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NEWSLETTER OF THE TASMANIAN CAVERNEERING CLUB

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EDITORIAL

Cavers, Caves and Forestry

Many of Tasmania's karst areas are situated in State Forests. The unique biophysical nature of karst environments presents special land-use, management and conservation problems.

The recent Helsham Inquiry into logging in the Lemonthyme and Southern Forests has increased public awareness of the scientific, scenic and recreational value of caves and karst. Additionally, there is now a much greater appreciation of the large number of significant cave and karst deposits situated in the Southern Forests, and indeed Tasmania generally. The Tasmanian Forestry Commission recognises karst in the Forest Practices Code which was produced in March 1987. Provision has been made for the appointment of Forest Practices Officers to ensure regulation of the Code. Middleton (1988) details the Code principles and basic approach for forestry activities in karst areas, which include :

". Sites known to have high karst values should be surveyed to adequately record karst information prior to Timber Harvesting Plan preparation."

". The catchmentof a karst area should be considered in planning."

". The highest standard of roading and harvesting procedures should be applied in all karst areas to minimise the alteration of karst water movement patterns."

Other procedures to be adopted allow for minimal erosion and soil disturbance; the avoidance of sinking streams, intermittent or ephemeral surface channels, caves or sinkholes; and, waste material will not be dumped in karst depressions or sinkholes. Of particular relevance to cavers:

> "Timber Harvesting Plans will specify karst features for an area and the protection measures to be adopted; liaison with speleologists should be considered in plan preparation."

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The Forestry Commission's awareness of karst is not restricted entirely to the Code however, Geomorphologist, Dr Kevin Kiernan, has recently been appointed to the Commission and is coordinating the delineation and documentation of all Tasmanian karst areas. Karst areas will have high priority for consideration in future forestry-based planning and management decisions. Forestry Commission Field staff (led by Rodney Walters) and APPM Burnie, are to be commended for their response following the recognition of a new karst area at Mr Cripps, N.W. Tasmania, in December 1986. The prompt notification of speleologists, and investigation of the karst resource, was instigated prior to any further intrusion of forestry operations.

Evidently the information and expertise available through caving clubs can contribute in State Forests. Australia's most celebrated sport caving area, the Junee-Florentine, is also a timber harvesting concession operated by Australian Newsprint Mills (ANM). The Tasmanian Caverneering Club has been actively exploring, surveying and documenting caves in this region since 1946. The Southern Caving Society also continues to run regular trips here, and visits are received from a number of mainland caving groups every summer. In view of the special provisions for karst in the Forest Practices Code, and the widespread concurrence of karst deposits and State Forest, it is suggested that the logging industry stands to benefit considerably in the planning and implication of forest management programmes by adopting a closer cooperation with speleologists.

TCC Committee
August 1988

Reference: Middleton, G (1988) Forestry Recognises Karst. J. Syd. Speleo. Soc. 32(1) : 35.

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Karstic Komments

-TREV'S GOT AWAY WITH IT AGAIN .....! He's gone and organised yet another highly successful and enjoyable TCC annual dinner. Three cheers for you Trev!

The Good Woman Inn was an ideal venue; being very cosy, giving a good meal for a good price and what's more, putting up with the perverse peculiarities of cavers. Many were in attendance too, ranging from the lofty heights of Prof Carey, Albert Goede and Judy, and Max Jeffries and Allison, all the way down to certain persons of a certain rival caving club (just joking)! Great to see so much socialising (and carrying on).

Guest rent-a-speaker, Stephen Bunton, kept us all entertained with anecdotes about the international caving scene; the crowd showing their appreciation with hurled objects. Bet he can't wait for a return round next time. Trev mingled in his sophisticated "mother" mode, ever much the social caver. Greg Jordan did "Greg Jordan" impressions, to the delight of the Eberhards, and meantime Jeff Watson seemed to develop a sore arm. Hope it gets better, me old mate!

Kick-on time saw a move to "The Party" where Martyn and Max's band "Lowlife" provided some dark 'jungle' rhythms, to bring out the

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"expedition caver" in us all. Greg was very exuberant on the dance floor, trying out some original choreography known as the "half-Nelson", apparently unnoticed by the bouncer!

Anyway, 2.00 am saw the older members expiring in droves, and whatever happened after that escapes memory. A great night Trev, and thanks to everyone else who made it a good showing.

