

BULLETIN OF THE SYDNEY UNIVERSITY SPELEOLOGICAL SOCIETY

*Lumen
in
Tenebris*

SUSS



FOUNDED 1948

Box 35, The Union,
University of Sydney,
N.S.W. 2006.

Registered in Australia for transmission
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GENERAL MEETING

Thursday June 7 at 7 pm

Please note that the next meeting will be held in the Badham Room, Sydney University Union. We are trying to get this room on a permanent basis as it is much quieter than the other one.

After a short meeting, there will be an adjournment to the University of NSW (Wurth Room in the Roundhouse) where Mr Warwick Counsell will give a talk on "SPELEOGENESIS"

June 6 (Wednesday) at 8 pm :

THE SECOND BARBARA DEW
MEMORIAL LECTURE
LIVING AND CAVING IN
PUERTO RICO

This excellent illustrated talk will be given by Dr Graham Nelson, a Ph.D. graduate of this University, and will include the famed Rio Camuy Caves in Puerto Rico. Venue at 8pm is the Womens College, University of Sydney (enter from Carillon Avenue Newtown by car - it may be necessary to park outside). Not to be missed.

25th ANNUAL SUSS DINNERS

This will be the great event of the year. All who came to the Joint Dinner we held with Uni of NSW Speleos last year will be looking for an even more memorable occasion. One that you'll never forget. Never been to a SUSS Dinner before? You really don't know what you're missing - this is one of the Great Traditions. Cost - about \$4 single, \$7-50 double but will be announced soon. That's including the Union's idea of grog and food but excludes the dancing girls. Start saving now. A really first rate after dinner speaker is being arranged and a good time by all is guaranteed.

ARE YOU FINANCIAL YET ???

F O R T H C O M I N G A C T I V I T I E S

- June 6 "Living and Caving in Puerto Rico" illustrated talk by Dr Graham Nelson, includes the fabulous Rio Camuy Cave. THE SECOND BARBARA DEW MEMORIAL LECTURE. In Womens College, Sydney Uni, Carillon Ave at 8pm.
- 7 G E N E R A L M E E T I N G 7 pm in the Badham Room, Sydney University Union - NOTE ALTERED VENUE. After a short meeting there will be an adjournment to Uni of NSW where Mr W. Counsell will be giving a talk on "Speleogenesis"
- 9-10-11 CLIEFDEN John Dunkley 7599956 (H)
- 16-17 WOMBEYAN (This trip has been postponed - watch for new date)
- 23-24 JENOLAN Roger Lyle 945437 (H)
- 30-31 TIMOR Ian (Spike) Milligan 6601508 (H)
- July 7-8 JENOLAN Ludwig Muenzenrieder 4282034 (H)
- ? G E N E R A L M E E T I N G - Date in next Bulletin
- 10-11-12 FIRST AUSTRALASIAN CONFERENCE ON CAVE TOURISM (details - 7599956)
Organized by the Australian Speleological Federation, to be held in Caves House, Jenolan Caves. Non-resident participants fee of \$5 includes copy of Proceedings
- 17 25th ANNIVERSARY DINNER THE EVENT OF THE YEAR
Holme and Sutherland Room, Sydney University Union at 6.30pm. An excellent after dinner speaker is being arranged. An affair to remember. Details soon.
- sometime TUGLOW Gating of Main Cave, organized by A.S.F. Details soon.
- 21-22 CLIEFDEN Bruce Welch 991013 (H)
- August 11 JENOLAN CAVES HISTORICAL AND PRESERVATION SOCIETY - Caves House at 8.45pm
- 11-12 JENOLAN Leader will be announced in next Bulletin
- sometime COOLEMON Ludwig Muenzenrieder 4282034 (H)
Will include attempt to get in by 4 wheel drive. Geomorphology & water tracing etc. Fun in the snow.
- 28 EISRIESENWELT Jeanette Dunkley 7599956 (H)
Direct flight to Frankfurt & Munich, thence by train. Limited numbers only
- 30 OLOMOUC Jeanette Dunkley 7599956 (H)
Some tickets still available. Sixth International Congress of Speleology followed by plenty of caving
- sometime TRIP LEADERS TRAINING COURSE - More later (maybe)
All interested in leading trips watch this space
- Sept. 30-31 CLIEFDEN Denis Ward 6442497 (H)
- Oct. 1 Pushing for 2 miles in Taplow? Grovelling in Cliefden Main? Lila bashing?
- Nov. 10-11 JENOLAN Bruce Welch 991013 (H)
Mammoth Cave - attempt to follow up Waterfall Passage

Interested in a trip to Bungonia sometime? Ring Tony Austin on 6606276 (H) .. he may be able to organize one for you.

Members wishing to go on trips to Jenolan, Cliefden, Wombeyan and Yarrangobilly are reminded that regulations permit us to bring a maximum of 12 only (15 for Cliefden), so please ring the Trip Leader well in advance if you're interested.

