MSG REPORT No. 2. Easter 1967.

The greater part of this magazine consists of reports of expeditions and investigations of the M.S.G. over the period December 1966 - March 1967. The main difficulty experienced during this time was not in the lack of caves to explore or areas to investigate, but in an acute shortage of transport, which meant fewer and less well attended trips.

The M.S.G. has made no significant "first explorations" in this period (although a few yards of new passage may have been found in one of the Trough Scars caves) However, in the near future several possibilities found recently will be explored, and these will be fully reported in the 'M.S.G. Report 3'.

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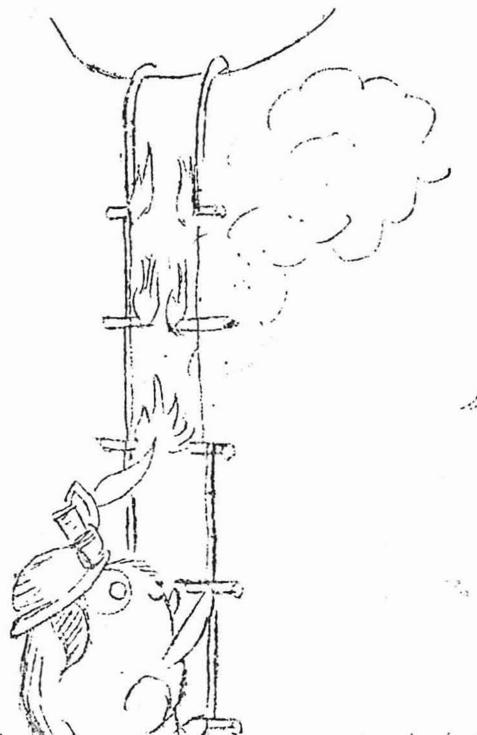


Carbide lam[illegible] Rope & Wood ladder

UNDERGROUND DRAINAGE IN THE NORTHERN DALES.

On examination of a map (preferably the O.S. $2\frac{1}{2}$":1 mile) of any of the northern dales, limestone bands can be identified by the breaks shown in the courses of some streams. Often a stream is shown as sinking, and appearing agai a short distance further down its valley. One tends to assume that this is of course the same stream reappearing after a brief underground course, and where a rising (at the foot of the limestone) is shown, that thw water is derived from the nearest sinks. This is not always so. A major factor in deciding the direction of underground flow is the direction of the dip of the limestone. This may bear no relation to surface topography, and the underground channel may pass beneath surface watersheds. A system such as this may be referred to as a "major system" - Crackpot is a fine example, with water sinking in valleys running southwards to Wensleydale, re-appearing further north beside Summer Lodge Beck, a tributary of the Swale. In the cases where a sinking strea does resurge close at hand, at the foot of the limestone, the term 'minor system' may be used.

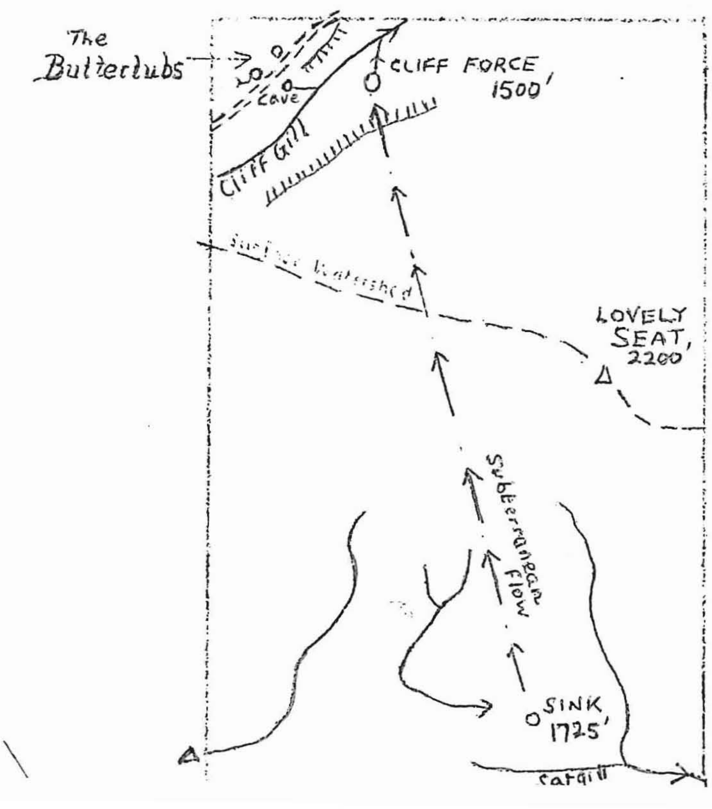
Major systems in the Swaledale area have been examined, and described by J.O.Myers in the 'Northern Pennine Club Journal' (1963). These include the Crackpot system, and several other Wensleydale sinks which have been proved to feed resurgences on the south side of Swaledale. In Weardale, sinks in the Blaeberry Burn (not shown as such on the O.S.Map) feed the Fairy Hole resurgence, some $2\frac{1}{4}$ miles away.

Weardale and Teesdale (and areas further west and north) still offer much scope for water testing, and could well provide more 'major systems'. A large resurgence in Upper Hudeshope (see M.S.G.Report No. %.) seems to have no similarly large sink nearby, and could be the downstream end of another streamway which runs beneath surface watersheds.

