

Newsletter of the Tasmanian Caverneering Club.

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President: Stuart Nicholas, 7 Rupert Ave., New Town, 7008. Ph. 28 3054.

Pres:(Maydena Branch): Max Jeffries, 16 South Cres., Maydena, 7457. Ph. 88 2256.

Secretary: Tony Culberg, P.O. Box 36, Lindisfarne, 7015.

Editor: Albert Goede, Ph.23 1929 (H), 23 0561,ext.415 (B). Typist: Therese Goede.

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Forward Programme.

- October 9 - Sunday. Florentine Valley. Mainly sightseeing and surface exploration. Leader: Tony Culberg.
- October 15,16 - WEEKEND. Further exploration in the Wolf Hole, Hastings. Leader: Bill Nicholson.
- November 2 - WEDNESDAY. General Meeting at 8 p.m. at Laurie Moody's place, 13 Mason Street, Claremont.
- November 5,6 - WEEKEND. Exploration in Exit Cave using climbing pole in Devil's Stovepipe. Camp underground. Leader: Bill Nicholson.
- Nov.5 and/or 6 - Exit Cave. Leader: Roy Skinner.  
Midnight Hole. Abseil down to Mystery Ck.Cave. Leader: Tony Culberg.
- Nov. 25-27 - WEEKEND: Cracroft. Leave on Friday night and camp at Farmhouse Ck. Exploration of new cave found last summer by Hobart Walking Club party. Party limited to six, preferably those experienced in the bush and familiar with S.R.T. Leader: Albert Goede.
- December 3,4 - WEEKEND. Kubla Khan, Mole Creek. There is a party limit.  
Leader: Bill Tomalin.  
( Names for this photographic trip in to Bill by next meeting  
Ph. 30 2761, or write to the Division of Recreation, Kirksway House. Party limit 9 at present - possible extension if numbers demand it.(B.T))
- December 10,11 - WEEKEND or part thereof. Maydena highlight will be a sheep roast on Saturday organized by mine host Tony Culberg. Location - Junee Homestead. Caving optional and accidental.
- January 21-29, 1978 - Precipitous Bluff is now definitely the destination of our summer trip. Access by fishing boat provided weather is suitable. For those prepared to walk - come when you can and go when you must. Aim of the expedition is further exploration and mapping, also scientific work. A wet suit is desirable for those wanting to see Quetzalcoatl Conduit. Interstate cavers are cordially invited to attend. Basic food and equipment can be landed in advance.  
Leader: Albert Goede.

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EDITORIAL.

Since the last Spiel there has been a fair amount of activity with new ground discovered in two cave systems. A party led by Bill Nicholson explored some new passages in Wolf Hole in the vicinity of Lake Pluto. Exploration ended close to the surface and there is a possibility of finding another entrance to the system. Anyway, they are going back to investigate.

Max Jeffries led a party of new chums to Bone Pit and after some digging broke into a new passage. This has only been explored for about 30 metres as the going gets rather difficult and pushing it requires a more experienced crew. No doubt we'll hear more about this prospect in the next Spiel.

The last G.M. held at my place was the best attended meeting we've had for a long time and four more bods were admitted to membership. After a long and lively

business session, those who could afford to come home late stayed behind and admired Phil Robinson's colour slides of the Himalayas. Thanks to Phil for a very interesting session.

Club News.

- \* New Members. The following were accepted at the last general meeting:

Strato Anagnostis, 756 Sandy Bay Road, Sandy Bay, 7005. (Junior).

John Walton, 446 Churchill Ave., Sandy Bay, 7005. (Junior).

Reg(ina) Onyszezuk, 8 Burnside Avenue, New Town, 7008. (Junior).

(That's our Irish lass - funny language, Gaelic).

Steve Smillic, 11 Oakley Ave., Bridgewater, 7401. (Full Member).

Welcome to the mob!

- \* Changes of Address:

Ian Gothard, "Our Cottage", Nicholls Rivulet, 7112.