Want to go on a trip to an area not advertised, or on another date? Why not get up at the next meeting and ask - some qualified Trip Leader should be able to assist.

COOLEMAN TRIP REPORT EASTER 19th to 25th April 1973

Leader: L.G.Muenzenrieder

F.J.Muenzenrieder

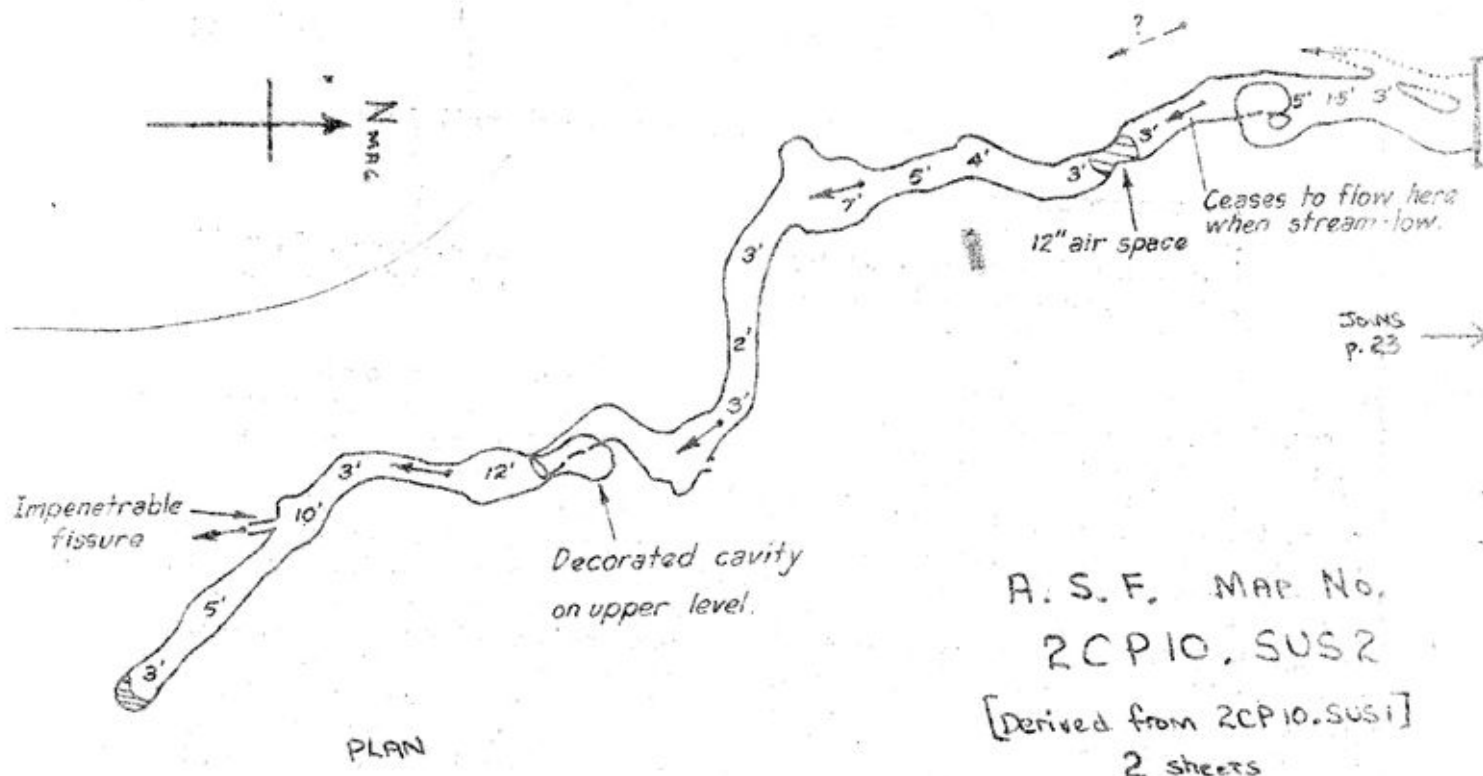
J.C.Muenzenrieder, J.R.Dunkley, J.Dunkley, A.Happ, J.Francis, I.Milligan,
K.Brister, F.Cope, R.Blunt, D.Ward, P.Darcy, Tom, Alan, Judith and Jack
Vaughan and friends.

