SUSS BULL 44(3)

OCTOBER — DECEMBER 2004

Lumen in Tenebris

SUSS

Founded 1948

Bulletin of the Sydney University Speleological Society

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Cover Photo: **Voronya**
Photo Al Warild

Pilot loses life to canyoning

The Australian, January 25, 2005

By Natasha Robinson

AS torrential rain and hail pounded down, defence force helicopter pilot Matthew Donovan was determined to ensure his girlfriend, two brothers and three friends got out of Empress Canyon before him.

The canyon in the Blue Mountains, west of Sydney, had flooded and turned into a series of sucking pools of deep water. Having ensured his friends were safe, Matthew, who served in Iraq and East Timor, was the last to jump into a pool close to the canyon's mouth – an act of selflessness that cost him his life.

"Matthew being Matthew, he was making sure everyone got out," his uncle Basil Donovan said yesterday. "Even though he was into adventure, he was always remarkably careful."

Brother James Donovan is the police officer who made headlines 10 days ago when he jumped inside a taxi and wrestled a gunman in a packed city street in Melbourne. A second brother, Kelly Donovan, is a high-ranking army officer.

But the force of water in the canyon was so strong that both were powerless to save Matthew.

Police rescue divers found his body mid-morning yesterday in the rock pool at the top of Empress Falls, after a rescue effort hindered by fog and heavy rain.

"It looks like the waters sucked him back underneath," said Springwood police inspector Tony Malone. "The water-flow has pinned him in and kept him under."

James and Kelly arrived back in Sydney last night, traumatised after having watched their brother drown.

"Since Matthew's father died 10 years ago he's been very close to his brothers," Basil Donovan said. "But by the time it was his turn to swim, the current was too strong.

"His brothers had to watch. Because of the whirlpool effect, he was coming up and down."

It was late afternoon on Saturday when the group of six walked down the steep steps that lead to Empress Canyon.

An experienced canyoner, Matthew usually preferred more challenging canyons, but that day he had chosen a beginner's spot in the Blue Mountains. He did not want to put anyone's safety at risk.

His nephews knew storms were forecast, Basil Donovan said, but had no idea they would hit the canyon so hard.

The National Parks and Wildlife Service said the heavy downpour was extremely localised, and the ground was already waterlogged from days of rain.

The grief-stricken party spent yesterday at Katoomba police station making statements before a family gathering in Sydney.

"He was a very, very high-achieving, very caring and very loving son," Basil Donovan said.

From middle-earth, dirty secrets

The connection between the northern showcaves of Jenolan and Spider cave, mooted in the last Bull[1], was clinched on the October 9th – 10th trip. The connecting party was Simon Goddard, Mark Staraj, Verity Morris, Phil Maynard, Annalisa and Steve Contos and Michael Bates. See Mark's article in this issue for a description of the connection trip – reported at length in the Sydney Morning Herald on the 24th of January, 2005 (with the headline above) after a press release put out by the Jenolan Caves Reserve Trust. *Phil Maynard*

Caves dilemma

Cabonne debates reserves funding

Central Western Daily, January 4, 2005

By Mark Filmer

Cabonne Council has rejected a proposal for it to take control of Borenore Caves, citing fears this could lead to a huge drain on its finances.

[1]"Close, but no Banana – Jubilee Closes in on Spider Cave", SUSS Bull 43(2).

Instead it has opted to seek a report on how funds that have previously been allocated to the management of the caves have been spent.

The issue arose through a notice of motion from Cr Kevin Duffy, urging the council to apply to take control caves. He said the current managing body, the Jenolan Caves Reserve Trust, had effectively folded.

However, the trust has rejected this claim. Trust manager Andrew Fletcher has issued a statement saying the trust has just recorded its best financial result in its 15 years of operation ..... Cr Pankhurst said Borenore Caves were an important natural resource for Cabonne.

She said the main focus of the Jenolan Caves Reserve Trust had been on Jenolan Caves, at the expense of the Borenore, Wombeyan and Abercrombie caves.

The trust had "too many irons in the fire" to properly manage Borenore Caves ..... Cr David Hyde said the reserve had not been properly looked after and it was now a huge weeds problem ..... The motion was lost. The council then voted to write to the trust to seek a report on how the money allocated to Borenore had been spent.

Cr Duffy later told the Central Western Daily that even though his motion was defeated, he would continue to lobby for the council or a community trust to be appointed to manage Borenore Caves

Caves Reserve rejects talk of financial woes

The Jenolan Caves Reserve Trust has rejected any suggestion it has folded or is in financial difficulty, saying it has just recorded its best financial result in its 15-year history.

The trust's general manager, Andrew Gletcher, said Cr Kevin Duffy's claim in the Cabonne Council chambers this month that the trust had effectively folded was wrong.

He said the trust finished the 2003/04 financial year with a $330,000 surplus – its best financial outcome since being formed in 1989.

He also said the caves would benefit from an additional $4 million secured by Environment Minister Bob Debus. This money will be used to upgrade infrastructure at each of the caves reserves over the next three years. It is understood that about $170,000 of this funding has been allocated to the Borenore Caves ..... The Borenore Caves reserve, which is 17 km west of Orange, covers 136 hectares and is registered as a heritage site on the National Estate Register. [*It's the site of the first-ever SUSS trip in 1948! ed.*]

Cave Digging: The preferred method. Anticline Cave, Wellington.

Photo Greg Ryan

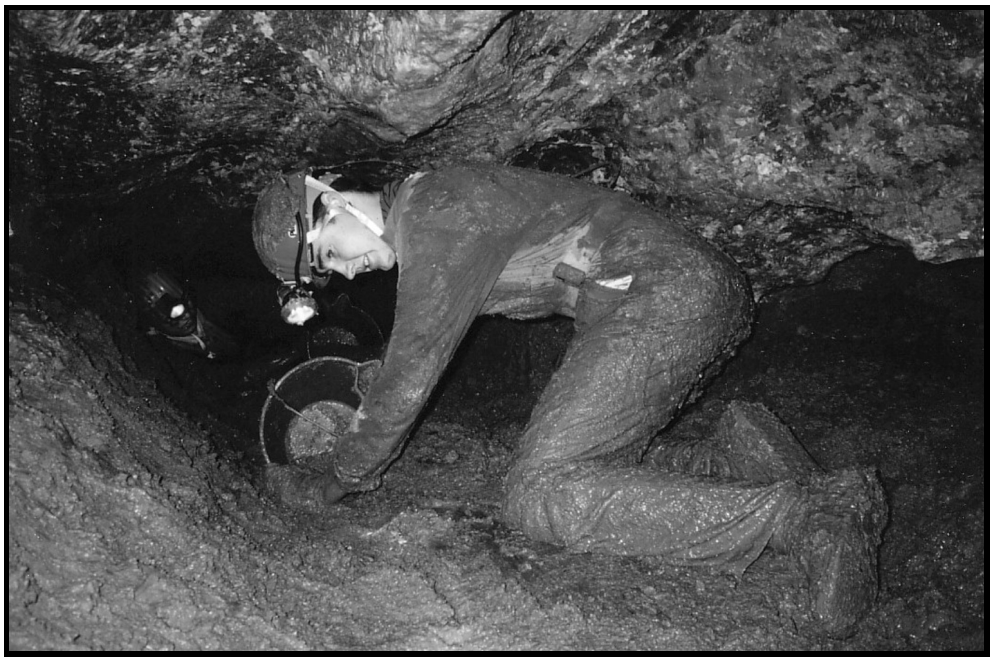
JUBILATION AS A LAST RESORT

THE LONG EXPECTED PARTY

BY MARK STARAJ

PHOTOS KEIR VAUGHAN-TAYLOR

The first time anyone laid eyes on the perched sump in Water Cavern was in 1893. That is One Hundred and Eleven years ago! From that time onwards explorers chafed at the possibilities seemingly just out of reach. For Water Cavern was the furthest point north in the tourist caves beneath McKeowns Valley and therefore the closest point to Mammoth Cave almost a kilometre away.



