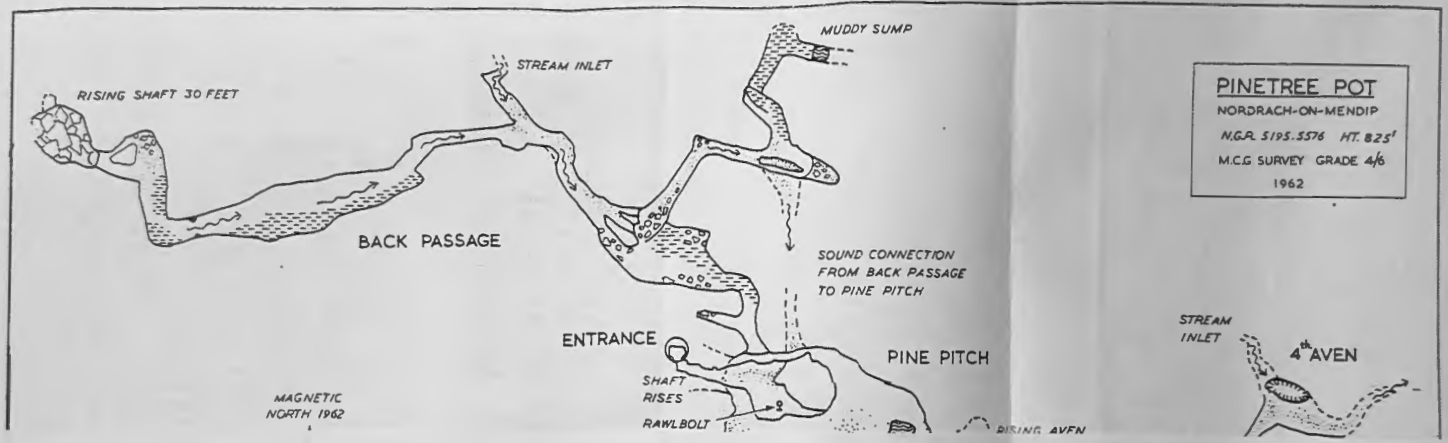
The next phase in Easy Street was when Sonya Carruthers passed the squeeze. Beyond she reported a slight enlargement, followed by a change in shape to a drainpipe. The floor was composed of mud and gravel whilst at the end mud came within a few inches of the roof.

ENTRY TO MOONLIGHT GROTTO.
M.O.COTTER.

MOONLIGHT GROTTO.
M.O.COTTER.

PINETREE POT

MOONLIGHT GROTTO.
M.O.COTTER.


PINETREE POT
NORDRACH-ON-MENDIP
N.G.R. 5195.5576 HT. 825'
M.C.G. SURVEY GRADE 4/6
1962
MUDDY SUMP
STREAM INLET
RISING SHAFT 30 FEET
BACK PASSAGE
SOUND CONNECTION FROM BACK PASSAGE TO PINE PITCH
ENTRANCE
PINE PITCH
SHAFT RISES
RAWLBOLT
MAGNETIC NORTH 1962
RISING AVEN
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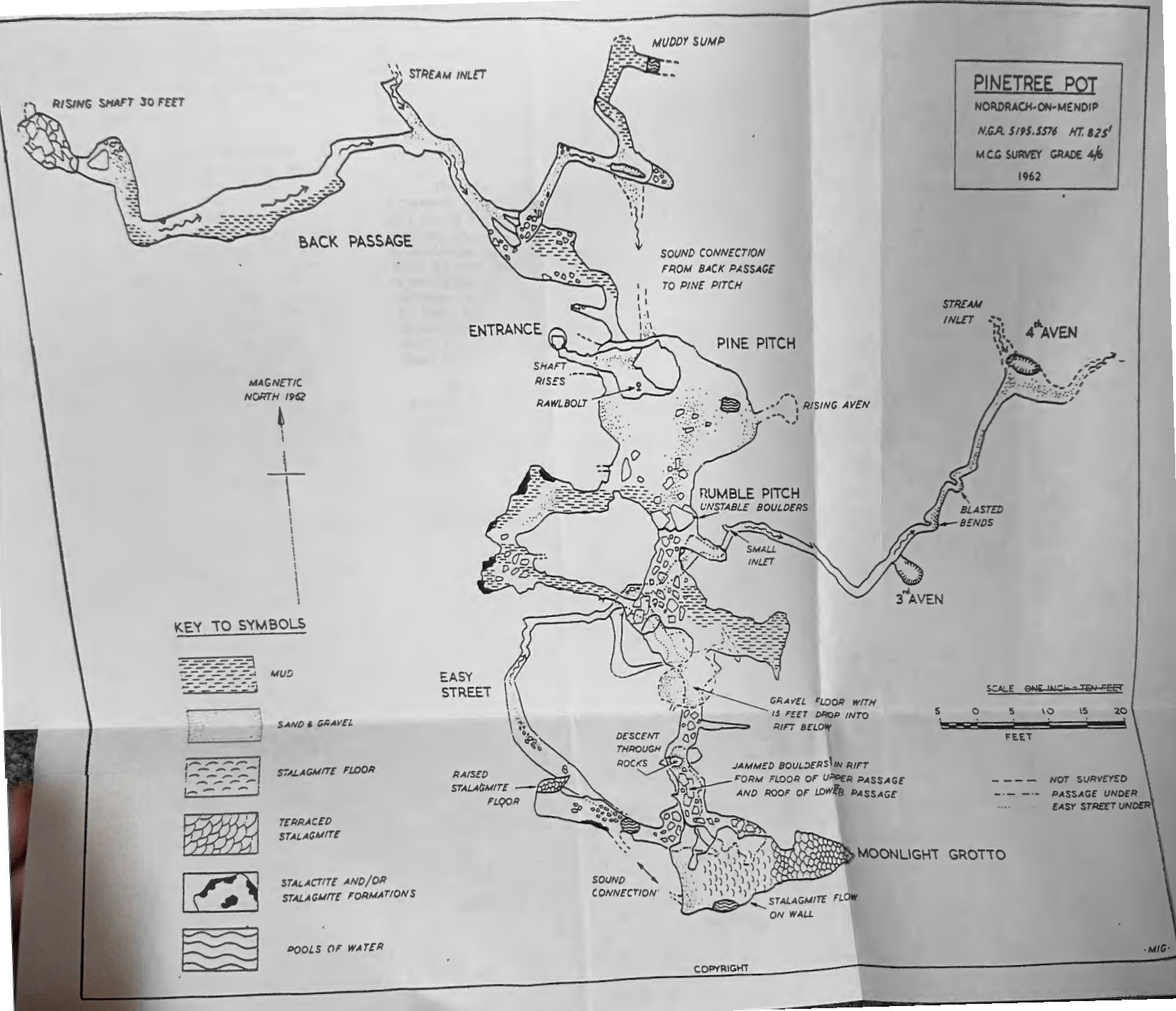
4th AVEN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TERRACED STALAGMITE
STALACTITE AND/OR STALAGMITE FORMATIONS
POOLS OF WATER
EASY STREET
GRAVEL FLOOR WITH 15 FEET DROP INTO RIFT BELOW
SCALE ONE INCH = TEN FEET
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NOT SURVEYED
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EASY STREET UNDER
MOONLIGHT GROTTO
SOUND CONNECTION
STALAGMITE FLOW ON WALL
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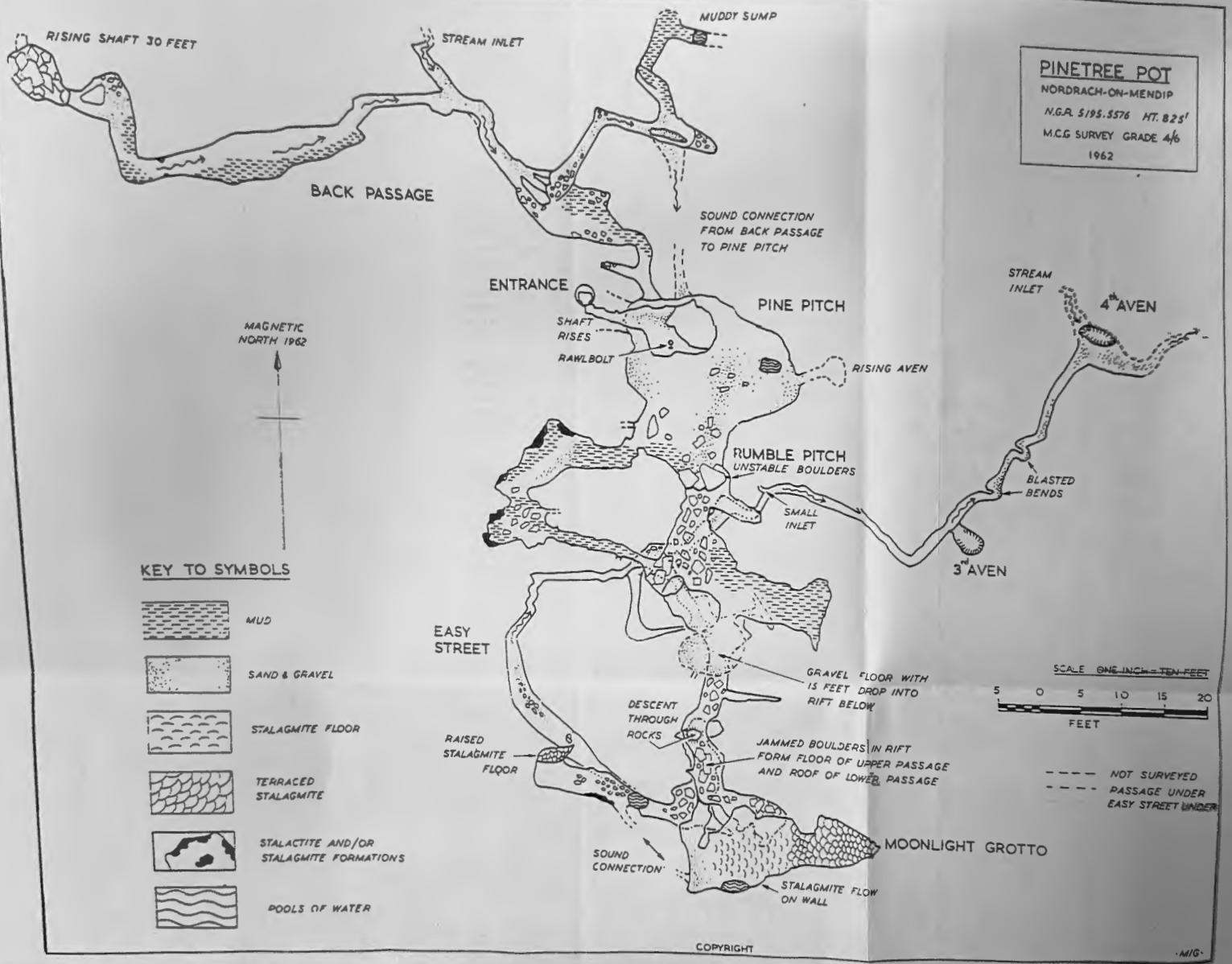
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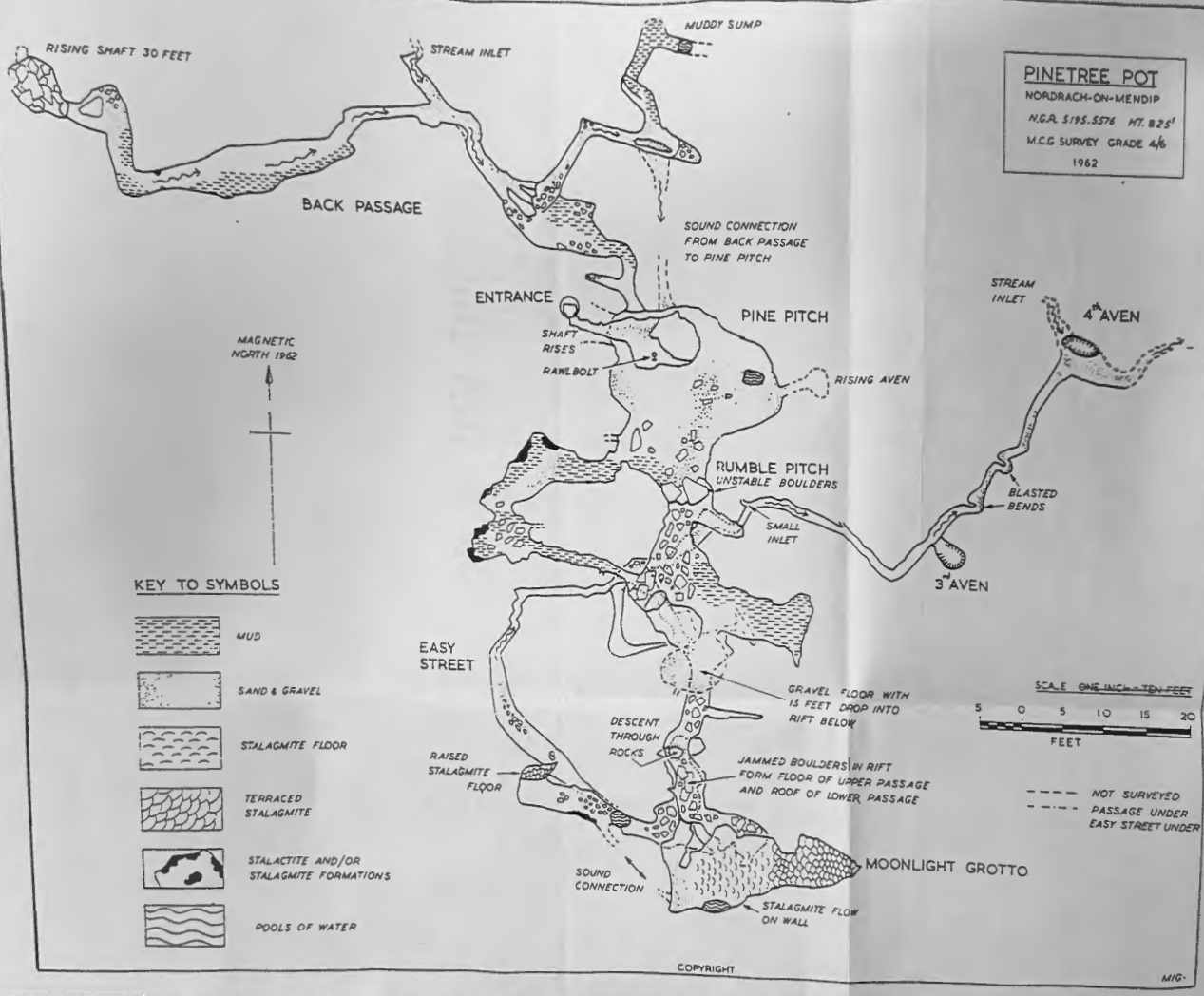
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MOONLIGHT GROTTO
STALAGMITE FLOW ON WALL
COPYRIGHT
MIG.