The Cooleman Caves are located in the Kosciusko National Park north of Yarrangobilly. The caves occur in limestone of Silurian age and is an extensive plain forming a large and in places deeply dissected irregular arcuate area lying over sedimentary sandstones, clays and shales and bordered by rhyolites and dacites in places. The plain is generally elevated at about 1280 metres and probably represents the highest karst land on the mainland. Some periglacial features such as block streams and shattering can be discerned in places. The plain, which is remarkably level where undissected, is drained by Cave Creek, a major tributary of the north west flowing Goodradigby River. Swallets, blind valleys, dolines and caves are in abundance and several deeply dissected gorges are also present. The Blue Water Holes at Cooleman mark the common rising for most of the water that sinks at various places on the plain. From here the water runs over the surface through Clarks Gorge to the Goodradigby River approximately 4 kilometres downstream.

The purpose of the Easter trip was to continue speleological investigation in a part of the karst which does not rise in the Blue Water Hole but further downstream. This area is a dry valley containing caves whose direction conforms with the valley sides. These are the New Year/Frustration Cave, Clown's Cave, a number of pots and some smaller caves such as the Bow and Keyslot Caves.

Most of the work was related to the surface, but caves visited by members on the trip included the Clown, Murray, Barbers, Diver, Cooleman Main, New Year/Frustration and some smaller ones. Glop Pot was peered into. Most of these were familiarization trips only. Some descriptive work was carried out in the Frustration part of the New Year/Frustration System. This cave (the plan of which has been reproduced here) contains a water table stream which has disregarded structure in some places. The sides are marked by fissure-like cracks through which the stream often flows, and the walls are highly angular and sharp. Rounding of form has only occurred in upper levels of the cave where some travertine development may be seen. Such places are, however, few and far between. There is a fair bit of Breccia of limestone origin on the floor ranging up to 4 cm. in size mixed with patches of round to subangular gravels deposited by the stream. The width of the stream passage is not great; i.e. averages about 1 metre and is about the same in height. Generally, one can conclude that this cave displays highly youthful features in evolution and is not dissimilar to the New Year Cave downstream.

The surface work was part of a study to obtain a better understanding of valley evolution so that the temporal relation of cave to valley could be correctly stated. As a step in this direction, typical profiles were measured in the karst valley in conjunction with regolith analysis using simple tests for colour, texture, structure, Ph, lime and organic matter. In particular pebbles were noted where they occurred. Typical sites were selected on the basis that at



