



## FOREWORD

I am taking this opportunity of thanking all use members who sent their greetings at Christmas, and to wish all members well in the New Year.

This issue is rather a special one as it is produced jointly with the Cave Diving Group. It contains a full length article describing the discovery of Swildons Five and Swildons Six. This exploration is still in progress, and members who are keen to visit Swildons Six in the future (and who are willing to take part in the working trips that will make this possible) are requested to contact L. Dawes, 113 Brookland Ave. Sidcup, Kent. The dates planned for the next trip are 17/18th January and 31st/1st February. If these trips are successful we are hoping Sump Five will be removed and that some of the more dangerous obstacles in Paradise Regained, and in Swildons Four, will be removed as well.

We were particularly pleased to receive Oliver Wells article at this time as we are now almost completely without any other copy. Please, please so send in your interesting articles as soon as possible.

May we correct an error in the 'Foreword' of the November issue. We did not, as is stated, make a loss on the Dinner as reported by the Treasurer, He has now discovered that he had forgotten to include 1 the price of two tickets paid directly to him at the Dinner. On the other hand we have not heard from the two "gate crashers".

Sec. F. Frost, 22 Wolseley Rd, Bishopston, Bristol 7.

'phone Bristol 44221

Treas. G. Williams, Cedarwood, Cadbury Camp Lane, Clapton-in-Gordano, Bristol.

We welcome the following new members.

J.R. Case, 1. Hobart Rd, Weston-super-Mare, Som.

D.J. Causer, 19. Kenmore Crescent, Bristol 7.

M.A. Dowes, 9. Duke St, Bath, Som.

T.J. Hill, 20. Clifton Park, Bristol 8.

B.V. Hony, "Trewithen", Love Lane, Bodmin, Cornwall.

M.H.Howman, 40. Henley Grove, Henleaze, Bristol.

M.P.Josey, 44a Zetland Rd, Redland, Bristol 6.

D.T.S. Mogg, 11 Downs Cote Drive, Westbury-on-Trym, Bristol.

E.D. Nixon, (Sgt Royal Signals) Armd Car Sqdn, Aden Protectorate  
Levies, B.F.P.O. 69

A.E. Morris, 6 Aubrey Rd, Chessels, Bristol 3.

J.L. Palmer, 61 Gathorne Rd, Southville, Bristol 3

J. Phillpott, 71 Stoke Lane, Westbury-on-Trym, B'tol.

M. Pym, Parsonage Farm, Pensford, Bristol.

P.J. Thomas, 7 Rodney Place, Bristol 8.

Forthcoming Events

G.B. Guest Days. No details available.

U.B.S.S. Sessional Meetings, will be held in the Geography Lecture theatre. Time 8.15 p.m.

Monday January 26th. "The Rock Shelter Paintings in the Gibraltar District". M.C.Burkitt, M.A., F.S.A.

Monday February 26th. "Stonehenge in the Light the Latest Research". Prof R.J.C. Atkinson. M.A., F.S.A.

Monday March 2nd. (1) "Some Caves in France and Northern Spain". Dr. B.A. Crook. (2) "Ireland 1958". D.C. Mead. (a short film will be shown at this meeting.

Monday March 16th. "Some Caves of Gibraltar" Dr E.K. Tratman. O.B.E., F.S.A.

Easter 1959 Club trip to Yorkshire. Details from the Hon. Secretary.

## SWILDONS FIVE AND SWILDONS SIX

### 1. Introduction.

This article describes the discovery of Swildons Five and Swildons Six by members of the Cave Diving Group, assisted and encouraged by members of the Westminster Spelaeological Group, Shepton Mallet Caving Club, Wessex Cave Club, Bristol Exploration Club, University of Bristol Spelaeological Society and Mendip Nature Research Committee. The effort was spread over four weekends as follows:

6/7 September.	Carry-in of equipment.
13/14 September.	Discovery of Swildons Five.
25/26 October8/9	Reconnaissance as far as mud sump. Try-out of baby respirators at Wookey Hole.
8/9 November.	Discovery of Swildons Six.

The divers were John Buxton, Philip Davies and myself. The other people who took part were: T. Andrews, D. Balcombe, J. Bevan, Audrey Buxton, G. Candy, D. Causer, N. Cleave, P. Crabtree, M. Dale, K. Dawe, L. Dawes, Phil Davey, F. Davies, Pat Davies, D. Farr, D. Ford, R. Frost, J. Goodwin, B. de Graaf and Valerie de Graaf, J. Hanwell, C. Hawkes, E. Hensler, M. Holland, L. Holland, Pamela Hubbard, N. Humphries, W. Kitchin, B. King, O. Lloyd, T. Morland, E.D. Nixon, R. Penhale, B. Potts, D. Preston, M. Prewer, M. Pym, K. Robbins, Pamela Russell, D. Terry, P. Thomas, E. Strong. T. Teagle, Dorothy Waddon and J. Waddon, B. Walton, G. Weston, W. Willcocks, D. Willcome, G. Witts, J. Wright, S. Wynne-Roberts and M. Yates.

