

## **VIADUCT SINK**

### **Sunday 1 July 1990** - SM-K, RW

Return visit to Viaduct Sink to investigate the digging prospects in Downside Aven.

The gate appears locked but in fact can be quite easily moved sideways, and apart from a few twigs and small branches at the bottom of the entrance shaft, the cave was unchanged from the last time it was dug.

Grimpen Mire contained up to a foot of cowshy mud, and RW started to infill this with rocks while SM-K investigated Downside Aven.

This runs parallel with the valley for about 20', and since there is a dangerously unsafe inlet ruckle above the upstream end, it may be not so much an aven but a collapsed section of a high fossil rift passage with a downstream continuation beyond the present boulder and mud choke in the roof. The rubble cone contains some massive pieces of ancient stal which add weight to this theory. The roof in some places is a very loose pack of rocks but at the far end, large, well wedged boulders offer a reasonable safe digging site. SM-K moved back some of the collapse debris and pronounced it to be "not without interest".

Bang had been taken underground, but it was decided to leave all large boulders alone until the true state of the roof could be determined.

### **Sunday 15 July 1990** - SM-K, RW

Even with a rock infill the Grimpen Mire remains a squalid crawl.

Serious digging commenced about 10' back from the far end of the rift which is about 5' below the point where the rubble slope reaches the roof. The work entails standing on a teetering pile of broken rock and stal about 12' above the entry point from the Grimpen Mire and pulling out the rocks ahead and dropping them below. The rift at this point is just over 2' wide. The rocks pile up at the entrance to the Grimpen Mire and the continuation bedding plane on the far side of the aven, and careful stacking will be required to exploit the very limited dumping space.

The crumbling walls at the top of the aven prevent a close look at what appears to be a large inlet passage entering at roof level on the left hand side looking downstream. The visible section is about 3' square with a small trench in the floor.

### **Thursday 19 July 1990** - SM-K

Pushed forward in Downside Aven, encountering a more compacted mud and rock fill.

### **Sunday 22 July 1990** - SM-K

Further digging in Downside Aven revealed a large jammed block in the "floor". If this cannot be moved it may have to be banged. Not an ideal situation given the state of the roof.

### **Sunday 29 July 1990** - RW, SM-K

More rocks were lobbed into the Grimpen Mire, changing it from a muddy wallow into a slimy, stony flat out crawl. The high dig continued over the large block and reached the the very hard packed fill of the terminal choke. Another large and as yet unmoveable rock was uncovered at head height. It was decided to deepen the dig to see if it is possible either to pass under these blocks or to undermine and lower them in a controlled fashion. The day's spoil was carefully dropped down the rift and a dry stone retaining wall was started to keep the Bridge Junction and Grimpen Mire exits clear.

### **Monday 30 July 1990** - SM-K

Dug around the jammed block. The surrounding fill comprises very compacted brown mud, small stones, including ORS cobbles, and broken stal.

### **Sunday 5 August 1990** - RW, SM-K

Spotted a green woodpecker on the walk over to the dig.

Underground, the jammed block, about 2' long and 1' thick, was dug free and moved back from the digging face. More walling was built at the foot of the aven, and the fill from above was dropped behind it.

By the end of the session, the prospects at the end of the rift were not looking too hopeful. The passage had narrowed to less than 1' and several large rocks were visible in the hard packed fill. Further thought was given to the nature of the aven. It is possible that it was largely formed by water plunging from the "inlet passage" above, in which case an exit at the bottom seems likely. On the assumption that the Bridge Junction passage is too immature to have carried away this water, another way out should exist along the down dip, right hand side of the aven. There is a hint of a choked bedding plane on the left hand side of the entrance to the Bridge Junction passage, and it was decided to probe again at the bottom of the aven.

A trial excavation in the rubble slope above the retaining wall did indeed reveal some development under the right hand wall - whether an alcove or a passage, it is too early to say. Not surprisingly, this excavation started to undermine the precariously perched rubble, and several small collapses occurred before discretion called a halt to the work. Further effort will be concentrated here, but careful thought will have to be given to stabilising the rock pile and disposing of spoil.

A short rope was left underground, but curiously the drum of bang cable dumped on 1 July had vanished.

### **Sunday 12 August 1990** - RW, SM-K

Spent a couple of hours stabilising the rubble slope. The initial move consisted of gingerly tying a rope to a projecting rock, retreating into the Grimpen Mire and giving a sharp tug, thereby precipitating a "controlled" collapse. A second attempt to do this was less successful, and so further minor collapses were started by hand whilst straddling the rift. Rocks were stacked in every nook and cranny at the foot of the slope, and a large number were thrown or taken up to the now abandoned high level dig. At the end of the session, the slope was a reasonably stable 45 degree incline.