FRUSTRATION CAVE

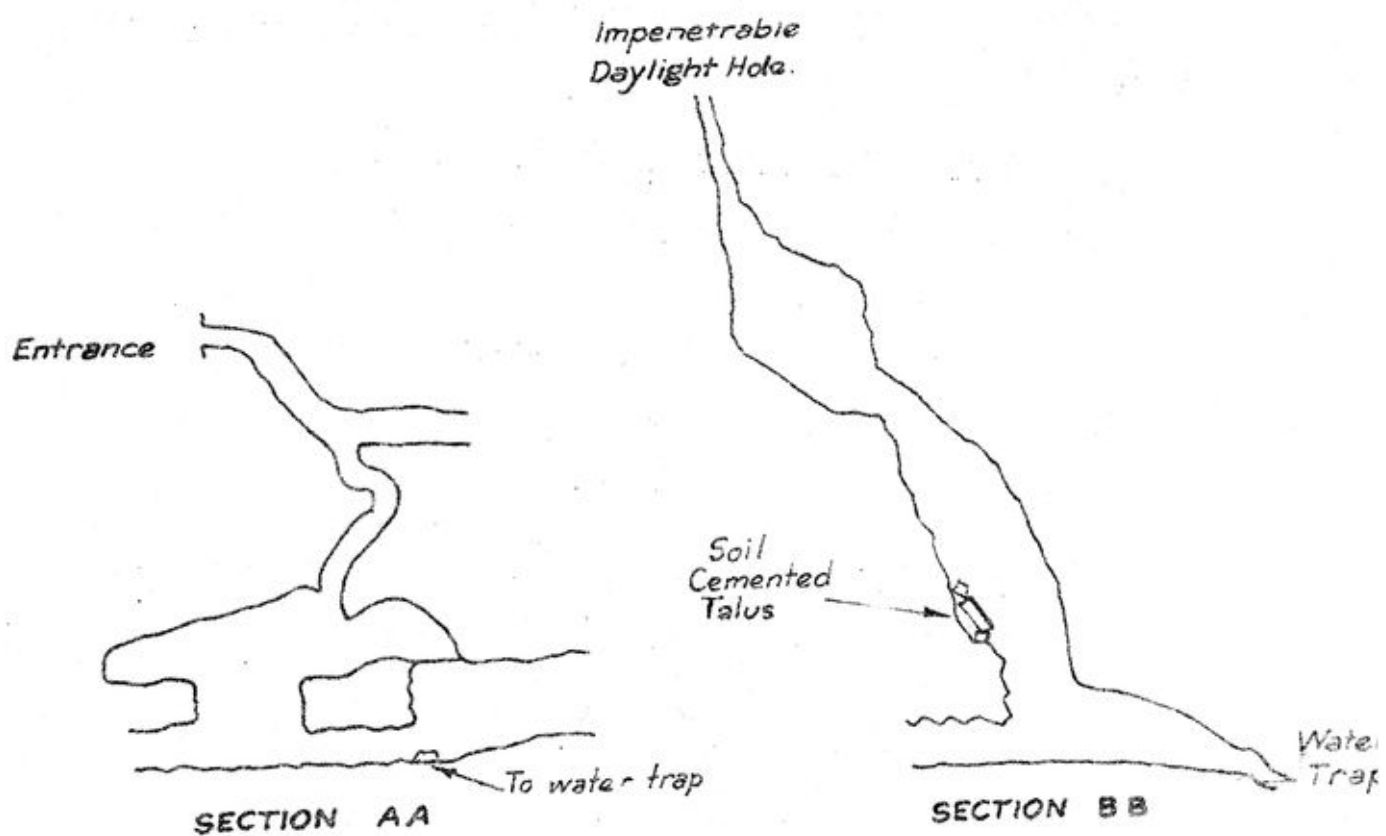
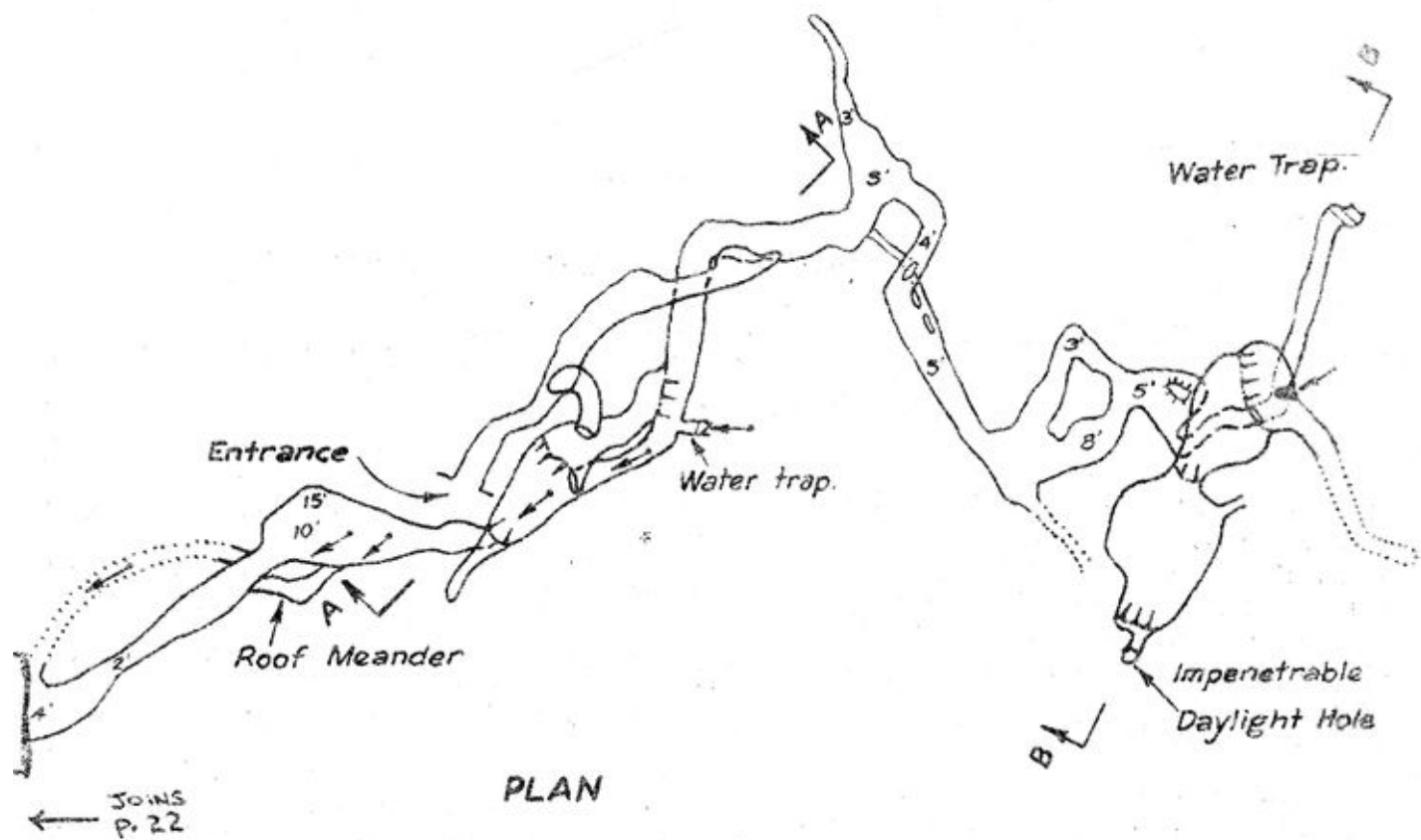
COOLEMAN PLAIN N.S.W.