Andrew Matthews in the Water Cavern sump – Christmas 1993

By the mid-1980s it was learnt that the sump hardly ever dried out and when it did there was the worst sort of dig to be done to breakthrough. Meantime during the 1950s cave divers had pushed the Jenolan Underground River upstream for over 600 m beneath and beyond the Water Cavern Sump to reach an impassably large rockpile. In the late 1970s cavers from SUSS had discovered Spider Cave and stubbornly pushed it as far as the Underground River. Downstream, the Tourist Caves and Spider Cave were separated by the giant rockfall.

Eric Tse in the Water Cavern sump – Christmas 1993

It was obvious that explorers now had the answer to the question of what lay on the other side of Water Cavern Sump – it was Spider Cave. The interest had now shifted to connecting the two caves together. Again there were thoughts of forcing a way through the Watercavern sump but in 1988 persistence in the rockpile finally paid off and the connection was made at river level.

The plans to drain the sump were not entirely abandoned. In 1993 permission was granted to try again and by early 1994 the sump had been both emptied and dug to reach the other side[1]. What was found was something of a surprise. In-

[1] "The Watergate Break-in", SUSS Bull 35(2).

stead of more large tunnel as per the Water Cavern heading directly to the upper levels in Spider Cave, a series of awkward and tight passages and climbs trended up and away from the nearest point in Spider. Initially this was frustrating, but it soon dawned that entirely new possibilities for exploration existed. Before these could be checked out the sump refilled.

In 1998 the sump was briefly open once more and yet again an attempt to connect to Spider failed. However some more surveying and exploring seemed to point to exciting prospects "just around the next corner".

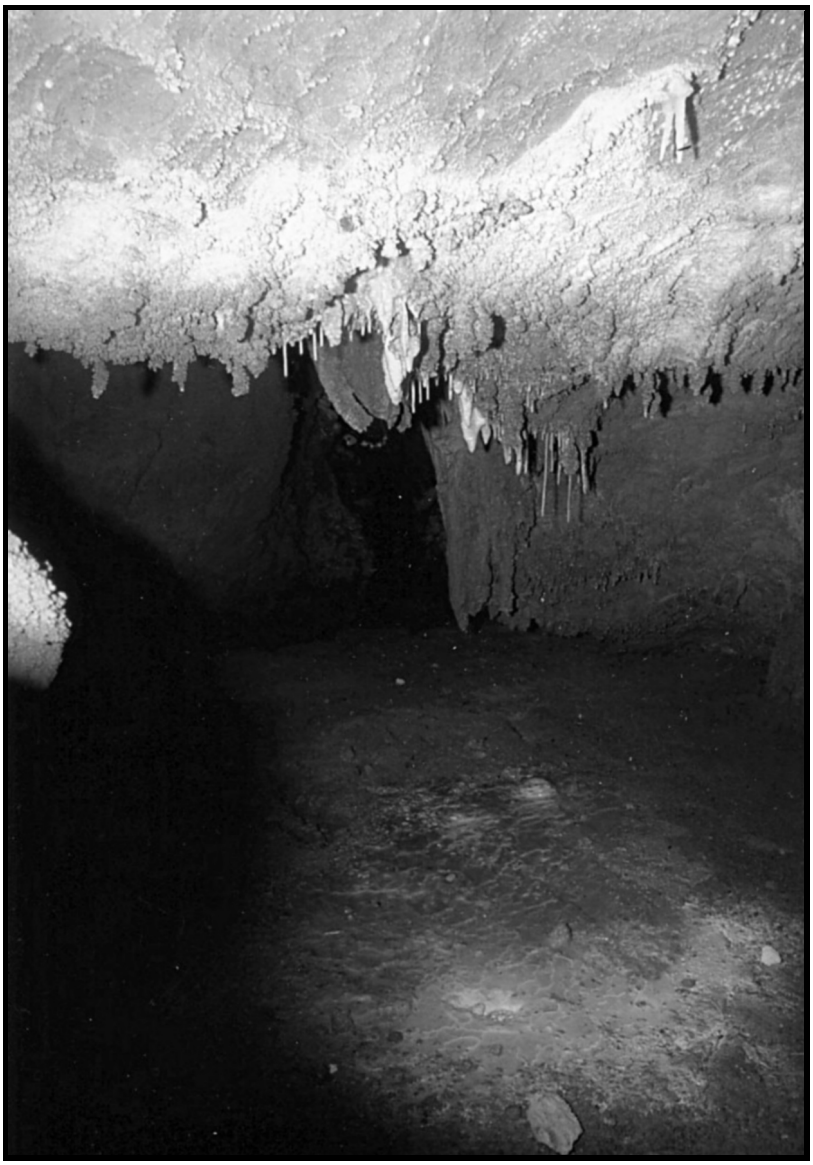
At last in 2004 the sump was again open and Simon Goddard and Mark Staraj found what they hoped was the long-looked for passage stretching from Jubilee to Spider. At last a connection was on the cards and more importantly with it the all-important 'dry' way around the Water Cavern sump.

The following month, October 9, they returned accompanied by Verity Morris, Phil Maynard, Annalisa and Steve Contos and Michael Bates. Despite a deluge of more than 50 mm of rain the week before, Mark Staraj discovered that the sump was still open and so the trip was on.

Phil and Verity entered via Spider and headed to Last Resort. Simon and Michael went with a hammer to the squeeze at the end of the passage found in September to try and establish voice communication with the Last Resort team. Lastly Mark, Annalisa and Steve began a survey down the new passages.

The whole operation went very smoothly. In no time the two parties could see each other and in earnest they began to worry at the pile of rocks blocking the squeezy passage between them. At the end of seven hours we managed to haul the biggest rock out and get Simon through the squeeze to make the connection. The survey was taken right through to the connection point.

At last cavers have a reliable access to the new extensions. Recent exploration and survey work in December 2004 has shown the area has great potential, but will be difficult to work in. A large and dangerous boulderpile covered in wet mud and sporting a strong breeze has leads requiring strong climbers and/or equipment.



The passage beyond Water Cavern sump

At Simon's suggestion the connection point has been named 'Jubilation' and mindful of the 111 years between discovery and breakthrough and the recent Lord of The Rings epic, I'm proposing that the 50 m connection passage between Watergate Sump and Last Resort be called 'The Long Expected Party'.

A fuller trip report is planned to appear in the forthcoming new (3rd) edition of the Spider Cave Bulletin due sometime in 2005.