"Minor systems", where the underground stream course roughly follows the surface dry valley, are abundant in the Yoredale limestones. A typical minature example can be seen on the west side of the Oxnop Gill valley (at 924.966), where a small stream, Hizel Sike, sinks in a bouldery shake hole on reaching the 5-Yard limestone. A hundred yards or so away the water re-appears to form Rash Gill. Moking Hurth is another 'minor system' (apparently) on a somewhat larger scale. The stream here sinks in a choked pot-hole at the edge of the Main limestone plateau, passes through the cave, and resurges from an impenetrable fissure below the cave entrance.

Some cave streams may fall into neither of these categories, and may be supplied by water circulating in the limestone, b ut derived from general seepage rather than a definite sink.

Of the 'Major' inter-valley systems known, only one, the Weardale Fairy Hole, can be said to have been explored along the major part of its course. Similarly lengthy caves must exist along the other underground water courses, but an entry into them has not yet been found.



The Sargill — Cliff Force System (2 miles)

Reports of Expeditions.

Borrowdale Beck Area. 26. 12. 66.

A brief investigation of the outcrop of the Main Limestone where it is crossed by Borrowdale Beck was made. The Beck forms a small waterfall over the limestone, in a picturesque rocky amphitheatre. In the cliff on the west side of the waterfall is a narrow cave entrance discharging a small stream (N.G.R. 834. 160.)

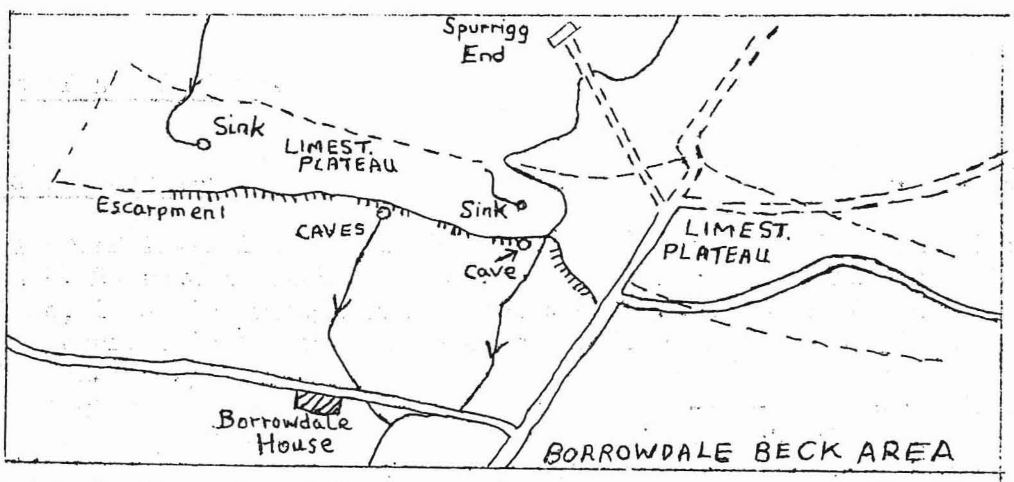
The cave soon develops into a narrow hands-and-knees crawl in water, opening into a very small but well decorated 'chamber', then closing down into a very low and wet crawl, some 50' from the entrance. Further progress may be possible in drier weather. A small sink (impenetrable) in the limestone plateau about 100 yards away doubtless connects with this cave.

A short distance further west from Borrowdale Beck (at N.G.R. 833160) is a limestone cliff with a large stream (which joins Borrowdale Beck) emerging from various fissures and holes at its base. These interconnect in a maze of small passages and cross-rifts, mostly very wet. The main stream passage was followed for some 50-60', and again, further progress may be possible in drier weather.

About 300 yards WNW from this resurgence is a fairly large sink (impenetrable) - doubtless connecting with the resurgence.

A brief search for Windmore End Cave (see P.U.) was unsuccessful, unless it was in a deep rocky sinkhole (taking a small stream) to the north of the farm, full of rusty metal and other debris.

C.Carson, P.Ryder.



Expedition to Upper Teesdale. 31. 12. 66.

Upper Ashgill Beck.

Two possible caves in the gorge of the Main Limestone (marked on the O.S. $2\frac{1}{2}$" map as 'Green Scar'), on Ashgill Beck, about a third of a mile upstream from the bridge on the Alston-Middleton road, were investigated.

On the east side of the gorge a small stream emerges from a low bedding plane, impassably low a few feet in. On the opposite side of the Beck is the entrance of a narrow tubular passage, which may be forced by crawling on one's side in mud and water for some 20', until it suddenly closes down.

Hawk Sike.

Where this small stream is crossed by the Alston-Middleton road (at N.G.R. 814.349), there is a small quarry just above the road (in the 5-Yard Limestone), with at the foot of a low outcrop a small cave entrance. This leads into a narrow passage, some 5-6' high, with in its floor, a yard or so from the entrance, the opening of a shaft, almost blocked up. The depth of this, estimated from the time a stone dropped into it took to strike the bottom (?), was something over 30'. Beyond the shaft the passage opens into a small chamber, with interesting iron-stained stalactite formations, and on the l., a low side passage blocked after some 10'. The main passage continues, with iron-stained flowstone on its walls, and opens into a larger chamber, with short straw stalactites. Beyond this the passage continues for some distance, with in one place a wall at the side of mining 'deads', and occasional wooden props (very rotten). Some 100-150' from the entrance the passage ends in a clay bank.

It was thought that this passageway and chambers, although obviously mined to some extent, might be partly a natural cave, or possibly an early lead mine, as the form of passage - a slightly winding narrow fissure - is markedly different from that of the usual 18th-19th century level.