## 2. A description of the new passages.

Sump Four is 12 feet long and may be dived without a respirator. There is the possibility that the handline will pull across, increasing the underwater distance to 20 feet, but no extra danger is involved if this happens. The line should be held in the right hand.

Swildons Five is high to begin with and there are two fairly obvious high level passages. One of these has been entered and does not go far. The second half of Five is low and wet. There are three ducks, the second of which is called "Buxton's Horror". Beyond the third duck there is a chamber with a blind aven ("Puncture Corner") and then Sump Five. The distance between Sump Four and Sump Five is 280 feet, and it is doubtful whether the vertical drop between them is as much as 2 feet.

The length of Sump Five is about eighty feet (maybe less) and in dry weather it may break up into a series of very low airspaces with only a couple of short lengths totally submerged. There is a temporary line in position belayed firmly at the far end, hardly at all at the near end.

Swildons Six has not been completely explored, unfortunately. After an initial crawl over pebbles the passageway opens up and is about feet high and wide. The stream runs at a steady gradient over compacted pebbles and small boulders. There are no waterfalls anywhere. A tributary comes in at stream level on the left (looking downstream) of about one quarter of the volume of the PG tributary just before Sump One. At the furthest point reached (perhaps 150 feet beyond the sump) there was no very obvious obstacle ahead.

The removal of a gravel bank (perhaps ten man hours) would probably remove Sump Five and the worst of the ducks in Five as well. Exploration of Six could then be resumed. Although this might be done in exceptionally dry weather without a respirator (there is a digging tool in Six ready for anyone who does so) I myself think that the safest way would be to have another diving trip with three or four divers.

### 3. A description of the equipment used.

The oxygen respirators used by John Buxton and myself on 13th September were highly modified versions of the Siebe Gorman Amphibian Mk 11 breathing apparatus in which the main oxygen cylinder has been replaced by one containing 170 litres, the emergency cylinder contains 100 litres and the absorbent canister contains 2½ pounds of soda-lime. They are useable down to thirty feet. They are almost ideal for shallow-water cave diving, but they are a bit heavy when it comes to carrying them through a long cave such as Swildons Hole.

The baby respirators used by Phillip Davies and myself on 8th November were specially made for the trip. My own carries 50 litres of oxygen in each of its two cylinders, plus half a pound of soda-lime in the canister. With the same safety margin as above the useful duration (i.e. the duration without starting on the second cylinder) is about thirty minutes. These sets are in fact highly modified versions of the Amphibian Tank Escape Apparatus in which the soda-lime canister is doubled in length, and extra gas supply is added, a blow-off valve is put on the breathing bag, a proper face mask is fitted and in which the breathing bag is lined with thin rubber to improve its waterproof qualities. The whole thing is carried in a haversack worn on the chest.

The lighting apparatus used by John Buxton and myself on 13th September (aflo) was rather elaborate and really designed for use at Wookey Hole where the divers have to walk distances underwater of one hundred yards or more, and where there is no difficulty in carrying equipment into the cave. On 8th November we dispensed with them and I used an ordinary accumulator cap light.

The underwater signalling and air-to-air telephone apparatus which we used was the diverphone. This device includes a waterproof box with a sound-powered microphone in it so that the diver can talk to the others as soon as he reaches air. By pressing a button on it the diver can operate a transistor oscillator (potted in araldite) which sends a 400 c/s signal of 4½ volts along the wire. This arrives at the other end as a powerful BLEEP and is used either to attract attention (when wishing to telephone) or for signalling by code when the diver is underwater. The device also contains a transistorised amplifier (useful at Wookey Hole) so that the diver may talk to his supporter with extra volume

The diving dresses used on the first dive were two-piece suits of wartime frogman pattern (very comfortable) but on the second occasion we used submarine escape exposure suits of a lightweight yellow material. For diving I had replaced the neck seal on my dress by a rubber frogman's hood to keep the back of the head and neck warm. If a hood is not fitted to the diving dress then for diving underwater a rubber bathing cap must certainly be worn.

#### 4. Previous history.

Previous dives in the cave had opened up

Swildons Two to cavers and shown that Sump Two is impenetrable to downstream divers. The dates of these dives were (see refs.1, 2) C.W. Harris (1932), F.G. Balcombe (1934, 35, 36), "naval divers" (1946), Dennis Kemp (1953), R.E. Davies and F.G. Balcombe (1954). The passing of Sump One also enabled W.I. Stanton, C. Vowles, C.H. Kenney and L.W.E. Devenish to explore the Black Hole Series, and other cavers to discover the Mayday Passages.