HORIZONTAL HORRORS! Following up on some initial probes to the area by Andrew MacNeil and coy, Stefan Eberhard and Nick Hume decided to chance their luck with more exploration in the Cooks Creek Area (Picton Valley). Well ..... a more vile and soul-destroying thrash would be hard to imagine (and impossible to describe). A veritable botanical zoo confronted these hapless lads, two kilometres from road to the second of the mapped depressions, occupying four hours of flailing arms and personal abuse!

Up and down steep gullies, over (and into!) flooded streams, through and above a kiddies playgym of branches and rotten logs. Anyway, in the vicinity of the target area, the lack of any karst-like "feel" and a veritable wall of horizontal scrub, sapped their remaining enthusiasm. Hard to relate how anyone could falter with only some hundreds of metres to go, but if you were there I guess you would know.

The retreat took another four hours; returning to the car being an almost religious experience. Stefan's enthusiasm for "new" caving areas should be curtailed; Cooks Creek is one area that shouldn't be recommended to anyone (possibly excepting Dante!).

- BUONGIORNO! The Southern Caving Society have been playing diplomatic host to a recent influx of Italian cavers. Apparently their English was not the best (the Italians that is!), but they still managed some fine caving. On a sojourn to Mole Creek they savoured Croesus, Linds and Kublai Khan. Down south, Jeff Butt led them through Owl Pot (Florentine Valley) and Arrakis (Mount Weld). Greg Jordan did a shift, taking them on a Valley Entrance/through-trip odyssey (did you really get lost in the boulder pile Greg?). Welcome Stranger was also visited.

DESIGNER CAVES! Rumour has it that with all the new vertical entrances and discoveries; Exit Cave is under scrutiny for a through survey-overhaul. The team has suggested they will be satisfied with a 25 kilometre system and won't go any further!

HOLLER' FOR A GEL CELL! Two new club lamps have been put together (based upon a much cheaper cell than the conventional Oldham battery) and placed in the gear shed ready for some field testing. Despite appearances (they have a much smaller battery case), their duration from a charge is fourteen hours. They are a .7 amp bulb, compared with the 1 amp of the Oldhams, though the difference in brightness between the two is pretty minimal. Anyway, give them a go sometime.

Speaking of which, the club now has thirteen or so lamps, battery belts and about twenty helmets. Anybody taking groups caving, such as schools, Project Hahn or whatever, are welcome to use this gear. The $2 hire per person is a bargain considering the high capital outlay of caving lamps these days. The same sorts of people might also consider using the four sets of abseiling/prussiking gear the club has at a similarly reasonable charge.

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GOT NOTHING ON THIS CHRISTMAS? Lindsay Main of NZSS (New Zealand Speleological Society) is organising an expedition to Bulmer Cavern. This cave seems to be on the verge of yielding some major discoveries; there are heaps of unexplored leads, but the New Zealanders have somewhat lacked the manpower to take advantage of them. There is much surveying in big passage to do as well. Could end up rivaling that other Southern Hemisphere "deepie"; Nettlebed Cave.

Why not join in? Food and gear is being choppered to the campsite on Mount Owen, for an intended stay from 28 December to 8 January. The countryside thereabouts is reputed to be fairly open bush and quite pleasant. Stuart Nicholas is all fired up to lend them a hand, so if you develop enthusiasm for expedition caving too; contact him on (002) 28 3054 for more info. Return air fares trans-Tasman are $580 (APEX) and are going fast, so hurry!

FINDING KILOMETRES OF CAVE LATELY? Walch & Sons sell a "cheapo" SUUNTO prismatic-surveying compass for $36 (less 10% students' discount!). This is a lot less than the $100-120 they are asking for the all-metal ones currently. In fact the cheaper version uses the same sealed compass unit, only it's packaged in plastic instead. With a bit of waterproofing glue, it would be an ideal replacement for the older types that the club use. While arguably plastic is more fragile, the metal types seem to conk out fast enough; the problem being water/mud entry rather than robustness. With a bit of inquiring it may also be possible to get a similar thing in a clinometer; quite a big saving on the alternative.