A lone dig was started but extreme care had to be taken since her body half-blocked the passage, causing the water to rise behind her. No one else could reach this point.

The week-end before Christmas 1960, saw a party made up of Pat Walsh, Simon Knight, Mike Rennie, Richard Woolacott and myself, taking hammers, drills and cable into the cave to prepare the rock for some charges. Pat and I took turns at drilling two shot holes, one into the flake of rock on the first S bend and another just before Sonya's bend. The task took several hours. We returned to the surface very late that evening, that is, well after closing time, with the result that we nearly lost one member who complained that the New Inn an essential purpose and without a visit he could not carry on ! We joined the wire to the battery but no sound could be heard. We stepped up the power in numerous ways still without hearing anything. I hoped that the sound was beyond earshot, but was nevertheless perturbed.

Boxing Day came up and another descent was made. When I reached the bend I was relieved and delighted at the results which I saw. The first bend was easy and a large chunk had been removed from just before Sonya's bend. The next move was to place a bundle

of explosive against a thin partition which caused the bend to remain impassable. The retreat this time was to a chamber near the entrance pitch where the firing cable was connected to our battery, resulting, much to my satisfaction, in a loud boom.

The next day John Rutherford and I passed Sonya's bend which had been well and truly dealt with. We came to the small chamber which she had mentioned and on downstream where she had been digging. Back at the chamber I noticed a hole above a mud bank which it was possible to squeeze past. This came out at the foot of an avon some 25ft high. This route continued as a tight mud choked passage carrying a small stream that ran back into Easy Street.

Since then nobody has pushed on any further up stream, all attempts being hindered by fatigue after the long initial crawl. Sonya dug on past the mud bank downstream only to reach another mud bank. Worked ceased when she returned to the States.

PINETREE POT - Stream Sink.

by Malcolm Cotter.

In my mind Pinetree Pot has been formed as a result of water sinking from a stream running over the surface.

A lone dig was started but extreme care had to be taken since her body half-blocked the passage, causing the water to rise behind her. No one else could reach this point.

The week-end before Christmas 1960, saw a party made up of Pat Walsh, Simon Knight, Mike Rennie, Richard Woolacott and myself, taking hammers, drills and cable into the cave to prepare the rock for some charges. Pat and I took turns at drilling two shot holes, one into the flake of rock on the first S bend and another just before Sonya's bend. The task took several hours. We returned to the surface very late that evening, that is, well after closing time, with the result that we nearly lost one member who complained that the New Inn an essential purpose and without a visit he could not carry on ! We joined the wire to the battery but no sound could be heard. We stepped up the power in numerous ways still without hearing anything. I hoped that the sound was beyond earshot, but was nevertheless perturbed,

Boxing Day came up and another descent was made. When I reached the bend I was relieved and delighted at the results which I saw. The first bend was easy and a large chunk had been removed from just before Sonya's bend. The next move was to place a bundle

of explosive against a thin partition which caused the bend to remain impassable. The retreat this time was to a chamber near the entrance pitch where the firing cable was connected to our battery, resulting, much to my satisfaction, in a loud boom.

The next day John Rutherford and I passed Sonya's bend which had been well and truly dealt with. We came to the small chamber which she had mentioned and on downstream where she had been digging. Back at the chamber I noticed a hole above a mud bank which it was possible to squeeze past. This came out at the foot of an aven some 25ft high. This route continued as a tight mud choked passage carrying a small stream that ran back into Easy Street.

Since then nobody has pushed on any further up stream, all attempts being hindered by fatigue after the long initial crawl. Sonya dug on past the mud bank downstream only to reach another mud bank. Worked ceased when she returned to the States.

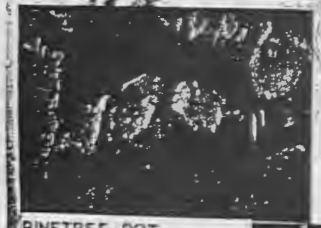
PINETREE POT - Stream Sink.

by Malcolm Cotter.

In my mind Pinetree Pot has been formed as a result of water sinking from a stream running over the surface.

PINETREE POT.
TESTING HILGER AND WATTS TRANSIT.
A.J.KNIBBS.

BROWNE'S HOLE
PART OF SKELETON. M.O.COTTER.



PINETREE POT.
MOONLIGHT GROTTO
STALACTITE FREIZE.
M.RENNIE.

PINETREE POT.
PUTTING PIPES IN THE ENTRANCE
I. LEAKE.

The hole is situated in an easily definable tributary valley to Velvet Bottom. On the up-valley side of the shake hole a portion of the rim is slightly lower than the surrounding area. Just below the cut-down portion is exposed limestone which is smoothed in a way reminiscent of a stream-bed, a marked concavity running down dip.

During the excavation a large number of rocks were removed, none of which were very angular; many were well rounded off and had a coarse texture. This texture was due to hard fossil skeletons.

Inside the cave and particularly noticeable at the bottom of the pitch are quantities of gravel consisting mainly of crinoid fossil remnants. This suggests that the water entered by percolation covering a wide area. A showerbath effect could have been produced.

From inside the cave one can see that the spacious part of the cavity is a high rift, the top of which is choked with rounded boulders. Obviously when enough of a boulder has dissolved away it is not large enough to remain wedged and so falls. It would be interesting to know from which zone some of the boulders have come from, since this might give some idea of how far they have slipped. At the top of the pitch is a large mass which has not yet become detached from the bedrock.

The pothole is very muddy but the mud has come from the surface and is not insoluble residue from the limestone that has been eroded away. This suggests that water is still coming through over a large area.

At about ten feet above the bottom of Pine Pitch is an inlet passage which has a trickle of water running in it. This goes up towards the surface and its catchment area is now probably the valley up to the next shake hole.

There was probably a great deal more water in the past when all the stream was sinking in the same area. The catchment would be the north side of Blagdon Hill. Now the water does not have a chance to form a stream as it sinks along its entire course. Much water must be lost by evaporation.

At the lowest point of the rift series is Easy Street, a small meandering passage which has so far been followed for a distance of approximately 125 ft. There are two small inlets in the side of Easy Street, both of which are blocked with rounded boulders. Some of the mud contains straw, proving a connection with the surface (Straw not being found in the rest of the cave.)

In July 1961, Easy Street contained a minute stream which was augmented by a trickle from the roof of the same volume. Wet weather would obviously produce more water. The passage could have been formed by the

water at present running through. There is hope that the passage will lead to a more spacious continuation. This would be to where the older and larger stream acted. Promise is there as a strong air current exists.

To sum up:- Pinetree could have been formed by corrosion over a relatively large area. The corrosion formed a cavity into which rocks fell from the sides after the joints were freed. The rocks have gradually disolved away and slipped down, resulting in the formation of a shake hole.

UBLEY HILL POT by Malcolm Cotter

PROSPECTING

On a fine day in mid 1960 a small party consisting of Barry Ottewell, Arthur Cox and myself decided to stir ourselves into action by looking for a shake hole in a field near Cow Hole shown on the O.S. 2½" map.

Fortunately we had left the map behind and overshot our objective, ending up by Cow Hole. After wondering how much work would be needed to reopen it and keep it open, our walk took us on towards Ubley Hill Farm road. There was a wonderful view to be had in the direction of Bristol. The

UBLEY HILL POT.
BEFORE DIGGING.
DON DOVASTON.

UBLEY HILL POT.
FIRST CAVITY. DON DOVASTON.

UBLEY HILL POT.
JUST AFTER 1ST VIEW OF PITCH.

UBLEY HILL POT.
WORKING PARTY. M.G COTTER

UBBEY HILL POT.
THE FIRST PITCH.
DON DOVASTON

field we were in sloped upwards gently to our left and looked perfectly flat. Just to satisfy myself that we had made athorough examination I walked towards the centre of the area. At about half way to my delight the surface dropped away from me to form a deep shakehole invisible from a few yards away. I went down to the bottom but could not see any obvious bedrock. All, however, agreed that the site gave promise of a cave.

DIGGING AT UBLEY HILL

Some weeks after finding Ubley Hill shake hole, George Savage and I went back to measure its vital statistics. We found the depth to be 19ft and the diameter 90ft.

Things rested for a while until we heard that another caving party had been in the area. This stimulated action for the site was an obvious one to dig, although perhaps not so easy to find.

. August Bank holiday was a week ahead so we decided to make a preliminary start then.

Saturday came round and found a large number of people at the cottage, so permission for digging was obtained from Mr Lovall provided we fenced the area off to prevent his beasts falling into the hole. A party of five went to start the dig whilst two more of us cut some stakes.

When we joined the main party nothing had been started as they had been unable to decide where to dig. A number of test holes were then dug at regular intervals around the shake hole and after about an hour work commenced on my test hole as it looked the most promising. The site was down dip as far as we could make out and contained many water worn boulders. Two of us took photographs at intervals in order to keep a record of our work. Numerous rounded boulders were removed, thus showing signs of water action. If the shake had only been caused by the collapse of the ground I would have expected angular rocks.

By early afternoon a promising cavity had been revealed with vertical fluting of the rock. It was not large but continued by way of a tube some two inches wide. At a depth of about five feet a large rock was encountered. It took some time to remove, as there was a tendency to rock it to and fro rather than dig round it and rope it out. When the rock came out there was a general rush to the face for a round hole about a foot across had been revealed. It curved downwards out of view in a most tantalising way.

At the end of the day our small hole still held out on us. We considered that the chance of an early break-through was in fact remote.

The following day the working party was reduced to allow enough people to dig at Coopers Hole. There was obviously plenty of enthusiasm since digging continued through

several showers of rain. As we progressed we could hear rocks falling beneath us, whilst tossing stones ahead into the small tube-like cavity we were following produced a distant crash after a short interval. At this stage it was considered wise to belay the man who was digging lest the floor should collapse taking him with it.

It was not long before we had broken through. A small squeeze was visible, which led into a large rocky chamber. We were in the top corner and there was obviously a pitch to be negotiated.

EXPLORATION

Peter Goddard was the first to go down. It was just as well that we had cleared the entrance until it looked easy because we found that in actual fact it was a tight and akward squeeze. Anxiously we waited for the report from the bottom. We were soon to learn that the chamber led onwards into a passage. I went down next and found myself climbing down the side of a rocky chamber of ample proportions. The pitch was 20ft and except for the initial squeeze, was very easy.

I now led the way into the passage, the floor of which was steeply inclined and deeply rutted. The surface was covered with slippery mud and unstable scree. A black pit covered the width of the passage. The next man now began his descent, dislodging a boulder that swept past us to disappear into the darkness below.

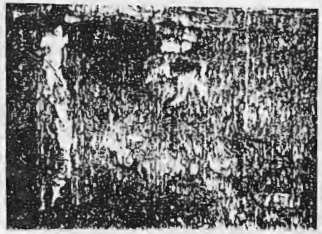
We all moved more cautiously now, as there were numerous loose rocks to be removed for ones safety. It was possible to traverse over the pit and reach the far side. The view was of a pitch some thirty feet deep at one end of a rift. The bottom of the rift sloped to the right down a muddy bank.

More ladder was brought down, together with some wooden bars for a stand off at the top. At about 15ft down one could come off the ladder onto a ledge covered with loose rocks. It proved better to go along the ledge and down the rock, rather than use the ladder which hung between two flakes.

From the top of the mud bank I saw a large chamber, the end of which was too far off for me to distinguish with my head lamp. The rest of the party arrived and we all set off downwards.