Concerning all these efforts H.E. Balch (1) hit the nail on the head when he wrote; "I suspect that there is somewhere a high level passage, not yet discovered, that will miss these traps". It was by following such a high level passage that Dennis Kemp was able to bypass Sumps One and Two and discover Swildons Four (3). Thus to reach Swildons Four, Five and Six it is not necessary to dive Sump One, and a route is taken which is dry over about half of its total distance.

The first steps along this high level passage were taken by Professor E.K. Tratman on 12th November 1921 when he led a party away from the streamway in Swildons One and up into Tratman's Temple. From there a passage ran off to the south, but nobody cared to follow it for fear of damaging the formations until 1945 (?) when a party of RAF men smashed their way through to reach the Blasted Boss. The first man to attack this boss was Phillip Davies using a hammer and chisel, but it was not until 25th January, 1953 when W.I. Stanton, C.H. Kenney and L.W.E. Devenish applied chemical persuasion that it was possible to pass it and reach the Saint Paul's series of passages.

There followed some working trips baling the wrong mud sump until the correct sump was attacked and the route through Paradise Regained was opened up is far as Swildons Four. It was a great pity

that the exploration involved the destruction (either deliberate or accidental) of such a mass of quite remarkable stalacite and stalagmite formations, and we can seek such consolation as we may from the fact that they have been preserved for us in a quite outstanding set of black and white photographs taken by Donald Thomson on the day after the discovery.

#### 5. The planning for the first dive.

The planning for the 13th September dive really began as soon as Swildons Four was discovered by Dennis Kemp on 15th June, 1957, when he sent me a postcard with the brief message "two sumps for you to dive in Swildons Four". I indicated that this challenge would be taken up, and in March 1958 I told him that I wished to get on with it. He forwarded my letter to Len Dawes who agreed to organise a dive for the two weekends 6/7 and 13/14 September. I personally believed that the sump would be a long one and planned the dive to have two divers. I expected that we would grope our way in for a couple of hundred feet or so before declaring it to be impassable. Len Dawes declared optimistically that it would turn out to be short enough for free-diving but we shook our heads wisely and told him that this was very, very unlikely.

From the start the level of enthusiasm for this operation was very high. This was as well because the trip to Swildons Four is very tiring at the best of times, and the problem of moving diving equipment in and out is not easy. We estimated that thirty haversacks would be needed to keep the individual loads small enough for transport through the cave. A large number of people would make this task easier and a degree of organisation would be required to avoid congestion at the pitches, in the approach to the Saint Paul's squeeze and in Blue Pencil passage.

In August 1958 Len Dawes immersed himself in the downstream sump and found that there was a roomy passage underwater. Previously, (31.8.57) Norman Brookes had immersed himself in the upstream sump and had found that there was plenty of room there also. I visited Swildons Four at Easton 1958 and saw that there were rock ledges above the streamway at the point where Blue Pencil passage comes in and I hoped that we would have a chance of diving downstream in clear water if we stayed on these ledges until we were quite ready to dive.

On 16th August, 1958 we held a meeting in the Shepton Mallet Caving Club hut to work out a plan. The only previous operation of comparable magnitude was the dive into Sump Two by Bob Davies and Graham Balcombe in 1954 organised by Oliver Lloyd. On that occasion it had been necessary to take all the haversacks through Sump One and dry clothes had been needed for the supporters of the divers. We did not think that it would be possible to reach Swildons Four from the entrance of the cave wearing a diving dress and therefore decided to carry the dresses and inner garments as separate bundles. We also decided to take in spare sodalime canisters and a spare diving dress. These additions offset the absence of dry clothes for the supporters and the number of bundles was in fact slightly greater than on the 1954 trip. On the basis of this planning, I wrote out an operation order which was duplicated and distributed for people's comments.

Several suggestions were made and acted upon. The only ominous silence came from Oliver Lloyd. I later discovered that the letter he posted to me on 22nd August was delayed in the post and was not delivered in Nottingham until 15th September. (i.e. well after the operation was completed). Fortunately we met each other on 29th August and

were able to discuss the plan in detail. This was doubly fortunate because Oliver mentioned casually that he had taken Eric Hensler into Swildons Four a few weeks previously and I promptly sent off an invitation to him to join us which was accepted.