- OUTER PROFILE (DOTTED WHERE UNSURVEYED).
- - - - - DETAIL WITHIN CAVE.
- - - - - DETAIL BELOW OTHER.
- ← STREAM FLOW.
- ▨▨▨ PONDED WATER.
- 6' MAX. ROOF HEIGHT AT SECTION IN FEET.

SURVEYED BY SYDNEY UNIVERSITY SPELEOLOGICAL
SOCIETY (A. HAPP, J. HOLLIDAY, & I. CALLANDER)
IN APRIL 1971 BY PRISMATIC COMPASS & FIBREGLASS TAPE.
A.S.F. GR. 4C

FRUSTRATION CAVE HAS HITHERTO ALSO BEEN REFERRED
TO AS REBELLION CAVE IN SOME SUSS LITERATURE.
REF. BYRNES, ROGERS, HAPP. - SUSS NEWSLETTER VOL 6, NO 3.



least one sample would be taken at every different slope form to be observed in the valley.

While the work was going on, K.Brisler and I.Milligan began a review of the geology as related to the karst valleys catchment area. Digging of a likely entrance about halfway between the Frustration and New Year entrances was carried out but later abandoned. However, it did reveal some buried alluvial material including sand and chert fragments.

A deeply incised tributary running into the karst valley not far from the side of the dig and about 0.75 kilometres north of the Blue Water Hole was investigated. Following this, upstream, a point was reached where a marked headwall was reached with a perched valley above it. This contained a number of dolines and some large resurgence sinks which are thought to be related to a resurgence point some 165 metres below in the main valley. A surface traverse (partially closed) was made of this area and a morphological map is in the process of production. This map together with the data on the profiles and regolith analysis will be presented as soon as possible in the Bulletin.

Apart from the work aspect, the usual social activities were enjoyed, with a day trip by Andrew Happ to Mt. Kosciusko and fishing in Caves Creek, where a number of "debatables" were caught. Campfire singing and argument was also had. The weather was something of a mixed bag, the first two and a half days being windy and wet, the rest was however really fine but slightly cool, particularly at night. All in all a productive trip.

THE SECOND BARBARA DEW MEMORIAL LECTURE

The Australian Speleological Federation invites you to attend this Lecture.

THE SPEAKER: Dr Grahame Nelson

THE SUBJECT: "Living and caving in Puerto Rico"

THE PLACE : The Womens College, University of Sydney

THE TIME : Wednesday, June 6 at 8.00pm.

THE LECTURE: The Barbara Dew Memorial Lecture was initiated in 1970 as a fitting commemoration of the work in parasitology and bat research by the late Miss Barbara Dew (S.U.S.S.) over the period 1953-1968. The first lecture was given by Mr R. Murdoch, Director of Tourism in N.S.W. As well as providing a first class speaker, the lecture is an excellent opportunity for speleologists from different Societies to renew old acquaintances. Supper will be served and a small admission charge will be made to defray this and to augment the Lecture Fund to provide more speakers.

DO NOT MISS THE OPPORTUNITY TO HEAR THIS EXCELLENT AND INTERESTING TALK.

Ed.

GEOPHYSICAL INVESTIGATION.

ELECTRICAL RESISTIVITY METHODS APPLICABLE
TO CAVE DETECTION.

Andrew Happ.

Resistivity of rocks is a property which depends almost entirely on the moisture content and to some small extent on the rock type. The resistivity of limestone can vary within the range of 500 to 1,000,000 ohm-cm. A typical value might be 100,000 ohm-cm. By exploiting this property considerable success has been achieved in detecting the presence and nature of caves from surface observations.

The normally used Wenner procedure comprises four electrodes located on the surface in a straight line and at equal intervals. A current is passed through the rock between the outer two electrodes and the potential difference is recorded between the inner two electrodes. It can be shown that the current passing through the rock is influenced by the nature of rock (and voids) down to a depth approximately equal to the electrode separation = "a". The resistivity thus determined is therefore representative of a domain of influence bounded by the two inner electrodes and to a depth of "a".

Depth probing from a fixed point on the surface is achieved by progressively increasing "a". As "a" is increased so is the depth of penetration. Clearly then, in a homogeneous medium progressive penetration will not affect the observed resistivity of the material. Now if at some depth a cavity in the medium enters the domain of influence an increase of resistivity occurs, air having infinite resistivity. The depth to the cavity is approximated by the electrode separation at which a sudden change in resistivity was observed.

In Peck's investigation of a cave near Katherine, N.T. using the above procedure, the presence of a cave was clearly detected at a depth of about 15 feet. Similarly the presence of clay pockets were predicted by minor changes of resistivity with depth. It was found that for a long cave passage best results were obtained when the line of electrodes were at right angles to the passage centerline.