[*Mark is currently drafting a map of the connection and related passages in the area. No-one has yet dared to take a camera into the new areas in the connection or beyond. Ed*]

INVESTIGATIONS AT H5 – CHAIN OF PONDS CAVE

BY DAMIAN GRINDLEY AND PHIL MAYNARD

Participants: Act 1; Damian Grindley, Scott Smith, Marie Choi, Paul Deer, Arthur Clark, David Glowaki

Participants: Act 2; Damian Grindley, Analisa Contos, Steve Contos, Phil Maynard, Paul Nelson, Richard Pfeil

Adamson's Peak, Hastings Caves

Photo Damian Grindley

Setting the Scene

Phil:

Dolomite caves are rare on mainland Australia. Dolomite caves that go more than 10 m are rarer still, and dolomite caves with a major streamway are virtually unknown. In Tasmania, it's a very different story. Hastings Caves in the south are in a major dolomite deposit; the tourist cave contains massive chambers in the upper levels and a large stream underneath – and the upper levels have superabundant formation. The karst (like most karst in Tasmania) has unexplored areas on the surface due to the terrain and vegetation, and it's subject to very high runoff from the volcanic rocks higher up the mountain range. The prospects are extremely good for more caves to be discovered in this area.

The area has been known to loggers since the 19th century. It was loggers who discovered many of the well known caves in the area, and all of the accessible areas were logged by the start of the 20th century. Around the tourist cave, the area has been reserved ever since, and the regrowth of the eucalypts (*E.Obliqua*) is impressively tall without ever matching the size of the stumps that abound. Underneath, the forest is damp and moss-covered. Tree ferns and rainforest trees compete for space and many of the old logging tracks have disappeared under the vegetation. It's this Tasmanian vegetation that makes the area so difficult to explore.

Behind the tourist cave, the valley slopes gently up to the base of Adamson's Peak (1250 m; a huge mountain). Once the karst steepens at the lower slopes of the mountain, there are no further signs of logging; massive eucalypts reach up 70 m and more. This area has many valleys and side streams just begging to be explored for caves.

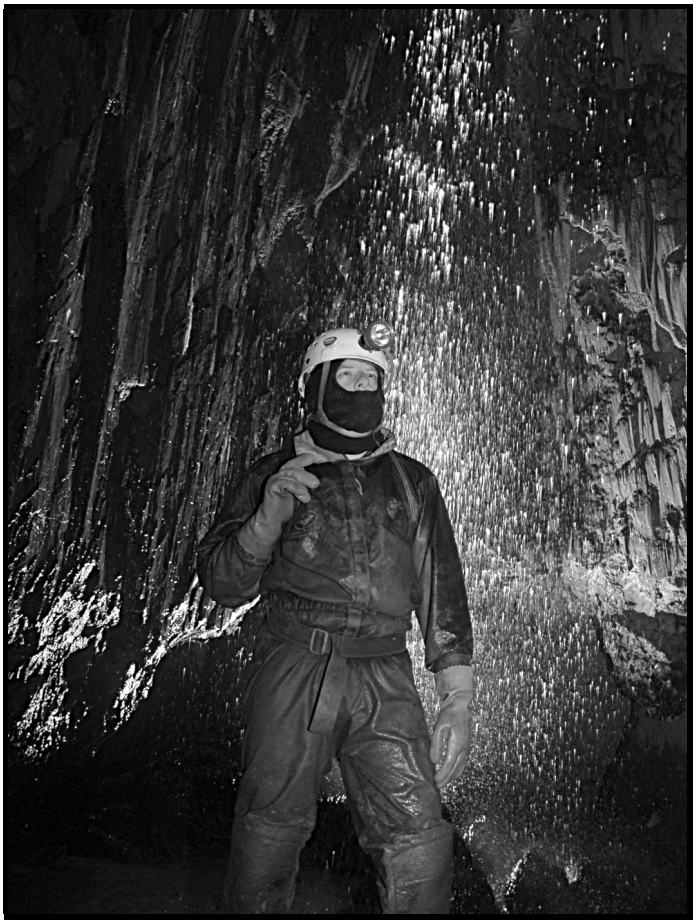
It was in January 2004 when a CEGSA party led by Damian went prospecting in this area and re-discovered an

interesting entrance. Damian was put onto this lead by an article he read in an ACKMA journal at Arthur Clark's place in Dover[1].

Act 1: Enter Stage Left

Damian:

Bugger!! Time to turn back. The cave we had found two days prior, and had been surveying ever since had just got very intriguing. Bugger Bar steward!! (Excuse my French). Dont think I have ever turned round in an eight-meter wide, fifteen-meter high virgin passage before. Read about it of course, in many an expedition report, breakthroughs being made on the last day before a flight home, and turnarounds having to be made mid borehole. Never really did appreciate how frustrating this was until my boots refused to reverse thrust.



Steven Contos at the waterfall
Photo Analisa Contos

The truth be told we had already turned around. The end of our 300 m of survey had been in a highly ornate passage, well for a dolomite cave. The type you have to snake between the floor to ceiling formations and can never quite tell if the floor you are on is false or real. Apart from the decoration, what had really made the cave interesting until this point were; the red and black sludges; the cave adapted anthropod; the sediment banks; the draughts; the multiple leads and streamways. While exiting from here, Scott Smith and Paul Deer and myself had stopped to use up the memory stick in the digital camera at a rather pretty rift with rust-coloured flowstone meandering between bronzed stalagmites. Taking the opportunity to explore the rift further, one of many leads that remained, I ascended and stepped across to a parallel rift. Ascended further and popped out into a large tunnel.

Until this point the cave had been a series of interconnecting joint-derived canyons, often containing a stream with regular high 20+meter avens with an associated splash pool (The Ponds). This was different – we had clearly intersected a fossil trunk. Piles of breakdown littered the floor turning its profile into that of a roller coaster. We named this passage the 'Upside Downs'. The opposite wall was very strange – a mish mash of re-cemented limestone potato wedges. This was similar to a surface outcropping suspected to be paleokarst we had stumbled upon whilst being ravaged by the bush minutes before finding our draughting entrance. In places the floor crunched as you passed. Not as one might suspect through crystals, wafer thin breakdown or formations, but mounds of snail shells. Are these recent or historical? Certainly no current entrance is suspected as none of the shells appeared occupied and no influx of vegetal matter appeared to be associated with the shells.

Anyway it really was time to exit. Being in Tasmania the pace of life is such that nothing ever happens before noon and we had a typical late start, entering the cave at two. Unfortunately the temperate rainforest (Aka horizontal bush) is so dense that GPSs are of little help and finding the flagged trail in the dark is a serious challenge. Next time we will bring reflective tape. Consequently we really had to be getting back by 8pm (Its dark by 8.30pm even in Jan.). We also had to let our gear have sufficient time to drip dry otherwise we would be seriously overweight for the morning flight. Strangely it rains a lot in Rainforest.

Backing up a little, we had got to this discovery by way of some rather good glossy bathroom reading material at Arthur Clark's place in Dover. Here amongst the man ferns, yes they grow in the bathroom, was the inspiration for what ended up consuming most of our time. In a detailed article, Chris Sharples muses over how little was known about the Hastings Karst. Particularly as it contains one of Tasmania's most popular show caves – Newdegate Cave, adjoins a world heritage area and is crossed by several roads. The most detailed geological survey of the area

[1]"The Hastings Karst, Getting it sorted out at last", Australian Cave and Karst Management Association Journal No 53, Dec 2003.