To reduce congestion we decided that only a minimum number of people needed to pass through the 'blasted' squeeze at the bottom of Blue Pencil passage and into Swildons Four. The "diving party" would have to go through, of course, and we planned a second party (the "tiger sherpas") to ferry kit along Blue Pencil passage and into Swildons Four. The remaining sherpa parties therefore needed to go no further than the upper end of Blue Pencil passage. We hoped to avoid congestion in the rest of the cave by suitably timing the various parties.

We realised that the exposure would be severe for the first two parties who would have to wait around for several hours in the wet. Fortunately however, the Cave Diving Group had bought a quantity of lightweight waterproof exposure suits and it was agreed (by C.D.G.) that some of these should be made available at a nominal deposit to members of these parties. These were found to be ideal and reduced the physical strain considerably. In fact it would have been difficult to carry out the trip without them.

## 6. The trip of 6th September.

On Saturday, 6th September 1958, we assembled at Maine's Barn with 35 haversacks of diving equipment and cooking apparatus, and counted heads. 27 people had turned up. Mr. Maine had kindly agreed to lock the cave to other parties during the two weekends and in the intervening week, so that

we were to have a free run on the way in and on the way out. This was also necessary to prevent any interference with our equipment. We had warned the other caving clubs on Mendip and we hoped that no one would be inconvenienced too much.

At 11.0 a.m. Phil Davey and Pamela Russell went underground and laddered the pitches. They also placed handlines ("knobbly dogs") at the entrance to Tratman's Temple and in the Greasy Chimney. These consist of short metal rungs fixed at twelve inch intervals on a single steel wire and they are absolutely ideal for giving support on muddy slopes. We were to be grateful for them later.

The second party entered the cave at 3.0 p.m. There were six of us and we carried ten packs. The members of this party were Oliver Lloyd, Phillip Davies, Jack Waddon, John Bevan, John Buxton and myself. We were followed at 30 minute intervals by the tiger sherpas and the other sherpas.

After an uneventful trip of three hours the diving party reached Swildons Four having passed the tackling party in Paradise Regained. We fixed an alloy ladder down into the streamway and climbed down. The equipment then started to arrive and we assembled it and tested it. Nothing had been damaged. Oliver Lloyd brewed tea and handed out bread and cheese. Everything was laid out ready for the next weekend, and we walked to the downstream sump to see the lie of the land.

We then visited the upstream sump. The water in it was beautifully clear. According to the survey this sump is about fifty feet downstream from the furthest point reached by Davies and Balcombe in 1954. We agreed that it should take second place to the downstream dive (and in fact we

did not have the time or energy to dive in it at all).

### The trip of 13th September.

On Saturday, 13th September, we gathered at Maine's Barn once again and prepared for the trip. The diving party was the same as before, except that Oliver Loyd was unwell and did not come all the way with us. He spent the weekend lifelining parties up and down the forty foot pitch. Christopher Hawkes took his place in the diving party and was briefed by Oliver in the operation of the kitchen. Len Dawes and Eric Hensler had also joined us. Graham Balcombe was on holiday and unable to come, as also was Dennis Kemp.

We entered the cave at 11.30 a.m. and after uneventful trip arrived in Swildons Four. Once again our exposure suits had kept us dry. We were relieved that John Buxton was alright because he had been suffering from violent stomach disorders on the previous day and night and had only recovered at the last moment. When we were ready, we sat down and rested and checked over final details. All seemed well, so we put on our respirators and walked down the streamway to Sump Four.

John Buxton sat on one side as standby diver while I dived on the end of a rope. The visibility was nil. On my first dive I went in about ten feet and confirmed that the first part of the passage was roomy. On my second dive I got through to Swildons Five and returned immediately for John Buxton. We then went through together and set off to explore. The air in Five was wonderfully pure after the fog in Four and we made rapid progress. John Buxton was leading as he floated under the third duck with his nose a few inches from the roof, but unfortunately as he stood

up on the far side of it he caught his diving dress on the rock and tore a hole in it. (We have a rule in the Cave Diving Group about protecting diving dresses with boiler suits but both of us had neglected to obey it on this occasion). I entered the final duck on my own and floated along under a low roof until I reached Sump Five. At one point there was only two inches of air. At Sump Five there is ten inches of air in a tiny chamber with rock meeting water all round. I stuck my boot under and the roof seemed to rise almost immediately.

I returned to John Buxton who was philosophically resting on a sandbank, while the roof on either side of him dropped to within three inches of the water surface. I took a look at the hole in his diving dress and returned to telephone the news back to the others. They tied the puncture outfit on the line and I pulled it through. They then announced to my surprise that the length I had pulled in was only 47 feet and that they didn't think that the sump was more than about 15' feet long. I was amazed and said it seemed more like 30 ft long a maximum depth of 5 feet at the centre point. We measured the distance again by tying knots at the two ends and pulling the wire through. The length was twelve feet. We pulled the wire tight and belayed it at both ends. I returned to John and we tried to mend the tear in his dress but without much success. We then carried out a C.R.G. Grade 2 survey as we returned to base.