Half way down the chamber we saw a skeleton which we assumed to be that of a sheep. Further searching revealed more bones poking through the mud. The lower part of the chamber had a small passage leading downwards. This led us into a passage with a heavy drip from one corner of the roof. The way became tight and we feared that it would stop progress. However, we went through the drainpipe to a wider portion which contained much limestone grit, hard fossil bodies left when the softer more soluble rock had been dissolved away. This marked the end

UBLEY HILL POT.
LOOKING UP 2ND PITCH.
DON DOVASTON.



UBLEY HILL POT.
CLEARING THE TOP OF FALL PITCH.
DON DOVASTON.

UBLEY HILL POT.
COMPLETE AND PARTIAL SKULL.
DON SEARL.

of exploration in this direction. In the floor we had a view into a low passage with a small stream which would need digging. There was also a small gap on the right side at roof level blocked by mud.

Back in the chamber we started to look around. There was two possible digs on the same side some fifty feet apart. The roof at the other side of the chamber came down very low. I went in this direction because there appeared to be a short thick stalagmite. On getting closer it looked like a rock, so was passed by. Beyond was a small pool with water dripping from an aven above. Then Pete shouted that he had found a human skull. We all went over and found that it was the object that I had mistaken for a stalagmite. Next to this almost complete skull was a half skull, split from nose to basal region along the suture. This find started an intensive search for bones. A few feet away we found another skull.

The whole of this chamber appeared as a a charnal house with human bones, animal bones and antlers strewn haphazardly about. Below the second pitch we found another skull cap embedded in thin calcite.

The next day Mike Rennie started a survey which ended at the bottom of Bone Chamber. This gave us a length of 250ft and a depth of 100ft from the entrance. Digging was also carried out on the second day at the lower

point of the chamber. Here large amounts of rock collapsed with a deafening roar into a deep hole to half fill it and obstruct the way into two small passages that Tony Knibbs had previously observed leading off at the bottom. The collapse formed a sort of alcove. From a long way above was a small fall of water. The rock which had collapsed was part of the bedrock that had been dissolved away and undercut.

AN AMUSING INCIDENT

On our return home that week-end we decided to inform the press. As a result small paragraphs appeared in some of the daily and evening papers. B.B.C. Television were also informed and when the woman the other end who was receiving the message was told of the bones, her only comment was "how horrible". It seemed that the B.B.C. was more interested in sensational crime than in important archaeological discoveries.

The discovery was made at the time of the Bristol taxi murder. Our current secretary, Richard Woollacott, who knew nothing of the activities in London, was making a journey from Bristol to Blagdon by bus when a police car drew in front. The sergeant boarded the bus and asked for the secretary by name. Richard went with the police without putting up any resistance.

Apparently the B.B.C. had asked the police about the bones to check if it was a hoax. The policeknew nothing and so had asked at Charterhouse where they might find the club secretary. The police have since asked

that they be informed of the discovery of any human remains of what ever age.

The week-end following the discovery Dr.Tratman went down to confirm that the human remains were very old. Photographs were taken and an attempt was made to get into the passages under the collapse of rock. This was unsuccesful owing to the size of the boulders.

After the others had departed Simon Knight induced me to help him dig out the tunnel leading from the top of the mud slope by the second pitch. While digging we came across rotten wood and what appeared to be rotten rope. After about an hour Simon was able to wriggle through into a high rift. The passage was relatively clean but lacked formations. At the end we found a small stream which I followed down to a tight squeeze. The far side was a pitch, the top of the small waterfall we had found earlier. This extension added about 100ft to the length of the pot, making it between 350 and 400ft in length.

The points now left for possible extensionare the bottom of the waterfall and the lowest passage in the cave.

At present one of the skulls from Bone Chamber is in the British Museum for Carbon 14 dating. When we know the result then arrangements for securing the entrance from collapse will have to be made. We do not as yet know whether a lock will be required.

A short time ago I was fortunate enough to see Gerald Platten and his Mendip Notes. He had the Ubley Hill shake hole marked with a note to the effect that it had subsided 10feet up to 1949. The hole must have developed quickly in recent years.

CAVES AND SWALLETS OF EAST MENDIP

by Dave Mitchell

During the past few years Alan Cowley and myself have carried out excavations and research on a number of caves and swallets on Eastern Mendip, the result being four minor discoveries.

ELM CAVE or FORDBURY BOTTOM CAVE

Our first introduction to this cave was in 1956. It was shown to us by Mr. L.M.Browne of Frome, who had previously carried out excavations there, but had not entered anything new.

The cave is situated in a valley known as Murder Coombe or Fordbury Bottom and is about three miles from Frome. Entry to the cave is gained by climbing onto a rock shelf where a small hole is seen. On passing through one enters a large rift with the floor falling away and the roof rising sharply. There are numerous roof passages which close in after a short distance.

Following the floor down the lofty rift is entered, which on our first visit ended on the top of a boulder pile, at the foot of a rock wall. High above us, firmly fixed in the roof was a crowbar, put there for reasons unknown to us, then and now.

A week later we started excavations at the rock wall, dumping all excavated material into a small chamber in the side of the main rift. After the removal of much spoil a small rift was found, blocked by a very large boulder. Apart from this boulder it appeared to be clear and after banging it with a large hammer we broke it up and removed it. A small hole appeared and after much grunting and shoving I managed to squeeze through into an extension of the main rift. It was about 30ft in length and 8ft wide, and to my suprise filled with water which on looking into, appeared to be deeper than me, which accounted for the sudden halt in exploration. The water was crystal clear and the floor which consisted of rubble could be seen quite clearly, being exactly the same type of material we had already excavated.

A mark was put at water level to ascertain any change. At a later date it was found to rise and fall according to weather conditions, in fact after a very dry summer, it was found to be completely dry, although water was still to be seen through the rubble floor. We believe the water in the cave to be on the same level as the water in the stream running through the combe. This stream also

dries up in summer and is known to sink in limestone higher up the valley. No more excavating has been done although we re-visited the cave in August 1960.

The excavated material was found to be quarry waste, which included bricks and tins etc. This was found at the start of the dig right down to the water line and beyond. Why this cave should have been filled in still remains a mystery.

In this area very little remains that might be of interest to the caver. In the next valley, (Wells Valley), a rising can be seen which possibly connects with Elm Cave but it has not been proved.

During quarrying operations in the area over the past few years, two caves have been found, "Crystal Pot" and a cave in which the remains of Mammoth were found, but alas both have now been destroyed by quarrying.

MERE HEAD QUARRY DIG

Our next excavation took place in a quarry at the Shepton Mallet end of Asham Woods. Very little work has been carried out in the area although the M.N.R.C. have excavated a rock shelter.

The dig was found and started by Alan in a then disused quarry. At a height of about 20ft up the face can be seen cave formations and calcite deposits,

CAVE ENTRANCE.
A. COWLEY

STOCK'S CAVE

CAVE BOTTOM.
A.COWLEY.

HUNTING LODGE SWALLET.
A.COWLEY

IN HUNTING LODGE SHAFT.
A.COWLEY.

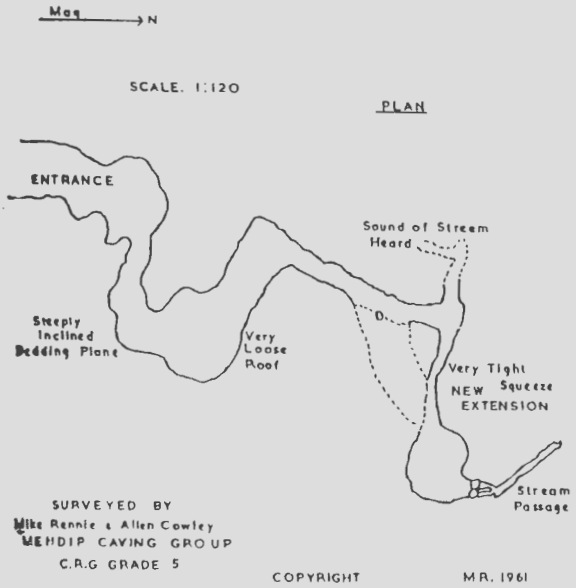
which follow the dip of the strata down to disappear in the quarry floor. This is the point were excavation started. After the removal of tons of displaced rock by Allen, a small rift could be seen, which with the aid of a hammer and much digging was followed down for six feet. At this point it became too tight to dig and excavations had to be abandoned, although if work should be resumed by the quarry, progress along this line will be closely observed by us.

In the immediate vicinity there is nothing of any importance to the caver and as in the valey of Elm Cave a stream running the length of the valley in winter sinks further up into limestone in the summer. On the other side of the valley is a rock shelter, known as White Womans Cave, which should repay the archaeologist I have taken pottery from this cave to the late Mr.Balch.

HOLWELL RIFT

After our unsuccessful attempts at Merehead Quarry, we turned our attentions to some field survey work. Whilst carrying out a survey of the Holwell area, we heard rumours via the police and Mr.L.M. Browne, of a deep "pothole", suddenly being observed in a nearby disused quarry. This was the start of a mad rush to be the first to get down it. We eventually found it in an area previously covered by us, when there had been no indication of any hole whatsoever. After a quick surface survey we decided it needed

WITHYBROOK SLOCKER



ladders and ropes. These we quickly obtained.

After making the top of the rift safe, by removing small stones and turf etc., the first descent was started. After going down for about 35ft we reached a boulder choke that seemed to be the bottom. After some mechanical persuasion, however, i.e.Allen, boulders could be heard to be falling away below. Suddenly parts of the floor on which we had previously been standing gave way to reveal a deep dark hole. Taking a second lifeline from the surface we again descended and dropped another 30ft to land once again on a boulder pile. Further efforts were inadvisable owing to the dangerous nature of the rift above. No indication as to the formation of this rift could be found, but it is definitely not mined. There were no formations of any type to be seen. No further visits have been made by us since 9th June 1961.

In this area is to be found a cave which has been dug at intervals by various people, but nothing has been entered. We ourselves have done quite a bit of work on this cave and think that with some more digging it could well develop into something of importance. Legend has it that it is the entrance to a passage leading to Nunney Castle. All digging in this cave has now been stopped by the tenant farmer.

PITTEN STREET SWALLET

Pitten Street, is an active swallet, and it can be found taking water summer and

winter. It is known by many cavers and has defied entry to them all. After looking at it we obtained permission to dig, and excavations were started at once.

There were two stream entrances to be seen. We dug and hammered in both places for a considerable time, but eventually had to give in owing to large overhead moving rocks. Work was then started on a shake hole further up and above one of the entrances which at a depth of five or six foot entered a silt filled passage in which a very good flint arrow head was found.

Although water ran in at both entrances there was no trace of it in the new passage, nor could it be heard when diverted down alternative entrances. This passage, after much effort, closed in too tight to continue the dig.

Not yet beaten we enlisted the services of a water divining friend who traced the stream some considerable distance across the field, saying that there was plenty of water flowing away in the direction of a rising which comes out on the other side of the valley about one mile away. After our friends water divining we continued work on the most promising of the stream entrances. This had to be abandoned once again as the way was blocked by rocks which needed blasting. A small stream passage could be seen falling away sharply.

We have visited this swallet many times since but no more work has been carried out by us. Blasting may be the key to a new very wet system.

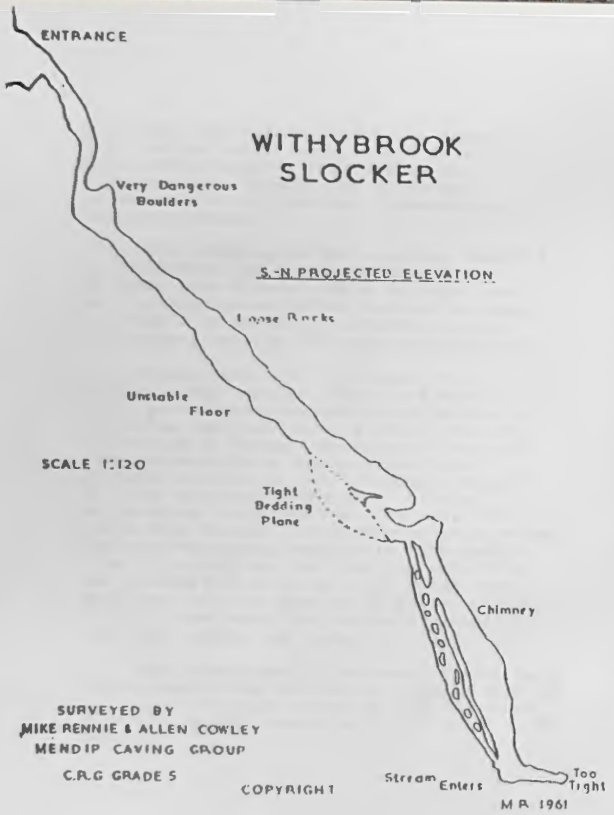
DOWNHEAD SWALLET

After our attempts at Pitten Street we turned our attention to another known swallet, that of Downhead. Here we did not get very far owing to extreme tightness just inside the entrance. In addition from the amount of silt etc. at the entrance it appeared that it had been used as a rubbish tip by the local inhabitants. (Not of the cave, the village).

The next swallet to be visited by us was Withybrook, an active one in the Stoke Lane area. This had already been entered by Mr. L.M. Browne of Frome some years before without a great deal of work. Some excavation had been done in this cave but owing to the dangerous condition of the roof, and the dreaded tightness, very little had been done.