Coral near the stream, stained dark brown
Photo Damian Grindley

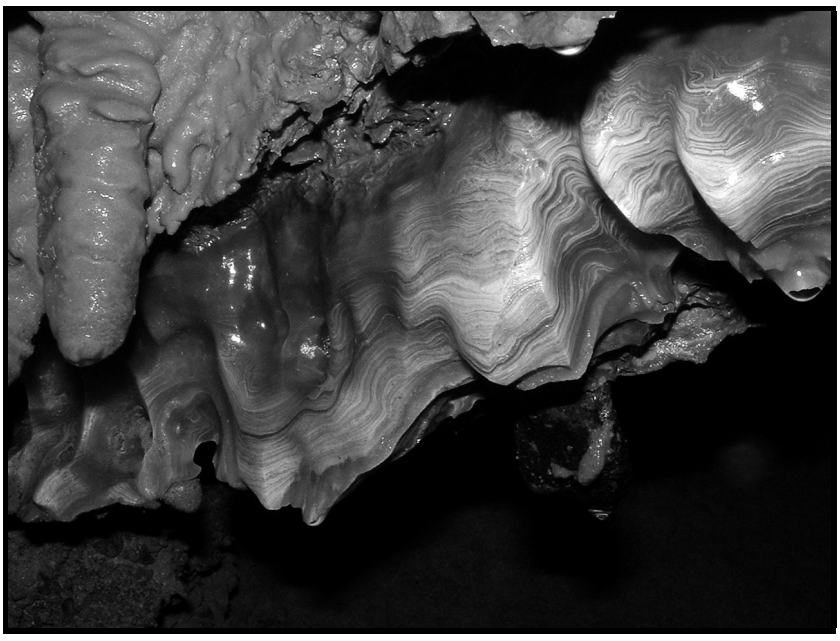
is 1:250,000 and that's based mostly on extrapolation and assumptions. Chris article chronicles his wanderings in the area and attempts to put the record straight.

What really made the article worth the extra potty time were the references to rumoured lost caves beyond Newdegate Show Cave and the picture of Ian Household crouching next to a small opening. Our plans had been to go beyond the touristy nature of our groups previous visits to Taz and help out on some project or other. This seemed to fit the bill. After a few phone calls, GPS locations had been secured and we were off. Well after lunch anyway, such is the pace of life!

It, to this day, seems amazing nobody else picked up on the article, before or after, and tracked down the cave. In hindsight we should have followed our noses. Following the direct line to the GPS coordinates got us there, to within 10 meters, but took us through some very gnarly bush. Once at the entrance it was clear that an easy route existed down a fern gully back to the trailhead.

Dave, Paul and myself were the only ones with equipment to descend the cave. The entrance pitch was rigged using an overhanging log backed up to a healthier looking upright tree. This 16 m drop, with a landing at 8 m, led to a steeply descending tall rift, which carried a small stream to a pool. Closer examination revealed a low damp flattener leading off at water level to the right. Surveying as we went, the flattener led to a sharp left into a stooping passage, with some knobbly stals, which soon opened out into a 20 m+ aven with associated splash pool (*This turned out to be the entrance of the main stream into the cave. Phil*). The passage continued large downstream with junctions seemingly every 10 m or so. More avens; pools; formations and unusual light and dark brown deposits. Samples of cave adapted isopods were also taken for Arthur to identify and some photos taken. Meanwhile the surface crew (Arthur and Scott) tagged the cave plus found an active sink and various other surface features.

A total of 150 m was surveyed this first day. Numerous leads remained and our appetite had been whetted for another attempt the following day. This consisted of Paul, Scott, Damian and Marie (Surface support). However rather than continue to head downstream towards a suspected known resurgence, a promising looking rift heading directly into the mountain was followed. This proved very productive. The 15 m high, 1 m wide decorated rift continued for some distance; crossing a stream and then carrying the stream itself. Sediment banks were crossed anda restriction passed where a dyke crossed the rift. Beyond this, the passage turned right and widened, eventually becoming the highly ornate gallery. The survey was suspended at a total of 300 m and cameras flashed continually on the way out. The large fossil passage previously mentioned was also found while exiting, frustrating all of us due to our time limitations. Numerous walking leads remained and many unanswered questions.



Eroded formation
Photo Damian Grindley

The photographs of Chain of Ponds were duly shown to Ian and Chris; authors of the original ACKMA journal article. An agree-

ment was then made to keep the cave hush-hush until such time as a management plan could be created and implemented. This would involve completing the survey (Part Two of this article) to ascertain the extent of the resource and help in producing the management plan. Consequently we were only able to publish tantalizing hints of our exploits[2].

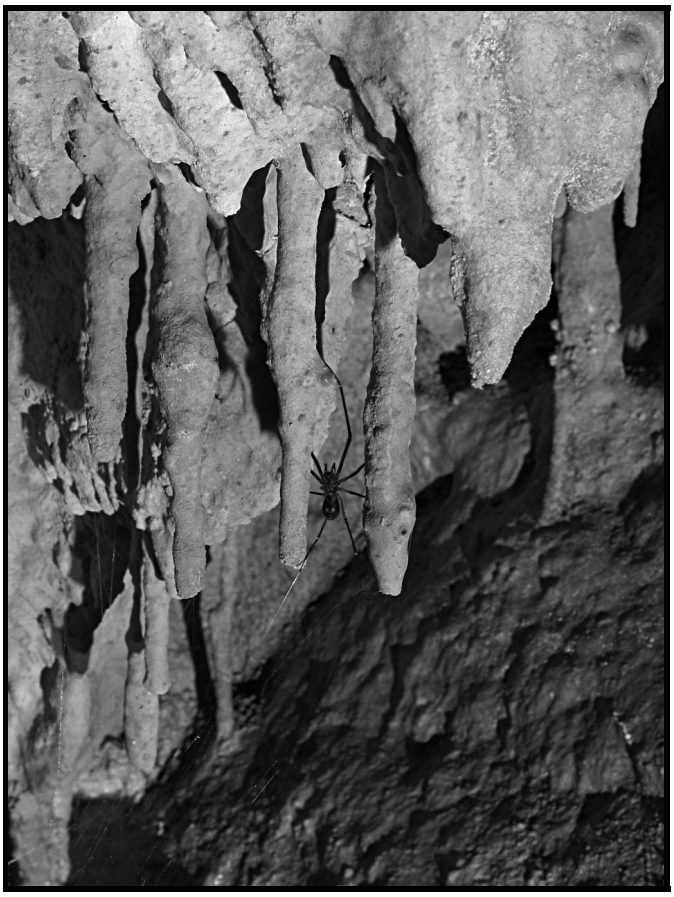
Interlude: The Plot Thickens

Phil:

When July rolled around, Damian was looking for some people to help out on a cave project. He wouldn't say that much about it, which only heightened interest of course. Before you could say "cold and wet winter caving", Paul Nelson had signed on from California, plus the four of us from Sydney.

The plan was to finish the exploration of H5, map everything, track mark the delicate mud formations in the streamway, and conduct as much science as we could. Annalisa brought down water sampling bottles, a pH meter, a dissolved oxygen meter, hydrochloric acid and a spatula. Ian Household provided us with a Disto (absolutely fantastic for large survey projects!!), metal meat skewers and string for track marking. Arthur Clark provided us with accommodation at his luxurious house in Dover, lots of background information, and stone-fruit wine.