After discussing the situation with us, Len Dawes offered to dive the sump without kit. He was wearing an exposure suit and was therefore rather buoyant. He borrowed 20 lbs. of lead from John Buxton and put it in his boiler suit pockets. I told him to hold the wire in his right hand and to surface very quietly at the far end. I put on

my mask and. went through the sump to wait for him. There was not enough room to sit closer than five feet from the point of arrival. After a minute or so he arrived and sat still while he took his bearing. Only his head was out of the water under the low roof and he crawled forward on to dry land.

We went as far as Puncture Corner and then returned through the sump to rejoin the others. The tiger sherpas had already arrived in Swildons Four so we packed up the kit and took off our diving dresses.

On the way out of the cave we passed the sherpa parties who were waiting in the chamber at the head of the 35 foot blind pitch in Paradise Regained in accordance with our anti-congestion programme. We told them to go forward to the head of Blue Pencil passage where they met the tiger sherpa party who was bringing the kit through from Swildons Four. The load was lighter inasmuch as we had concealed our lead weights (forty pounds in all) in Swildons Four for use in forthcoming trips to the new series. We reached the entrance at midnight, more than twelve hours after entering the cave, and once again it was very pleasant to be given tea from the party in the large green tent.

For the diving party it was time for supper and bed but the hard work was just beginning for the sherpas and tiger sherpas who were bringing the kit and tackle out of the cave. It was 4.0 a.m. before the last of them was out of the cave. All this time Audrey Buxton and Pat Davies remained at the cave entrance brewing hot tea for the parties coming out.

## 7. The trip of 25th October.

Derek Ford, Joe Candy, Mike Pym and Peter Crabtree visited Paradise Regained to explore an aven close to Blue Pencil Passage, only to discover that the mud sump had filled up and was impassable. They warned us to arrange a baling party before the next diving trip. (I was absent from this trip because I was giving some training to John Bevan at Wookey Hole. Phillip Davies joined us next day and we tried out our baby respirators. We made the obvious discovery that with this kit it is necessary to carry more lead to stay down.)

## 8. The trip of 8/9 November.

This was the trip that resulted in the discovery of Swildons Six. Although the diving was successful we had bad luck in other respects, and it was a warning to us of the fatigue that can set in during trips of this magnitude.

The first party (under the leadership of Mike Holland) went underground at 11 a.m. and everything went off without a hitch. They laid the tackle, baled the mud sump, chipped a bit more off the blasted boss and took the metal clamps for a scaling pole down into Swildons Four. They also cut up some of the poles already in the cave so that they could be taken round the corner into Four. The other members of this party were Leo Holland, Bill Kitchin, Ronald Penhale, E.D. Nixon, Noel Cleave and Jerry Wright. Steve Wynne-Roberts entered the cave and joined them later.

The members of the second party were Derek Ford, Joe Candy, Phillip Davies, John Bevan and myself. I stayed outside in the field adjusting

my dress until the others had disappeared within, and then I went in to join them. There was no sign of anybody, so I sprinted along wondering why on earth a party of experienced cavers should have left one of their number to struggle along in the rear on his own. I eventually caught up with them on the far side of Barnes's Loop to discover that one member of the party was not with us. Two of us went back to look for him (he had missed the way just inside the entrance of the cave) while Phillip Davies and myself just sat there and admired the scenery.

After an appropriate interval the others returned in company with the second half of the party (Len Dawes, Mike Thompson and Ken Dawe), and we went together through Paradise Regained and into Swildons Four, passing M. Holland's party on the way.

Phillip Davies and I assembled our respirators, and without incident the diving party went through into Swildons Five, tied a permanent line in position, and dragged the twelve foot scaling ladder and other bundles after us. It was the common verdict of the freedivers that Sump Four is not significantly harder to dive than Sump One except for its length. This was a surprise for me because the passage underwater has projections in it which I thought might snag on clothing.

