

**CAVE DIVING IN THE NORTHERN PENNINES**

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## CAVE DIVING IN THE NORTHERN PENNINES

By Mick Melvin

In this paper I have endeavoured to trace the history and development of cave diving in the Northern Pennines. My prime object has been to convey to the reader a reasonable understanding of the motives of the cave diver and a concise account of the work done in this particular area.

It frequently occurs that the exploration of a cave is terminated by reason of the cave passage becoming submerged below water (A sump) and in many cases the sink or resurgence for the water will be found to be some distance away, and in some instances a considerable difference in levels will be present. Fine examples of this occurrence can be found in the Goyden Pot, Nidd Head's drainage system in Nidderdale, and again in the Alum Pot - Turn Dub, drainage in Ribblesdale. It was these postulated cave systems and the success of his dives in Swildons Hole, Somerset, that first brought Graham Balcombe to the large resurgence of Keld Head in Kingsdale in 1944. In a series of dives carried out between August 1944 and June 1945, Balcombe penetrated this rising for a distance of over 200 ft. and during the course of the dive entered at one point a completely waterbound chamber containing some stalactites about 5' long, but with no way on above water level.

It is interesting to note that in these early cave dives in Yorkshire the diver carried a 4' probe to which was attached a line reel, a compass, and his lamp which was of the miners' type, and attached to the end of the probe was a tassel of white tape which was intended for use as a current detector. During June 1945 Balcombe also dived into the terminal sump in Alum Pot; on this dive he used a rope ladder to descend into the sump and reached an approx. depth of 20' down an underwater pitch before he deemed it prudent to return. His first successful dive in Yorkshire was in the main stream sump in Goyden Pot in Nidderdale during October of the same year, when he passed a 150' long sump and reached the main streamway once again. All these dives were carried out using closed circuit oxygen re-breathing apparatus which had a depth limit of 33 ft. During the years 1940/1944 a great deal of cave passage was discovered by R. D. Leakey during his epic free dives in Simpsons Pot, Hull Pot, and Disappointment Pot. All these cave dives were carried out without the use of any breathing apparatus and constitute the first successful cave dives in the Northern Pennines.

The cave diving group was formed during 1946 and members of the Derbyshire section paid infrequent visits to Yorkshire, during the period 1947/50 this group of divers carried out a series of dives at Black Keld in Wharfedale, and Malham Cove in Airedale. The divers' attention was turned to the rising of Black Keld by members of the Northern Pennine Club who informed them that when a hunting horn was blown into a small opening in the cliff face, above water level at the rising, it produced an echo and also that an otter had entered the same hole and had remained inside for a considerable time. However, diving proved that no cave system above water existed, and that the water resurged from a narrow slot situated at the bottom of a vertical pot at a distance of 160' from the entrance. By the end of 1951 Black Keld had been written off by the divers, and Malham Cove rising had been penetrated for a short distance. The Secretary of the Derbyshire Group during these diving operations was R. E. Davies. This period saw the introduction to cave diving of an item of equipment known as an 'Aflo'; this item was an advancement of the original probe used by Balcombe inasmuch as it held a line reel, compass, and lighting equipment, it was a bulky but very necessary item of cave diving equipment during these early years. Another bulky item of cave diving equipment of this period was an under-water signaling device built from a motor car horn, known as 'Aflohonk'.

In 1953 the discovery of the Beck Head Stream-Passage near Clapham Cave aroused a good deal of interest in the area, and the Bradford Pothole Club invited the Derbyshire section of the C.D.G. to carry out a diving operation in the Terminal Sump. Two divers (Davies & Buxton) followed the underwater extension of the final rift for a distance of 385' from the diving base. Although the fact is incidental in itself, this dive was the longest out and back dive to date, nearly 800' in 27 minutes. Following this unsuccessful dive, interest was turned to Clapham Cave itself, and during December 1953 R.E. Davies dived from Lake Avernus through to Lake Pluto. In the following months the group had more success in the cave when the divers pushed upstream from Lake Avernus where after a short dive they reached 400' of stream passage with seven possible ways on, two of them being sumps, 1955 saw an attempt at the Gaping Gill-Clapham Cave problem from the other end and J. S. Buxton carried out two dives in the Pot, with no success; one in South East Pot - which is the last point in the cave where the water is seen before its resurgences in Clapham Cave - found

the pot to descend to a depth of 40' without touching the bottom, and another - in Pool Chamber - was abandoned after Buxton had dived for 50' into a bedding type sump.