<u>West Binks Edge.</u>

There are no penetrable caves in West Binks Edge itself, but on the small limestone (Main) plateau above the cave, towards its western end, is a row of small sinks and shake holes, one of which (N.G.R. 885.310) contains a shaft about 4' wide and 15' long, taking a small stream. This can be easily descended at its northern end to a depth of some 15'. At the south end of the open shaft a low opening engulfs the stream. This was entered, at some risk from loose stones and gravel, and proved to lead only into a small chamber, any continuation of which has been blocked by collapse. The floor of this was some 5' below that of the open pot-hole, making the total depth around 20'.

Nearby sinks, and others high on the east side of the ravine of Ettersgill Beck (at N.G.R. 884.312) proved impenetrable, but may be possible 'digs'.
C.Carson, J.Cooper, S.Peaurt, P.Ryder.

<u>Expedition to Pate Hole, Asby.</u> 3. 1. 67.

The entrance to Pate Hole was found on the east bank of Asby Gill, about a mile upstream (to the south) from Great Asby village.

The cave entrance, in a low limestone scar, is some 3' high and 15' wide, and when the cave was visited (relatively dry winter conditions) was dry ('Pennine Underground' mentions a stream flowing in). The passage descends gradually over a stony floor, and bends to the r., with on the l. a low muddy crawl, which splits into two, both branches becoming too tight. The main passage, wide, with clay banks at the sides, follows a fairly straight course. Occasional cross-joints allow an upright stance, welcomed after the low stooping the passage height (4') necessitates, and dirty stalagmite gours, holding back pools, form occasional steps down in the floor. After several hund ed feet the party met deeper water (probably shallow in dry summer conditions). This persisted throughout the final section of the main passage, there being some 3'6" - 4' of water in a 4'6" high passage.

The main passage terminates in a small but high chamber, with leading from it, up out of the water, another passage of entirely different character, a narrow 20' high dry rift. The floor of this rises, then drops down suddenly as the rift widens into a second chamber (15' wide and 30' high), the floor of which was covered by a deep pool. A member of the party (C.Carson) swam around in the pool, but could find no dry exits or underwater ledges.

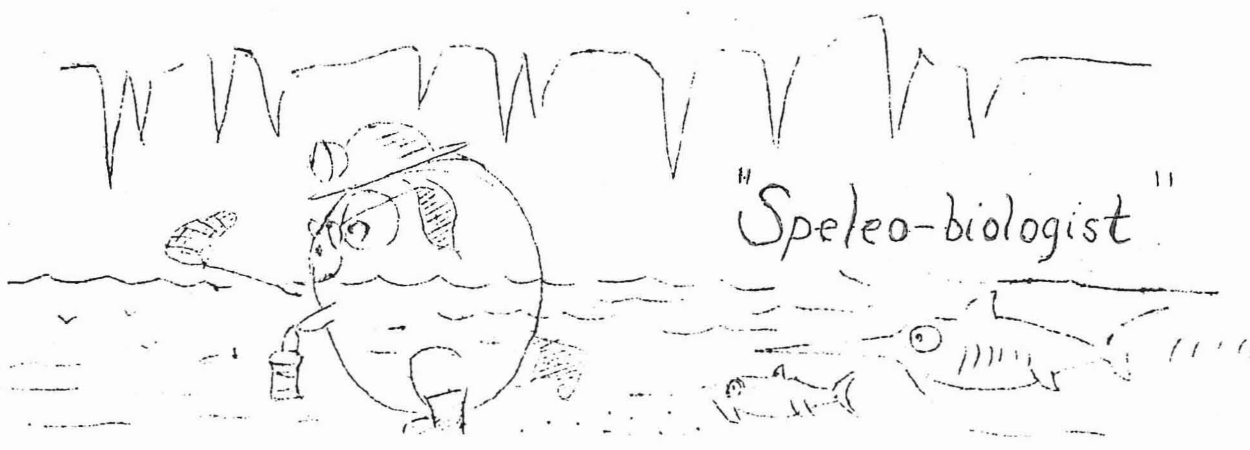
On the return to the entrance, a search for side passages was made, but the only one found proved to be a short, low and muddy loop in the side of the main passage.

On examination of the survey of the cave (Grade 5) it was apparent that the water level had prevented the party's access into further passages (probabl only accessible in very dry conditions).

Mud coated on the walls and roof of all parts of the cave, and a general lack of formations, suggests that in wet weather the passages must flood to the roof.

It is interesting that Pate Hole (1500') is the only known cave (apart from the 50' Lower Pate Hole) in the district.