SOMEONE'S BEEN LOOKING FOR LOTS OF RELIEF! At least, Stuart Nicholas and Albert Goede have, in the way of wandering around among the relief in the Florentine Valley and doing bulk overland surveying as well. Their valuable efforts have included "locating" Growling Swallet (some of us wish it was still "lost"!) and sundry other caves in the Florentine, with respect to the official survey datum available for the major logging roads. Rewards for this will be forthcoming shortly, with the publication of a Lands Department 1;25,000 scale map, featuring some accurate topography thanks to them. Their data will be more directly helpful to cavers as well, assisting in the understanding of hydrological trends in the Nine Road caves; Porcupine Pot et al suggesting linkage with Growling. Hail the brave new age of compasses and computers!

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341 CARAMELLO POT - yuk! There appear to be those who would rewrite recent history. Some students have much to learn, and teachers too! 341 is an extraordinary number and some of its special features are listed for the enlightenment of the revisionists.

341 is the product of the fifth prime number, and the third anerserine prime number (11 x 31 for the illiterate).

341 is the smallest pseudoprime to base 2, ie, 2 to the power 340 minus 1 ($2^{340}-1$) is divisible by 341, although 341 is composite, not prime.

Pseudoprimes are quite rare. There are 882,206,716 primes less than 20,000,000,000 (2×10^{10}), and yet, in the same range it has been calculated that there are only 19,865 primes to base 2.

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341 is also a cave located off the Chairman track in the Junee Florentine area.

THE "PRIME" MINISTER

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COOK CREEK: ANOTHER "NEW" KARST AREA FOR TASMANIA

Cook Creek rises on the slopes of the Picton Range in southern Tasmania. It is joined by numerous tributaries as it flows eastwards into the Picton River. The existance of a large sinkhole in the valley of one of the tributaries draining Abrotanella Rise has been known for many years, and was investigated by Brian Collin and Attila Vrana during the early exploration of the Cracroft karst area.

Amidst speculation that this depression was excavated in ordovician limestone and might therefore contribute as a source feeder to the Judds Cavern-Cracroft system, this karst area has remained largely unrecognised and undocumented until production of the Davey and Houshold Report (1987). Situated only slightly more than a kilometre from current forestry operations, the depression was visited by Andrew McNeil and Andrew Wakefield in May 1987 (McNeil, 1987). A couple of small holes associated with stream sinks were explored and the parent rock had a similar lithology to Precambrian dolomite from the Weld Valley. As a glacikarstic phenomenon, this feature is of some significance.

The recent publication of the 1:25000 "Burgess" topographical sheet has revealed the existance of a further series of closed depressions and associated streamsinks situated some 1.5-2 km further to the northwest. These features occur between 570 and 780 m a.s.l, and more than 150 m directly above the floor of the Cook Creek valley.

Lake Ovoid itself is shown as occupying a 40 m deep enclosed depression. Examination of the aerial photographs suggests that this lake and the depression located immediately to the southeast are glacigenic moraine-dammed features, as are many other basins located at this altitude in southern Tasmania.

The possibility that these two features are a combined glacial and karstic formation certainly cannot be discounted at this stage. The other two major depressions situated at a lower altitude, one of which is shown as acting as a major streamsink, appear more interesting from a speleological point of view.

Under the stereoscope both these sinkholes appear as steep sided conical depressions with intriguing dark shadows at their bottoms.

Sometime early in 1988 I spent a day bashing through the scrub in an attempt to reach this area; I got to within perhaps an half hours walk of the first large sinkhole, but had to turn back due to fading daylight. I didn't see any dolomite, just sparsely conglomeritic Permo-carboniferous sediments. Some months later Nick decided he wanted to go bushwalking and experience at first hand some of the foul vegetation in this area. We succeeded in navigating our way across the numerous gullies and other obstacles to find ourselves ascending the creek leading up to the first large depression.

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We must have been within a few hundred metres of it before we got sick of the whole business and turned for home.

The total lack of anything resembling karst exposure, (although there are thick slope deposits mantling most of the bedrock around here), combined with our cold and sodden-wet state encouraged the totally guiltless retreat. Some day of course - we will be going back, perhaps over the top of the South Picton Range or more sensibly by helicopter!

STEFAN EBERHARD

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Davey, A & Houshold, I (1987) "Karst Landforms of the Lemonthyme and Southern Forests, Tasmania." Consultancy report to the Commonwealth Commission of Inquiry into the Lemonthyme and Southern Forests.
Applied Natural Resources Management, Canberra. 168 pp.

McNeill, A (1987) "The Cook Creek Karst."
Unpublished report.