An influx of new divers during 1956 saw cave diving in the North being carried out further afield than the major risings, and during June of that year Oliver Wells passed a 60' sump in Threaplands Cave in Wharfedale and discovered 1600' of new cave passage; at that time this discovery ranked as one of the major achievements in cave diving in the country. Oliver Wells and Dave Morris also did some valuable work inspecting sites that might have been of interest to cave divers, and on one of their trips to inspect a cave in Wharfedale, Foss Gill Cave, they managed to lower the water level and pass the sump without any breathing apparatus and explored 300' of new cave. It was during 1956 that the first recorded use of an Aqualung (compressed air B.A.) was reported, R. D. Leakey using a single cylinder Heinke Aqualung and a motor car lamp with 80' of lead attached to a battery for lighting, carried out diving operations in Keld Head and also in Austwick Beck Head without success. About this time, divers were experimenting with mixture breathing-apparatus (Oxygen/Nitrogen) to enable them to work in caves at depths greater than 30' and in April 1957 J. S. Buxton and O.C. Wells dived to a depth of 45' in Hurtle Pot, Nr. Chapel Le Dale; this occasion was the first where a mixture set had been used below 30' in a cave, and a report of the dive was published in the Royal Naval Diving Magazine.

Attention was being turned to the use of the Aqualung as a tool for cave diving, and during 1957 a diver from the Craven Pothole Club, Norman Brindle - explored the Upper Sump in New Goyden Pot with the Aqualung cylinders situated on his back. It was this arrangement which forced him to return to the diving base after diving 50' into the sump; at this distance he had reached a constriction, and the apparatus made it impossible for him to pass through. However, Brindle made two successful cave dives with an Aqualung during 1959 when he passed two sumps 18' and 150' respectively and discovered another 300' of cave passage in Boreham Cave, Littondale. Two months later, in August of that year, he dived downstream in Goyden Pot and once again discovered 300' of cave passage before he arrived at another sump. These dives with a compressed air B.A. were being noted with interest by certain divers in Somerset who were experimenting with an Aqualung for use in cave diving operations. With the increased membership of the cave diving group, and because of the diving possibilities in Mendip and other caving areas becoming limited, 1960 was a boom year for cave diving in the Northern Pennines.

The comparatively newly-trained divers from Somerset carried out dives in the following caves with little success during that year: - Clapham Cave, Gaping Gill, Lower Gunner Fleet Cave, Pate Hole, and Nidd Head Risings. Only the latter diving operation met with any success, when P. Davies and the late Jack Waddon discovered a series of above-water chambers beyond the submerged sections at the S.E. Risings. Also with the discovery of an extensive system of caves beyond the sump in Dow Cave, first free dived by Norman Brindle, the problem of rescuing an injured person from the cave and bringing him through the sump was tackled. Members of the Upper Wharfedale Fell Rescue Association designed and built a breathing set which consisted of a 'Normalair' full face mask fed by a cylinder of compressed air which was attached to the stretcher; the patient was protected from the cold by an exposure bag made from Neoprene rubber. This breathing apparatus which had no facilities for an accompanying diver was successfully used in a practice rescue to pass the sump in the Dowbergill Passage of Dow Cave, near Kettlewell. In the early months of 1961 the Somerset divers - Davies & Waddon - paid a visit to Yorkshire and carried out some very good work at Nidd Head Risings and Magnetometer Pot. At the former rising once again the pair passed a sump of 105' and reached yet another chamber containing a sump, and at Magnetometer Pot Waddon dived for 100' into the static sump known as the Styx Rising, without success. Waddon also carried out diving operations at Dub Cote Cave and Bransgill Head, Nr. Horton-in-Ribblesdale, and Spring Trap Cave in Wharfedale.