During our tourist trip we noticed a silt filled passage between rocks, leading off the main rift. This on our next visit we removed, together with and accumulation of rocks and debris. Entry was gained into a small rift at the end of which was a mud bank. This was speedily pushed downwards accompanied by shouts of "we're in" followed by moans from the other member of the party whose size was much bigger than the opening.

From this point the cave dropped almost vertically for 30ft down a very tight rift to



an active streamway below. This is the first time the stream has ever been reached, although it has been heard in one other part of the cave. It may be possible to force an entry into the stream passage, although it will be a very difficult and dangerous task owing to the tight squeeze at the top of the rift-like chimney. If this stream passage could be forced it should be possible to get into a very large system as it probably joins the other streams in the area on their way to St.Dunstan's Well. This has not yet been conclusively proved. Withybrook holds great promise for the future and there is much to be done.

Further excavation has resulted in an entry into the stream passage. After approximately nine feet it was found to be blocked by large boulders with the stream running between them.

STOKE LANE AREA

Much of the work of exploration and excavation in this area has been carried out by Allan Cowley and myself on weekday evenings.

At week-ends when not at the cottage at Charterhouse, we have continued with excavations at Browne's Hole. This has resulted in the almost complete excavation of the main passage. It is now in its final stages and during it a human skeleton has been found. Two other break-throughs have

been made, one off the Parade in Browne's Hole and the other dug with Mr. Stock's kind permission, has resulted in the discovery of a beautifully decorated chamber. This is described elsewhere in this publication.

Other digging in the area has resulted in the opening of a new stream entrance to Stoke Lane Slocker. This entrance has been partly opened before but not to such an extent. In winter it should take all the stream, leaving the main entrance dry.

Digging has also been done at Hunting Lodge Swallet. This is a rock shaft partly quarried and partly natural. It has in the past taken a great deal of water, and is thought to have a connection with Browne's Hole. Excavations have revealed nothing as yet although a depth of forty feet below the level of the surrounding field has been reached. For years this swallet has been used as a refuse tip and everything imaginable from empty tins to an old car has been dug out. This is an important dig and it is hoped that much work will be done on it in the future. In this area there are two active swallets and other promising digs.

This concludes our account of work done on Eastern Mendip but there is still much left to do. In the near future we hope to be able to write another report of M.C.G. work on East Mendip.

IRISH EXPEDITION 1961

by Richard Woollacott

Disastrous is the only printable language to describe the start of our trip. The four of us, John Green, Tony Noble, Peter Dyer and myself arrived in Ireland to discover that in all the fuss and bother I had lost the document case in which were all the maps and gen on caving. This meant that we had no idea where to find the caves we hoped to visit. A quantity of draft Guinness made the problem look less formidable though, and we set off for County Sligo. Our first day was therefore taken up by getting to our campsite and setting up camp. By a stroke of luck we picked the right area to stop in, at a little village called Ballinfiad. We spent the next day in the town of Sligo gathering information in the County Library and questioning the locals. Here I must explain that the Irish are probably the most helpful people you could find. They were quite willing to spend an hour or more introducing us to all their friends who might know anything about the caves. Armed with pages of notes we prepared to explore on the following day. We first turned our attention to Bricklieve Mountain. A very helpful farmer insisted upon walking a good mile up the mountain to point out some cairns. These are in a very good state of preservation and worth looking at. He told us of a large shake hole which we eventually found. This was only a blocked arched

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Disastrous is the only printable language to describe the start of our trip. The four of us, John Green, Tony Noble, Peter Dyer and myself arrived in Ireland to discover that in all the fuss and bother I had lost the document case in which were all the maps and gen on caving. This meant that we had no idea where to find the caves we hoped to visit. A quantity of draft Guinness made the problem look less formidable though, and we set off for County Sligo. Our first day was therefore taken up by getting to our campsite and setting up camp. By a stroke of luck we picked the right area to stop in, at a little village called Ballinfiad. We spent the next day in the town of Sligo gathering information in the County Library and questioning the locals. Here I must explain that the Irish are probably the most helpful people you could find. They were quite willing to spend an hour or more introducing us to all their friends who might know anything about the caves. Armed with pages of notes we prepared to explore on the following day. We first turned our attention to Bricklieve Mountain. A very helpful farmer insisted upon walking a good mile up the mountain to point out some cairns. These are in a very good state of preservation and worth looking at. He told us of a large shake hole which we eventually found. This was only a blocked arched

entrance and after some attempt at digging we decided that it would require more time than we had at our disposal. We then decided to move on to the Kesh area.

On the side of Keshcorran Mountain there is a vertical cliff with many cave entrances, but we had established from the locals that they were only interconnecting rifts in the rock. We therefore spent the afternoon in the valley tracing streams and lakes. Unfortunately this yielded no results. On the following day we out through Geevagh looking for a stream which we had been told disappeared in the ground. We interupted our journey to inspect a dry swallet by the side of the road. We moved a few rocks and decided that it would make a promising dig for a future expedition. A few hours work might open up a cave. This swallet was called Cave 'A', and its map reference is 840197. Still in search of the disappearing river we left the road, and proceeding up a cart track, we found a possible dig at Ref.836212. This may be Collie's Hole. It is a rift some fifteen feet deep, but does not 'go'. About 20ft S.W. is a small but active sink. Back on the main track at Ref. 831207, we found a large shake hole which we called Cave 'C'. This is about 40ft in diameter and situated 100 feet off the track on the right hand side coming from Geevagh. We then went to the top of the moors and discovered at Ref. 837206 a large double shakehole surrounded by a barbed wire fence. We called this Cave 'D'.

The following day we returned to Cave C. After descending the sides of the hole, we entered quite a fair size chamber. This lead into another chamber, the floor of which was strewn with rubble. There was no apparent way on, so with little time left we decided to press on.

Cave 'D' is a sort of double shake hole. The South West end did not appear to go, but at the other end was an entrance into a large chamber with a very muddy floor. First we descended a pitch about 20ft deep, but this did not 'go'. Traversing the top of this pitch we found a tunnel leading off. This continued via a fairly sporting boulder choke crawl to another pitch, to a part of the cave where many loose rocks made the place very unsafe. This pitch was now descended and another pitch was found in front, at which point exploration ceased.

Having obtained from a local boy directions for finding the disappearing river which had escaped us for so long, after a great deal of searching, we found a stream which disappeared into the ground as a beautiful swallet. The only trouble being, that it was only about six inches in diameter. After a great deal of consideration , we decided that this was not the one for which we were looking ! We pressed on, and soon found a very strong stream. This disappeared into a perfect and this time man size swallet. This is at Map Ref.842200 and was dubbed Cave 'E'. The entrance is about seven feet high and three

feet wide. After splashing along the stream passage, we reached a short climbable pitch. This led into a narrow rift with the stream running at the bottom. The main stream from the entrance came down as a waterfall over a small passage which continued on down. Peter courageously volunteered to look at this. This led on to another waterfall and still went further. It was now quite late in the day, and we left the cave since it would not have been wise to cross the boggy moors after dark. We were very sorry that we had not found the caves earlier in the week as we now had no time left for a fuller exploration. We resolved to carry the project further the following year.

THE EVOLUTION OF THE MENDIP AREA

by Barry Ottewell

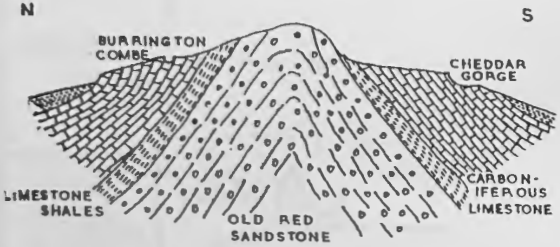
The main structural feature of the Mendip area is that of four periclines. The axes are arranged en echelon in approximately an East - West direction. This arrangement differs from the older Bath and Severn axes which show a predominantly North - South alignment. Movement about these two axes occurred throughout much of the period since the Caledonian Orogeny, whilst the Mendip axis, which is generally correlated with the Armorican earth movements, appears to have been relatively stable since that time.

The oldest rocks in the Mendip area are the Silurian, exposed in the cone of Beacon Hill. The rock is quarried for road stone in the huge Moon Hill Quarry. Most of the observable rock is an attractive pyroxene-andesite with appreciable traces of copper. This is intruded into mudstones of Wenlock Age. The Old Red Sandstone of the Mendip area lies unconformably on the Silurian and is apparently of Upper O.R.S. age. Red shales, sandstones and coarse conglomerates occur. The rocks are found in the cones of all four periclines(i.e. Blackdown, Pen Hill, North Hill and Beacon Hill). The depositional conditions of these rocks were those of rapid deposition in shallow cuvettes of relatively freshwater. Fossils are rare, fishes being practically the only fossils found. Sedimentation continued uninterrupted into the Carboniferous age in this area.

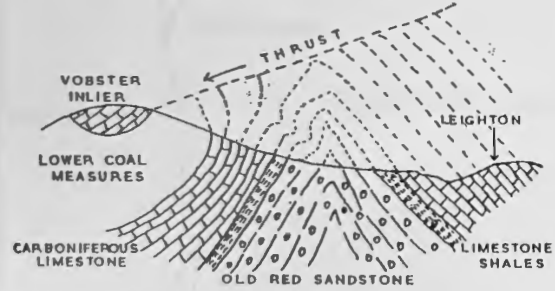
The Carboniferous rocks were first zoned by Vaughen in his classical paper on the Avon Gorge section. Lithological sub-division has not been found to be particularly useful and although Vaughen's original classification has been amended and improved upon, his scheme of zones based on coral-brachiopod assemblages is still used. The basal beds of the limestone series in this area are, however, usefully lithologically separated by the limestone shales. These characteristically form the low marshy ground between the Old Red Sandstone and limestone proper (Mountain Limestone of older literature).

Variation in lithology in the limestone is great, with dolomites, chinastones, cherty beds, algal limestones and so on, developed locally. Many horizons are extremely fossiliferous though others show an amazing lack of fossil material. Sedimentation during these times was in a relatively shallow sea which deepened to the south. The conditions usually associated with limestone deposition are warm clear seas, though much of the deeper water facies are very impure and dark coloured (e.g. the Z beds of Mendip). The dolomites in the limestone may be due to pene-contemporaneous dolomitization which has been suggested to have occurred in very shallow landlocked seas. In parts of Mendip, fine grained grits succeed the limestone. Correlation with the Millstone Grit of the North of England is not however justified. Work on similar beds in the Bristol District has shown that these beds are a diachronous sandy facies of the limestone. The seas continued to become shallower during Carboniferous times until conditions suitable for the laying down of Coal Measures occurred. However, rapid sedimentation in several subsiding basins caused great thicknesses of the coal-measures.

With the advent of the Armorican earth movements, imposing mountain chains, were formed along East - West axes which were associated with thrusting



SECTION ACROSS WESTERN MENDIP



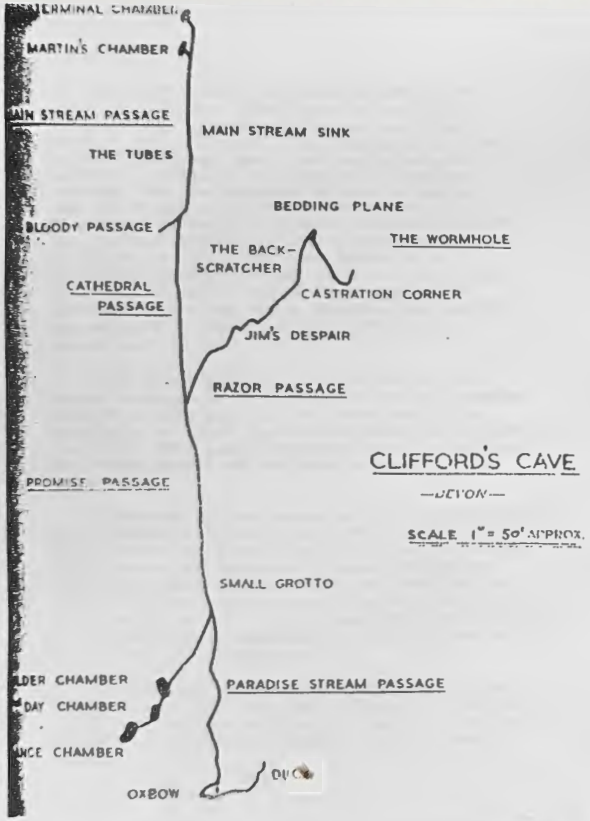
SECTION ACROSS EASTERN MENDIP

BY BARRY OTTEWELL
MENDIP CAVING GROUP

MR.1961

and compression zones. The Bath and Severn axes, although influencing the new folding, were almost lost to the South of Mendip. Today we see only the remains of these great mountain building movements in the hills of Exmoor, The Quantocks and Mendip. Recent work has suggested that the Devonian rocks of Exmoor have been thrust over Carboniferous rocks and the small outcrop at Cannington Park is overlain by Devonian. The fantastically contorted rocks of the coal measures in parts of the Bristol Coalfields and in particular the Farnborough Compression Zone bear witness to these movements. The northern limbs of each pericline of the Mendips all show steeper dips than the southern limbs, with thrusting in places. The shattered mass of limestone at Vobster provides an example of this and an interesting spectacle of contorted rock.