Almost all the way up this 45 degree line there appeared to be undercutting of the right wall, suggesting perhaps some chamber development on this side. The area of last week's probe, about 10' above the Grimpen Mire level, was looked at again and an irregular roof was followed inwards for about 3'. Still more of the slope will have to be removed before this site can be properly examined.

### **Sunday 19 August 1990** - SM-K

Gingerly removed three loose blocks from the right hand wall of the rift and used them to form the base of a retaining wall just beyond the area to be examined. Started to clear out the rift fill and dump it behind the wall.

### **Sunday 26 August 1990** - SM-K, RW

Spotted a buzzard wheeling around the old Thrupe dig.

Continued clearing out the rift fill using an old bucket found in Shale End. The fill, as much mud as rock, was dumped in the abandoned top dig.

Attempted to look into the high left hand inlet. It quickly funnels in but there may be a way on.

## **Tuesday 28 August 1990 - SM-K**

Took down a better bucket. To increase dumping space in the rift, sorted out the medium sized rocks from the top dump and took them out through the Mire.

## **Sunday 2 September 1990 - SM-K, RW**

Spotted the green woodpecker again on the railway track.

Cleared some of the rocks stacked at the bottom of Downside Aven out through the Mire, where they were dumped in a small inlet. A few more were thrown into the Gas Chamber bedding plane and some built into a small retaining wall.

Digging then continued in the area of the undercut with mud and small rocks being dumped in the old top dig. As feared, the main retaining wall soon became undermined to the point of defying gravity. A quick scabble under the right wall revealed disappointingly that the hoped for passage was only a 6" wide rift with some minor bedding collapse around it.

The best prospect now appears to be the suspected bedding plane development at the base of the aven, to the left of the way on to Bridge Junction. To probe this area will require removing a lot of spoil including the first retaining wall started on 29 July.

Before leaving the dig, the area of the undercut was backfilled and the undermined wall made secure.

## **Sunday 9 September 1990 - SM-K, RW**

Continued excavating downwards from the base of the main retaining wall, dumping most of the spoil at the top of the rift. There is an alcove on the right hand side created by collapsed bedding along a line of weakness. Digging eventually produced a visual link with the way on to Bridge Junction, but much more fill, mainly rocks and broken stal, will have to be removed to establish whether there is a viable way on under the wall.

## **Sunday 16 September 1990 - SM-K**

Continued digging at the bottom of the aven. Larger rocks were taken back through the Grimpen Mire and the rest of the spoil was dumped at the top of the rift.

The bang cable "reported missing" on 5 August was found under the rubble!

## **Friday 21 September 1990 - SM-K**

Further work at the base of the aven. The excavation beneath the right hand wall has exposed a left hand rock face which may represent one side of a passage.

## **Sunday 30 September 1990 - SM-K**

Torrential rain on Saturday and Sunday morning had created very wet conditions underground with only a foot of airspace in the Grimpen Mire and heavy drip in Downside Aven, some of it coming from the big inlet.

The dig under the right hand wall of the aven revealed nothing more than a 5" wide rift carrying on down dip. The main Grimpen Mire exit must have been the passage down to Bridge Junction. Was this also the exit for the Downside Aven water?

A trial dig was started in the floor of the aven itself and small spaces among the rocks soon appeared, followed by the sound of stones rattling down five to ten feet. The rift, about 15" wide at this point, clearly continues down below the level of the Grimpen Mire/Bridge Junction crossover, and seems a very good lead to follow.

### **Saturday 6 October 1990 - SM-K**

Drier underground than last week despite fairly heavy rain.

Continued excavating the floor of Downside Aven, unavoidably undermining the main retaining wall in the process. Beneath the teetering mass, which is partly resting on a buttress of rock in the middle of the rift, a largely open slot was uncovered, only 12" to 15" wide but descending at least 15' to a floor or choke. There may be some development on the right hand side but the area is too threatened for a very close look. Any "safe" access to the open rift will have to be gained nearer to the Grimpen Mire where a large block sits in the slot.

### **Sunday 7 October 1990 - SM-K, RW**

Took a washing up bowl and a length of light rope underground for hauling rocks and spoil through the Mire.

After an initial session stacking rocks in the Gas Chamber bedding plane, the washing up bowl with a line at either end was brought into use clearing rocks back from the junction of the Mire with the rift. Before leaving it was decided that work could not safely continue under the unsupported retaining wall, and the open slot was bridged over from the jammed block and a quick buttress of rocks built up to support the wall.

The "way on" is no longer visible.

### **Friday 12 October 1990 - SM-K**

Took down a new washing up bowl and a small amount of bang.

Continued clearing the area at the mouth of the Mire in the hope of exposing the continuation of the slot. The floor proved surprisingly solid with no hint of any rift development.

Placed a very small charge - about a third of a slab - among the big blocks at the mouth of the Mire and fired from the chamber below the entrance passage.