Southern Tasmania gets lots of rain in winter. If you notice a gap of three days in Damian's reports of trips into the cave, well, there's a very good reason for that. The winter of 2004 was particularly harsh in southern Tasmania. Snow sat on the ground down to 300 m; virtually in the foothills. When we went to the beach at Cockle Ck on the monday, it snowed on us on the beach! Nevertheless, we managed some highly successful days in the cave; finding new passages, surveying everything we found and documenting the cave thoroughly. Of course, there were still unexplored leads – it's only fair to leave more for later.



Hickmania Troglodytes
Photo Paul Nelson

Act 2: Midwinter Madness

Damian:

The group mounted three trips into the cave and one surface survey trip over the week of July 4th – 10th, 2004.

Sunday 4th saw the group familiarise themselves with the overland route too and rigging of the cave. AC and RP were joined by Jason Gardner from the Hastings Caves Reserve. They completed track marking the main passages and identified numerous species. Several small skeletal remains including those of bats were found; all seemed of fairly recent demise. Meanwhile DG, PM and PN continued the survey into the Upside Downs. Approximately 150 m surveyed to ASF grade 5, culminating in a small window into a previously unknown decorated chamber.

Tuesday 6th. DG, PM and RP surface surveyed from Hot springs Creek; tying in the cave entrance, suspected resurgence and known swallet. No further input points were found. GPS locations of the above were also recorded.

Thursday 8th. DG and PM surveyed many of the side passages left from the discovery trip none went far but proved important in understanding the systems layout. AC, SC and RP surveyed in a downstream direction. One stream sumped but with a possible high level continuation. The other receiving what later proved to be the sumped water from the first then ending in breakdown. Approximately 150 m Surveyed in total.

Friday 9th. DG, PN and PM corrected a loop error from breakthrough trip then surveyed into large decorated chamber above breakdown at second streamway end. Several side passages were picked up including the one carrying the sumped water. A further previously unknown input stream was discovered here with an impressive 20 m aven and a high level connection to the first streamway. SC and AC sampled extensively in the cave for water chemistry at various entry points. Samples were also taken of black and brown streamway deposits to determine

[2]"Alien Abductions, Hangovers, Mass Hypnosis, Conspiracy and other theories", CEGSA newsletter Vol 49 #2

whether their origin is organic or mineral.

Observations

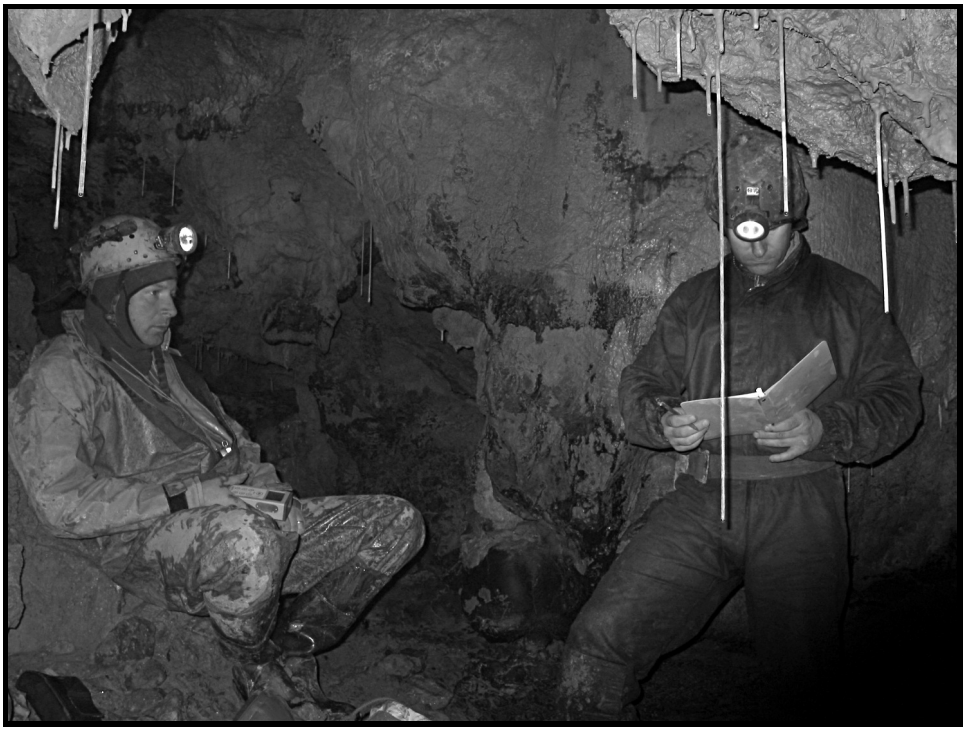
Damian:

The basic structure of the cave, even to the amateur's eye does indeed seem rather simplistic. Water does appear to run off the harder rocks above and sink at various points close to the contact. Underground, the survey reveals a system seemingly fault controlled, with water following and enlarging these fault-derived passages from various input points. The abandoned higher-level passages similarly follow this simple pattern; these being furthest from the current inputs/contact. Overall the line of the passages/faults seems to mimic the approximate line of the slope. A similar pattern of faulting is often seen assocaiated with such steep slopes. Water analysis results are to follow. However all streams within the cave seemed to be surface-derived and carried significant organic matter thus indicating the cave was unlikely to extend deeper into the mountain.

Although possibly unremarkable in its structure, the cave's contents may be of significant scientific interest / importance particularly as the site is in a pristine condition and the land above undisturbed by logging.

Initially the streamway was considered very fragile. Interestingly this proved more robust than expected, though still unlikely to take heavy traffic. Higher water levels cleared much of the evidence of our previous visitation although some silting had occurred. However the cave itself proved much less robust. Sediment banks are prone to easy damage; mud formations and calcite formations are extremely fragile. Being dolomite the rock itself crumbled easily and many of the speleotherms are significantly different from limestone caves. This is a highly decorated cave in places. Many of the speleotherms are very fine and highly ornate. If undisturbed examples of such dolomite caves are rare within Tasmania, as they are elsewhere, this may well be reason enough for some form of protection.