Phil Robinson, 4A Ringerpost Track, South Hobart, 7000.

- \* At the last G.M. we were pleased to see our founder, Dr. Warren Carey, back amongst the ranks and taking an active part in the debates. He made the kind offer of donating his personal ladder to the club equipment pool. Apart from forming a useful addition this ladder is of considerable historical significance as it is the first ladder to be used by T.C.C. members before the club made its own.

Dr. Carey also assured us that the last Annual Dinner was not the first occasion that caverneers took to the dancefloor in numbers. Apparently, in the old days, before your editor joined the ranks, a special Caverneers Ball was held at which the Governor of the time, Sir Hugh Binney was present. He was a patron of the club and actually crawled through the Binney Tunnel to see the Binney Caves - newly discovered by the club - and named after him.

- \* Bill Tomalin has supplied us with another historical item - a previously unpublished account of a series of dives in the Kubla Khan resurgence in March 1974 written by Des Robertson. Des is an experienced caver and climber and teaches at Latrobe High School where he and Bill were involved in training students in the noble art of spelcology.

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NOTICE OF MOTION: 4/10/77 - for consideration at November G.M.

Proposer - Bill Tomalin.

- " That the Tasmanian Caverneering Club and its branch Clubs accept the Report and recommendations of the Caverneering Advisory Committee." (Published in Speleo Spiel No. 121, March 1977, pp.5-8.)

Note: The Committee on Outdoor Educational Experiences (C.O.O.E.E.) which is the receiving body for the Report, is well aware that the various reports on adventure activities are all subject to modifications. To avoid unnecessary paperwork, dissenting individuals are asked to express their views either through their Clubs to The Secretary, C.O.O.E.E., Education Dept., or write direct to Bill Tomalin, Division of Recreation, Kirksway House, Hobart, 7000.

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Re: Cave Conservation Rules (for consideration by Wollongong A.S.F. Comm.Meeting, Jan. 1978.)

by Bill Tomalin.

Proposal No.1. "They will not camp overnight in any cave."

As a rule I would agree with this proposal since it is concerned with conservation on both the physical aspect (litter, soil-disturbance) and on the biological aspect (faeces, respiratory bacteria, spores etc.). However, there are situations where an overnight camp would be acceptable. I suggest the following amendments or additions:-

"as stated - - except where the length of a trip exceeds 12 hours.

"as stated - - except where it is unreasonable to curtail an experiment,  
a survey or training in S.& R. techniques."

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Proposal No.2. "They will not smoke in caves".

As far as I know, there is no physical or biological effect on a cave caused by the combustion of vegetable matter on a small scale. (There is evidence that discolouration-rings in stalagmites near the top entrance of Kubla Khan has been the result of smoke from bush-fires being drawn in.) If there is evidence to the contrary then I agree with the proposal. If not, - - then I suggest the following amendments:- "as stated - - except by party-consent."

"as stated - - except where there is a through-draught not less than  
0.5 kph.

- - - - -

Proposal No.4. "They will not use any tools other than their bare hands  
in any dig."

I disagree. Suggest replacement with:-

"They will not use tools powered by (a) steam,  
(b) electricity,  
(c) petrol(s),  
(d) Nuclear reaction."

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Cave Conservation Rules - Some Comments.

by Bruce McIntosh.

(1) Camping Some large caves are suited to camping with no risk to the cave environment if common sense rules are followed. These caves should be agreed upon by the Club or by the Committee and camping not permitted in any others. Rules on human waste disposal would vary with conditions.

c.g. - strongly flowing outflow creek close to the entrance: - do it in the creek.  
(but see ASF Code of Ethics, Rule 5 d. Available at Nov.G.M. - Ed.)

- weak outflow creek: - urine only in the creek, faeces and paper collected in plastic bag.
- a creek containing calcite formations, or a cave with no outflow: urine collected in plastic bottles for disposal outside.