This period saw one or two home-grown divers operating in the area on compressed air B.A., but without much success, with a number of Northern cavers becoming interested in the prospect of cave diving, and with a good deal of help in their training being forthcoming from the Somerset divers, a northern section of C.D.G. came into being towards the end of 1962, with Bob Jarman of the B.P.C. as its Secretary. The new group instituted training dives, and members of the group carried out further dives in Clapham Cave and Spring Trap Cave. About this time, Mike Boon - a diver from the Somerset Group who was particularly interested in the use of compressed air B.A. - designed and built a breathing set for use in cave diving operations and he gave it the name 'Niphargus'. The apparatus consisted of a 27 cu.ft. Cylinder of air compressed to 1800 lb. carried on the side of the body by a harness of web strapping, and air being fed to the diver by means of a split stage 'Scubair' demand valve. Together with the lead weights slung round the waist, and a miner's cap lamp for lighting, this B.A. was a very compact item of equipment, and with

minor modifications is the one being used today by all the Northern section of the C.D.G. Shortly after publishing the report on his breathing apparatus, Mike Boon came to live in the North of England and brought with him a lot of ideas on cave diving techniques which were quickly picked up by the divers in the Northern Group. By this time, cave divers in general had stopped using the Aflo and were relying on a miner's lamp for lighting, and a line reel secured at base and paid out by the diver, as a safety line; the Northern Section were no exception.

The divers from the Northern Section had their first successful dive in May-1963 when the late Alan Clegg passed two sumps of 30' and 10' respectively, in Langstroth Cave, Upper Wharfedale, and explored 80' of large stream passage to a high aven containing a waterfall. A number of attempts were made to scale the waterfall during that year but all were unsuccessful, B. Jarman and Gordon Nolan - two more northern divers - were carrying out a series of dives in Clapham Cave and doing some much needed survey work beyond the sumps there. Mike Boon, now resident in the area, dived in Stonelands Cave in Littondale for a distance of 180' from base, without reaching an air space, in December of 1963.

The pace which cave diving was carried out increased enormously in the Northern Pennines during the latter months of 1963 and early 1964, Alan Clegg and Ken Pearce dived in Little Hull Pot without success in early 1964, and Mike Boon and Bob Gillebrand passed a 70' sump at the bottom of Ireby Fell Cavern and explored 1600' of huge cave passage. This discovery had the effect of bringing the Northern Group even closer together and many weeks were spent in the cavern, surveying and attempting to lower the sump so that non-divers could pass. Also during January and February of 1964 divers from Somerset joined divers from the Northern Group in two abortive attempts to scale the aven in-Langstroth Cave. On March 29th, 1964 Alan Clegg was drowned whilst diving in the main stream sump in Lancaster Hole, Westmorland, and these tragic circumstances brought to a halt the activities of the Northern Section for the remainder of that year.

The first months of 1965 saw the Northern Section of C.D.G. with two active members - Mike Boon and Pete Livesey - and on May 1st, 1965 Pete Livesey carried out the first diving operation in Yorkshire for nearly twelve months, when he dived into Styx Rising in Magnetometer Pot for a distance of 100' without reaching an airspace. The following month Mike Boon carried out another operation at New Goyden Pot and dived into the top sump for a distance of 300' and attained a depth of 30'. About this period an influx of young divers in Somerset who had been carrying out some very successful cave dives, began to turn their attention to some of the sumps in Yorkshire, in particular Spring Trap Cave where during August 1965 Dave Savage and Dave Drew of Somerset Section passed a sump 150' long and discovered 1000' of new cave, which they explored to a point where another sump barred the way - which on a later dive, together with Ken Pearce and Bob Leakey, they penetrated for a distance of 45'.

The success of the Spring Trap dive was a source of inspiration to the Northern Group, and a month later Pete Livesey carried out a fine cave diving operation at Stonelands Cave, Littondale, when he dived into the Terminal Sump for a distance of 375' without reaching an airspace. Many of the diving operations carried out about this time were executed by divers wearing fins, and weighted for diving, as opposed to the older method where the diver destroyed his buoyancy by overweighting and kicked himself along underwater with boots. One such dive was carried out by another Somerset diver on a visit to Yorkshire during October of that year - Mike Wooding dived into the main downstream sump in Bull-Pot-Of-The-Witches for a distance of 230' with the submerged passage still continuing on ahead.