A method which can be used as a reconnaissance to the above is that of constant depth traversing. The same Wenner electrode configuration is used but with the electrode separation held constant. The electrodes are progressively moved as a unit along a chosen traverse line. Resistivities are then compared for each section of the traverse. The electrode separation is chosen to give a desired depth of penetration. Any section giving an apparently anomalous reading by comparison, suggests the presence of a subsurface discontinuity. A more rigorous investigation can then be performed at that section using the previously described depth probing method with variable electrode spacing.

The equipment commonly used is the Megger Earth Tester, in a self-contained box measuring 14" by 7" by 7" and weighing 22 pounds. Electrodes are 15" rods $\frac{1}{2}$ " in diameter, being driven to a depth of about 9".

Luch Puggioni of V.S.A. has recently been directing energies to this area of geophysical investigation and has presented some interesting interpretations of Peck's work. He has also had some success in detection of basalt caves.

(cont.)

He would be in his own words --- " pleased to hear from anyone interested in developing and conducting surveys or anyone interested in cave detection in general." Those interested can contact him at;

170 Main Rd. East,
St. Albans 3021 Vic.

Ref.

1. Geophysical Investigations in a Cavernous Limestone Area
SUSS Journal Vol 6 No 2 Oct 1961.
2. Empirical Laws For Resistivity Method of Cave Detection.
Letter from Luch Puggioni- V.S.A. to SUSS. 13/2/73.

NEW CAVING AREA ?

R.Turney

The Geographical Names Board have been advertising some nomenclature for the 1:25000 Otford and Port Hacking maps. Relevant to speleology are:

OTFORD MAP

NEW NAME: Paloma Cave Lat 34deg. 08' Long. 151 deg.02' Parish Bulgo

CHANGED NAME: Werrona or Hell Hole becomes Hell Hole

Lat 34 deg.11' Long. 15 deg.03' Parish Bulgo

What is this? A sea cave perhaps?

Another interesting thing is that The Royal National Park is to become Royal National Park. It is comforting to think that the powers that be are concerning themselves over the presence of a "THE".

Reference :

ASA No.
701258 The Mystery of Limestone Caves in the Royal National Park
Lovering J.F. Oolite (2,(3):11-12)

A CAUTIONARY TALE

Chelsea Speleo Soc Newsletter, 14 : 2

There was a young caver called WEAVER,
With hair like a golden retriever,
Who in Primrose Pot,
One day copped his lot,
For in lifelines he was no believer.

MORAL: always use a lifeline, no matter how small and easy the pitch.

EXPOSURE - A SERIOUS CAVING HAZARD

From the speleologists point of view the most alarming thing about exposure is the extremely short time for which the average person can survive when immersed in air of the temperature normally experienced in a cave.

Since some time elapses before the condition of a person suffering from exposure gives rise to alarm, this means that treatment must be begun as soon as possible.

Briefly, details of two deaths caused by exposure are as follows:

1. A large party carrying diving equipment descended Swildon's Hole in the United Kingdom. One of the party, an inexperienced caver acting as a porter was inadequately dressed for such a trip into an active stream cave and became cold and tired. Heavy rain caused the stream to rise, and the diving was abandoned.

On the way out, he was unable to climb a 40ft. pit down which a considerable amount of water was pouring, and by the time he had been hauled to the top through the cold water (temp. 40deg.F.) he was unconscious. He recovered consciousness at the top and was able to stand with support, though unable to converse. While being taken out of the cave he died suddenly, one and a half hours after his condition had first given rise to alarm.

2. A young woman on her first caving trip, also lightly dressed, descended Longwood Swallet (U.K.) with a college party. All were soaked very shortly, and turned back after being one hour in the cave. By the time the 40ft. entrance pit had been reached after a slow return-one member of the party had sprained his ankle-ankle-heavy rain was causing a large stream to pour down the shaft. After being soaked in an unsuccessful attempt to climb the ladder, she showed signs of exhaustion and the Mendip Cave Rescue Organization was called out. When they arrived half an hour later she was found to be unconscious and 15 minutes later she died, one hour after her condition had first caused alarm.

The body has two characteristic temperatures, that of the skin which can vary considerably, and that of the interior, which must be maintained between very close limits. It is depression of the internal temperature that causes symptoms of exposure. Under cold conditions, the skin blood vessels close down, restricting the flow of blood and lowering heat losses. From then on heat is lost through the fatty layer of the subcutis which is a poor conductor to the skin. If the rate of cooling is not excessive, a heat balance which can last a long time, can be achieved by means of shivering. This is the body's way of generating heat in the muscles by friction losses. If the rate of cooling is severe the body is unable to attain equilibrium and heat is lost.