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KUBLA KHAN EFFLUX

In addition to its other claims to fame, Kubla Khan also has the title of the longest cave dive explored in Tasmania so far. Although dives first began in the efflux around 1965, it was not until 1978 that a complete traverse into Kubla Khan was achieved. A team of visiting South Australians discovered open passage after diving through a 400 m long sump from the efflux side. A further short dive allowed them to make the connection with Cairn Hall in Kubla Khan. Matthews (1985) mistakenly attributes the connection to TCC in 1983.

Sump Lengths

One feature of the efflux is the degree of variation in sump lengths that has been apparent. This is clearly in response to prevailing rainfall levels, although excavations in the river bed by local cavers downstream of theefflux had considerably lowered water levels prior to the South Australians' dives in February 1978. Water levels generally were very low at this time anyway, and it was possible for them to proceed along 100 m of airspace in the efflux before diving became necessary. Airspaces up to 50 m long were reported along the length of sump 1, and a second sump that normally precedes Sunless Sea Passage was non-existant.

At the time of a TCC dive in May 1982 it was also possible to proceed upstream for some distance in the efflux before totally submerging. There was, however, an unexpected 30 m long sump just beyond sump 1 - water levels were not so low as they had been in February 1978. Later, during the survey trip (November 1983) and the exchange dive (June 1984), water levels were higher still. Sump 2 was measured as 117 m in length on the survey trip. It was also necessary to commence diving in sump 1 almost immediately at the point where the stream emerges into daylight, and giving a total dive of 496

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metres (airspaces were still present, particularly along the first 100 m). Reports of a dive in 1965 that penetrated 1,685 ft (ie, 514 m) into the efflux further complicates the picture. A dive of that length would have presumably encountered the major airspace beyond sump 1 : 70 m of walking-type passage up to 4 m in height that precedes sump 2. Unfortunately few details of the 1965 dive are available.

A minimum length for sump 3 would appear to be 28 m as recorded by the South Australians, although the length of 38 m shown on the survey (see last page) is probably more typical. Roughly 30 m downstream of sump 3 are a couple of points where the ceiling lowers to just a few centimetres above water level. It is likely that this section would also become entirely submerged in times of very high flow.

Minimum and maximum lengths for the sumps recorded at different times is summarised below. With an average depth of around 4 m decompression is no problem.

	Minimum (m)	Maximum (m)
Sump 1:	400	496 (514?)
Sump 2:	0	117
Sump 3:	28	38

Chronology of Dives

(1) Robertson (1977) refers to an "Australian record dive of 1965 (1,685 ft)" at Kubla Khan, while Goede (1968) notes that there have been "several diving attempts, the last one penetrating 1,685 ft through a series of water-traps; seven small chambers; end not reached." No further details are known.

(2) In March 1974 three divers under the leadership of Bill Kinnear made a series of penetrations into the efflux. An interesting account of their exploration is given by Robertson (1977).

During these dives line was fed out from the surface, a technique that they discovered could be problematic. For example, on their second attempt two divers had surfaced in an air pocket 80 m into the efflux when the third diver who was following failed to show up. Luckily, with the help of a communication cable and their "black box" device, it was possible to talk with the surface support. The divers were informed that 120 m of rope had been fed out to their missing member who had apparently become entangled underwater. He finally surfaced in the airspace "festooned with rope." Nevertheless, they decided to keep going.

Two divers continued along the submerged tunnel but trouble struck again. Initially this resulted from poor visibility. This is how the second diver described the incident: "The torches did nothing but reflect a blinding glow and all I could see were my own bubbles. ... I had the rope in my hands but didn't know which way along the rope was out and which was towards Bill." So he started pulling in the rope: "I pulled in yards of the stuff, first from one direction and then the other, and finally felt Bill pulling at the rope and swam to him and

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surfaced. Both air tanks were approaching the half full mark and return to the surface became urgent."

On their third and final dive,Bill Kinnear pushed ahead alone. His single tank was drawn to half full when he turned around at a point 366 m into the efflux. Plans to return were abandoned when Kinnear died in a hunting accident a few days later.

(3) In February 1978 the first complete traverse from the efflux into Kubla Khan proper was made by Ron Allum, Phil Prust and Peter Stace. For a description of their exploration see Stace (1979).

(4) In April 1982 Nick Hume and Stefan Eberhard made a reconnaissance dive in the efflux. They swam along 200 m of underwater passage before surfacing in an air bell (Speleo Spiel 176).