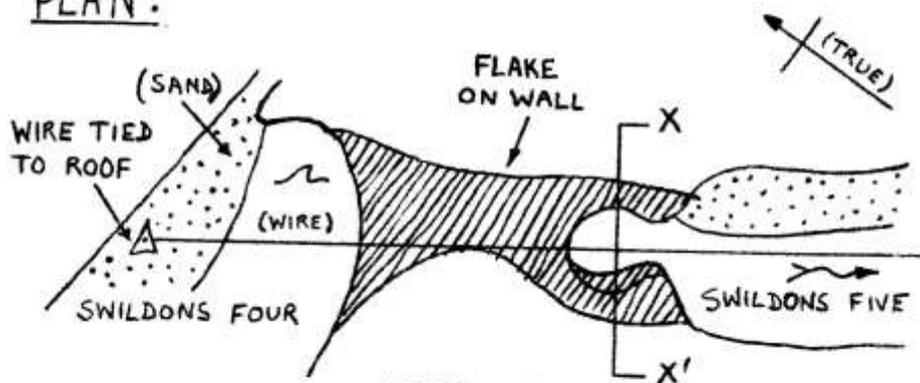
Len Dawes organised the scaling party while Derek Ford and Joe Candy started to survey. Phillip Davies and myself put our respirators on one side and scratched in the stream bed to see if it would be practicable to lower the level of the water in Sump Four. The floor of the passage at the place where we dug (point Q in the survey) consisted of about three inches of compacted pebbles on top of a light clay, and it was easy

# SUMP FOUR, SWILDONS HOLE.

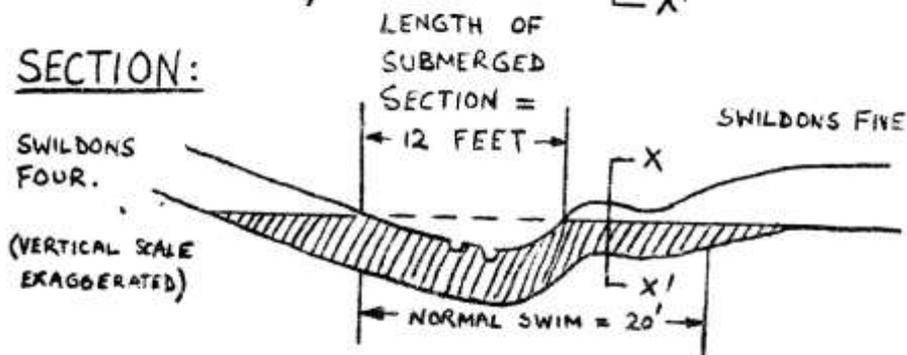
(MAY BE PASSED WITHOUT A RESPIRATOR)

CRG GRADE TWO DIAGRAM:

PLAN:



SECTION:



SCALE 1" = 10'



SECTION OF PASSAGE  
AT XX'



going as soon as the trenching tool cut through the surface layer. However it would have been necessary to dig a trench of many yards length to have made any real difference, so we desisted.

Len Dawes reported that the first high level passage did not go anywhere and that he would need an extra ten feet of pole to reach the other one. Leaving the surveyors at work (and leaving the pole where it stood) we pressed on to Sump Five. At Puncture Corner Ken Dawe climbed twenty feet or so up an aven until it became too tight for him.

We were then ready for diving. Phillip Davies's respirator carried less oxygen and less soda-lime than my own and it was agreed that he should stay out of the water as a standby diver while I explored on the end of 100 feet of wire. I connected up the diver-phone and checked that it was bleeping correctly. The water level was two inches higher than on the previous trip and it was no longer possible to float in with nose against roof to the tiny terminal chamber I had visited before. I chugged along just below the surface until I reached the tiny, circular, terminal chamber and paused to examine my surroundings. I passed on through a tightish section underwater (which I think I missed on the way back) until once again there was a couple of inches of air. This air space was remarkable for the GLOOP GLOOP GLOOP noises with which it was filled, and I chugged along following the highest point until once again it was necessary to submerge.

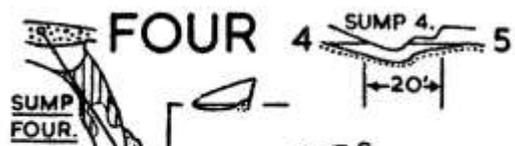
This time I stayed under for a couple of minutes, perhaps less, and I remember that it ran through my mind how necessary it was to be dry and comfortable for this sort of game. I spent a few moments disentangling my diverphones from the

breathing apparatus and then pressed on. It was a great moment when I put my head up into three inches of air and heard the sound of running water in the distance. I chugged along for a few more yards until the roof lifted, and I had arrived!

Phillip Davies telephoned to say that his oxygen cylinder had been leaking and that he would be unable to join me. This was a blow, and I had to content myself with a very brief look at the first few yards of the streamway in Swildons Six. I then spent about 45 minutes digging a trench in the gravel but it did not lower the water level very much. I decided that a mansized pickaxe and shovel would be needed to do the job properly, instead of the hand entrenching tool that the others had sent through to me. I tied the wire on to a rock and then set off along it to rejoin the others.