### **Sunday 14 October 1990 - SM-K, RW**

The bang had demolished the largest boulder and split others.

After another stacking session in the Gas Chamber, the bang debris was removed from the mouth of the Mire and more mud was cleared from the floor. Apart from a few undulations, there was little evidence of any downwards development.

It seems that the slot or pot lies directly under the roof inlet and does not run, at any rate in any significant form, along the whole length of the rift. Since the vertical access to the pot is now buried under the boulder slope, and there is neither the dumping space nor the manpower to contemplate removing this pile, it was decided to bang a way downwards from the mouth of the Mire and then push horizontally into the open slot.

To prepare for the future bang shock waves, the bottom of the boulder pile was reinforced with several large blocks.

### **Sunday 23 December 1990 - SM-K**

A three slab charge was laid in the rift floor and fired from the entrance passage.

### **Thursday 27 December 1990 - SM-K**

The boulder pile had survived the blast. The bang debris was stacked temporarily to one side and the rift floor was probed until a small connection with the open slot was made. This was sufficient to drain the water from the Grimpen Mire.

**Friday 28 December 1990 - SM-K**

Further digging in the rift floor, dumping material temporarily all around the bottom of the aven.

**Saturday 5 January 1991 - SM-K**

Persons unknown, possibly motor cycle scramblers, had set up various markers in the valley floor and diverted a large part of the stream down the entrance shaft.

Underground, the recent heavy rain had created very wet conditions. Apart from the usual winter shower in Downside Aven, heavy drip from Red Aven was running through the Grimpen Mire and beginning to pond up in the dig.

Further digging revealed something of the form of the rift at the bottom of Downside Aven. Beyond the threshold to the Grimpen Mire, the banded and excavated rift is about 18" wide, although the floor of the Mire itself has not yet revealed a side wall. On the opposite side there is a rift wall split only by a central slot a few inches wide, and the Bridge Junction passage seems therefore to be largely a hanging passage. The downwards development may owe as much to the ancient Grimpen Mire water as to the water from Downside Aven itself.

Recovered an entrenching tool head from Gothic Passage.

**Saturday 2 February 1991 - SM-K, RW**

Heavy drip underground following a snow thaw.

Continued clearing out the rift, stockpiling the spoil - mainly mud and a few small cobbles - just below Red Aven. At the end of the session, the dig floor was below the level of the tiny slot connecting with the drop and was consequently under water. The slot is very difficult to enlarge or deepen as it is directly under the boulder pile, and the right hand buttress, which may be solid rock, cannot be attacked without considerable risk of collapse. Rocks were judiciously re-arranged to allow a little more access to the slot, and enlargement by chiselling rather than bang may have to be tried.

**Sunday 24 February 1991 - SM-K**

Transported the last session's spoil through to Gothic Passage.

**Saturday 16 March 1991 - SM-K, RW**

Very wet conditions underground. Further digging at the threshold of the Grimpen Mire.

**Friday 29 March 1991 - SM-K**

Cleared the spoil back to Gothic Passage.

**Saturday 30 March 1991 - AM : SM-K**

Laid a two slab charge in the slot in the floor of the dig.

PM : SM-K, RW

Conditions still very wet with the surface stream flowing past the dig. The bang had disturbed the rock pile and this had to be gingerly rebuilt before work could recommence in the Grimpen Mire threshold. The slot was still constricted and digging was hampered by ponding of heavy drip. By the end of the session, the excavation had taken the shape of a pot with a lip and narrow slot on the Grimpen Mire side.

**Saturday 4 May 1991 - SM-K, RW**

Still very wet at the digging face. The stockpile from the previous session was moved back to Gothic Passage.

Back on the surface, the stream was persuaded to sink in its bed at several points above the entrance, hopefully reducing the heavy drip underground.

**Sunday 5 May 1991** - SM-K, Bob Cottle and two helpers

The stream diversion had considerably reduced drip in the digging area and a small amount of spoil was moved to the stockpile.

The broken gate was taken back to Thrupe for welding repairs, and then returned to the cave where it is now held in place by a chain and padlock.

**Saturday 17 August 1991** - SM-K

Bailed a small amount of ponded water and continued digging out the pot. The spoil, including some small cobbles, was dumped on the left hand side of the Bridge Junction passage.

**Saturday 24 August 1991** - SM-K, RW

Continued digging in the pot, taking the spoil out through the Grimpen Mire. The pot is now about 3' deep and is linked to the main rift by a choked 1' wide slot, barred at several points by what appear to be chert ledges. As yet there is no drain into the open rift.

**Monday 16 September 1991** - SM-K

Bailed the ponded water and continued digging in the pot. Spoil was pushed into Bridge Junction passage. The fill comprises hard packed gravelly mud and occasional cobbles. A largish block on the left hand corner may be detached bedrock.