(5) In May 1982 Nick Hume and I attempted to complete the whole traverse. The existance of a second sump after sump 1 had not been anticipated and there was insufficient line to dive the last short sump into Cairn Hall (Speleo Spiel 176).

(6) November 1983 saw a successful traverse of the efflux by Stefan and Nick. During this trip an accurate survey was accomplished. (Speleo Spiel 193).

(7) In June 1984 a major assault on the efflux took place. Four divers were involved: Stuart Nicholas, Duncan Holland, myself and Kubla return Nick. In an exchange/through trip, two divers entered the efflux and laid line through into Cairn Hall. The other team entered Kubla Khan through the main dry entrance and met the divers as they emerged from sump 3. Gear was exchanged and both teams continued their respective exit journeys - the divers out the dry entrance, the other team via the acquatic route (Speleo Spiel 199).

The Survey

Even though it is nearly five years since Stefan and Nick did the survey, for one reason or another the map has remained unpublished in this magazine until now. The length of sump 1 was calculated by using a guideline marked at 20 m intervals, while the lengths of sump 2 and sump 3 were measured from the amount of line that had been used in them. The sections of open passage between sumps were surveyed with Suuntos and tape (ASF grade 4) carried through the sumps in a waterproof bag. Another survey of the efflux does exist - a section drawn by P. Stace in 1978 (unpublished?) - but distances between the sumps were only estimated.

The total length of the surveyed section is 1128 m. The final station - a prominent stalactite above the water near where the stream sinks in Cairn Hall - is marked with a piece of blue tape. This will allow the survey to be tied-in when an accurate survey of the rest of Kubla Khan gets done. SCS have apparently started doing just this.

ROLAN EBERHARD

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Matthews, P G, Australian Karst Index 1985, ASF, 1985.

Robertson, D, "Twelve Hundred Feet at Mole Creek," Speleo Spiel 128, October 1977.

Stace, P, "Cave Diving in Tasmania," ASF Newsletter, No 84, 1979.

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FLORENTINE VALLEY : SURFACE SURVEYING AND BURNING DOWN THE HOUSE

Present: Albert Goede, Stu Nicholas, Bruce Grieve (YUCC), Stefan Eberhard.

Bruce is a pommie caver, fresh from pushing M2 to -980 m (YUCC's latest project in the Spanish Picos), but not so fresh after a late session with Trev's home brew!

Anyway, we took him to TCC's latest scoop, JFX32, which is colloquially known as "Burning Down The House." The actiology behind this name has something to do with the rock band "Talking Heads" and the fact that we really did see a house burning down on the day we made the initial discovery.

Stu and Albert went off to complete the all important surface survey linking various karst features to the surrounding landscape which should eventually result in a very picturesque computer plotted representation of the speleo-hydrologic system in the Florentine Valley. They finished off the survey on the 9 Road and continued along the Nine-Link Road, terminating at the turnoff which leads up to Rainbow Cave (JF11), JF226, 227, 228 and X32. Ever since the discovery exploration of Porcupine Pot it has been evident that the subterranean catchment of the Junee Cave resurgence must extend beyond Growling Swallet (situated some 9.5 km linear distance from Junee). It now seems highly likely that the catchment extends an additional 4 km north which would also include Tassie Pot, Owl Pot, Three Falls Cave, Udensala, Rainbow Cave, JFX32, 226, 227, 228 and perhaps even X19.

Meanwhile Bruce and I trotted down X32 which had a fair bit of water in it, and soon enough we found ourselves scaling the ramp-type aven extending above the sumping point of the main stream. We continued climbing up this feature to where the draught emanates from an impossibly small hole. This thing continues upwards and also back across the main stream as some kind of joint or fault fracture, but climbing protection would be desirable.

Having dragged a pack full of rope and climbing paraphenalia to this point, I was sussing out the options whereupon my light died in the arse, which is just what I had been expecting it to do all along. Exposed free-climbing in caves is normally okay because you can't see the nothingness hanging beneath you, but down-climbing this 25 m wall with inadequate light nearly had me gripped!

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We beat a necessarius retreat. After surfacing we wandered up the road to the gravel pit and beyond where we found limestone outcropping high up on the slopes at c - 700 m a.s.l. This whole area deserves further attention, representing as it does the apparently furthest catchments of the whole inconceivably massive Junee Cave karst system.

STEFAN EBERHARD

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LOOKING SHEEPISH IN JF1

In the June Spiel was a trip report about my unsuccessful attempt to relocate a draughting slot in JF1 that had been mentioned in a 1970 trip report.

