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MONGO GILL HOLE GREENHOW HILL.

J.C. Wade and J.M. Dickinson

History of the cave: Towards the middle part of 1956 five members of the Craven Pothole Club were examining the area in the neighbourhood of Stump Cross Caverns, Greenhow Hill, with the exploration of a new cave in view. The first site chosen as a good possibility for success was the two water sink holes in the small valley to the south-east of Stump Cross Caverns; marked on the Ordnance Survey maps as Mongo or Dry Gill. Serious digging started the following month in the flood sink, the other sink taking the water in times of normal flow. The entrance shaft had reached a depth of only nine feet when the force of gravity overcame the diggers experience with unstable rocks; one member having a narrow escape when the shaft collapsed. To clear the wreckage it was decided to enlarge the size of the shaft at the top and to timber down until more solid ground was reached. After six months of work the shaft had reached a depth of thirty feet and a small opening had been made through the floor and down the side of a large boulder that had jammed across the shaft at this point. Once through this 'eye hole' digging was carried on down a small silted tube about three feet in diameter and dipping north at an angle of 45 degrees. Unfortunately it was not possible to haul the spoil to the surface through this eye hole due to its constricted size. The group was divided on the method of further approach, hence in May 1957 work on the shaft ceased; typical of the irony which often seems to mar pothole exploration. Later it was found possible to measure the distance from the dig to the cave proper and it was found that work had stopped only five feet too soon.

The few diggers who remained after the shut down of the shaft now started to work anew in a small chamber at the bottom of a large shake-hole nearby; one which had been originally excavated by members of the Earby Pothole Club, and situated on the south side of Dry Gill. On the [60] 21st July, 1957 their patience was rewarded; for by starting to enlarge a small crawl at the bottom of the chamber a 'letter box' entry was discovered in the west wall. This entry when enlarged allowed the party to descend a boulder fall into the first 433 feet of cave passage, (Mongo Gill South). Towards the end of the same year two further extensions to the cave system had been found; during the surveying of these new sections, the third and most important discovery was made. This discovery comprised a large cavern which led to a further cavern which passed close to the foot of the shaft sunk the previous year in Dry Gill; the survey when plotted verified this fact. Unfortunately the shaft had been filled in up to surface level in accordance with the agreement made with the local farmer. On the 28th December, 1958 work commenced on the clearing out of the shaft for a second time. This was an essential task for the numerous dangerous boulder falls which had to be negotiated from Mongo Gill South to the foot of the shaft left much to be

desired. The above renewed shaft digging enterprise was rather remarkable in several ways; for the period spent up to 'holing through' to the cavern (but not making good and completing the shaft) took eighteen shifts covering work over fifteen weekends. About thirty tons of rock were removed from the shaft, together with sand and small stones which had been washed in during the period when the shaft was closed down. Whitsuntide, 1959, saw the shaft fully cleaned out and secured. To hold the top ten feet of the shaft some fifteen hundredweights of cement and the equivalent amount of sand and gravel were also used.

Soon after the above, two men removed three or four stones from a boulder fall to the north of the shaft and discovered the Luckstone Level Series of passages, thereby bringing the total level of the cave system so far discovered to 1098 feet. Since the above discovery there have been no further extensions made to the cave system.

Description of the cave: It is necessary to be familiar with the survey of Mongo Gill Hole to be able to follow the rapid changes in the physical features of this cave. Therefore to do an 'armchair through', (done practically for the first time by members of the Northern Cavern and Mine Research Society on 1st May, 1960) one starts [61] at the South Entrance. On entering one slides down the small entrance tube, pausing when one's feet swing out into space and 'back and footing' down the walls and wooden staging which holds back the debris of earlier diggings; one finally arrives in a small chamber. Facing downwards on the right is a small 'window' at floor level through which one next has to pass. Climbing down a boulder fall, one automatically shoots out into a chamber known as the "the depot". Turning about and crawling under a large flat rock below and to the left of the boulders one has just come down, the investigator enters what is known as Platt's Passage. This cavern is a roaring mass of spray if the "water works" have not been attended to on the surface. Forward now is the Black Cavern, notable for little but the fact that it has one of the two boulder falls in Mongo Gill; so far nothing is known of what lies behind this boulder fall. Some halfway along Platt's Passage is a hole in the floor, particularly easily found in the dark; this leads to that portion of the cavern known as the "Shambles". A low crawl at the bottom of this part leads round a boulder fall into "Cavern 133" and almost at the end of this cavern a low uphill crawl leads one to a small chamber on the left hand side. To the far right of this chamber and vertically upwards is a narrow crack between shattered rock and jammed boulders; this portion is known by the name of "Dickinson's Dither". This boulder choke has moved at least four times whilst men have been passing through it and therefore requires treating with great reserve. At the top of this choke is "Cavern 322", mainly filled with shattered rock and by no means a safe place; to the right is a passage which appears to have been dissolved out, as it is ragged, sharp edged and of a peculiar shape. This passage is known as the "Far Shambles" and when one has followed it so far as a low

crawl under a pile of boulders one pops up into a cavity in a collapsed bedding cave; known as the "Far Upper Shambles".