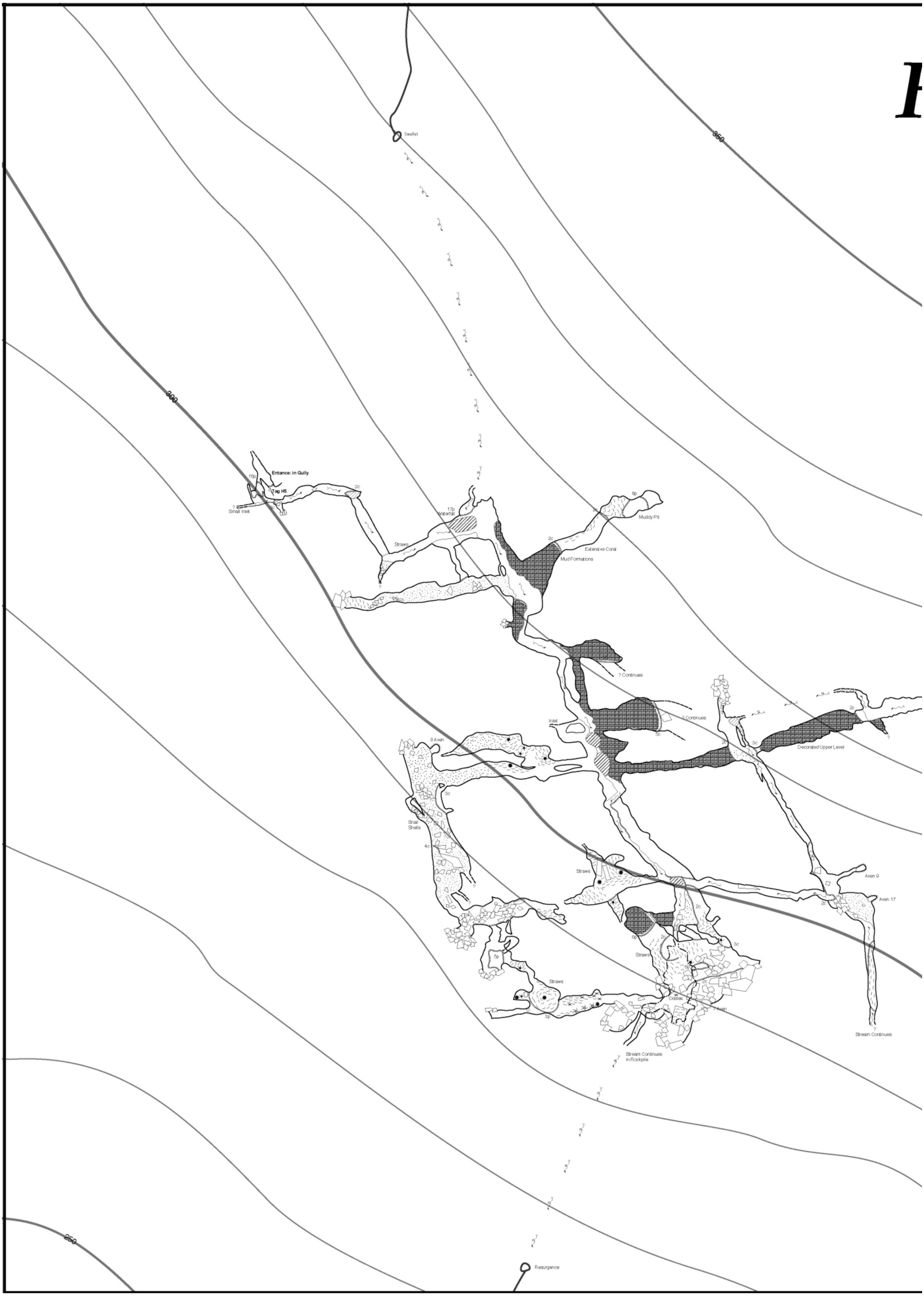
The sediment banks mentioned above may well date from glacial times and contain valuable scientific information. Wildlife abounds throughout the cave. This is probably due to the high influx of organic matter. Much of this life is cave adapted to some extent and a full scientific inventory should probably be investigated. The microbiology/mineralogy of the cave could be of particular interest. Both red and dark brown deposits are plentiful in the cave's streamways. These deposits were subject of further analysis by members of our team. The results may not be known for some time. Consequently it is difficult to make recommendations here until the results become available.



Damian Grindley and Phil Maynard surveying
Photo Paul Nelson

As far as future management goes, the survey, track marking, photography and basic science instigated so far go some way towards understanding the cave, its extent and provide a good framework for the future. The pristine nature of the cave and its surface covering combined with the abundance yet fragility of its contents and their potential for scientific advancement does suggest that for the immediate future the cave should be closed to all but scientific trips accompanied by a suitable guide. Once the results of investigations are complete the management can be further reviewed. However general use as a recreational cave seems highly unlikely.

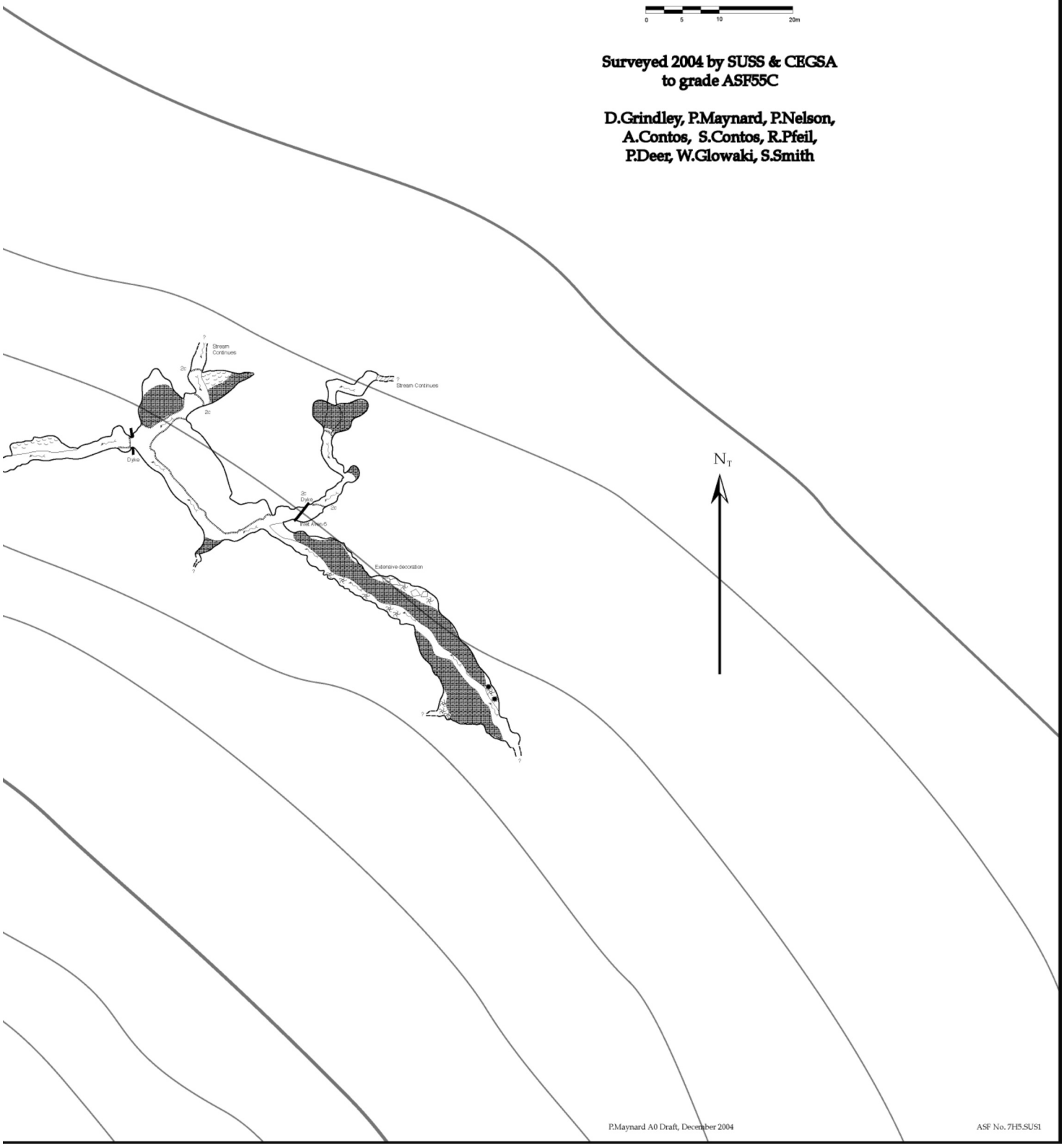
Presuming that the cave is indeed initially reserved for science or some other such restriction, how such a directive is enforced becomes an interesting question. Reliance on the cave's relative remoteness and limited knowledge of its location is by no means insurance against visitation/damage. Gating, although somewhat obtrusive and involving a initial outlay, may well dissuade all but the most persistent.