Obviously, all other waste (including candle wax and spilt soup) would be taken out of the cave.

Caves suited to camping should be classified as such in a register of Tasmanian caves, with restrictions on sites to be used and the maximum number of people allowed to camp at one time.

(2) Smoking Smoking inside caves should be a matter of conscience and group agreement. No person should smoke in any place where any one member of a party objects for reason of personal discomfort. It should be noted that partly-burnt hydrocarbons and notes of soot, released when acetylene is burnt in a carbide lamp or when wax candles are burnt, are probably much more harmful to a cave than cigarette smoke.

(4) and (5) Modifications The use of explosives should be prohibited unless extraordinary circumstances arise but the prohibition of digging tools is ridiculous. Obviously, great care should be exercised in their use, and any modification should only be made if it is essential to further progress - by this I mean passing a blockage beyond which it is highly probable that further exploration could be worthwhile. If there is any risk of damage to the cave, digging should be approved by the Club or Committee before being undertaken.

(See Speleo Spiel No.127 for the proposed rules discussed in the last two articles).

TWELVE HUNDRED FEET UNDER AT MOLE CREEK.

by Des Robertson.

It all started with a long dry spell and a trip through Australia's greatest cave - Kubla Khan.

During the caving trip I noticed that the River Alph, which runs through the first part of the cave, was unusually low and that the dropping of the water level had revealed an opening which proved to be accessible by foot to a distance of about 300 ft. This section contained a stretch of deep still water which ended in a sump, (a sump is where the roof of a cave drops down to touch, or reach below the surface of the water.)

A few days later I contacted a friend who is also an expert diver, Bill Kinear, and together we planned to dive this sump in the hope of finding a further extension of Kubla Khan.

It had been known for some years that the Alph, after disappearing at this point, re-appears  $1\frac{1}{2}$  miles away at the end of the main hill. This had been proved by the use of a water dye called fluorescein which had been put in the river at this point and was found to re-appear in a creek which emerges from a hole in a rocky cliff.

A dive from inside the cave posed many problems and so it was finally decided that the dive should be made in the resurgence.

Bill contacted two other divers, Richard and Adrian, who were willing to dive with him. Mr. Parsons and Mr. P. Jepson agreed to join me as ground crew and a date was set for the preliminary dive - 10th March, 1974. During the week prior to the first dive Mr. Wood agreed to assist us and put his vast knowledge of things electric to work on the problem of underwater communication. He came up with a "black box" which later was to prove our greatest single safety aid.

SUNDAY MARCH 10th "D" (for dive) DAY was warm and sunny. The morning was spent cutting a path through 300 ft. of 6 foot blackberry vines and setting up a diving base at the foot of the cliff near the resurgence.

Our three divers lowered themselves into the black, freezing water. The glow of their lights soon faded out below and the sound of their bubbles stopped as they glided under the first sump. The silence then was broken only by the rasp of the rope and telephone cable as it ran down the slope to disappear into the dark water. I sat with the earphone clamped to my ear straining to hear the first sound from the other end.

The rope and cable stopped moving at about 360 ft. and to my great relief I could hear the sound of the connecting screw being clamped down on the hand nuke at the other end. Then loud and clear from the depths came Bill's voice "Testing, testing. Can you hear me? Over." He had surfaced in a sump about 360 ft. in and was floating in his bouyancy vest in about 15 feet of water. He then fixed the communication cable, swam out and the stage was set for the main dive.

SATURDAY MARCH 16th - Bill led the way into the sump and had surfaced and established communication in 6 minutes. Adrian was right behind him and had surfaced in the sump while Bill was testing the communication circuit.

We were now using a 400 metre surf line for a safety rope and had marked it with black tape at 5 metre intervals. Our "black box" was working "loud and clear" and was about to prove its worth as a safety aid.