**Wednesday 18 September 1991** - SM-K

Further digging in the pot.

**Saturday 21 September 1991** - SM-K

Further digging in the pot. At a depth of 4' the walls begin to close in. There is an alcove - possibly an inlet - beneath the Grimpen Mire entry with a tiny bedding plane outlet beside it. Ahead, facing the rift, there are chert and rock bands barring access to the open rift beyond, and on the left side a buttress sloping across the bottom of the pot.

**Sunday 22 September 1991** - AM : SM-K

Laid a two slab charge on the left side buttress.

PM : RW, SM-K

Cleared out the bang debris, sending the spoil back through the Grimpen Mire, and attacked the chert and rock bands in the rift ahead. There appears to be an undercut on the left downdip of the buttress but no sizeable connection with the open rift beyond. We may be in the basin of a pothole whose water originally spilled over the chert bridge into the deeper rift.

**Saturday 28 September 1991** - SM-K

Cleared around the left side buttress and laid a further charge.

Left the cave in torrential rain with the stream racing past the entrance shaft.

**Sunday 27 October 1991** - SM-K

Considerable ponding in the dig. Dumping space around the dig is now exhausted and all future spoil will have to be taken further up the cave for dumping. The floor of the Grimpen Mire will have to be lowered to facilitate one man bucket haulage.

**Tuesday 19 November 1991** - SM-K

Started moving spoil from Gothic Passage out into the Shale End streamway.

**Wednesday 20 November 1991** - SM-K

Continued the above operation, and later diverted the surface stream into the entrance shaft in the hope of washing away the mud content of the spoil.

**Friday 22 November 1991** - SM-K

Emptied all the spoil from Gothic Passage.

**Saturday 6 March 1993** - SM-K

Reconnaissance visit to check out a tourist party report of a sumped passage beyond Red Aven i.e. the Grimpen Mire under 6' of water!

Conditions appeared to be normal with only ponded water in the dig beyond the Mire.

Moved about 15 buckets of spoil from the stockpile below Red Aven and dumped them in Gothic Passage.

**Saturday 10 April 1993** - SM-K, RW

Clearing spoil from Gothic Passage into Shale End.

**Sunday 11 April 1993** - SM-K

Started clearing out the Grimpen Mire to improve the approach to the dig. Spoil dumped in Gothic Passage.

**Monday 12 April 1993** - SM-K

Moved Sunday's spoil back to Shale End.

**Wednesday 5 May 1993** - SM-K

Continued clearing mud and rocks out of the Grimpen Mire. The mud was dumped in Gothic Passage, but the rocks were left below Red Aven when light problems forced an early exit.

**Thursday 6 May 1993** - SM-K

Clearing back to Shale End.

**Friday 7 May 1993** - SM-K

The excavation of the near side of the Grimpen Mire was being hampered by ponding and so work switched to the far side. Water was drained through to Downside Aven and a large part was sent down the "hidden" rift via a small hole on the right side of the dig. The way on to Bridge Junction is now temporarily sealed off.

**Saturday 8 May 1993** - SM-K, RW, Steve Ellis

After the clearance of a rock stockpile from Gothic Passage to Shale End, and some Downside Aven sightseeing for Steve Ellis, the excavation of the Grimpen Mire from the nearside continued. Two thirds of the passage was opened up to an acceptable height (approx 3') without encountering any solid rock floor. Most of the spoil was in slurry form and getting it back to Gothic Passage was a very squalid exercise.

#### **Sunday 9 May 1993** - SM-K

Cleared slurry and rocks back to Shale End.

#### **Saturday 29 May 1993** - SM-K

Banged the large rock capping the boulder stack in Downside Aven using a carefully placed half slab.

#### **Sunday 30 May 1993** - SM-K, RW

A decision had been reached to abandon the idea of "tunnelling" into the open rift below the boulder pile in Downside Aven. Any form of shoring or roofing would have been extremely difficult and time consuming to construct and would probably have proved unsafe in the long term. Instead it was decided to remove about half of the rock pile (back as far as Shale End if necessary) and then restack the remainder, if possible, beyond the revealed rift.

Saturday's bang was the start of this process. On Sunday, a further dozen buckets of mud were taken out of the Grimpen Mire and dumped below Red Aven, leaving a reasonably roomy if still rather squalid entry into Downside Aven.

The banged boulder was broken but in situ at the top of the pile. Dismantling the pile commenced by the simple expedient of lobbing rocks from the top to the bottom. Enough rock was "shaved off" to hopefully allow clear access to the rift once the dismantling reaches the bottom of the aven. A halt was called about halfway down the pile. The fill of rocks and mud luckily appears fairly compacted further back in the aven.

A token dozen rocks were taken back through the Mire and stacked below Red Aven.