The weather influences the dryness of this cave to a considerable extent but generally the water in Platt's Passage is beyond control; but from this point on the water dribbles in from the stream above. This has been tested by the use of various coloured dyes and will alter course within half an hour of its diversion. From the 'pop up hole' in the Far Upper Shambles one can take any of three awkward routes to Cavern 152. This cavern is probably the largest in the system and could accommodate a single decker omnibus. The west wall of Cavern 152 is ragged edged and [62] the east or right hand wall does not exist; here the roof is a bedding plane dipping to the east and the wall is where the gravel floor comes up to meet the roof; or where blocks from the roof can be seen to have fallen. The deepest part of the Mongo Gill Caverns (South) is to be found down this bedding cave; the "Dunstone Incline", approximately seventy feet below moor level. To continue the exploration of the cave the left hand wall of Cavern 152 is followed to the end of the aven; the crawl downhill being the route to the present foot of the North Shaft. To the left is a vertical tube down which one can slide and then scramble up "Ratchell Incline" to the foot of North Shaft again. As one faces this shaft a low passage can be seen leading off to the right and descending. By following the left side of this incline a passage is soon reached which ascends and bears to the left; this leads to the Luckstone Gate, and by crawling through this collapsed bedding cave, the cave proper : is entered.

The Luckstone Gate is the junction of the two types of cavern in this system. Mongo Gill South Caverns may be described as a connected series of fault caverns and collapsed bedding caves; although the students of solution tubes and scallops would be content to debate this for hours. There are only two places which can be said to show calcite deposits; and a four inch high column can hardly be said to contend for a world record. The only true flat ordinary cave roof passage occurs at the "Depot" and "Deer Level". Mongo Gill South is definitely unstable and by normal potholing standards a rather dull place to visit. However, Mongo Gill North is a most interesting cavern, being quite easy to enter and consisting of a single passage with several short but unusual branch passages.

After passing the Luckstone Gate, one engages in an unpleasant crawl up the Luckstone Level. This passage is a half fissure; one crawls up the bedding plane to the left and the vertical part of the joint can often be entered, but not followed for any distance. After passing a stoney constriction some way up the passage it is possible to stand upright and climb what one might loosely term an aven, with signs of a lead vein nearby. This passage carries onwards for a few yards until "Bottomley's Basin" is reached. This basin is a large cavity filled with gravel and mud debris. The calcite conglomerate on the floor was a beautiful series of cave pearl nests; unfortunately the many

careless visitors to the cave have gradually crunched these nests [63] into a porridge-like pulp and almost completely destroyed them. Forward across the pearls, a muddy tube descends to a series of short mud tubes and fissures. The way on is to the right of the basin and through another short low crawl over mud and gravel. At a point where the roof lifts to a reasonable height a lead "stringer" can be seen in the roof; under this stringer on the left hand wall was a pit dug by the old lead miners, who in their efforts had piled the best pieces of ore bearing material and stalagmite onto the edge of the hole. This pit was later filled in by debris from a "dig" in an aven in the right hand wall.

Forward again, is a large formation known as the "Boss"; this column divides the passage into two and is probably the most photographed formation in the cave. Passing the Boss, a large calcite apron, and a set of "organ pipes" are all passed on the way into Cavern 358. At the junction, on the right hand side of this cavern to "Spar Level", were found two old tallow dip candles, left behind by the lead miners. One of these candles broke whilst being moved from the cave and to present to the Craven Museum in Skipton; the other appears to have been taken or lost.

Following the main cave passage, one crawls on a calcite floor to the "Forest". This formation is almost a complete barrier of stalagmites, columns and erratics; once past these the passage rapidly gains in height and it is possible to walk as far as the entrance to Cavern 324. Here a wide arched roofed cavern is filled with a varied collection of columns and stalagmites, most of them being of a dirty yellow colour; but a very impressive array by their mere bulk. At the end of Cavern 324, a low bedding crawl with a calcite floor dips gently northwards. Emerging from this crawl a tight wriggle through some boulders brings one to the foot of a tremendous strata collapse, known as "East Hade". The cavern continues for a few further yards along the side of this fall to a point where it appears to pinch out.