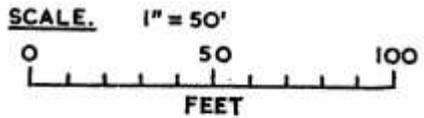
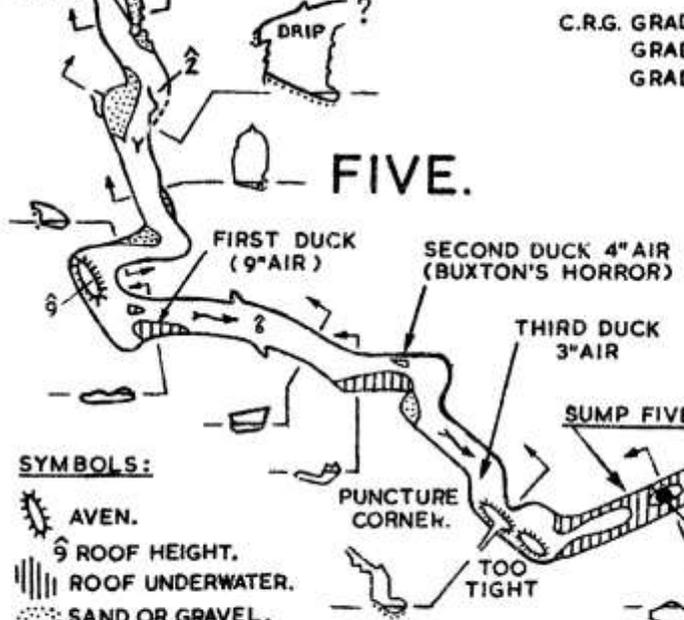
The return journey through Sump Five was memorable for an incident which is trivial in retrospect but which was rather alarming at the time. I had submerged and was feeling my way along the wire with about nine inches of visibility when an "object from outer space" appeared in front of my visor and approached quite rapidly as if to swallow me up. My stomach turned over for a few seconds until I recognised the object for what it was - a rather muddy polythene food bag floating towards me in the current! I shall never forget it.

When I finally reached the others I heard that Len Dawes had acquired a very high respect for Buxton's Horror. Acting on my telephoned instructions he had set off upstream with Mike Thompson to give a message to the surveying party and to the kitchen party in Four. Being unable to recognize the correct zig-zag route through Buxton's Horror, he had tried to dive it sumpwise without a line and had missed the air surface on the far side.

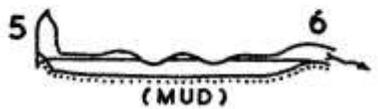


SWILDONS HOLE : FIVE AND SIX.

C.R.G. GRADE FOUR - SUMP FOUR TO BUXTON'S HORROR.  
 GRADE TWO - BUXTON'S HORROR TO SUMP FIVE.  
 GRADE ONE - SWILDONS SIX.



SECTION OF SUMP FIVE:



SYMBOLS:

- AVEN.
- ROOF HEIGHT.
- ROOF UNDERWATER.
- SAND OR GRAVEL.
- WATER FLOW.
- X & Y SEE TEXT.

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*Okul.*

Fortunately Mike Thompson had realised what was happening and had hauled him out by his boots.

It was a pleasure to drink tea in Four and it was more pleasant still when the final planned party joined us and we were ready to climb up the chain into the squeeze. By this time the six members of the diving party had been underground for ten hours and were utterly exhausted.

When we reached starlight it was 2.0 a.m. and we admired the brilliance of the planet Mars as we walked across to receive a magnificent welcome and cups of tea in the Sandhurst cottage. We talked about Swildons Six and agreed that it was a pity that Captain Wilson had been unable to come to lead the final Sandhurst party owing to a sudden posting overseas.

Next day a party revisited the cave to bring out the five haversacks of our equipment. They Noel Cleave, David Farr, Steve Wynne-Roberts, Boyd Potts, Jerry Wright and Keith Robbins, and I take off my hat to them.

### 9. The survey.

The streamway between Sump Four and Buxton's Horror was surveyed by Derek Ford and Joe Candy at Grade Four standard on 8th November 1958. They used a Gradidge Hand Compass, graduated in five degree intervals and read to the nearest degree, and a steel tape graduated in feet. The plan and section of Sump Four are based on the sketches which I made on 13th September 1958. as is the streamway between Buxton's Horror and Sump Five. Swildons Six was not surveyed at all, unfortunately, and this part of the plan is therefore rather impressionistic.

The symbols used are as recommended in "British Caving" except in points of detail. For example, I have reserved the use of dots solely to indicate sand or gravel, and avens going upwards in the roof are indicated by the outline of the aven with short lines radiating outwards. Vertical shading indicates that the passage is filled with water to the roof, and the wavy symbol indicates that there is the surface of a pool of water. My other convention is that when drawing passage cross-section the water surface is made level with the line of the section whenever this is possible, and an arrow is drawn to indicate the direction of the section.