During New Red Sandstone times the sides of the Mendip mountains accumulated great scree slopes, which were later to become the Dolomitic Conglomerate(a misnomer since the rock is not essentially dolomitic). This conglomerate grades away into the red shales and sandstones of the typical Triassic. This period was one of considerable denudation of Mendip. The courses of Triassic Valleys on the top of Mendip can still be traced by the red rocks. The Triassic period was followed by gradual sinking of most of the area and



subsidence beneath the Jurassic Sea. The unconformable relationship of the Rhaetic and Jurassic beds are well seen in many exposures, particularly on Eastern Mendip. Thin residual Lias beds may still be seen in the Castle of Comfort area. The Rhaetic fissures in the limestone at Holwell Quarry are world famous for providing the teeth of the first mammals "Microlestes".

No Cretaceous or Tertiary rocks have been recorded in the area so it has probably been a land mass since the time of the Middle Jurassic.

The Mineralization of the areahas not been dated. Although probably associated with the Armorican earth movements(compare the Devon and Cornwall mineralization). though some writers have correlated it with the tertiary.

CLIFFORD'S CAVE, DEVON

by Chris Reynolds

A large number of cavers who have visited Devon may well have left with the impression that all the caves in this area consist of large chambers connected by low crawls. Recently a cave has been discovered at Chudleigh which is an exception to this rule.

"Clifford's Cave" is situated in the pleasent wooded gorge of the Kate Brook, on the opposite bank to the well known "Pixies Hole". A low entrance under a tree leads to a small low-roofed chamber. At the back of this there is a strongly made

wooden door which was constructed by the local undertaker. This door closes the passage dug out by Jim Simons and Alan Sivyer. They removed the minimum quantity of dry flaky mud and, leaving a large boulder, produced an excellent squeeze. Beyond, the low passage widens slightly and has been named the "Second Day Chamber". A further trench, excavated with the loving carevof a true caver, is almost as tight as the first and leads into "Boulder Chamber" which is all of ten feet wide and about twenty feet long. It is possible to stand here. Would-be explorers are warned to make the most of this opportunity.

"Promise Passage" starts well. The roomy passage in the far wall of the chamber allows a fair rate of progress and it is possible to crawl in comfort until the first bend. At this point the mud floor is replaced by river gravel which gets sharper as one proceeds.

Eventually one comes to the "Small Grotto" (no comment). A stream can be heard behind a boulder on the right, and by squeezing over it one enters the tortuous "Paradise Stream Passage", so-called because you can go for about 120 feet without getting very wet. At the end there is a tight duck which is bailed with the biggest chamber in the cave and which leads to a promising dig.

Returning to the main passage the caver will notice that the stony floor is occasionally rolled over by very solid rock and, in one place, by a pleasent squeeze on soft mud.

After about 100 ft the passage forks, the right hand branch being called "Razor Passage" and the other "Cathedral Passage". The later resembles the nave of a cathedral in all particulars except one.....size. The circular tube, less than three feet in diameter, has a narrow stream trench in the floor. The sides of this trench slope just too much to allow crawling and the trench itself is just too narrow to get one boots but again. After a hundred feet, a short, tight hole, "Bloody Passage", is passed on the left, beyond which one exudes through the "Tubes" and arrives at the "Main Stream Sink". Here it is again possible to stand up, one at a time. The roof pocket which allows this is so restricted in size that the fortunate caver has to return to floor level to breath.

It is possible to crawl in the stream until a dry oxbow is reached. Beyond the roof is lower and proportionately wetter. Soon one has the choice of a low wet squeeze in the stream leading to "Martin'S Chamber", where it is just possible to turn round, and an even lower squeeze in mud. To go through this one has to remove ones helmet and push the slimy mud aside with the hair. Those who go through this filthy procedure have the pleasure of reaching the poorly decorated "Terminal Chamber" in a few yards. There is room to sit here and freeze while recovering breath before returning the way one has come.

Returning to "Razor Passage" one finds that it is of crawlable size, despite the knife-like blades of rock which adorn the walls. Soon one finds oneself in a morass of sticky mud which covers everything. However, the sound of running water can be heard disappearing down a narrow crack. The ice cold water enters through a slot at the back of a crystal-clear pool. This is "Jim's Despair". Everybody can get their head and shoulders through the slot and into another pool beyond, but only a select few can then turn left and get round the sharp corner. Those who fail to get through have to retreat. Unfortunately, during their unsuccessful attempt, the water has risen about six inches. On retreating downhill they are followed by a minor tidal wave, dousing their lamps. For the lucky?? ones who get through there is the second half of the squeeze to tackle. This is only a six inch air space and this rapidly decreases when the crack is entered. It is impassable when the stream is flowing fast.

Beyond the double squeeze is the "Wormhole". This is a small but well lubricated horizontal tube, the stream entering through a crevice a short distance along, beyond which it is just slimy. There are a number of natural hazards, the most cunning being at "Castration Corner". Beyond the "Backscratcher" there is yet another squeezewhich leads to a low bedding plane of very limited extent which has a few stalictites. A passage leads off to the right.

This is flooded with very fluid mud and anyone who wishes to dig atthe end is more than welcome. Returning, the back view of "Jim's Despair" is depressing and even the fact that one has been through the other way does not dispel the feeling that it is an impassable sump. In actual fact it is easier to return, as all the silt collected in the "Wormhole" is washed off. This is, however, no cause for a celebration as the wet boiler suit soon picks up another load in the entrance squeezes. The usual procedure on emerging into the outside world is to make a beeline for a peel pool in the Kate Brook.

This short description of a most unusual cave may well have wetted your appetite. Would be visitors should be warned that at least half of the cavers who have visited the cave have been heard to say "never again" as they staggered from its lowly portal with more than their appetite wetted.

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Detailed accounts of the exploration of the cave are given by Jim Simons in the Devon Speleological Society Newsletters Nos 66 and 72. A further account will give details of the survey and also of a number of successful fluorescein tests which have been carried out.

AN ACCUMULATOR CHARGING SET

By Anthony J. Knibbs

During the past two years an increasing number of members have adopted the use of rechargeable accumulators for cave lighting equipment. This has given rise to a rising demand for charging equipment. The types of accumulators being used fall into two distinct groups:-

(a) Mining Lamps having acid or alkaline electrolyte, requiring a charging currentfrom to 2 to 3 amps according to the manufacturer.

(b) Voltabloc sealed accumulators in specially constructed equipment requiring from 0.2 to 0.8 amps charging current.

It is difficult and expensive to purchase a charger to provide the current ranges required with sufficiently accurate tolerance and metering. Much trouble and expensive outlay may be avoided by making a charging set from suitable components obtainable from many radio and electrical dealers. The cost of such components should not exceed two pounds or so.

COMPONENTS

The function of a charging set is as follows. The current from the A.C. mains supply is fed into a transformer where the voltage is reduced to the required value and the output current, in amps, is made available to a specified figure to suit the need. The modified A.C. current then passes through a rectifier which converts

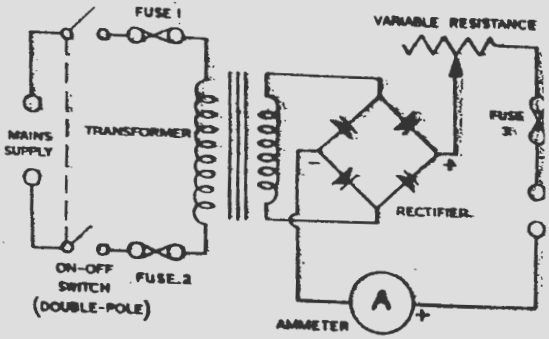
it into D.C. current. This D.C. current source is now conducted through a controlling resistance and an ammeter, showing how much current is passing, and finally into the accumulator. The diagram will help to clarify the explanation.

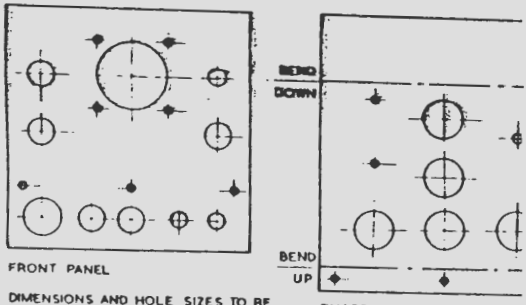
Let us now examine the individual components. The transformer must be chosen to operate on the available mains supply; normally 200 - 250 volts. This should drop the voltage to a figure slightly in excess of the voltage of the accumulator, 12 volts will cater for most equipment, and the maximum current output required; 2 amps for voltabloc accumulators or 4 amps for mining accumulators. Prices vary from 8/- to 30/-. It is advisable to ensure that the component chosen bears markings relating to voltage and current ratings.

The rectifier is of the full-wave metal type. When purchasing a rectifier the working voltage and current must be stated. this is, of course, the output ratings of the transformer. Several suitable rectifiers are available from 7/6 to 15/-. Recommended is the Westinghouse LT 88 at 14/6. It will be interesting to note here the effect of this type. Voltage passed is reduced by 40 % and current is increased by 15 %. This effect is more or less common to all metal rectifiers although the figures may differ from make to make.

The type of charger we are dealing with is that which supplies a constant current, a figure specified by manuafactures of accumulators, for a predetermined time. To provide this current exactly to the required

CIRCUIT FOR CHARGER





* DIMENSIONS AND HOLE SIZES TO BE CHOSEN TO SUIT INDIVIDUAL REQUIREMENTS

SUGGESTED LAYOUT OF PANEL AND CHASSIS

figure some form of regulating control should be placed in the circuit. A variable resistance of 20 to 30 ohms value will provide this control. A suitable resistance can be purchased for about 10/-.

Adjustment of the charging current can only be carried out satisfactorily when the current flowing is indicated on an ammeter. The cost of such an instrument may vary considerably. An ammeter to suit our purpose can be purchased for something like 12/6. The important conditions to be satisfied are that it must be reasonably accurate and must show clearly the current values required. For mining accumulators a meter reading up to 5 amps would suffice, whilst for Voltabloc accumulators a meter reading up to 1 amp is suitable. In both cases the scales should be divided into at least 0.2 amp segments.

For safe operation and protection of the charger certain fuses are incorporated as shown in the diagram. A panel light to indicate that the charger is on is a useful addition. Terminals must be insulated for use with metal front panels.

CONSTRUCTION

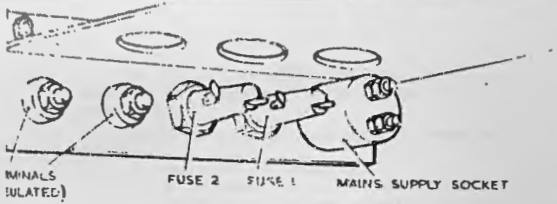
Having obtained the necessary components the next consideration is the chassis, and housing box. Reference to the diagrams will show what is needed. No measurements are indicated as it is considered more satisfactory to leave this to the discretion of the reader. Two points are worth mentioning concerning design. The charger will dissipate heat during operation and it is desirable to afford adequate ventilation holes

or louvres in the box. Some components object to be cooked, in particular the ammeter, so make sure to leave adequate space between components, bearing in mind that the variable resistor gives out most heat.

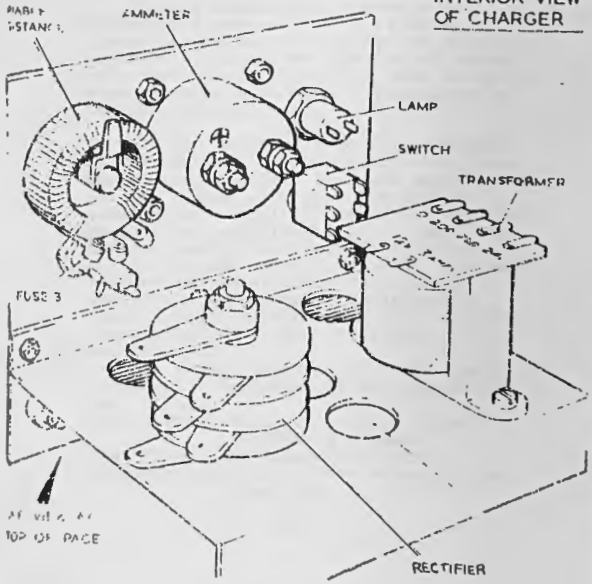
Following construction of the chassis, front panel and attachment of the components, all that remains to be done is wiring-up in accordance with the circuit diagram. Use a plastic-covered single strand tinned copper wire of about 18 S.W.G. Solder the joints properly or attach wires firmly by terminals where provided. Take care not to allow wire to touch other components.

During the wiring up procedure it will be necessary to give careful attention to the polarity of the wiring between the rectifier and the output terminals. Putting it simply; the positive(+) output terminal must be the positive and negative(-) must be negative. With this in mind the following points must be given attention:-

1). The rectifier output connections must follow the circuit. The positive connection is usually marked red and runs to the positive output terminal via the variable resistance and a fuse. The negative rectifier output connection is usually marked black and runs to the negative output terminal via the ammeter. The two input connections on the rectifier are connected to the outputs from the transformer and are reversible. The author choses to refain from making any statement regarding the means to identify each rectifier connection other than the foregone. It is



INTERIOR VIEW OF CHARGER



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strongly advised that the dealer is questioned on this at the time of purchase.