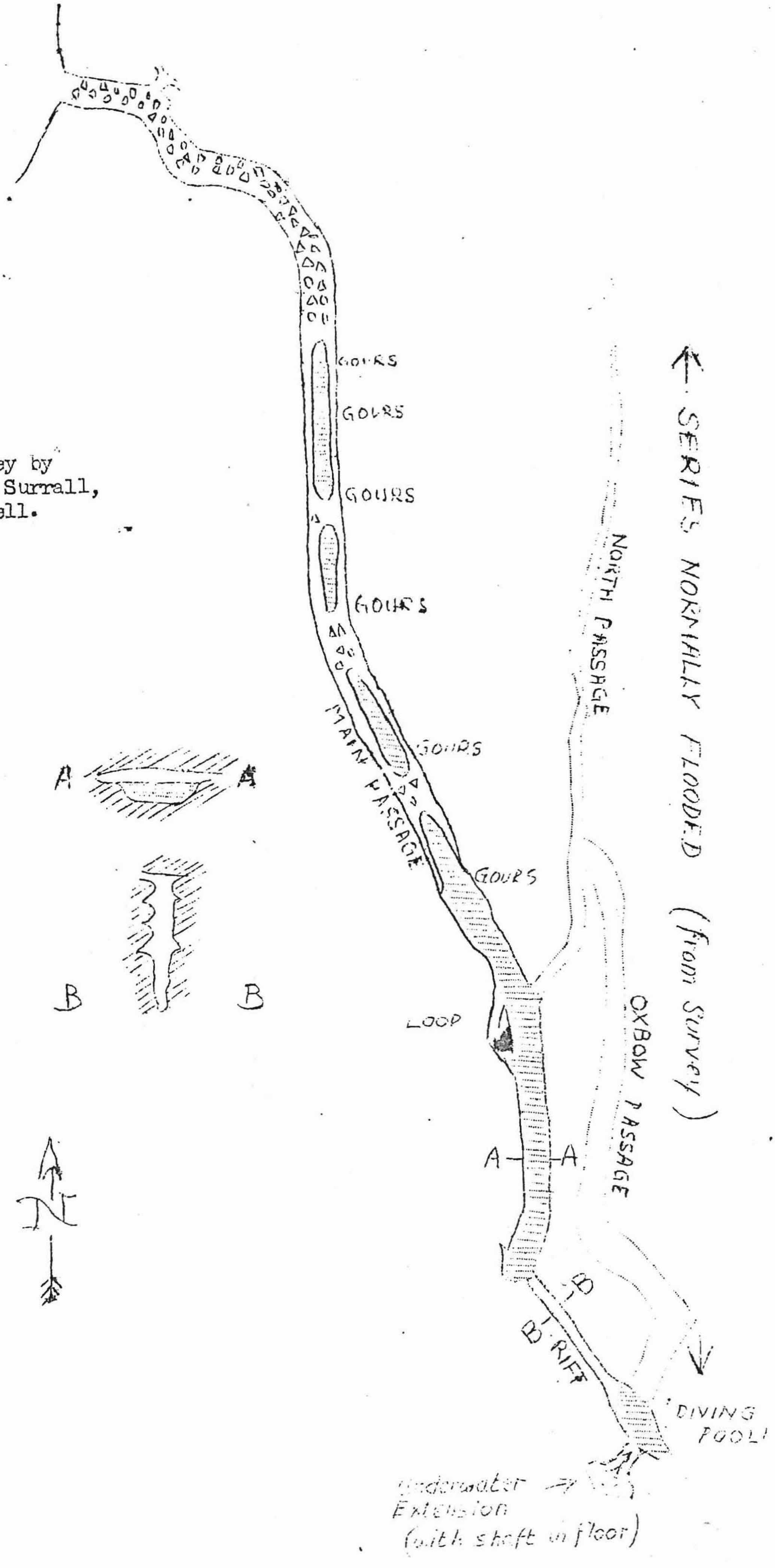
Party: C.Carson, J.Cooper, J.Longstaff, B.Peaurt, S.Peaurt, P.Ryder.



PATE HOLE.

after a survey by
D.Warburton, A.J.Surrall,
J.Hanwell.

Scale. 1":100'



Expedition to Swinnergill.

28 . 1 . 67

Swinnergill had been previously visited on 3. 12. 66 (see M.S.G. Report 1). The purpose of this second visit was to make a more thorough investigation of Swinnergill Cave and Kirk, and the lower gorge.

Swinnergill was followed up from the Swale. The uppermost limestone cut in the lower ravine (between the two ruined lead smelting mills) is the Main (which, due to faulting, outcrops two and possibly three times in the bed of Swinnergill). The limestone gorge in this part of the ravine is very narrow, and contains numerous cave entrances (mostly fissures, none with streams), all of which either become too narrow or are silted up within 25'. Above this gorge, just above the bridge by the ruined mill, more limestone is seen in the bed of the Gill. Further up still is the ravine of Swinnergill Kirk, with the limestone dipping fairly steeply to the north.

In Swinnergill Cave, it was found that the previously choked bedding plane in the final chamber had been dug out, but ended after a few feet in a sump. The upstream end of the cave was investigated more thoroughly, and the stream followed through a low wet crawl to where the water enters from a tiny fissure at roof level (the rough survey made of th e cave shows this to be almost beneath the entrance - the stream must be part of Swinnergill which sinks in its bed).

Party: J.Longstaff, S.Peaurt, P.F.Ryder.

Expedition to Cliff Beck. 3. 2. 67.

The 'Buttertubs Pass' road from Hawes to Swaledale descends to Thwaite and Muker in Swaledale along the west flank of the deep and narrow valley of Cliff Beck. At the head of this valley, below the groups of limestone sink-holes well known as the 'Buttertubs', is a large rising which contributes most of Cliff Beck. This rising is doubtless the water sinking in the Buttertubs. The low cave from which the water emerges is suprisingly unmentioned in 'Pennine Underground', and it seems possible that it has only appeared, by the washing or clearing away of debris, in recent years.

The cave entrance consists of a shallow recess at the foot of a low limestone cliff, with streams flowing from a low passage at th e l. and a smaller tubular opening in the centre, of the recess.