Swallet
350
300
Entance: in Gully
Tag H5
16p
Small Inlet
2c
17p
Waterfall
Straws
6p
Muddy Pit
Extensive Coral
Mud Formations
? Continues
Inlet
8 Aven
5c
Decorated Upper Level
3c
Snail Shells
4c
Straws
Aven 9
Aven 17
8p
Straws
5p
Straws
3p
Oolites
? Aven
Stream Continues in Rockpile
Stream Continues
250
Resurgence

7H5 CHAIN OF PONDS

Hastings Caves, Tasmania



ANTICLINE ANTICS

13TH – 14TH NOVEMBER 2004

TEXT & PHOTOS GREG RYAN

"You load sixteen tons and what do you get?" *

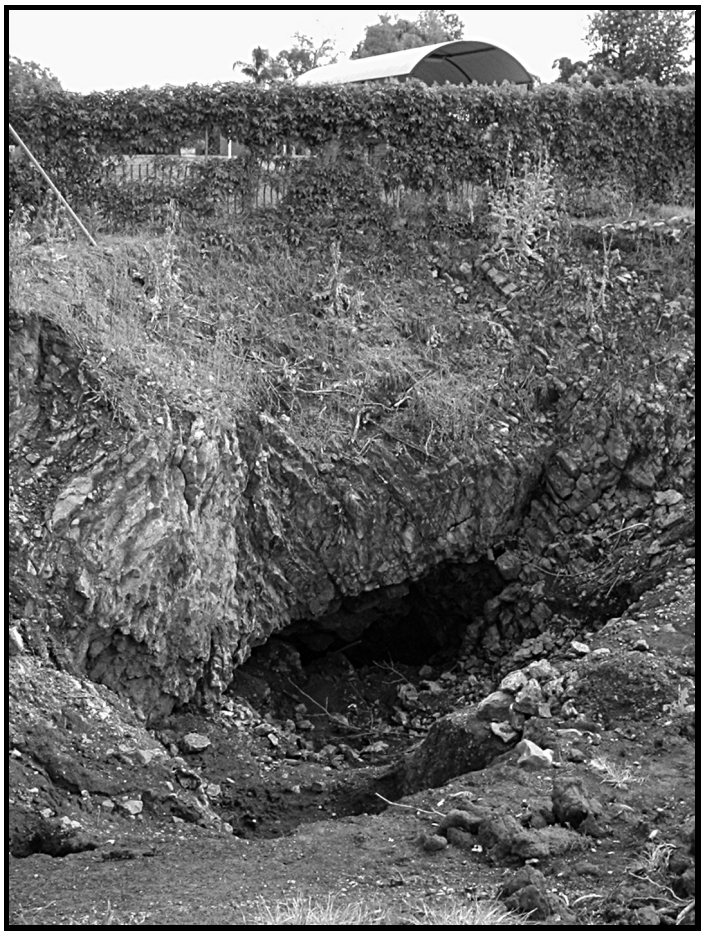
They might have been metric tonnes, and the material wasn't number nine coal, but there was a whisper of the Merle Travis song in the air at Wellington on a recent weekend as a group gathered to begin restoration work on Water Cave.

During the 1960s the entrance to Water Cave (also known as Anticline Cave), in the centre of the Wellington Caves caravan park, was considered a problem, so it was filled in. Its location was forgotten as the grass grew back, and soon a road was routed almost overhead, and a power pole placed where there was once a doline.

In the late 1980s, armed with a survey from the late 1890s, the cave was re-located by the Sydney University Speleological Society (SUSS) and Ernie Holland from Jenolan Caves, and the entrance uncovered with the help of a Wellington Council backhoe.

The cave entrance had been filled with pieces of broken limestone – probably remnants of the karst landscape cleared from the caravan park – and rubbish, including bottles, cans, tyres, timber and wire. Much of the rubbish and rock had found its way down to the lake which is straddled by the spectacular anticline in the cave ceiling, which gives this cave its alternate name. Remains of a gate were also discovered, harking back to the cave's early tourist history.

With no funds for redevelopment, and other projects on the Caves Reserve taking priority, a 'temporary' fence was erected and the site sat virtually untouched for sixteen years, deteriorating as the excavated entrance eroded, with each downfall (few and far between in recent years) washing more earth into the entrance and down to the lake.



The cave entrance on Saturday morning

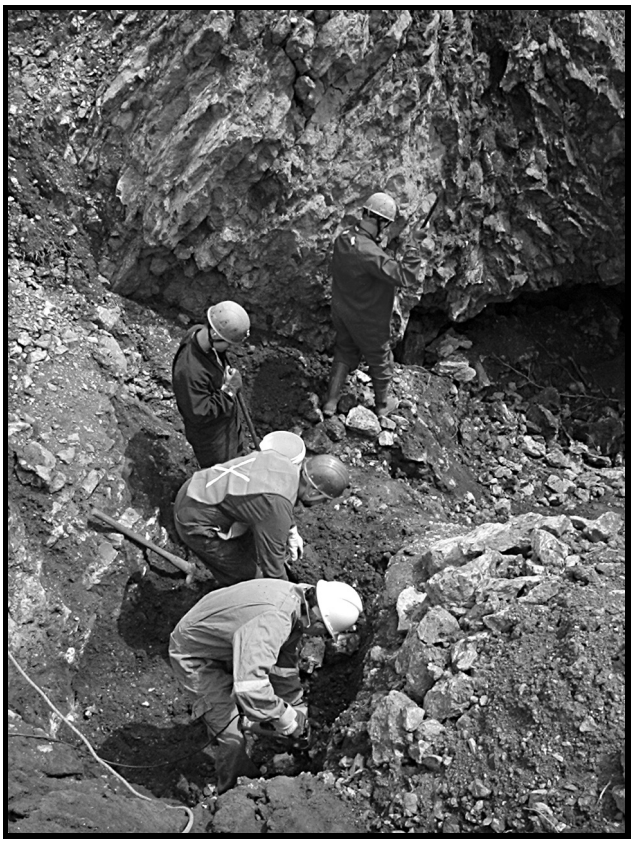
The need to preserve the cave from further damage and address the dilapidated appearance and safety of the site became more urgent in 2004. Proposals including installation of a drainpipe and ladder down to the cave entrance and refilling the excavation, with a locked manhole cover at the surface, were put forward.

An alternative suggestion, that the speleo community would be willing to help in the restoration of the site, was taken on board by the Caves Advisory Committee and a working weekend was organised[1].