2). The ammeter correctly connected with reference to the positive terminal. This is usually clearly marked thus + on the instrument case. For connection see circuit diagram.

3). The variable resistance has three connecting terminals. One is to the moving contact arm, the other two being situated at either end of the wire winding. The positive wire from the rectifier is connected to the moving contact terminal and, from one of the terminals on one end of the wire winding, a wire is taken to the positive output terminal via fuse 3. Maximum resistance is obtained by turning the moving contact to the opposite end of the wire winding to that from which the wire to the fuse has been taken.

After wiring-up is completed check the result against the circuit. If in doubt consult a suitably qualified person before putting the charger into operation.

OPERATION

To commence charging follow this procedure:-

1. Check that swith is in "off position"
2. Set variable resistance to maximum resistance.
3. Connect charger to mains supply.
4. Connect accumulator positive(+) terminal to charger output positive terminal and accumulator negative(-) terminal to output negative terminal.
5. Switch on charger.

6. Adjust current reading on the ammeter by varying the resistance as required.

To discontinue charging proceed as follows:-

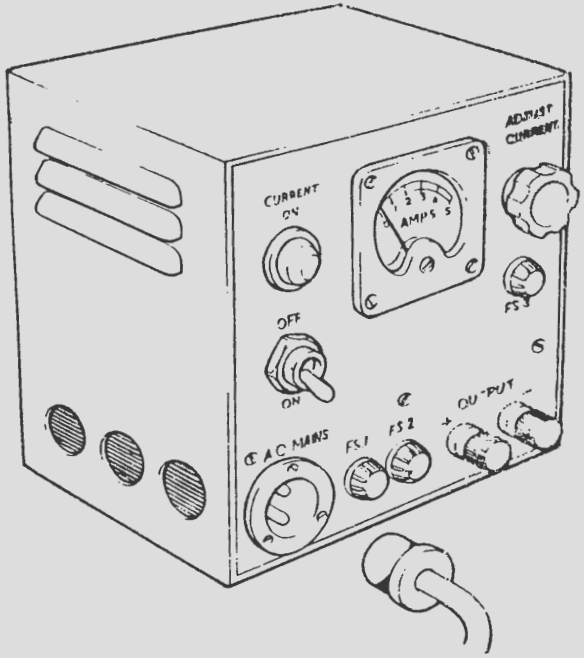
1. Switch off charger.
2. Disconnect accumulator.
3. Disconnect mains supply.

Before commencing to charge an accumulator ensure that it is fully discharged or that the amount of charge required is known. For details of charge rates and points to observe when charging consult the manufacturer's literature on the accumulator.

In the event of a fault developing in the equipment first examine the fuses. When a fuse requires frequent renewal, do not fit a fuse of higher rating but examine the circuit to ascertain the fault. Should the panel lamp fail to light but ammeter ammeter continue to register charge current renew panel lamp bulb. Lamp failure and ammeter not registering suggests a more serious fault and/or fuses 1 and/or 2 defunct. Do not attempt to rectify any fault with mains still connected !!

To assist the reader in his choice of components the following are recomended by the author:-

Transformer: Input 240 volts. Output 9 volts at 4 amps.
Rectifier: Westinghouse LT 88.
Variable Resistance: Wire-wound 25 ohm Open type.



ACCUMULATOR CHARGING SET

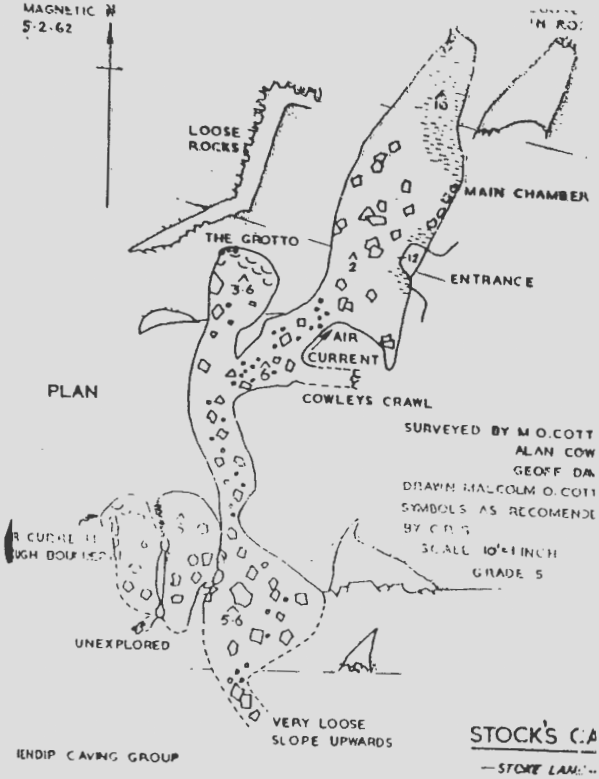
Ammeter: 0 - 5 amp scale reading D.C. Moving Coil.
Output terminals: Belling-Lee L.1001/1 "B" Type. One red and one black. Insulated.
Mains Plug and socket: Bulgin P.73
Panel Lamp (Holder): Bulgin D.681. Red
Panel Lamp Bulb. 6.8 volts 0.3 amps.
Panel fuseholders: Belling Lee L.1382. Size O.
Fuselinks.: H.R.C. ceramic Size "O" 5 amp.
Mains on/off switch: Bulgin 5.300.

Many of the above components may be purchased at prices below current list prices from many large electrical dealers. Wherever possible enlist the aid of someone who is familiar with electrical apparatus to advise on the construction of the charger.

The author will accept no responsibility for mishaps occasioned by the construction of the equipment described in the foregone article.

STOCKS HOLE by Alan Cowley

Whilst digging was in progress at St Vincents Swallet on Sunday 24th December 1961, a local farmer, Mr Stock of Cooks Farm, Stoke Lane, who is well known to most cavers, told Dave Mitchell and myself of a cavity he had just discovered with clouds of steam rising from it.

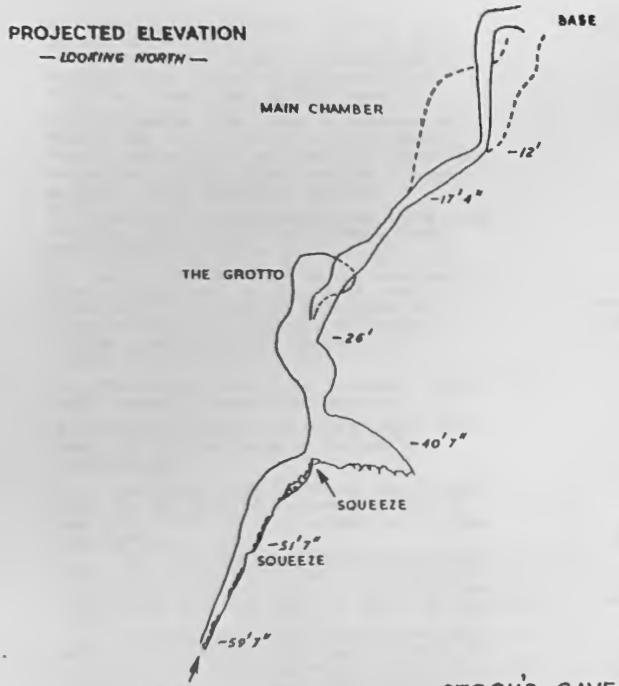


Dave and I hastily grabbed what ropes and tools were available and proceeded with all speed to the said hole. On arrival, lights were shone down into it, but owing to the vapour it was impossible to see anything. Not at all sure of the depth we lowered our "dig" ladder and I descended, lined from the surface by Dave. The pitch proved to be only 15 ft, opening into a small chamber. Digging was soon started at several promising points, one of which resulted in Cowley's Creep and the way on. Accompanied by showers of stones, bones and groans (from Dave) we slid down a steeply descending passage to a second small chamber with a very unsafe 'type' roof.

From this point it is possible to descend another 30ft through a very unsafe boulder pile, among which we found some very well preserved human leg bones. In the upper chamber were found some ancient pieces of pottery which have not yet been identified.

During more recent trips to the cave we discovered that a way on can be seen but it is partially blocked by an awkward lump of limestone, this will have to be "blown" before further attempts at exploration can be made.

This cave is thought to have a connection with Stoke Lane Slocker, but this has not yet been proved.



STOCK'S CAVE

THE DEPOSITS OF COOPER'S HOLE, CHEDDAR

A Provisional Report

by Chris Reynolds

The excavation of a passage through the extensive deposits in this cave have revealed layers older than those examined by R.F. Parry in 1931-32. During the summer of 1961 I made a short visit to the cave in order to try and discover the age and nature of some bones discovered at the far end of the dug passage. I prepared a section near the far end of the tunnel, some 100ft in from the entrance and about 25ft lower. At this point the cave is filled to the roof and the succesion of deposits is as follows.

Limestone roof of cave

Small Stalactites imbedded in:

1. Wafer-thin dark, highly stratified layer of clay. This can be followed from the entrance and is a continuation of the layer of recent debris reported by Parry.

2. Highly stratified yellow clay, a continuation of layer 2 of Parry.

3. Highly stratified light grey layer, very thin. ? Parry 3, which is of Early Iron Age. Iron Age remains found nearer the entrance.

Layers 1, 2, and 3 have a total thickness of one inch.

4. Layer of homogeneous red clay six inches thick.(Parry's 4). This contained a few small bird bones, although Parry reports none. However, the bones came from the lower part of the layer.

5. Stalagmite film, this is represented nearer the entrance, by a floor some three inches thick and curtains down the wall. The scanty formations on the roof probably date from this period.

6. Angular stones imbedded in a red clay matrix. Rodent bones and others from much larger animals.

7. As 6 only the clay is replaced by a clayey sand, and in places is even gravelly. The combined thickness of 6 and 7 was 2ft 6 inches. One water rolled pebble several inches in diameter was found in 7.

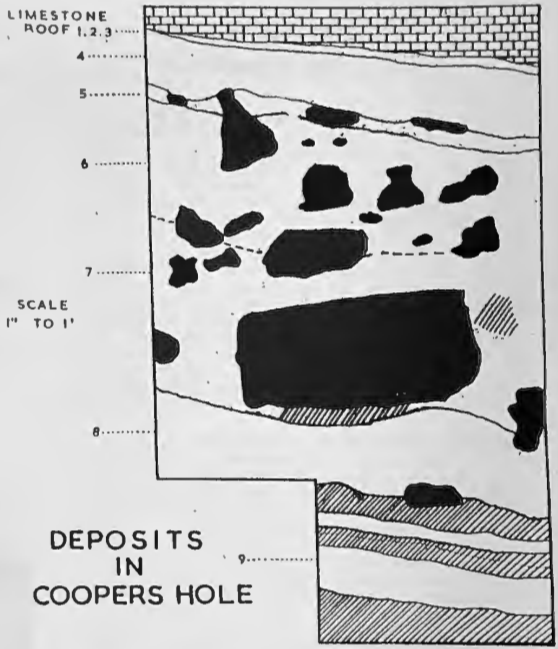
8. Fine sandy clay 6 to 9 inches thick, with a gently undulating surface.

9. Alternate layers of small gravel and sand, 15 inches thick to bottom of excavation.

The bones from layers 6 and 7 were sent to the British Museum,(Nat.Hist.) and I received the following report from Jim Simons:

"Most of the identifiable pieces in this collection are horse, there are two bird bones, one rodent, and one fox bone. Nothing to give any idea of age I am afraid."

Further investigation of these deposits should give interesting results as it is possible that they may be as old or older than Cheddar Man. Flints may also be found.



DEPOSITS IN COOPERS HOLE

BY CHRIS REYNOLDS
MENDIP CAVING GROUP

STONES - SOLID SHADING
GRAVEL - HATCHING

M.R.1961

COOPERS HOLE.
1ST WEEKENDS DIGGING.
M.O.COTTER.

COOPERS HOLE.
THE FIRST SET OF RAILS.
M.O.COTTER.

COOPERS.
NEW RAMP AND STEPS. M.O.COTTER.

COOPERS.
GENERAL VIEW JAN 1962.
M. O. COTTER.

MENDIP SURFACE SURVEY

BY Anthony J. Knibbs

The closing years of the nineteenth century witnessed the beginning of caving activity on Mendip. Since then a large number of caves have been discovered and explored. With very few exceptions these discoveries have been the result of excavations. Unlike Yorkshire, famous for open shafts, Mendip has offered much more resistance to her explorers. Fortunately the surface of Mendip is well provided with surface features connected with underlying cave systems. It is these points which invite the attentions of the caver seeking fresh discoveries. Many have been worked on during past years but a far greater number yet await our efforts.