#### **Saturday 15 January 1994** - RW, SE

The stream was very high and flowing past the shaft.

Underground, conditions were too wet for work in Downside Aven and RW merely peered in to check for signs of major collapse. With a flickering, half power beam thanks to a loose battery connection, RW could make out that the dry stone wall was still in place but could not assess the damage done to the boulder below.

Even the Gas Chamber bedding plane contained a trickle of water and this was enough to make the mud too slimy to shift effectively.

The rest of the session was devoted to moving rocks back into Gothic Passage and to an inconclusive dig into the left hand wall of the Grimpen Mire to check the extent of the Gas Chamber bedding plane.

#### **Saturday 29 January 1994** - SM-K, RW

SM-K had diverted the stream in the morning, making working conditions in Downside Aven tolerable by the afternoon.

After clearing some rocks from Gothic Passage out into the Shale End streamway, the scene of December's bang was examined. SM-K found that half of the fallen boulder had been demolished, but the remaining half would need further treatment. It could be rocked with the foot, and seemed not to be connected with the boulder holding up the dry stone wall. Quite what is supporting the boulder supporting the wall is a worrying mystery! Following the removal of a few bits of broken rock, another slab of plaster was gingerly attached to the stub of the boulder.



Whilst the bang was being prepared, a small start was made on re-opening the way through to the Bridge Junction streamway.

The charge was fired satisfactorily.

### **Saturday 5 February 1994 - RW, SE**

Needed to divert the stream again.

After stacking some of the Gothic rock stockpile into various nooks and crannies in the entrance streamway, the result of last week's bang in Downside Aven was investigated.

The stump of the boulder had been greatly reduced and shattered, and neither the dry stone wall nor the underlying rock buttress appeared to have shifted. A pair of creosoted wooden wedges were driven into the washed out gap between the lowest supporting rock and the right hand wall as a morale booster, but with only two diggers present and heavy drip in the Aven, it was not the time to venture under the pile again. Thoughts will be given to additional shoring.

More spoil was removed from the Bridge Junction passage but it appears to be silted up over quite a distance.

### **Saturday 26 February 1994 - RW, SE**

Took the Acrow prop over to Viaduct and diverted the stream in anticipation of a midweek digging session.

Proceeded down the Ham Woods valley to examine Ham Woods Shelter, situated in a cliff face high up on the left hand side. It is partly choked about 20'in with earth and vegetable matter and is probably occupied by badgers. There are other small holes at the foot of the cliff but none of them look worth digging. A 19th century mining site at the bottom of the valley was also investigated but no open adits or shafts could be found.

A buzzard was spotted several times over the lower end of the valley.

### **Wednesday 2 March 1994 - SM-K, RW**

The stream had stayed diverted and there was only moderate drip in Downside Aven.

SM-K went under the boulder to the digging face to examine the roof area and pronounced it to be reasonably secure. The boulder supporting the dry stone wall dovetails with a large piece of the buttress which disappears into the mud and rock choked continuation of the rift. Provided this does not get too washed out, there should be no further collapses - famous last words!

After the removal of a few rocks, SM-K came up and RW went under the boulder. It will be policy from now on to have one person on the entrance side of the boulder at all times. An attempt was made to place the Acrow across the rift directly under the buttress, but this proved difficult with only one pair of hands. It was eventually fitted at a less than satisfactory angle and will have to be resited when two diggers are available to go beyond the boulder.

SM-K returned to the face and laid a slab and a bit charge on a large rock in the floor. The stream sounds to be no more than 10' away from this point.

A small amount of rock clearance was done in the Red Aven area before the charge was satisfactorily fired.

### **Saturday 19 March 1994 - AM: SM-K**

Diverted the very large stream to "dry out" the Downside Aven area. Some of the water had to be sent down the entrance shaft.

PM: SM-K, RW, SE

Proceeded straight to Downside Aven where the drip was "tolerable". The boulder pile and key stones were still intact, and the Acrow still in place. The bang had nicely broken up the rock in the floor, and a lot of spoil and rock fragments were bucketed out and stacked around the Aven and Mire area.

The way on appears to be a combination of a low, steeply inclined bedding plane and a possible rift in the floor blocked by another large slab. The former is only 3" to 4" high and SE thought he could see a "puddle on the floor" about 10' down. The stream is perhaps running at the bottom of the rift in the floor. A half slab of plaster was duly placed on the boulder in the rift.

A small amount of rock was moved out through the cave, and the charge fired from the usual chamber near the entrance.

**Saturday 2 April 1994** - SM-K, RW, SE, Bob Cottle

The stream did not need diverting and there was only light drip in Downside Aven.

The block in the floor had been broken up although sizeable chunks were wedged down dip in the rift. A large amount of spoil was removed over two hours and with the extra man present, the old washing up bowl was brought into use to take the material out through the Mire.