These dives were noted with interest by a small group of Northern cavers who were beginning to take an interest in cave diving, and after training sessions at various branches of B.S.A.C. a party of 4 northern cavers dived the sumps in Langstroth Cave, Upper Wharfedale, in November with the intention of scaling the aven. Other dives were carried out in Threaplunds Cave during the following months, and in January 1966 they formed themselves into a group and arranged an inaugural meeting at the H.Q. of the B.S.A. in Settle. Many of the interested cavers took part in a trip down Penyghent Pot on January 9th when Mike Wooding dived into the upstream sump, in the Hunt Pot inlet passage for a distance of 240' from base, without success. At the inaugural meeting of the C.D.G. Northern Section on January 22nd, 1966, 15 interested cavers attended, of whom most had diving experience. At this meeting I was elected Hon. Secretary of the Group, and Ken Pearce the Diving Officer. From the time of this meeting, so many diving operations have been carried out by the Northern Section that to relate all of them here would probably bore you, but I will recount the more interesting and original ones.

Some of the first successes come to the new Northern Section from dives in Skirwith Cave, Ingleton, and Thorogill Cave, Arncliffe. The former consists of two short sumps divided by an air bell, a hands and knees crawl crosses a chamber to another sump which has been dived into via a small airbell for 176' by John Southworth, one of the leading lights of the group. The first major discovery came from the sumps in the new extension to Dale Barn Cave, Chapel, Le Dale, made by members of the H.W.C.P.C. -Dave Stewart and John Ogden - who dived two short static sumps and explored approx. 3000' of stream passage - the exploration of this is still not complete. Some unsuccessful dives carried out in the early part of 1966 were in Lancaster Hole and Lost Johns system. In the former John Southworth followed a huge underwater passage upstream from West Montagu Passage for a distance of 400' before he had to return, for lack of air. In the latter operation at Lost Johns System, a diver from Imperial College Caving Club - Phil Collett - dived into the final sump for 200', without air space. During the months of May and June, another Northern diver - Bill Frakes - carried out a series of dives at Magnetometer Pot, and on his first dive there at the Styx Slope Rising, he was successful in passing the sump, which was 130' in length. He reached a good size passage at the other side which he followed for a distance of 200' to yet another sump. On a later dive he dived into the second sump for a distance of 25' before he found it to be heavily silted up. Another point in the cave where he dived, was at the large sump near Holes Junction, again he was successful and passed a short sump 35' deep, to reach a completely waterlogged chamber, with a rift going off at water level which was too tight to enter.

During the same months, members of the group were active at Malham Cove Rising in Airedale, and in a series of dives the rising was penetrated for a distance of 150' without success. The divers had to dig their way in at the entrance and all dives were carried out during the week, or in the evening after work. During early July, the Kingsdale Master Cave was first entered, and on one of the first trips upstream the party was halted by a sump, which was suspected to be the other side up the Terminal Sump in Rowten Pot; the following week, the Terminal Sump in Rowten Pot was passed by B. Frakes and found to be a series of short dives. The next day 10 cavers dived the sumps using compressed air B.A.s and so made the first Rowten Pot, Swinsto Pot Exchange. The same weekend as the Rowten Pot Dive, John Southworth dived in Low Douk Cave for a distance of 130' without reaching an airspace.

The latest development in cave diving discoveries in the North was on July 17th when a party of divers from the Northern Section of C.D.G. transported 50' of may- poles through the sump in Langstroth Cave, and scaled the high aven. At the top they explored approx. half-a-Mile of passage until they were stopped by an aven approx. 80' high. Members of the Northern Section of C.D.G. are currently experimenting with telephones for sump work, and are also designing a fibre glass case for use as a container for the diving bottles; a number of divers are also interested in equipping a breathing apparatus for cave rescue work in Northern Sumps. To conclude this paper I should like to mention that as soon as it is printed it will be out of date, as the amount of diving being carried out in the Northern Pennines is tremendous and I feel the time is fast approaching when the Aqualung will be just another item of caving equipment, and the sump just another obstacle to be overcome by the cave diver.