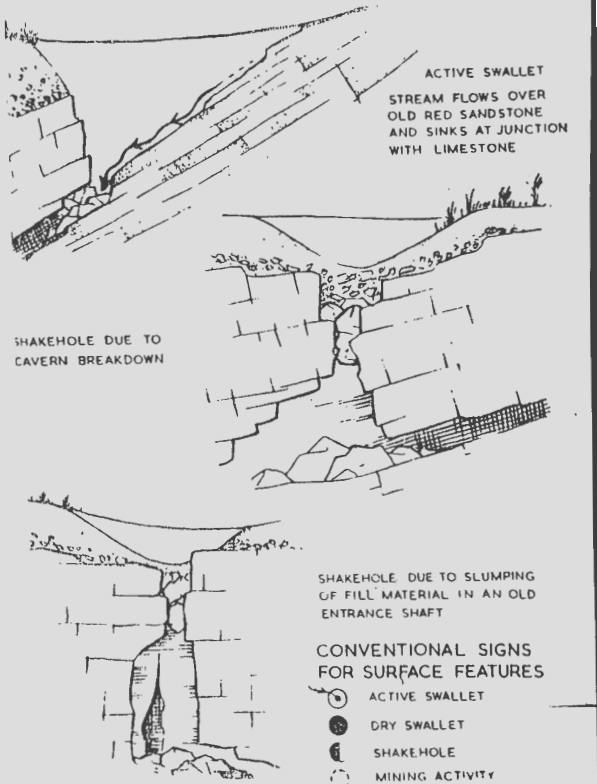
The most obvious point on the surface at which to excavate is the active swallet; the point at which a stream sinks into the rock below. Swildons Hole at Priddy is an excellent example of this feature, being opened by excavation in 1901. Other such swallets have been successfully attacked whilst many remain untouched to attract us. In one area of Mendip no less than six active swallets may be observed lying close to the junction of the Old Red Sandstone and Limestone. One of this group displays striking marginal phenomena; the stream

flowing over the sandstone sides of the swallet depression and sinking into limestone.

Occasionally a stream may change its' point of engulfment and leave an abandoned swallet lower down the stream course. These dry swallets offer good prospects for digging, depending on the amount of fill-in which is present. Many such features are to be found on Mendip, generally associated with well formed dry valleys.

Occuring in abundance throughput Mendip are shakeholes or 'slump-pits'. These are, ideally, conical depressions and show considerable variation in size. Some very large examples are up to 300 ft across and over 50 ft deep. Shakeholes often occur as an effect of cavern-breakdown in underlying cave systems, sufficiently close to the surface. Another cause appears to be top-soil filling or covering a swallet, later being removed from below. This causes slumping to occur in the soil above the choked opening. Pinetree Pot and Ubley Hill Pot typify this variety.

During the course of observations on the surface of Mendip frequent signs of mining and mine prospecting will be encountered; rakes(trenches or grooves), spoil heaps, and many varied depressions. Sometimes these may be identified as such by tracks leading to the site, kilns, and other signs which betray the activities



of man. Areas of extensive trial rakes and depressions are frequently referred to as "gruffy" areas or "gruffs". In some instances mine workings have incorporated or modified existing natural features. Streams have been diverted from their original swallets to feed ore-washing pools, whilst the swallets and shakeholes may become filled-in or entirely obliterated. In such instances it is extremely difficult to confirm the presence of natural features with any degree of accuracy.

The Survey.

The course of future discoveries will be limited, almost entirely, to excavation within known cave-systems or at suitable points on the surface. The survey in question is concerned solely with points on the surface. It is of prime importance, when considering sites for future digs, to possess sufficient knowledge of the existing possibilities. The project has this point in view. To increase knowledge of and information about, surface features connected with underlying caves on Mendip.

The survey has been originated at the Club Cottage and will eventually cover Mendip completely. Western Mendip will receive priority in this case. At suitable stages the results may be published, taking the form of maps showing locations and accompanied by field notes.

Despite the high cost involved the Ordanance Survey 25 inch to 1 mile maps are to be used as a standard. These are most convenient upon which to mark observed features; these being allotted a series of conventional signs as shown in the diagrams. Field notes and sketches of features are being entered on specially devised sheets, to be later transfered to a log-book. Current results will be available to interested persons throughout the course of the work.

Actual field observations consist of taking compass bearings and, in some cases distances, sufficient to mark each feature on the map. The simple method is to take a pair of cross bearings from each feature to known points marked on the map. Where convenient points are not visible station poles will be set up at recognisable wall junctions or such positions. To choose a more accurate method would involve an unwarranted increase in time.

To date, Christmas 1961, the work carried out has been largely of an experimental nature in order to become familiar with the problems involved. Future work will progress along lines suggested as a result of these experiments.

The survey will take a very long time to complete and thus any support from members of the group would be more than welcome. No contribution, however small, will fail to be afforded appreciation. Allowing for sufficient assistance the Western part of the survey should be ready for publication by early 1963. The result will almost certainly prove a long term benefit to caving on Mendip in general.

PYRENEES '61

by James Gibb

Having camped overnight at Dover, we crossed to Boulogne by an early ferry. Two days drive via Paris and Orleans took us over 500 miles south to Montignac. Our third day began with a visit to Grotte de Lascaux, discovered in 1940 by a party of schoolboys, and containing perhaps the most remarkable cave paintings in Europe. Every wall is covered with drawings of bison, deer and many other animals in colours startling in their brilliance.

After a drive in sweltering heat we arrived the same evening at Tarascon - sur - Ariège. The next day was spent visiting Grotte de Niaux. This was another show cave but the lighting consisted of one carbide lamp between two or more people. In our party were two nuns with some young ladies from their convent and the ubiquitous female American. The cave consists of a series of fine chambers with sand and stalagmite floors. It also contained many cave paintings which were, however, an anticlimax after those of Lascaux. We investigated two cavities in the hillside above the cave, one of which was 50 ft high and 80ft wide at the entrance, leading to a low chamber before coming to an end.

In travelling the 53 miles to Castillon two caves were visited. One, Grotte de Bédeilhac was explored by Land Rover. A massive arched entrance with a leveled floor

for about 150 yards. Further exploration was prevented by stout iron bars and a locked gate. The other cave, Grotte de Ker was remarkable only for its bat population and very liberal piles of guano.

Another day, after a long walk up the side of a mountain in the heat of the noon sun, where Robert Templeman thought he saw a mad dog, we reached the entrance of La Cigalère. A large stream passage lead to a hall with a stalagmite floor perfectly level except for small islands of rock protruding from it. When the discoverers first entered it the floor was pure white but indiscriminate roaming over it has scratched it so much that it is now deeply ingrained with mud. Much the same story of vandalism was told deeper into the cave. In other chambers the walls and roof were coated in gypsum crystals. Hanging from the roof were crystal studded columns six inches in diameter. Unfortunately many of the columns had been smashed off and left, for no apparent reason. At the furthest point reached we found large slabs of paraffin wax. Apparently French 'cavers' melt the formations they break off into wax to save them from damage on the way out. Despite vandalism, however, there were still many fine formations left.

A visit was made to Grotte de Mauvre which was found locked and barred. However, by way of a tight squeeze, two members entered it and reported a stream

passage which they waded along nor ever came to the end thereof.

The next day was spent searching fruitlessly for Gouffe d'Esparros. In despair we went to look at some small caves near Lortet, and were shown round them by the mayor. One of the caves is supposed to have been fortified by the Romans and as well as many remains of walls, it had a spiral staircase, hewn out of solid rock, leading up to it.

On the way to Lux we stopped at Gargas which was 'découverte par M. Casteret'. At several places in it are the impressions of human hands in black, some of them being mutilated. Many animal remains have been found and the cave is very well decorated. Afterwards the guide pointed out Grotte de Tignahustes where Casteret did a great deal of bat work.

The following day we left the limestone area to return to Calais after a visit to Cirque de Gavarnie and the Col de Tourmalot.

BEFORE WE START A CAVE SURVEY

by Mike Rennie

The survey of a cave is open before us, a fascinating piece of work whose every detail tells us something new, or perhaps it's just a jumble of lines and shapes revealing nothing but confusion. Whatever your conception you must realise that the production of such a

survey involves a great deal of work and much satisfaction. In order to survey a cave a basic knowledge and understanding of surveying principles is essential but by no means is it enough.

Before starting to survey a cave system the following points should be kept in mind.

PURPOSE. It is waste of time surveying a cave if an accurate enough survey already exists and is available. The caver who surveys a system and does not publish his work has wasted his own time and all those who have helped him. Ascertain before starting that either the only survey in existence is of a lower grade, or that there is no chance of obtaining a copy of a previous 'accurate' work, or, the cave has not been previously surveyed. A survey of any cave will be of interest to someone but interest and usefulness are greatly increased by the size and complexity of the system. The very factors that make the project more difficult. The demand for a survey is a reasonable indication as to its present value but its ultimate worth can not be assessed. The survey, it must be remembered, so often forms the basis of future scientific speleological research.

LEADERSHIP. The leader is responsible for co-ordination and the infusion of enthusiasm. It is possible that this duty can be invested in more that one person, for example, each given a different part of the cave to tackle, but it is far from ideal. If one man can lead almost every trip and be

responsible for the compilation of the results as well as drawing up the survey, then the resulting standard will be greatly increased.

TIME INVOLVED There is an obvious danger in starting a project without some knowledge of how long it is going to take to complete. The survey of Goatchurch Cavern was to take about one hundred man-hours underground: One team of three, five days. Almost sixty hours was spent on Pinetree Pot, one team starting one day and the teams working together completing the survey on another. Both caves being surveyed to C.R.G. Grade 6 for the most part. Longwood / August System took five hundred man-hours below ground, being done by numerous teams over a period of two years.

Each of the three caves presented varying degrees of difficulty. In the case of Goatchurch the extremity of the cave could easily be reached in twenty minutes. The system was dry and five hours underground was not a great physical strain. Pinetree Pot commences with a pitch. Although it is only thirty six feet deep, coming as it does after a muddy damp entrance crawl which makes life lining a fair strain, it becomes a physical obstacle to a surveying party. The caver always has to remember that enough strength is required to ascend the pitch afterwards. The two main extensions of the cave, Back Passage and Easy Street are real challenges. The latter was to take us two days., despite the fact that the grade of the survey was reduced. The main section of the pot, although fairly roomy in places, is damp,

loose and mentally uninviting. This cave required strong surveying parties.

The Longwood/August survey was a completely different story. We knew from the outset that it was not a matter of days, but of months and possibly years, a fact that the very wet summer and winter of 1960/61 was to make sure of. Mention will be made later on the mental effect of this time lag, but even physically the project was not exactly 'child's play'. The greatest difficulty very often revolved round the transport of equipment underground. The journey back through the drainpipe, lying in the pools, tired out, week-end after week-end, carrying surveying bags and tripods, is a thing not easily forgotten: often, in fact, so tired that the alternative Escape Route was an impossibility. If we could only have opened Christmas Crawl at the beginning of the survey, the time and energy saved would have been tremendous. Many cavers going to the end of the downstream system return to the surface quite satisfied that they have had enough. Add to this five or six hours surveying and it might help to explain why it took so long and why the general reluctance for offers of help to survey certain parts of the cave.

EQUIPMENT. From the technical side there is still much to be written on this subject, but I shall confine myself to a

few remarks on the effect the equipment has on the individual. No manufacturer makes a set of perfect cave surveying instruments so it is a matter of making the best of what we have, coupled with our ingenuity to adapt. An instrument that may be ideal for one cave will not necessarily be of much use in another. The ideal we soon find is forgotten owing to the cost.

A large tripod increases accuracy, which is of prime importance, but is difficult to carry, thus increasing the time and energy needed. A complicated instrument can often only be read by one or two persons. This makes the assembling of a suitable team difficult. The keynote for all equipment must be simplicity combined with accuracy. The misting up of compasses was a great drawback in stream passages and wasted many hours.

It is advisable not to purchase any expensive instruments until you have a clear idea of what they have got to stand up to and the conditions under which they will have to be read, for example, lying on your stomach under a waterfall.

MAKING UP THE TEAM. It will often happen that you have no choice, but fortunately it usually turns out that someone who is keen to survey, under a reasonable leader, will become asset to the team. The important thing is the allocation of the various jobs. Start with the least experienced surveyor and give him the simplest duty to perform. The leader should be prepared to do anything

if the occasion arises. It is sometimes wise to change jobs halfway through a trip in order to avoid monotony.

The number required in a team depends upon the grade and the part of the cave. On a Grade 6 survey in a roomy passage, such as the Upstream Passage of August/Longwood, four is ideal. One surveyor can take bearings and elevation, another place the tripods in position and take back bearings whilst a third can be employed in taking offsets and roof heights. This leaves the fourth member of the team to record the results, often the worst duty of all, due to the long period of inactivity. On the same grade survey in a restricted passage like Easy Street in Pinetree Pot, however, the maximum is reduced to two. Usually the lower the grade of the survey the fewer cavers are needed, two of course being the minimum number in almost every case.

A low grade survey can be done by a single man when he is a part of a larger team engaged on other projects. On the first trip down Pinetree Pot, a few hours after its discovery, a Grade 2/3 survey was completed.

COST. A large survey can be an expensive proposition. Before a start is made some consideration should be given to the cost and a decision as to where the money is going to come from i.e. the club or the individual. It is not simply a case of "once you have the equipment the cost is

negligible". This idea may work on a small project like Pinetree Pot or Goatchurch Cavern but a survey that is going to take a couple of years is going to cost something more. Equipment used regularly under wet and rough conditions by non-experts, is going to suffer and need repairing or renewing. Even the bags you carry the tackle in do not last two years. As the survey proceeds new methods will occur to you, which often need money to be put into practice.