Apart from broken rock and small eroded slivers of rock, the spoil was characterised by gravelly mud and a huge number of sandstone cobbles, some more than 6" across. This material forms both the floor of the rift and the bedding plane, and the combined cross sectional area of the passage should be man-sized. The streamway below was still running strongly and a first sighting may be possible with the removal of a few more slabs currently just out of arm's reach down the bedding plane.

There is now a large stockpile of rocks in the Red Aven area.

**Friday 15 April 1994** - RW, Geraldine Witcombe, James Witcombe

Diverted a fairly large stream in readiness for Saturday's digging.

Two buzzards overhead, plus Tim Large and Phil Romford travelling the railway track on mountain bikes.

**Saturday 16 April 1994** - SM-K, RW, SE, RC

Hauled up a large amount of muddy stream debris and sent it out through the Mire by new washing up bowl. The larger rocks were dumped in Red Aven, while the sludge was pushed into the far reaches of the Gas Chamber - now to be abandoned for the second time!

The way on is rather confusing. The wide but low bedding plane, loosely choked with slabs and cobbles, sweeps down from the left at an angle of about 30 degrees, and intersects a rather scrappy, small scale continuation of the rift. SE thought he could glimpse the "stream" running down amongst the rocks of the bedding plane but there is no well defined "streamway" anywhere in sight. Much material will have to be brought out before prospects can be properly assessed.

A small amount of ready mixed mortar was used to start a support wall beneath the two key boulders above the dig.

**Saturday 28 May 1994** - AM: SM-K

Diverted a moderate stream and proceeded to the dig. Laid and fired a two part, one slab charge on the fallen roof slab directly ahead.

PM: SM-K, RW

Virtually no stream sound in the dig area. Lifted some of the broken rock up into Downside Aven and stacked flatter rocks and general debris into the bedding plane on the left. No clear view ahead yet.

Continued the ready mix wall which now "supports" the inner of the two hanging boulders.

On leaving the cave, moved rocks generally back towards the entrance.

#### **Saturday 30 July 1994** - SM-K, RW, RC

Despite a prolonged dry spell, there was still a trickle of a stream reaching the entrance shaft and a small amount of drip in Downside Aven.

More cobbles and mud were removed from the floor of the dig revealing a steeply descending 45 degree rock slope with an undercut beneath the right hand wall.

A few more rocks were added to the ready mix wall, starting a section which should support the boulder directly above the entrance to the dig.

A few rocks were shifted towards the entrance as the diggers left the cave.

#### **Sunday 28 August 1994** - SM-K, RW, RC, Andy Legge (MNRC)

About twenty buckets of mud and cobbles were brought up from the dig - to be named The Cellar - and sent out through the Mire by washing up bowl. More of the undercut was revealed but no open spaces.

Two more courses were added to the ready mix wall.

Excellent view of a low flying buzzard near the old Thrupe Swallet.

#### **Sunday 25 September 1994** - SE, RC, RW

A small stream was sinking close to the shaft, but there was no sound of water in the Cellar.

Added to the ready mix wall so that it now reaches and hopefully will offer support to the leaning boulder.

Cleared some large rocks and mud from the Grimpen Mire area to improve the route of the washing up bowl. Some of the spoil was pushed into the Gas Chamber.

#### **Saturday 8 October 1994** - SE, RW. SM-K later

Very little water above or below ground.

Down in the Cellar, the way on is blocked by large slabs which at some point in the past have dropped from the roof. These were attacked with sledge hammer and lump hammer and chisel, and the rock chunks sent up the rift by bucket, and when SM-K arrived, out through the Mire by bowl. At the end of the session, there was a restricted view of a narrow rift continuing with possibly some inlet or development on the up-dip, left hand side. Bang will be needed to break up the next batch of blocks.

To the right of these blocks on a small shelf was a hazel nut gnawed by a squirrel.

Before leaving, a little more rock and cement was added to the support buttress.

#### **Monday 10 October 1994** - SM-K

Laid and fired a two slab charge placed between the fallen blocks. It is to be hoped that the rest of the Cellar roof survives the detonation.

### **Saturday 15 October 1994 - SM-K, RW**

Low water conditions.

The bang had shattered the fallen blocks and taken a few slivers off the roof. Fifteen buckets of rock were brought up the rift, and a lot more stacked in steps on the Cellar floor.

Beyond the blast zone the passage takes the form of two narrow rifts separated by a central buttress of rock undercut by a rubble filled bedding plane of indeterminate size. The left hand rift continues for 10' or so but is no more than 6" to 9" wide, while the right hand rift is even narrower and blocked with stal and rubble. As we advance under the central buttress it will undoubtedly drop (or threaten to drop) from the roof, as have the nearer slabs, and then have to be broken up by bang.