Bill reported after 8 minutes that Richard had not yet appeared in the sump. On the surface we were already aware that something was amiss! We had passed the 80 metre mark, which was the distance to the sump, but the line had continued to run out. It then stopped at 120 metres and we assumed that Richard had somehow become tangled in the rope. This was investigated by the divers and found to be correct and Richard finally surfaced in the sump, festooned with rope.

This incident proved the value of communication between ground and diving parties in several ways. First the ground crew knew that the extra rope was not being used by the lead divers as they had reported that they had surfaced and were stationary. Bill knew from our report that Richard was on his way and in trouble. We also found on checking back that both ground crew and lead divers knew of this trouble within seconds of its beginning. Contrast that with what happened later

when communication was not possible.

This situation was sorted out and Richard was back on the surface ready to act as stand-by diver within twenty minutes of the beginning of the dive. But our rope troubles were not over yet.

Bill decided to move further in and relayed his intentions to us on the outside. He would cut communications and swim deeper into the cavern with Adrian backing him up. He was to dive below the sump, pulling the rope and cable with him to search for another sump further on. There he was to set up a floating communication station and report back on the radio. If he had to return without surfacing the signal was to be one sharp pull on the rope. Adrian was to follow, sliding a karabiner along the rope onto which Bill was clipped.

At 22 mins. D.T. (Dive Time) both rope and cable started to move. At 23½ mins. D.T. the markers on our end read 100 metres and the rope was moving steadily. At 120 metres the rope stopped. Unknown to us the divers were in trouble at this point.

The water was murky with what was later described as a "milky substance" and the light beams from the divers underwater torches had failed to penetrate it at all. Adrian described it later:

"The torches did nothing but reflect a blinding glow and all I could see were my own bubbles. I found that I had lost all sense of direction and only knew up from down because of the rising air bubbles. I had the rope in my hands but didn't know which way along the rope was out and which way was toward Bill."

Bill by this time had felt his way along the ceiling of the cave and had found a small air pocket, he had then surfaced to wait for Adrian. Adrian meanwhile, had decided to pull in the rope in an effort to find Bill.

He continues "I pulled in yards and yards of the stuff, first from one direction and the other and finally felt Bill pulling at the rope and swam to him and surfaced. Both air tanks were approaching the half full mark and return to the surface became urgent."

Outside during all this we had been feeding the rope into the cave as it was being pulled in at about normal swimming pace. Adrian (and who could blame him) had forgotten the long sharp pull which was the signal to outside to take up slack and hold a tight rope.

Adrian and Bill were both surfaced and using cave air so Bill used his knife to strip insulation from the cable and clipped on his hand mike. This contact came at 1 hour 6 min. D.T.

The rope was a tangled mess which we sorted out with the help of the "Black Box". Both divers then swam back and surfaced at 1 hour 32 mins. D.T.

\* \* \*

Two things now clearly had to be established. The first was rope direction - this was simply solved. We had already marked the safety line at 5 metre intervals with black tape, so we fixed a red marker to the rope on the surface side of all these marks.

The next was to establish, and practice, a system of rope signals to be used in either direction. This was done and quite precise readings can be felt while the rope is floating even over the full 400 metres. This was tried and found satisfactory on the second dive for that day. The floating station was set up and fixed in place and the divers were out again in 45 minutes.

SUNDAY MARCH 17th - Today's dive a much smoother affair with no hitches. Audio contact was made with the divers after 7 minutes and the signal system on the rope clear and easily read from 80 metres.

All three divers were in the cave and Bill had decided to push further leaving Adrian and Richard in the air space to control the rope moving past them from the outside. The water was still milky but Bill had found clear water deeper down and was going to swim along that. After relaying his intentions Bill handed the mike over to Adrian and disappeared under the sump into the next (unknown) section of the cave. Contact between the surface and the air space was kept up all the time and with the aid of Mr. Jepsen's maths and note book, the supporting divers were informed of Bill's distance from them and from the surface every ten metres. All rope movement was checked back and forth between the parties. A lesson had been learnt from the previous day.