The cost of the Longwood/August venture excluding the reproduction of copies, was in the region of £70.0.0.

GRADE. The grade of the survey depends on a number of factors. The first, as we have already mentioned, is the grade at which previous surveys have been done. It is, for example, no use doing a Grade 5 survey that has already been surveyed by someone else to Grade 6.

What is the purpose ? Is the survey to be just a sketch to show the general trend of the cave or is it to form the skeleton for future research. Perhaps there is a part of the cave that comes near to the surface. How near can only be answered by an accurate survey. Where does the stream disappear to ?, another part of the cave, a seperate system or is the other stream we are thinking of the key to something else ?. A low grade can not hope to answer such questions.

How much time have you at your disposal ?. Perhaps it is your first visit to the cave, your object being to prepare a report to assist future exploration. In such a case a Grade 1 or 2 might prove suitable. This situation might well occur on a foreign caving trip when cave surveys are either difficult to obtain or do not exist.

If there is no limit to the time available and you expect to visit the area at frequent intervals then a much higher grade will be possible. It might, however happen that time is limited by the weather. A cave that is usually arduous owing to excessive water is best surveyed under drought conditions.

In the higher grade surveys the standard of your equipment might well limit the grade. Suitably adapted tripods might be difficult to obtain or too expensive, limiting you to a Grade 5, or perhaps you have no accurate means of measuring the angle of elevation which will once again lower the grade.

Finally the nature of the cave. Even with the best equipment, if there is no room to use it its useless. In the survey of Pinetree Pot we started to tackle Easy Street at Grade 6 but after the first aven had to reduce it to Grade 5. In Renolds Passage at the end of the Longwood/August System, the cavor already wet through felt disinclined to set up

VINCENTS SWALLET.
A.COWLEY.

IN THE ANNEXE.
M.O.COTTER.

WITHYBROOK
SWALLET.
M.O.COTTER.

THE ANNEXE (A BREAKTHROUGH)

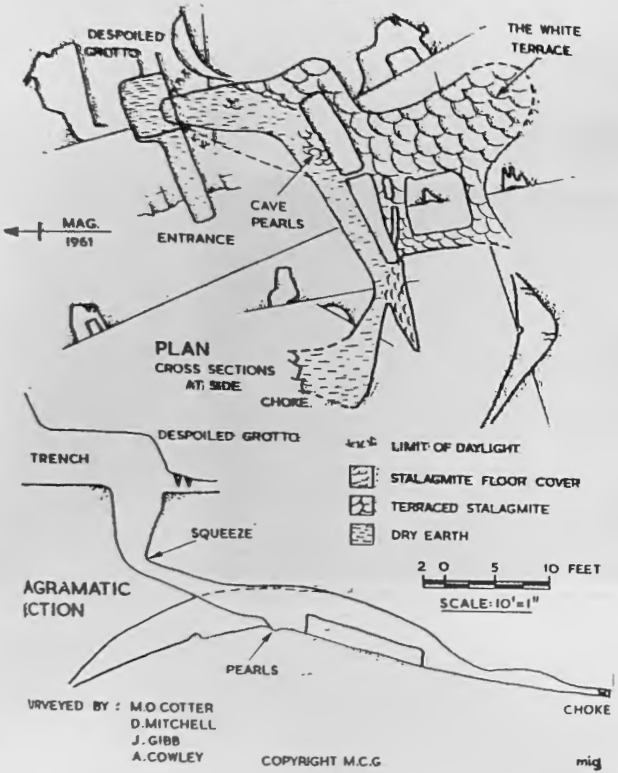
BY Dave Mitchell and Alan Cowley

For a number of years work has been carried on regularly at Browne's Hole, Stoke Lane. As a sideline Messrs Browne started a dig at a rift in the bank above the main cave. On April 25th 1954 entry was gained into a very fine chamber, so full of formations that it was impossible to enter; this was named the 'ANNEXE' owing to its close proximity to Browne's Hole. During a period of time when there was little or no work done in the area, vandals entered and destroyed the formations. In 1956 Mr Browne decided to excavate the floor, but a number of large rocks made work difficult and after a few of these had been broken up, work ceased for a number of years.

Recently it was decided to restart work on the Annexe. The operation began by sinking a shaft through a mixture of rock, calcite and cave earth. After two week ends, spent mainly in cracking up rocks and one finger nail, the shaft deepened with a most promising draught coming from the bottom, also an occasional thud from a loose rock, rolling away below.

The third week-end, whilst digging in one corner of the shaft, a small arch under solid rock came slowly into view. A disbelieving person at the top of the shaft had to be convinced of its existance, so thinking

THE ANNEXE : BROWNE'S HOLE



it was only an undercut, a shovel was pushed in , only to disappear from view, accompanied by curses from the owner. After half an hour of furious digging; by standing on our heads we could see into a sloping passage covered in dry mud. Shortly afterwards entry was fully gained by the smallest member of the party, who in turn enlarged the opening for the more muscular and long member! Taking care not to damage any of the formations, we slip down a mud slope which in turn gave way to a small cavern enriched with calcite, including a nest of cave pearls and some helectites hanging over a huge mound of calcite covered mud.

Leading off to one side is a passage which can be followed to a mud and boulder slope, which from the survey made by Malcolm Cotter, appears to lead directly to the Coronation Chamber in Browne's Hole.

The entrance to the 'ANNEXE' has been temporarily sealed until such time as a permanent gate can be fixed, the key to which will be held by the farmer. Further work is still being carried out and there is the possibility of a further breakthrough in the near future.

THE BLACKMOOR SWALLET PROBLEM

by Malcolm Cotter

There are two tasks on Western Mendip which I have wished to tackle since my early days in the region. They both relate to the

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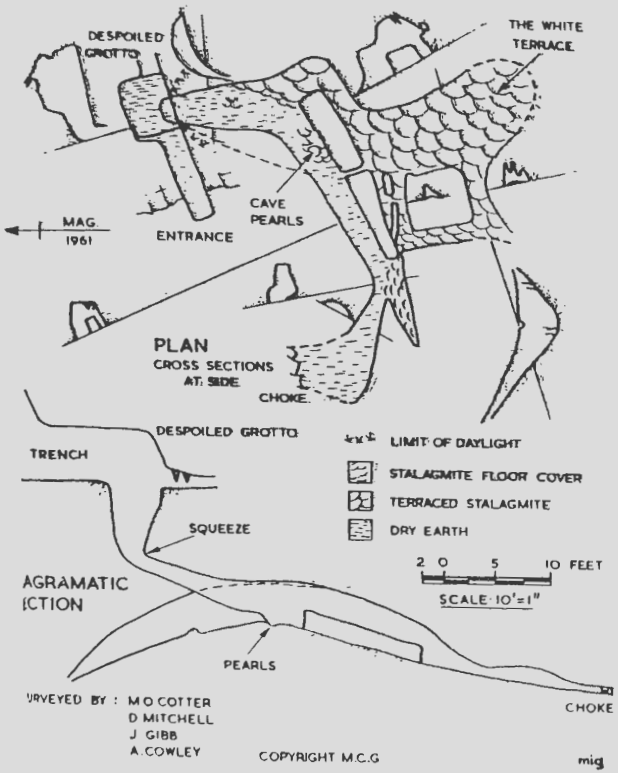

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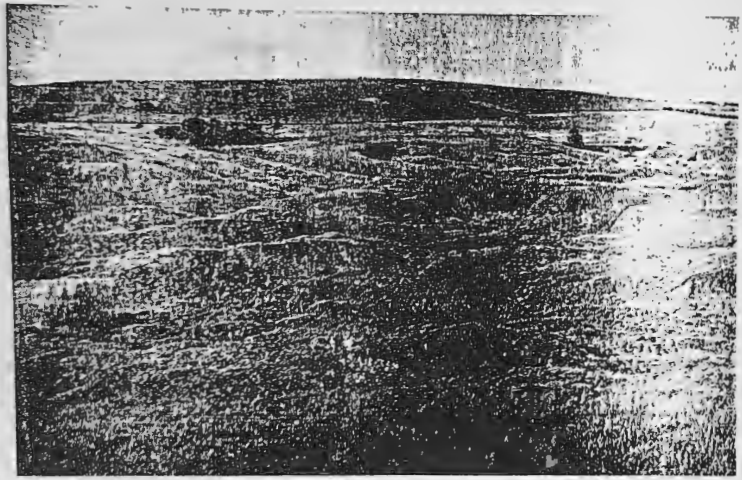
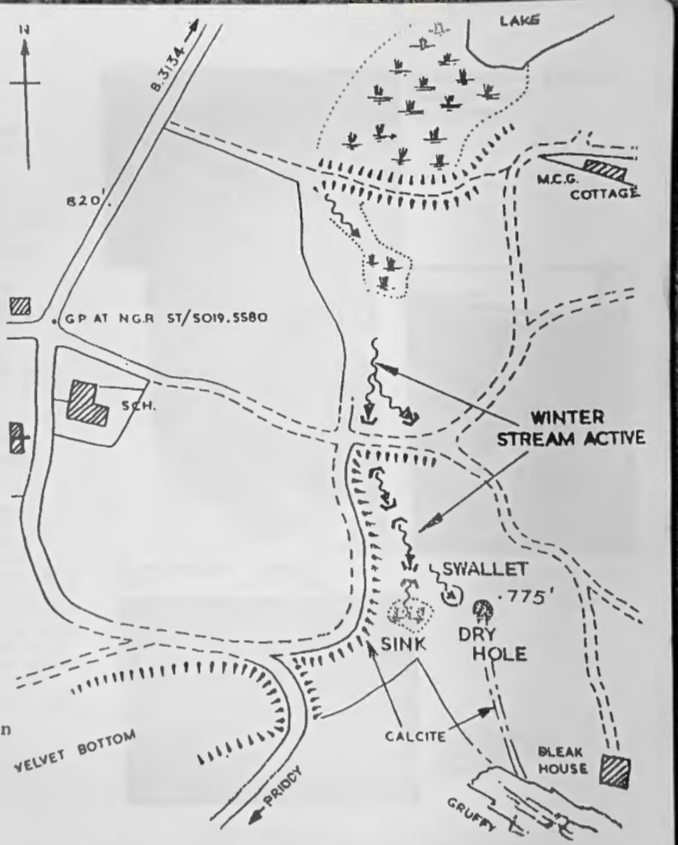


BLACKMOOR : GRUFFY, WITH BLAGDON HILL BEHIND. M.O. COTTER.

same subterranean system. The first is the search for the underground river at Cheddar, which must be integral with the excavation of Cooper's Hole and the second, to follow the water which drains from the Charterhouse Minery, to sink in the Blackmoor portion of Velvet Bottom.

Having obtained permission , under the good offices of Dr.Tratman, from the Bristol Waterwork Company to excavate, as soon as weather permitted work began. The area is part of a disused minery, similar in many respects to St Cuthberts Lead Works at Priddy. The site was chosen for its proximity to lead ore in the form of Galena and a ready supply of water. The bulk of the water comes from the limestone shales to ooze through Nether Wood and feed the pond by the club cottage. It is here that the problem starts, for every channel is artificial. More annoying still are the vast heaps of waste and slag from mining and smelting, which are concentrated on the Shale - Limestone boundry. For some months in the year the water sinks where it cannot be seen. However, in winter the unseen swallets cannot cope with the volumn of water which then flows on in the miners levels a little lower down the valley where it can be seen.

We can trace some of the water beneath the unmade road, then again for a short space where it springs up only to vanish again a few yards further on into a steep slope of the valley, opposite the quarry. Some yards lower down and in a more central position within the valley, water comes out of another



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leat to soak away from a shallow pond almost at once. Thus there are two known swallets.

The next point of interest is the nature of the swallets. There is reason to doubt that they are entirely natural, especially in the case of the upper one where a considerable amount of work has been carried out. Another feature also commands interest. Eighty feet from the upper swallet and in line with the ruined Bleak House is a depression with the appearance of a shake hole. The depth was in the region of 12ft and the diameter 40ft. However, this is only a deepened part of a long trench, varing in depth over the rest of its length between a few feet and zero. I say zero because its existance is obvious from the change in the colour of the vegetation. The trench reaches as far as the deep gruff by Bleak House.

Before work began the water in the two swallets was tested for a connection but the chance of a connection was thought to be remote.

Work started on the upper swallet but was hindered by water. As soon as the stream dried up, however, we had a rig above the hole and a 5ft long passage was broken in to. We pushed on, shoring the tunnel with railway sleepers as we went. A free air space was reached but was blocked with a heap of rocks coming down an aven, although there was a strong outward current. At this point signs of drilled shot holes were found in the side of the passage. Work continued in the tunnel and also on a shallow depression above. Later an attack was made on the 'shake hole' which was to result in greater success. Work is still in progress and a account of the cave will follow.

BLACKMOOR SWALLET
"DIGGING PARTY!"
M.O.COTTER.

BLACKMOOR
BOTTOM OF SHAFT.
M.O.COTTER.

BLACKMOOR SWALLET
SHAFT. M.O.COTTER.

BLACKMOOR
'WORK AT LAST'
M.O.COTTER.