The Gas Chamber stream, currently dry, enters the rift from the left hand bedding plane about 5" ahead of the current digging face. When it starts to flow again it will be important to observe whether it flows on down the rift or crosses the rift to flow down an unseen down dip continuation of the bedding plane. If the former, prospects are grim as the combined rifts are reducing to very small dimensions. If the bedding plane continues to the right of the rift, there is a chance that it will be of a size to allow us to follow it to a hoped for confluence with something larger. Prospects overall do not look too hopeful at this stage.

### **Saturday 19 November 1994 - SM-K, RW**

A large stream had to be diverted.

Spent some time clearing out Gothic Passage, dumping the rocks in various nooks and crannies around the stream chamber.

The Cellar was visited to assess the prospects with a stream present. The Gas Chamber water was entering from the left hand bedding plane and appeared to run along the line of the rift. Visibility was severely limited by the dropped roof block.

A few rocks were moved back up the cave on the way out.

### **Wednesday 23 November 1994 - SM-K**

Lower water levels.

Proceeded to the Cellar to excavate beneath the left hand bedding plane alongside the dropped block. After removing a number of slabs and a good deal of blackened stream fill, a better assessment of the way ahead was possible. The rift could be seen to virtually peter out a few feet ahead, but the bedding plane looked wider than anticipated and potentially of man-sized height in places.

After a 4" slab of "former" roof had been encouraged to slide down dip, a clearer view of this steeply descending inlet was obtained. It measures perhaps 10' across, with the stream running down the middle over a solid rock floor and disappearing into a rubble choke along the line of the rift. Prospects look a little more hopeful.

### **Saturday 26 November 1994 - SM-K, RW**

Water level still low.

The Grimpen Mire washing up bowl was replaced and half a dozen loads of rock were taken through. Attention then shifted to the Cellar. After a dozen buckets of rock and cobbles were lifted, RW joined SM-K in the Cellar passage. The 4" slab of former roof was broken up and much more stream debris removed from the bedding plane and stacked up in the passage. Another piece of roof is splitting away and may have to be helped to fall to improve safety and increase head height.

The greatest potential height in the bedding plane is not surprisingly along the junction with the rift passage

where there is an accumulation of stream debris. The stream sink area is still rubble choked but it looks as if the bedding plane roof does continue across the line of the rift - a heartening sign.

The next session must concentrate on clearing the stacks of spoil in the Cellar passage.

#### **Friday 23 December 1994 - SM-K, RW**

A crisp, cold day, with the Somerset Levels filled with a sea of freezing fog and only the top of Glastonbury Tor visible above the cloud layer like a lighthouse in a seascape.

The water level was still low. When opening the cave, one of the welded sections of the gate came off and another weld separated. RC's advice will be sought but a new gate will probably be required.

Underground the digging face was examined in some detail. It was decided to leave the roof of the bedding plane alone for the time being and enlarge the rift passage as far as the junction about 5' ahead. Ten buckets of rock were taken up, and then passed out through the Mire in the bowl. Most of this spoil was thrown to the back of the Gas Chamber.

SM-K laid a half slab charge on the rock stumps in the Cellar rift, while RW withdrew, moving rocks back through the cave.

The first attempt to blow the charge using a battery resulted in a misfire. A second attempt was made using a lamp unit but there was still no bang. SM-K concluded that the much trampled firing cable was to blame, and luckily found that he had enough spare wire on the drum to lay a fresh cable. This time there was a successful detonation.

The walk back along the railway track was memorable for a rich orange sunset over the sea of cloud lying in the Somerset Levels.

#### **Saturday 14 January 1995 - RW, RC**

Buzzard wheeling over Ham Woods.

A sizeable stream was flowing past the dig but it was decided not to bother with diverting it.

After rolling most of the Red Aven rock pile down into Gothic Passage, we moved on to the Mire where we broke up more rocks with a hammer and threw the pieces into the Gas Chamber.

There was a heavy downpour in Downside Aven, but a quick visit was paid to the Cellar. The bang had done its job, and a quarter of an hour was spent breaking up rocks and stockpiling them below the squeeze. Five token buckets of rock were brought up from the pile, taken out through the Mire and thrown into the Gas Chamber.

#### **Saturday 28 January 1995 - AM: SM-K**

A steel sheet had been placed across the stream and a large amount of water was being diverted into the shaft. The sheet was removed but the stream was too large to send underground through the usual holes in the bank.

PM: SM-K, RW, RC

Buzzard seen over Thrupe Swallet.

Downside Aven was a very wet and draughty spot with a heavy shower plunging into the Cellar. There were no volunteers to work at the face in these conditions, and we settled for shifting most of the stockpile at the "dry" end of the Aven out through the Mire where the rocks were broken up and pushed into the Gas Chamber. As we left the cave, larger rocks were moved up to Red Aven, and a few token rocks from Gothic Passage were taken right out of the cave.