The rope kept moving out steadily and the surface reading kept increasing 10 min. D.T. 85 metres - 20 min. D.T. 165 metres. Finally at 35 min. we received the single sharp jerk which meant that Bill was returning. The reading on the rope was 1,200 ft.

Bill had returned to the others by 52 min. D.T. He reported to the surface that he had been swimming down a cavern which was heading slightly down hill, but was wide and open, when his air gauge had shown half tank. He then had to turn back of course but feels that he will have no trouble getting in further next time with twin tanks.

All divers had surfaced and were out of the cave by 58 min. D.T.

The distance that Bill covered on this dive (1,200 ft.) is getting close to the Australian record dive of 1965 (1,685 ft.) at the same site, and Bill feels confident of going much further next time.

The courage and determination of these divers is, of course, not in doubt. Just how much courage a dive of this length requires in the cold and darkness of a cave is something a non-diver can only speculate on, but some idea may be gained from the following.

First the distance covered on that final swim. I wanted to actually see that rope pulled out to the full length of the dive and used the grounds of St.Brendan's College, in Devonport, for this purpose.

When the final 1,200 ft. mark left the reel I had a line reaching the full length of the college grounds diagonally, from corner to corner. To see that thin line and to picture the diver on the other end so far from sunshine, light and warmth, with no air above him, was certainly some indication. So is this excerpt from the tape upon which we recorded all communications and de-brief sessions.

Bill describing part of the final dive:

"It was an incredible feeling swimming back. I switched off my light for a while to see what it was like, it was destroying. I could feel myself moving through this absolute blackness and I knew that there were rocks in the way. I kept putting a flipper high to see where the roof was and it was almost a relief to feel something solid amongst all that black. At one time I must have dislodged something and could feel something falling past my legs, I thought for a moment that I had caved the roof in and held my breath to listen for an ominous rumble, luckily none came."

\* \* \*

The next dive is set for the 30-31st March and I hope that in the next "Target" I will be able to report a break through and the discovery of Kubla II.

Perhaps a new Australian cave diving record as well?

D. Robertson, 24/3/74.

POSTSCRIPT: Unfortunately, it was not to be. The lead diver, Bill Kincar, was tragically killed in a hunting accident only a matter of days after the dive. The next dive never took place and the team disbanded. The Kubla Khan resurgence still awaits further exploration. Editor.

\* \* \* \* \*

ATTENTION BUDDING CAVE-SURVEYORS.

FOR SALE:

HEWLETT-PACKARD HP-25 CALCULATOR.

FEATURES: Programmable (49 merged steps),  
All usual functions, 8 addressable registers,  
4 level stack, last-x register.

COMPLETE WITH INSTRUCTION HANDBOOK,

(Corrected) Programme Handbook and Charger.

Just the thing for reducing cave survey data! Definitely a bargain at \$115!

CONTACT Stuart Nicholas (28 3054).

PERSONAL EQUIPMENT AND CLOTHING. (Part One)

by Bill Nicholson.

Your ideas and opinions on suitable clothing and gear may differ greatly from mine, but I have taken the plunge, so to speak, and put them on paper and will therefore welcome any constructive criticism from which we may all benefit.

Main Light Source: Alkaline miner's lights are the more robust and popular light source available today, the cell is worn on a belt around the waist and the light head clips onto a bracket on the helmet. When in good condition, sixteen hours of light can be given on high beam. They do need regular charging. They must, however, be kept away from contact with ropes and other equipment as the cells contain acid.

The Premier and Butterfly acetylene cap lamps are small, self-contained and reasonably priced (around \$13). The lamp must be refilled with water every hour and carbide every two hours, although with practice these times can be extended by 50%. With a 10.5 cm. reflector the light is more than adequate for small passages and medium size chambers. The lamps give a better and softer all round light when compared with the harsh concentrated beam of an alkali cell. Twenty-four hours of spare carbide can easily be taken on an extended trip. The lamp must be dismantled and reassembled to clear blockages and adjust seals. The owner should be familiar with the lamp as this may have to be done in total darkness.