Returning to the south side of the Forest, a small passage opens out to the west; this brings one to the edge of a curiously divided pitch some ten feet deep, with some minor solution passages about half way down. Dropping through the hole at the bottom of this pitch one alights on a balcony overlooking a bucket shaped pit some twelve feet deep. The floor of this pot is reached by a delicate mud traverse to the south west side of the pit; to a point where a rope [64] (now unsafe) is hung down the sloping side. An obvious outlet is then followed to a stream junction; the left hand or eastern branch leads through two deep pools of water and enters a high rift with a foul looking black sump at the end, and some six feet below the floor level. There are signs that at times this place floods to a depth of some twenty five feet up the rift; although from observations this must only happen under exceptional circumstances. In normal flood conditions the water rises out of the sump and flows to the junction called the "Bear Pit"; here it follows the western branch into a peculiar series of peat stained passages, not unlike



the further reaches of the Far Upper Stream Passage in Stump Cross Caverns. These passages, all inter-connected end in a deep pool of clear water estimated to be about six feet in depth. A small narrow passage can be seen to run towards the south west near the bottom of this short series.

Returning to the main passage at the "Forest" and travelling southwards down Cavern 358, a junction on the east side is reached. This passage quickly looses height and turns into the lowest crawl in the cave, being a mere nine or ten inches in height in its lowest parts; this passage was dug out for a distance of some twenty five feet, (Spar Level). This crawl leads to a moderately sized chamber with a large rubble heap in the centre, and a worked out lead vein crossing the roof. The vein has been stoped from the cavern in a vertical direction, but no entry could be made into the old workings. There is little doubt that it was by Spar Level that "T' owd man" entered the cave, leaving behind his initials and his candles. From the survey of the cavern (NCMRS, 1960/61) it would appear that the apex of the rubble cone in "Freezeland" coincides with some part of the crater made by the now run in Jamie Shaft, whose remains can be seen on the surface at this point. Although still to be verified, it would seem that the main shaft of Jamie Mine (36 fathoms) has in the course of "running in" (1945/46 approx.) also spilt some of its debris into an old glutted shaft driven at an earlier date; these two shafts being sunk side by side would account for the modern rubbish found amongst the rubble heap. It is interesting to note that Spar Level had to be dug out in order to enter Freezeland, yet it is the only possible way in which the miners could have entered the cave. There are signs that at some time Freezeland fills up with water. The water enters by a now silted up inlet passage and unless all the water sinks through the floor, it must flow down Spar Level, across the cave and into the Bear Pit; a line of flow which has been traced. When such flooding [65] takes place the high tide mark in Freezeland will be at approximately the same level as that in the high rift passage containing the rising sump in the bear pit.

Some work is still being done towards furthering the extension of the cave. The Northern Cavern and Research Society members are excavating the inlet passage in Freezeland and a small hole in Cavern 324. The Craven Pothole Club members are working in a series of fissures and tubes below Bottomley's Basin and also at the end of the cavern beyond East Hade.

<u>Surveys of the cave</u>; The first complete survey of the cave was published in the .Journal of' the Craven Pothole Club for 1959. This survey was carried out to the normal standards of cave surveying and was thought at the time to be correct; but a major error in the survey was found in the survey of the northern part of the cavern, although that part of the survey which covers Mongo Gill South's correct.

Early in 1960, the surveyor and several members of the original survey team who had by this time resigned from the Craven Pothole Club; (mainly due to

certain disputes over forming the Northern Cavern and Mine Research Society) had grave doubts as to the complete accuracy of the 1959 survey, and therefore using the same equipment a more accurate survey was made. In angular measurement the cave appeared to run in a more westerly direction than was originally shown. A major error was found in the original taping of the Luckstone Level, resulting in the 1959 survey being some 25 to 30 feet too long.

This resurvey of the cave satisfied us until it became apparent toot no further exploration by digging could be planned without a new survey being carried out to a very high standard of accuracy. Therefore, at the end of December, 1960, a complete resurvey of the cave was carried out with the aid of first class equipment and a much improved technical knowledge. The result of this work is now published for the first time in this issue of the Society Transactions, and details of the survey are given in the following article.

[66]