The larger passage was entered first. This passage is mostly a hands-and-knees crawl, in about a foot of water, turning r. a few feet from the entrance. There is one slightly higher section where one may stoop for a yard or so, but beyond the passage roof dips gradually, until the lack of air space makes further progress, unaided by special apparatus, impracticable. It should be noted that the weather conditions on this exploration were far from dry, and in dry weather further progress may well be possible.

The second, smaller, entrance, at first sight less promising than the first, was found to give access to a greater length of cave. The passage is generally around 2' high, 3' wide, and with a few inches of water. After several sharp turns, some distance from the entrance, the passage splits into two, with the stream emerging from the r. branch. This suddenly lowers to a very low bedding plane, but the dry branch, a tight crawl, forms an ox-bow, and after some 15' rejoins the stream passage, upstream of the short low section. The stream passage continues for some distance on a more or less straight course, with a narrow branch discharging water on the r. Exploration was concluded at a large rock almost blocking the passage. The length of passage explored was estimated at around 100'.

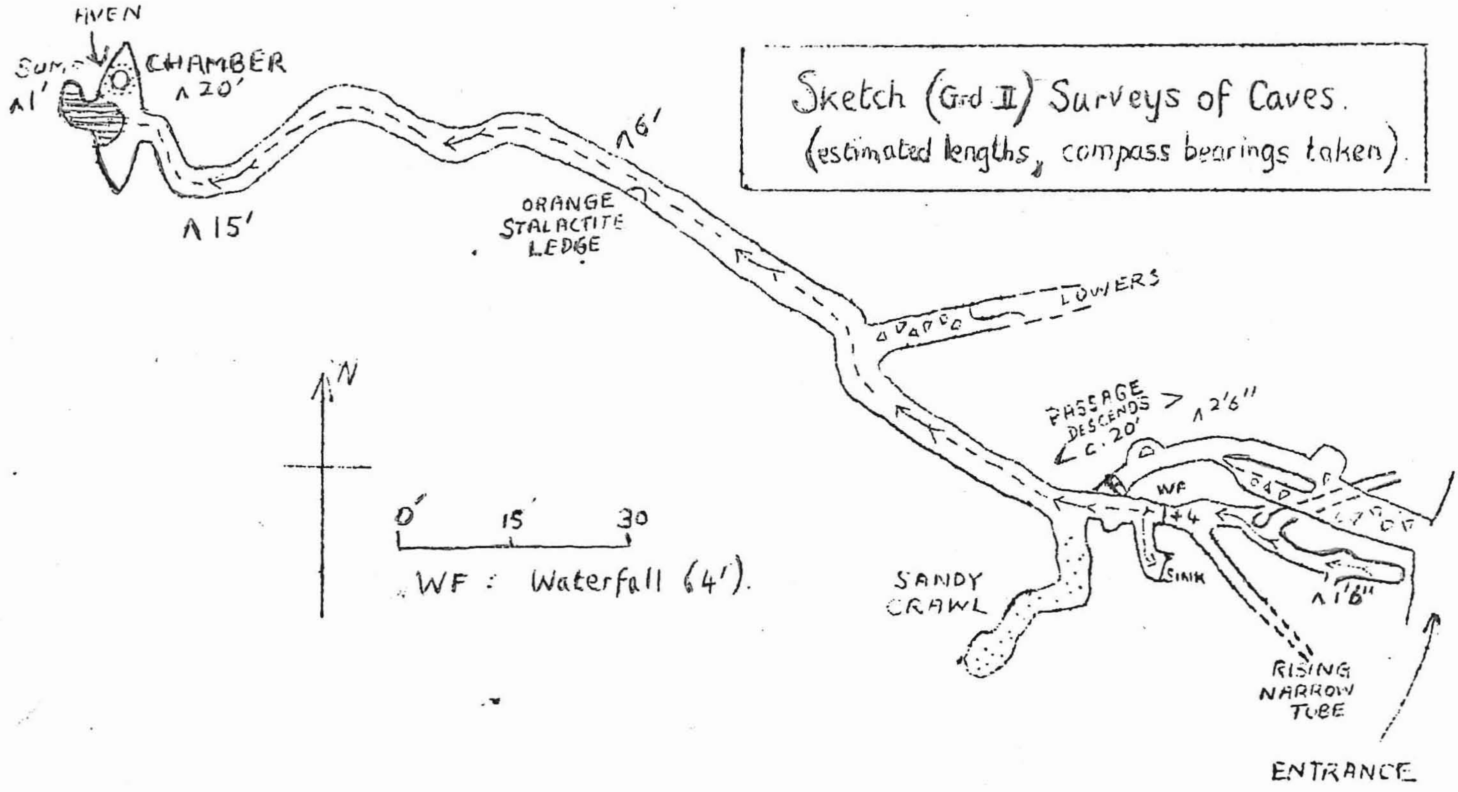
Party: J.Cooper, N.Edwards, A.Holmes, S.Peaurt, P.Ryder.

Expedition to Trough Scars. 11.2.67.