One disadvantage is that one can not climb a wet pitch with one for obvious reasons, lamps don't burn underwater; and should never be used in confined spaces where they will consume more oxygen than its owner needs. As with the candle and the match, the acetylene flame will flicker or refuse to ignite in a heavy carbon dioxide atmosphere; and used carbide must never be left in caves or thrown about in horse-play. It reacts with the moisture on eyeballs which can lead to very serious injuries.

Helmets: Miners helmets have become more or less universal for horizontal caving, these are strong, cheap and come in an assortment of colours. There are two types available, however, the one having a wide brim is unsuitable for narrow passages, which can either be trimmed or the cap type should be obtained. The helmet must meet the Australian Safety Code as that cheaper substitute you may consider buying may fall to pieces after a hard knock leaving you with head injuries to say the least. It should also have a chin strap.

However, for vertical caving (potholing) greater protection is needed from falling rocks and bodies.

Rock climbing hard hats such as the popular "Joe Brown" are suitable. Unlike the mine and construction work type helmet these hard hats are designed not to fall off your head after a fall or a hit by a projectile, provided ofcourse, that they are done up tight.

The only drawback is when one is climbing under a waterfall; you can't see much anyway, but you see even less in the absence of a peak or brim at the front of the helmet.

The only other thing is the cost, it is expensive (in excess of \$20 ) but so what, how much is YOUR head worth? ?

WHISTLES: A pea-less brass, nickel or chromium-plated whistle with a strong eye is the most suitable. If worn around the neck (not recommended) the lanyard must be able to break under little pressure, the thought of being hanged by ones own whistle isn't very nice. Ideally it should be on a strong lanyard looped through a button-hole and securely buttoned or zipped up out of the way. Most important it must have a loud shrill note.

Waistlengths: A waistlength should be worn in all caves in case of an accident, the waistlength can be joined together with others or used to make a splint. Fifteen to twenty feet of 3,000 lb breaking strain seatbelt webbing wound around the waist and tied off with a tapeknot (the only knot to use). A karabiner is then passed through all the loops. Waistlengths made out of rope are uncomfortable.

Part Two (clothing, boots, gaiters etc.) see next Spiel.

TRIP REPORTS.

Maydena - 16-9-77.

A party of prospective cavers rang to make arrangements for a trip to Cave Hill near Chrisps. All said they had had a bit of experience but were not members of any club.

Party arrived 9.30 Saturday, 16th September. Leader: Max Jeffries, Sue Freeny, Geoff Fisher, Chris Davies, Diana Davies, Cam Douglas and Kin Lovelless. After coffee and acquaintances it was decided to head for the Bone Pit which only needed one ladder to gain entry. We arrived at the cave about 10.30 after a very steep and breathtaking walk of an extra three quarters of a mile owing to a large tree across the road and me not overly fit owing to recent 'flu. I rigged the 20 foot pitch and yours truly descended with the thought in mind of catching the first unfortunate to fall as we had forgotten to bring rope to belay and a couple hadn't had much ladder experience. However, it's an easy pitch and with me at the bottom holding ladder out from face so as to aid easy foot holds, and giving more bluddy directions than a traffic cop all arrived safely at the bottom and seemed rather pleased and relieved.(that I had finally shut up).

We pushed on down the cave taking great care not to clobber one another with the abundant loose rock which persists on the first couple of very steep slopes. They seemed very eager to explore every little nook and cranny till we reached the end of the cave(negotiable without more gear to descend a 90 ft.pitch). At the end of this surveyed area I decided to have another look at a small hole we Maydena members had discovered on a trip some 12 months previously and had always vowed to return to with a shovel.