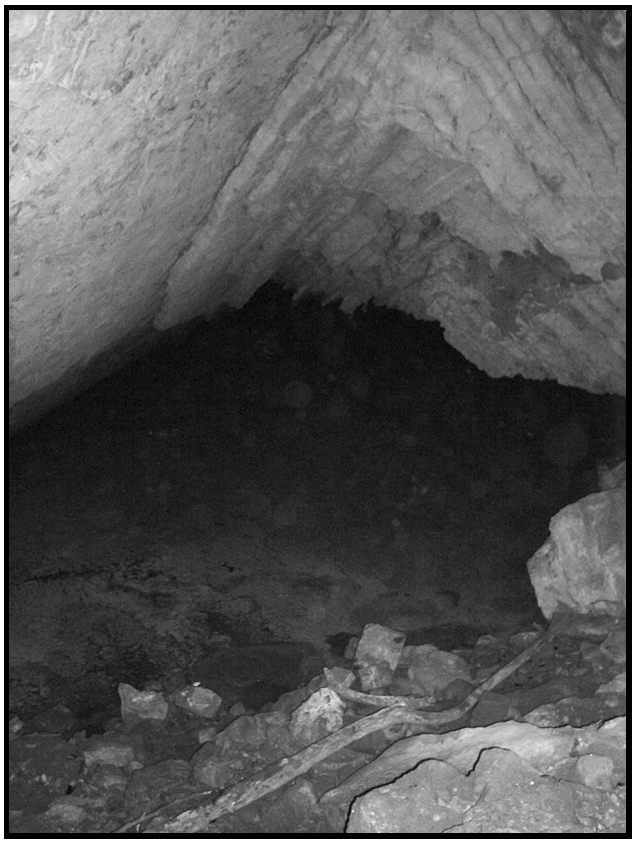
Chris George, the manager for Wellington Caves, did extensive preparation of the site with the loan of a council truck and backhoe, removing sixteen truckloads of material in September ready for the labour intensive clearing near the cave entrance and down the slope to the water, and the final levelling and setting of the benches.

On the 13th and 14th of November, 25 cavers from SUSS, Orange Speleos, NHVSS, Hills Speleos, NSW Cave Rescue and the Limestone Cowboys joined forces with Chris and Kevin Joyce, one of the Wellington guides. With Chris directing the work, advised by University of Sydney karst geologist Armstrong Osborne and aided by the mining engineering expertise of Ian Cooper from SUSS, the group undertook the stabilisation of the entrance to the cave. These were no armchair supervisors, each working more than their fair share on pick, shovel, jackhammer and by hand. Chris even found enough in reserve to take on hotplate duties at Saturday night's barbecue.

[1] "Unearthly Experience", SUSS Bull 44(2)



Preparing the bench



The rubbish-filled lake

A gabion ready to be filled

The work involved installation of five gabions, rock filled cages stacked on a terrace, as are often used in roadside construction. Each gabion was made on site from plastic-coated wire mesh, measured, cut and laced into a basket. The baskets were placed on a levelled soil bench, filled by hand with loose limestone pulled out of the cave entrance and taken from the stockpile built up from the September machine works, lined with geocloth and backfilled with soil.

The team extends the bench

Over the course of the weekend all loose rock from the excavation was removed and used in the reinforcement. The sloped floor into the cave was substantially cleared, with the original tourist steps rediscovered at the lake's edge, but progress in the cave was limited. On Saturday much time was spent ensuring that work on the entrance slope would be able to be conducted safely, and Sunday's efforts were hampered by the gluggy consistency of the mud further into the cave – the result of a 25 mm deluge a few days earlier – and the slow nature of the work as rocks were pulled from the mud by hand and chained up and out of the cave. Along with removal of loose rock, inwashed soil was bucketed out and used as backfill for the gabions. All 'artefacts' removed were set aside to be sifted through at a later date for any historical or cultural significance.

In total the gabions took about 15 cubic metres of limestone, so around 20 tonne of rock was moved by hand into the baskets over the two days. Much work remains to be done. Another level of gabions needs to be installed. The cave and lake are still littered with rubbish, which extends into the small divable side passage. Planting of appropriate native species is required to stabilise the entrance site and cover the gabions. Runoff from the park which funnels into the cave needs to be redirected by landscaping around the site. It is expected that more working weekends will be organised if Council support can be gained.

The future of the cave is still uncertain. It is unlikely that the cave will open to tourists again in the near future, but it is hoped that the work done will prevent any further deterioration. The benching will lend itself to landscaping and a new fence which may provide a view of the cave from the surface, providing another window to the underground world for tourists. Restoration of the original entrance may correct ventilation problems which currently lead to high levels of carbon dioxide in the cave. In the meantime, speleological and diving access to the site will also be restricted until the management is happy with the safety of the site.

The cave entrance on Sunday afternoon

Thanks have to go to all that worked so hard over the weekend, with special thanks to Chris George, Armstrong Osborne, Kevin Joyce and all the Caves staff.

* "Another day older and deeper in debt", according to Merle Travis' song, made a hit by 'Tennessee' Ernie Ford in 1955.

Predjama Cave, Slovenia[1]

Photo Greg Holmes

[1]Cave Entrance is 'Castle-type'. This is one of the longest caves in Slovenia; exploration leads still exist. The Castle was never successfully assaulted.

Castle Head: Photos by Tina Willmore

Phil Maynard on the third pitch

Michael Fraser and Sean Hill take in the view

Science in Chain of Ponds cave: Photos by Steve Contos

Annalisa Contos water sampling the easy way

Sampling stream deposits

TRIP LIST: JANUARY 2005

SUSS General Meetings are held on the first Thursday of the month at 7:00pm (for a 7.30pm start) in the Common Room of the Holme Building at the University of Sydney. The Holme Building is close to the Parramatta Rd footbridge on the northern side of campus. The Common room is on the first floor (enter from Science Rd).

For updates to this list, check out the SUSS Website: *http://ee.usyd.edu.au/suss*. Detailed information on each caving area (plus other useful information such as what you will need to bring) can be found in the *Beginner's Handbook* section of the Website.

Please Note: it is YOUR responsibility to inform the trip supervisor of any relevant medical conditions which may in any way affect your fitness, such as asthma, diabetes and the like.

January

29 – 30 Canyoning at Kanangra. Scenic canyoning near Jenolan for experienced canyoners only. Contact Martin Pfeil martinpfeil@hotmail.com or 9713 9460 (home).

February

3 General Meeting. 7:00 pm Holme Common room.

5 – 6 Hole in the Wall Canyon. Contact Richard Pfeil richard_pfeil@hotmail.com or 9713 9460 (home).

12 – 13 Wyanbene/Big Hole. A second attempt after the fun last time. Contact Brett Davis bdavis@ssc.nsw.gov.au

19 – 20 Jenolan. Another opportunity to contribute to some important projects and have fun. Contact Phil Maynard Philip.Maynard@uts.edu.au or 9908 2272 (home).

26 – 27 Colong. Come and camp for the weekend in remnant rainforest, listen to the lyrebirds, ward off the scavenging goanna and /or help check out survey bits & pieces as we explore the cave. There is a bushwalk involved so that we can camp close to the cave on Saturday night. Contact Alan or Megan Pryke meganandalan@optusnet.com.au 9524 0317 (home).

March

3 General Meeting. 7:00 pm Holme Common room.