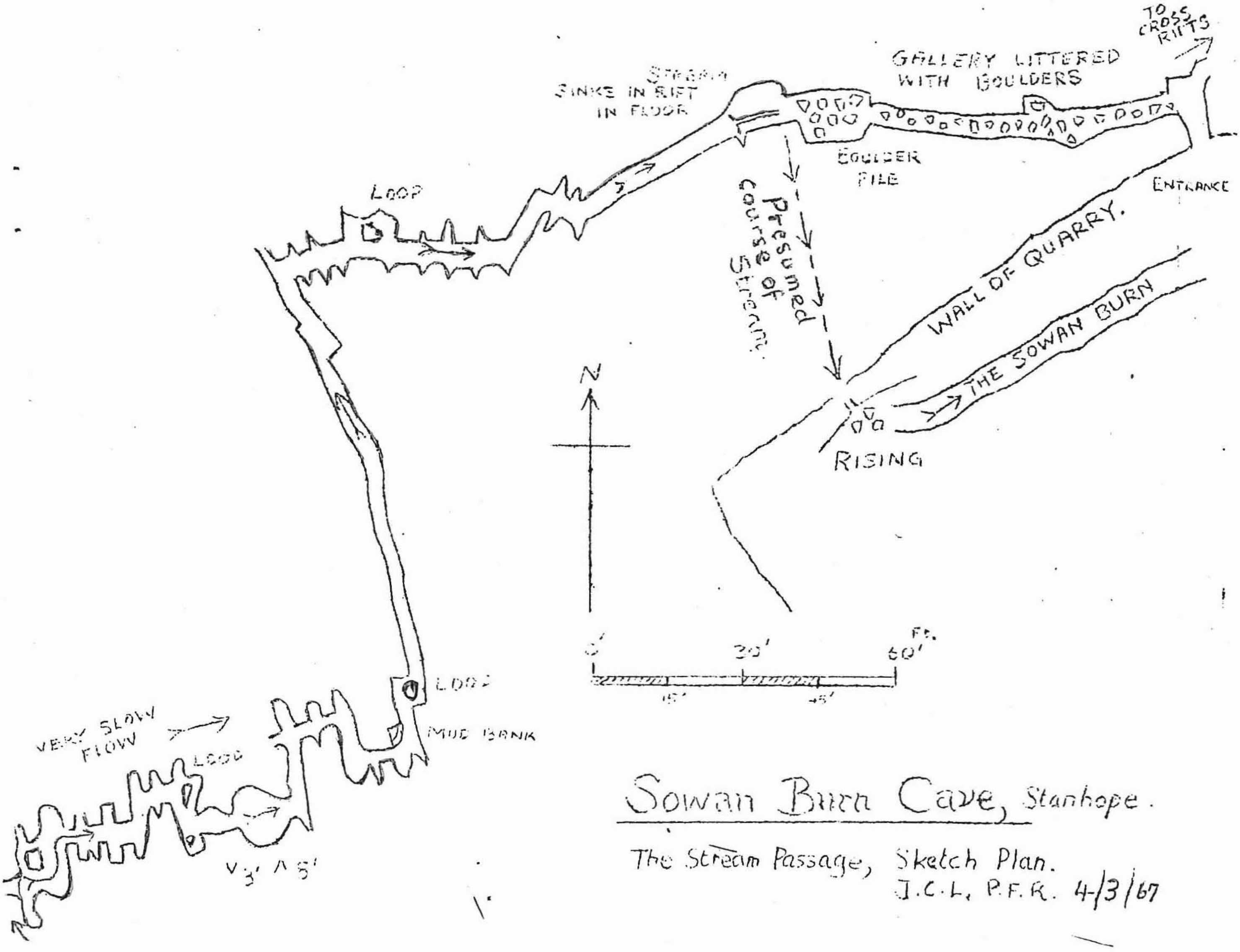
Two caves had been noted by members of the M.S.G., a month previously, in Trough Scars - the cliffs (Main Limestone) flanking Sleightholme Beck about a mile from its confluence with the Greta. The caves are on the W. side of the stream, a hundred yards or so downstream from a small waterfall (N.G.R. 965.115.), and opposite a small gully forming the only easy access to the floor of gorge.

The entrance first investigated was a tight fissure at the top of a steep earth and grass slope, some 25'-30' above the stream. After a few feet, down a slope of unstable rocks, the fissure widens slightly, before bending to the l. and narrowing to an impassable rift, through which faint daylight can ... of the fissure is an opening in the floor. At this,

Sketch (Grd II) Surveys of Caves.
(estimated lengths, compass bearings taken).