Results obtained from a study of shipwrecked sailors may be graphed showing survival time plotted against seawater temperature. The curve is given roughly by the equation $H = 100/(73-T)$, where H is the survival time in hours and T the water temperature- for temperatures below 70 degrees F. This is only a rough curve, and gives maximum survival time for people of a high degree of fitness. For the average person the survival time may be considerably less than this. Water flowing into a cave in winter will be about 40-45 deg. and to get soaked to the skin and then have to remain still for prolonged periods can be extremely dangerous.

Symptoms which may indicate that a caver is suffering from exposure include -unreasonable behaviour, tiredness, complaints of cold, numbness, falling, failure of or abnormality in vision, slurred speech, sudden shivering fits, unexpected bursts of energy and violent language. Also noticed may be cramps, pale colour and
(cont.)

fainting

With regard to treatment, the subject's body temperature must be brought back to normal as soon as possible. Slow warming without providing a great deal of insulation is not only useless but may be dangerous. The reason for this is that the body temperature continues to drop for a further ten to fifteen minutes after treatment has been started. This is because the skin blood vessels open up and the central blood supply is suddenly cooled by the skin, which can cause the temperature to drop to dangerous levels. This accounts for the deaths which have occurred in subjects shortly after rescue. Rubbing with a towel is no use unless the skin has already been warmed, and alcohol is worse than useless because it dilates the skin blood vessels and causes further heat losses. If the body temperature is below 89 deg.F, the only effective treatment is rapid immersion of the subject in a hot bath at 113 -130 deg. if fully clothed or about 113 deg. stripped.

The best cure of all is prevention. Have an adequate meal before a wet caving trip and plenty of food during the trip. If you expect to get wet wear enough clothing to retain body warmth. Wool is better than cotton & retains heat longer if close fitting than if loose. If wet through, try to remain active, and most important, if you notice any of the above symptoms in yourself or any other member of your party;

GET OUT OF THERE

Jack Knight; Windy City Speleo News. Vol. V No.2 pp 11-12.

TRIP LEADERS

More trip leaders are urgently needed for trips to such varied locales as: Tuglow, Colong, Billy's Creek, Church Creek, Timor, Jaunter, Murruin Creek, Bungonia, Abercrombie, Cliefden, Wyanbene. ETC.

If you have been a member for some time and have a fair bit of experience and know your ropes, ladders and knots, why not apply to the committee for trip leader status ?????

SPELEOLOGY ROUND THE WORLD

by our southern correspondent

Late in 1970, a Polish expedition in the Ukraine explored the Optimistitscheskaya gypsum cave to a length of 34 miles making it the longest cave in the U.S.S.R., the third longest in the world, and the longest gypsum cave known. In February, 1971 new exploration in the Mammuthöhle (Dachstein, Austria) brought its total length to 14 miles. With the discovery of a new passage, the Tantalhöhle (Austria) became 10.7 Miles long. A new section discovered in the Almburg-Eis-und Tropfsteinhöhle (Austria) made it 4 miles long. Work in the Tassy Pot (Tasmania), late in 1970 brought its depth to 800 ft making it the deepest cave in Australia until 1971 when another Tasmanian cave, Khazad-Dum, was descended by explorers to 860 ft in January and then in March to 970 ft without reaching the bottom.

In England, in Somerset, the small Mendip cave known as Rhino Rift was extended by blasting to some 400 ft. deep. It contained successive pitches of 100 ft, 50 ft and 75 ft in one rift, which was unusual in that region. In Wookey Hole, Somerset, John Parker dived the 500 ft long and 90 ft deep sump from Wookey 20 on April 18th and entered 600 ft of new passage beyond.

At the end of 1970 the British Karst Research Expedition to the Himalayas explored a large river cave at Pokhara in Nepal and studied the karst morphology there and in India. A 12 man British expedition explored the limestone Zagros Mountains in Kurdistan.

Analysis of a stalagmite from the Aven d'Ornac (France) showed that between 130,000 and 100,000 years ago it grew at the rate of 0.15 inches per 100 years, but between 100,000 and 92,000 years ago the rate was 0.59 inches per 100 years. Research in West Germany used fractures in cave formations as an aid in investigating prehistoric earthquakes. Unusual stalactites made of peat occurring in caves at Ystradfellte, South Wales, were found to consist of re-deposited particles of peat that had been carried in suspension through the pores of the rock.

In the Grotto de Niaux, Ariège, France, the passing of an underwater sump led to the discovery of new chambers with Magdalenian wall paintings and the foot prints of 2 pre-historic people.

A skull of a Pithecanthropus man, found in the Pyrenean cave of Tautavel in August, was the oldest human skull found in Europe that could be dated with certainty.