With my eager beaver crew and a couple of sharp stones and many hands we soon enlarged the small muddy hole and Chris volunteered to have a go. After much grunting, swearing and flaying of feet he disappeared into a reasonable sized chamber, could stand up and announced "It's still going." While this was taking place I had already clawed a few tight spots of the squeeze and was in hot pursuit. Chris detailed me to the front again and away we scrambled. The passage narrowed to a large fault in the rock resembling an old stream passage, a bit of moonmilk, but little formation. At one point there seemed a fairly recent and large fracture in the rock face but we still pushed on for about a hundred feet all told. At this point I could see some 40 ft. ahead but the going had become fairly difficult needing a bit of chimneying in a rather tight crevice beyond which I'd say the going looked easier, worth a try with a small agile caver. As I didn't fancy being the hero wedged in the rocks with a strange crew that I didn't know too well we gave it a miss.

Already highly delighted to have pushed this cave another 100 ft. with more in view we returned to the surface filthy but satisfied. After a quick snack and natter and by now with much more faith in my party, I took them for what I thought would be a quick trip through Welcome Stranger. I am still at bay as to the fact of whether my lecture about cave and conservation in this cave slowed them up and made me sound like a bloody old grump, or whether it was just the natural beauty and their bit of photography, but it took us over three hours, of which they enjoyed every minute. I've since received a very nice thank you note from them, and if I'm any judge I think they would be an asset to any caving club - full of spirit, young, active and very friendly.

Max Jeffries.

Hastings - 24,25 September, 1977.

Leader: Bill Nicholson, Ian Gothard(TCC), Steve Smillic(HMC).

Our proposed trog to Exit Cave was postponed due to the size and condition of the party, who had indulged themselves at a wine and cheese function the night before which ended in a wild tiger and wombat throwing session (vomitting) the next morning. Hastings thermal pool car park (phew) was reached sometime Saturday and following a unanimous vote, Wolf Hole was chosen and descended on Sunday morning.

Six hours were spent underground in which the Lake Pluto highway was well and truly defined by 19 numbered red reflectorized alloy markers (phew) and approx.



70 plus metres of new passage was explored, which makes the Wolf Hole complex the 15th longest system in Australia.

The new passage, proposed name "HELLS PASSAGE" branches off below a junction of two creeks in creek (A) (see sketch). It runs for about 30 odd metres until it comes out under a waterfall and into a small chamber. This section of "Hells Passage" is great in the true sporting sense but particularly nasty if you dislike being what every true vertical caver dreams of, being thoroughly wet and grotty. Progress in this section consisted of mainly flat out crawling in the creek and through two 'battery and helmet off type' squeezes.

Out of the passage and OOPS, into a pool of water, we were confronted by a 5 metre waterfall pitch which two of us climbed, Ian and myself, leaving Steve behind so that we could climb back down safely. The climb revealed a small chamber in which the creek branched into three, creek B became impassable due to the low ceiling, creek C, which is the more promising of the three, ended up after 15 metres in another small chamber which involved a 3 metre climb into a small higher level. This level consisted of loose boulders cemented together by soft mud, and numerous cave spider webs. A small passage was noted approx. 5 metres away but time was running out and the spiders were BIG so we retreated back down and poked our noses up creek D, which was pushed for 10 plus metres.

Back at Lake Pluto the party was feeling wet and grotty but thoroughly pleased with themselves and with their findings. We were not so pleased with the 4 tea bags found in the outflowing creek at the bottom end of Lake Pluto. "Who is responsible?" The intrepid(?) troglodytes made their way slowly back to the surface where 30 mins. later they jumped into the thermal pool.

In conclusion, a weekend siege is being planned for Wolf Hole where a fissure near the entrance needs further exploration, a traverse of Lake Pluto by rubber dinghy - depth sounding and exploration of creek E will be undertaken and also further exploration of "Hells Passage" as creek C needs another look. The upper level of this creek must be close to the surface to explain the abundance of cave spiders and crickets.

Bill Nicholson.