Swinnergill Cave. Sketch Plan.
J.C.L, S.P, P.F.R 28/1/67

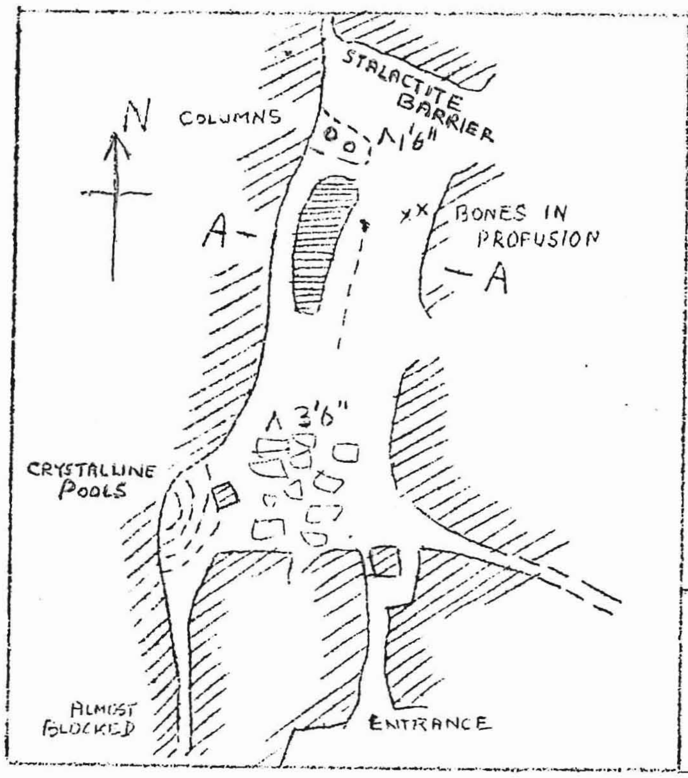


Sowan Burn Cave, Stanhope.
The Stream Passage, Sketch Plan.
J.C.L, P.F.R. 4/3/67

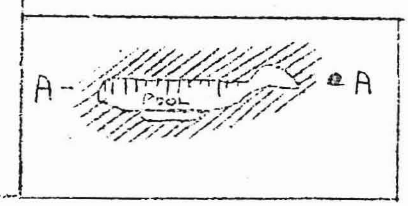
a small chamber, some 12' below. This chamber is rather wet, with water drizzling from above and streaming down the walls. To the west (away from the entrance) is a small passage, soon becoming too narrow. To the east, running back towards the stream, a hole behind a large rock leads into a wide, low and very muddy bedding plane, which after about 25' opens, through a tight squeeze amongst boulders, onto the cliff face about 6' above the Beck.

The second cave is a short distance further downstream (to the north). The entrance is some 15' above the stream, beneath apparently very insecure rocks. A short crawl, a small chamber, and then a crawl under a wedged block lead into a wide bedding plane, with to the r. daylight visible through a narrow passage half choked with slabs of fallen rock. To the l. another passage leads back to the cliff face, at first low with crystalline pools, then high but very narrow, until its opening to daylight, which is choked by rocks and earth to within a few inches of the roof. The main bedding plane passage, wide but low, runs north for some 35-40', until it terminates abruptly in a thick stalactite barrier. This passage contains attractive formations (gours, calcite pillars etc.), and in it were found many animal bones, covered with calcite.

Party: J.Cooper, N.Edwards, J.Longstaff, S.Peaurt, C.Robinson, P.Robinson, P.Ryder.



Trough Scars Cave (2)
Sketch Plan.



Expedition to Sowan Burn Cave, Stanhope. 4. 3. 67.

The entrances of the Sowan Burn cave are found in the north wall of the disused quarry (in the Main Limestone) from which the Sowan Burn rises.

The main entrance (or at any rate the largest) of the cave is in the cliff on the north bank of the Burn, and leads into a very complex cross-rift system. Two smaller entrances in the cliff a few yards away open into the same system. A passable route, running roughly parallel with the face of the cliff, was found through the rifts, in places involving traversing (made easy by plentiful wide ledges) where the rifts were too narrow at the base. In places the rifts widen into more roomy chambers, with high avens. At length the passage emerges into a chamber with an earth slope leading up to the second entrance, a low arch on a ledge high in the quarry wall.

From this entrance chamber, down a boulder slope on the west, is a second passage completely different in character from the cross-rifts. The passage is wide, littered with heaps of boulders, and with a flat roof packed with fossil brachiopods and corals. At the end of this section is a higher chamber with a sloping boulder floor, at the foot of which the stream passage commences. The stream is first encountered sinking in a narrow fissure in the floor (it emerges from a low fissure in the quarry wall to form the Sowan Burn).

The stream passage, about 300' long, can be divided into three parts. In the first section, a passage running west, one can straddle the stream on wade in the stream. The final part of the stream passage is more complex, a series of waist-deep canals of very slow moving water, in a winding passage, the predominant influence in the formation of which has been the enlargement of frequent north-south joints in the rock (although the general direction of the passage here is to the west). The cave ends in a small chamber with waist-deep water, entering slowly from a sump in the west wall, and with the walls and roof thickly coated with mud.

Throughout the streamway the passage maintains a height of 6-10', with occasional higher rifts in the roof. There is a general lack of formations.

On the return journey a sketch plan of the stream passage was plotted, with estimated lengths and rough compass bearings. To have attempted a similar survey of the cross-rift series of the cave would have taken an excessive amount of time.

A brief investigation of the area directly above the quarry showed no nearby sink which could account for the cave stream.

Party: J.Longstaff, P.Ryder.

The report of an expedition to another cave in the M.S.G. area is not reproduced here, as a way was forced into a series of passages which are very probably 'new ground'. Various difficulties, and the time factor, prevented a complete exploration 'on-the-spot', but a return trip is being made to this system in the near future to thoroughly explore the new series. This will be fully reported in 'M.S.G. Report 3'.

(The following article is written by C.Carson, a member of the M.S.G. who attends Reading University, and in his time there caves on Mendip).

Caving on Mendip.

Until recently Mendip and the Pennines featured as the chief caving areas of Britain. This picture is now, however, being changed by major discoveries in South Wales. The Mendip Hills are a small area of Carboniferous limestone in Somerset, about five miles south of Bristol.

The strata here have been foldéd into arches (anticlines), and erosion has exposed the limestone beds dipping at various angles, usually quite steeply. The caves and potholes follow the slope of the rocks, and give steeply slanting systems in contrast to the Yorkshire potholes where depth is attained in vertical pitches.

As the Mendip systems are within easy reach of the large population centres of Southern England, they are well used at weekends and often crowded. Owing to the large amount of activity and the fact that many of the caves lie on private land as opposed to the open moorland of the Pennines, speleology is more organised than in Yorkshire. The majority of the best systems have gates or concrete blockhouses at the entrances, and an access charge of a shilling per caver is demanded as well as a deposit on the key. A number of caves lying on land owned by Bristol Waterworks can only be explored if one is prepared to sign an insurance cover which indemnifies the landowners in case of mishap. Clubs have banded together to form the Charterhouse Caving Committee, and have sole rights on the land owned by Bristol Waterworks, but will provide guides and insurance cover for visitors. Thus there is little scope for a new club and it is best to join an established one if only for reasons of access.