NB

During the heavy rains of the last fortnight, a large stream has been flowing into Thrupe Lane Swallet, often directly into the adit.

On Monday 30 January 1995 - a rare dry day - a small party under Andy Sparrow visited the cave. The stream had receded from the entrance adit and was sinking at the cliff face a few yards back. The party progressed to the head of Atlas Pot via the Railway Series, finding Chimney Pot not much wetter than usual. They laddered the Pot and were shocked to encounter a huge lake filling it to a level well above the Slither Pot ledge, with flood foam marks 10' above. This represented a depth of water of between 80' and 100' above the level of the terminal streamway.

The party forced its way up a very "sporting" Marble Streamway as far as Cowsh Crawl which was carrying a stream but was not totally sumped. Stones dropped down Bridge Rift produced a big splash indicating another lake well above the top of Avalanche Pot. The party came out via the Railway Series.

### **Monday 13 February 1995** - SM-K

Large stream flowing past the dig.

Moved the spoil from the top end of Gothic Passage to a temporary dump below the 3' drop in the entrance passage.

### **Wednesday 15 February 1995** - SM-K

Moved all the residual spoil from the Mire and Red Aven areas through to the top end end of Gothic Passage. Started to enlarge the entrance passage below the shaft.

### **Saturday 18 February 1995** - SM-K, RW

Could only manage to partially divert the large surface stream, and as a result there was still a heavy shower in Downside Aven.

After a wet drop into the Cellar, half an hour was spent breaking up the shattered block which largely fills the rift ahead. Several big slabs were prized off and stacked temporarily under the bedding plane, but a large chunk will require bang to reduce it sufficiently to move it.

The stream can be seen crossing the line of rift from left to right about four feet ahead, but what happens to it on the other side of the rift is still a mystery. There are no signs of water backing up and I could detect no sound of falling water. Presumably, therefore, the stream carries on downwards in a continuation of the bedding plane.

Two token rocks were brought out from the digging face, and the Gothic stockpile was moved up to the entrance passage dump. Two old plastic buckets and some iron work were dug out from the rockslide below the entrance and taken away.

### **Sunday 19 March 1995** - RW, Dave Morrison

Large stream flowing which defied efforts to divert it.

Downside Aven was very wet, but conditions in the Cellar were tolerable. DM attacked the large block ahead with a lump hammer and chisel, and succeeded in demolishing two thirds of it. Behind it is a further block which is hopefully the last before the confluence of the rift and the bedding plane stream.

### **Saturday 25 March 1995** - RW, Dave Morrison, Andy Summerskill

Despite a dry week, the stream was still too large to completely divert.

RW sent 25 small buckets of rock up a very wet Downside Aven to AS, while DM continued demolishing the blocks at the bottom of the Cellar. Finally a restricted view of the fabled streamway was obtained. The water from the

bedding plane on the left meets the rift and proceeds to flow along it more or less horizontally for at least 10', in a narrow rift about 9" high by 6" wide. The floor appears to consist of loose stream debris, which may hide a widening at the level of the bedding plane interception, and the potential depth of this fill could give us crawling height. At present, digging is constrained by a large sliver of rock which has dropped from the end wall.

**Friday 14 April 1995** - SM-K

Much smaller stream after a prolonged dry spell.

Downside Aven "dry". Laid and fired a quarter slab charge on the sliver of rock in the Cellar.

Found and then lost a small frog in the streamway by the Threshold.

**Saturday 15 April 1995** - SM-K, RC, RW, Dave Morrison, Graham Bromley.

The bang had done its job and the team arranged itself for rapid spoil removal from the streamway - three in the Cellar, one in Downside and the fifth beyond the Mire.

In just over an hour, 42 buckets of gravelly stream debris and cobbles were taken up and dumped below Red Aven. The impact on the end of the cave was, alas, minimal. From the excavated wallow, the extent of the streamway could be assessed, and a very disappointing view presented itself.

The bedding plane, instead of running under the rift and giving it some width, appeared to peter out on meeting it. The "open" passage, a mere 6" to 9" wide and about 9" high, could be seen running straight and level for up to 20', and the floor, which we had optimistically hoped might comprise large, loose slabs, was nothing more than waterlogged gravel.

Further progress would certainly require regular banging and the shifting and dumping of an enormous quantity of spoil. The team does not have the time or manpower, far less the dumping space, for such an undertaking, and regrettably this looks like the end of the road for the Downside dig. A very disappointing conclusion.

**Sunday 26 November 1995** - RC, RW

Stream sinking above the entrance.

Started tidying up the various stockpiles and spoil heaps, dumping some material "permanently" in Gothic Passage.

Andy Legg, who is surveying the cave, had made a start on re-excavating the route to Bridge Junction.