A couple of months later I went back to try and dig out another squeeze that I had noticed on the previous trip. This is located at the bottom of a steep rift beyond a squeeze that leads off from the base of the ladder drop inside the cave. After digging out some clay I encountered a rock that would need to be chipped or blasted out in order to get through. The slight draught at this point apparent on the previous trip was totally absent this time. On my way out of the cave I chanced to notice a small slot in the wall, not far from the base of the ladder. A distinct draught was blowing out of the hole which must be the one described in 1970.

Some time later Nick Hume and I went back to JF1 to blast the slot open. The cold draught was equally strong, and although it seemed a funny spot for a continuation, I reckoned it was worth a try. Having accomplished the tedious task of cracking the hole, I was able to squeeze through into a space beyond. To my utter disgust the hole merely led back to near the bottom of the entrance slope. I had been completely sucked-in. That air circulating so close to the entrance could produce such a distinct draught was rather surprising.

Blasting in the other lead might be more productive, but my interest in JF1 has been exhausted for the present. Apologies to Nick for taking him on a wild goose chase.

ROLAN EBERHARD

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ENTRANCE CAVE - 10 AUGUST 1988

Paul Merhulik and Leigh Douglas.

With Paul on holidays and me on Swatvac, Wednesday seemed a good day to take a hike down south and rediscover Entrance Cave and its grafitti walls.

I was surprised at how well trodden the track to the cave was. The log book reveals numerous school groups have been in to visit the cave of late.

We spent a few hours crawling in and out of passages and ducks, admiring the pretty glow-worms and not so pretty spider.

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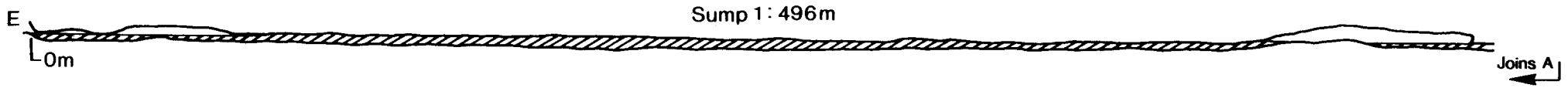
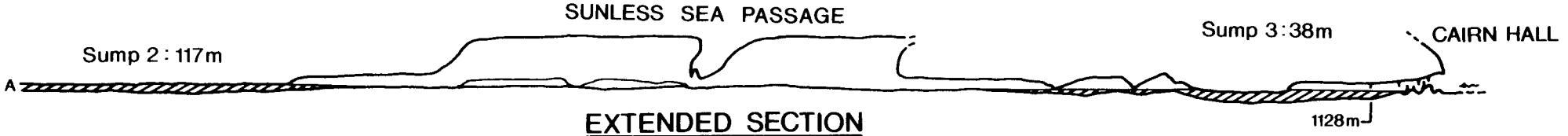
KUBLA KHAN EFFLUX

MOLE CREEK, TAS.





EXTENDED SECTION

ASF GRADE 54 / 32*
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S. EBERHARD
N. HUME

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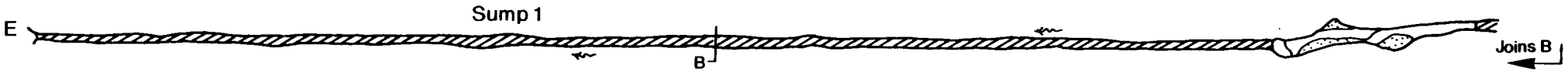
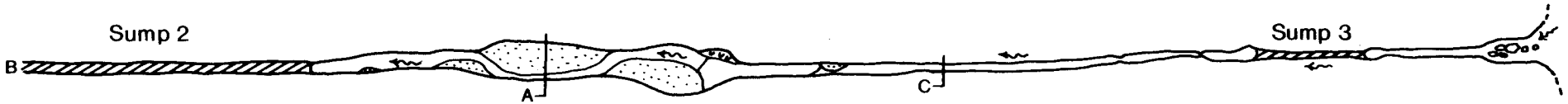
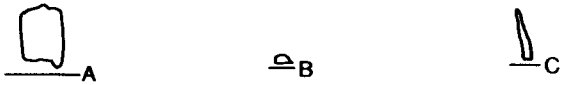


PLAN





Cross Sections

* Sump survey : 32