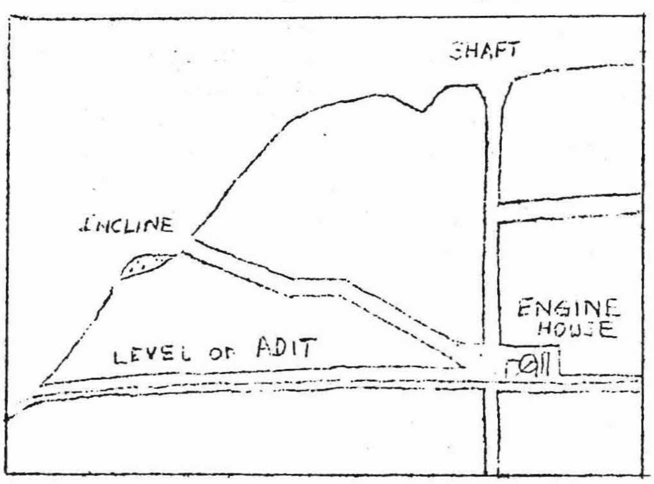
Swildon's Hole, near Priddy Green, is considered by most southern cavers to be the best system on Mendip, with a total passage length of 21,000', and a vertical range of 548'. Many claim this as the deepest system in Britain, but the depth recorded above can only be reached through 11 sumps, some of which cannot be free-dived. The cave was discovered in 1901 by H.E.Balch, the major pioneer of Mendip speleology. A stream sinks into a swallet (the Mendip term for a sink-hole) below a walled plantation, and a new stone blockhouse or crawling along the so-called 'Dry Way', which is only relatively dry. A series of passages, occasionaly opening out into a chamber with many curtains and columns of stalagmite, brings him to the Water Rift. This narrows down and is almost barred by curtains of stalagmite, neccessitating a crawl in the stream. After squeezing through the Rift a 35' waterfall is reached. This is negotiated by electron ladder, the pitch being permanently fitted with ladder hooks and a pipe to deflect some of the water. These are typical caving aids on Mendip - fixed iron ladders and chains are others. The next obstacle is the twenty-foot pot, again descended under a waterfall. The series below the two pots consists of more climbable waterfalls, deep pools, tight rifts, oxbow-type passages filled with exceedingly fine formations, and eventually leads to Sump I. This is the end of Swildon's I. On the other side of the sump are many thousands of feet of further passage.

The limestone area of Mendip is riddled with shake-holes and swallets, but what would be entrances to caves are usually blocked by masses of earth and fallen boulders. In order to find new caves, most Mendip clubs are in the process of digging at at least one or two such sites. A great number of Mendip caves have been found by this method, and it is hoped that many more await a similar discovery.

Speleology and Old Mines.

The speleologist, on his way to and from caves, must often see the arched entrances of long derelict mine workings. When the possibilities of suitable natural caves have been exhausted, it is natural that his attention is drawn to these levels and shafts. However, these offer, along with much that is interesting, dangers not found in caves (which to some may make them all the more inviting.

The arched entrances of the levels (generally driven in search of lead) are generally followed by a hundred feet or so of shoring, but after that the passage is hewn out of the native rock, supported in areas of weakness by wooden props (by now often rotten). Levels and adits served the purpose of draining mine workings, and with minor roof falls acting as dams, they may contain a considerable depth of water and mud. A hazard to cavers wading along flooded levels, apart from unstable slabs in the roof, is the possibility of a shaft, once dry but now water-filled, in the floor (as in the Sir Francis Level, in Gunnerside Gill). In dry passages, what may appear to be a safe floor may actually consist of rocks wedged above a deep shaft. Lead mines may occasionaly be entered by inclines (see diagram), as in the Brandybottle Inclines in Hard Level Gill. Shafts, often hundreds of feet deep, are generally very unsafe for descent, with walling around the shaft which may be on the verge of collapse.



Lead levels and shafts were generally cut on the line of a mineral vein. Where such veins cut limestones, caves are liable to form along them, and thus it is not unusual to find a lead mine opening into a natural cave, as at Hope Level. Large caverns, of phreatic origin, have been found in lead mines at Flushiemere and Lunehead, but in both cases the caverns are inaccessible through recent collapse of workings. Caverns in mines are found more frequently in Derbyshire than in Yorkshire and other areas.

Lead mines themselves can offer considerable interest to the speleologist, especially in the relics of machinery etc. Occasionaly 'engine houses' with pumping engines remain, entered through lead levels. Disused copper, iron and tin mines, and underground quarries, may be explored with due discretion, bearing in mind that accumulations of carbon dioxide, extremely rare in natural caves, may possibly be met. Derelict coal mines, with many roof falls and inflammable gases, should be left strictly alone .

It is regrettable that no set list of future expeditions, but this is due to the lack of transport available, and the fact that a previously 'fixed' trip might have to be cancelled if the weather at that time was wet, and the cave concerned was liable to flooding. If not previously arranged, an expedition could be made instead to a cave not liable to flooding.

List of Members 15. 3. 67.

To add to the list on the back cover of 'M.S.G. Report 1'.

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