The hole marked "X" in the final passage cross-section was seen by myself but not entered. I imagine that it will turn out to be an oxbow. The point marked "Y" in Five is the place where we dug and found soft clay under the thin layer of pebbles. Referring to Stanton's survey of Swildons Hole with Dennis Kemp's survey of Four superimposed, Sump Four is at the "z" of "horizontal" and the furthest point I reached in Six is, I imagine, not far from the "t" in "10 FOOT OVERHANG". However, it will need a more accurate survey to be sure about this.

#### 10. Lessons learnt.

(1) It would have been better for a single diver using lightweight kit to have dived in Four before carrying the full kit into the cave for a pair of divers. I did not do so because I was convinced for some reason that Sump Four would be a long one and I considered (correctly) that in the event of Sump Four proving impassable we could have dived in the upstream sump as well, and thereby justified the effort involved in carrying everything

into the cave. After the success of the 13th September trip I had the necessary incentive to spend the 30 hours that were necessary to build my baby respirator. However, I still think that if two divers are available then they should be allowed to bring the full kit (but possibly only one aflo in such a difficult cave!)

(2) Arrangements should be improved for hauling bundles up the Forty Foot Pot. OCL writes "A pulley can easily be fixed to the bar in Suicides Leap 50 feet above the foot of the pot. Bags drawn up in this way will not get caught on the 15 foot ledge."

(3) The air in Paradise Regained becomes foul quite quickly and this increases the fatigue on the outwards trip.

(4) The divers must be told which of their haversacks have been dropped. On 6th September we were told that one of the packs had been dropped 20 feet or so, but nobody could tell us which one it was. On the way out of the cave a similar thing happened. The leaders of support parties must be given pieces of red cord or something to mark packs which have been dropped. There is nothing (very) reprehensible about an occasional dropped haversack, but the divers must be told that it has happened.

(5) Adequate tackle must be used in the cave. This is a lesson which we did not have to learn the hard way fortunately. The handlines in Paradise Regained and the ladder down into Four were well worth the effort of carrying them in. As regards lifelines, I myself used them on both pitches after both diving trips and was glad to have them. I am tempted to quote the advice of Norman Thornber (4) "A wise leader will use lifelines frequently; and, if

a tired comrade asks for a line, he also will use a lifeline".

(6) Jack Waddon writes, "I suggest greater steps be taken to make each one feel that he (or she) had an important part to play and is just as important a member of the operation as, say, a diver". He goes on to criticise the use of the word sherpa but I am certain that it is not a term that is intended to be uncomplimentary.

(7) Organisation. Several people wrote to me about the first trip and I think I have covered most of the points already.

Concerning the 8th November trip, Len Dawes writes "last week's operation was, I think, far more severe than it need have been for the following reasons: (a) we should not have attempted to carry the packs ourselves, in or out; (b) we did not set off down the cave until early afternoon. This meant we were still hard caving at a time when we are normally in bed and asleep; (c) there was more water going down than is normal. We cannot do anything about (c) but we can avoid (a) and (b) if we plan carefully".

## 11. Conclusions and acknowledgements.

It is an obvious conclusion that with more than 200 feet to go before the water table is reached there is plenty of room for further advances in Swildon Hole. We are hoping to remove the gravel bank in Swildons Six fairly soon, and if this is successful it should be possible for cavers to enter Six without having to enslave twenty or thirty of their comrades to carry elaborate equipment all the way down for them.

It would be foolish, however, to underestimate the difficulties of the trip to the new series

and of Sump Four in particular. At the time of writing nobody has been through this sump without being kept dry in an exposure suit and without a diver being present wearing breathing apparatus. Even with these precautions the parties were extremely tired on reaching the surface (even though they knew every inch of the way) and many of us consider that it would be unwise for anyone who does not know the cave extremely well to go there except with a proper support party and under a leader who has been there before.

It is obvious that the success of these diving trips depended not so much on the enthusiasm of the divers and their immediate supporters as on the keenness of the very large number of other cavers who worked so hard carrying stuff into and out of the cave. I personally would like to thank everyone for allowing me to run along on the crest of their enthusiasm, and to all the people who took the trouble to write to me with comments and suggestions.

We would also like to thank Mr. Maine for allowing us the free run of his cave and for all the other parties who agreed to steer clear of the place when we were in action.

Also, we would all like to wish Phil Davey a complete recovery from the accident which prevented her from coming on the second diving trip.

Finally, we would like to thank all the caving clubs who helped us and allowed us to use their facilities. Not least, we would like to thank the Wessex Cave Club (and Frank Frost in particular) for carrying out the thankless task of duplicating this report.

20.11.58.  
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