(Ref. Trevor Royle Shaw, Comm. R.N. Vice Pres. Brit. Speleo. Assoc.

in Encyclopaedia Britannica Year Book 1972 p.638)

The longest cave in the world was still the Flint Ridge cave system in Kentucky at 72.9 miles. The next largest, though, the Hölloch in Switzerland, was significantly extended by new discoveries in the winter of early 1970 and became 67.2 miles in length.

The survey of newly discovered passages in Ogof Ffynnon Ddu (Wales) showed that it was the longest (20.3 miles) and deepest (850 ft) cave in Britain; and it also became the ninth longest in the world. In the same year this cave was threatened with destruction by an expansion of nearby quarrying (Now where have we heard that before? R.T.)

A shaft in the vicinity of the world's deepest cave, the Gouffre de la Pierre St.-Martin on the Franco-Spanish border, was found to descend from the surface to just above one of the chambers in the Arumbe inlet of the main cave. At the time of exploration this was blocked with snow at a depth of 650 ft., but it

(cont.)

seemed likely to provide a new entrance. In the Sotano de la Golondrina (Mexico), formerly 1,306 Ft. deep, a deep fissure leading downward from the bottom was explored to a new total depth of 1689ft. and the cave became the third deepest known in North America. In the second half of 1969 a British group pushed exploration in the Raggejavreraige (Norway) to a depth of 1885ft. thus making it the deepest cave in Scandinavia.

Many of the 1970 discoveries in English caves were made by divers. An important new section of Wookey Hole (Somerset) was found in January. The long underwater sump, already partly explored, was penetrated by John Parker and others beyond the ninth chamber to a total length of 300 ft. In the Little Neath River Cave (South Wales), exploration and surveying combined in the passages beyond Sump 4; the total length of the system increased to 4.3 miles, but more than one third of this was accessible only to divers. An underwater connection between Peak Cavern and the Speedwell Mine in Derbyshire was discovered by Tom Brown of Manchester Uni., who dived for 140ft. through the Treasury Sump in Peak and emerged at a pool adjoining the main streamway in Speedwell.

Discovery by members of the Kendal Caving Club of a 170 ft. pitch at the bottom of Long Kin West pothole (Yorkshire) made it one of England's deeper caves at 506 ft. Also in northern England, 2 $\frac{3}{4}$ miles of the new Leck Fell Master Cave were entered from Pippikin Hole and seemed to connect in due course with other major cave systems in the area.

In South Devon a greater horseshoe bat was found bearing a numbered ring put on in 1949; it was thus at least 20 $\frac{1}{2}$ years old and this was the oldest yet recorded in Britain.

The centenary of the discovery of the Dobsinn Ice Cave in Czechoslovakia was celebrated by a conference on ice cave organised by the Karst Museum there. The Fourth National Congress of Speleology held at Neuchatel, Switzerland, in September dealt particularly with the Jurassic karst.

Study of the caves of Tanga in Tanzania showed that their sequence of formation was related to the fluctuating sea levels in the area. An important find of Pleistocene mammal remains were discovered in one of the Noracote caves in South Australia. A skeleton of what might be Neanderthal man was discovered in a cave near Budapest according to Vera Csank of Budapest Museum of History. Cave paintings of Neolithic age were found in a cave at Porto Badisco, Salento, Italy; their similarity to those of Spain suggested a cultural relationship between the two regions. South African rock paintings by predecessors of the Bushmen were dated for the first time by the radiocarbon method; the paintings were on pebbles found in the Klazies River Mouth Cave, buried with datable organic material of 335 B.C. plus/minus 100 years.

The "Explorations Journal of the University of Leeds Speleological Assoc." was published in 1970; it gave descriptions and surveys of six miles of discoveries in West Yorkshire. In preparation by the International Union of Speleology was a multilingual glossary of speleological terms.

E.B. Year Book 1971 P.680 - Trevor Royle Shaw.

R.T.

DONT FORGET - SLIDE TALK ON CAVES IN PUERTO RICO

In The Womens College, Sydney University,
Wednesday June 6 at 8pm

BUNGONIA

19th to 25th April 1973

Trip Leader: Tony Austin(S.U.S.S.)

Gary Byrne(S.U.S.S.) Steve Warrell (S.U.S.S.) Joanne Warrell(S.U.S.S.)

Cathy Lawlor(S.U.S.S.) Geoff Aldis(S.U.S.S.) Lorraie Thomson,

John Davoll, Eddie Ivanoff, Barry Johnston, Jeff Johnston

Thursday 19th April

After a three hour trip from Sydney, arrived at the Reserve about 9.00am. Camp was established in the Bl6-51 Doline. In this doline is a recent dig by M.M.S. It appears to be quite promising as it lies above the Middle Aven in Blowfly Cave(Bl6-51)

After lunch we hiked to the Beck's Gully region, looking for caves and likely future digs. We found B61, 62, 70 and B80. Of the e only B80 was entered, it being found to be very tight and apparently unstable. The B80 tag for this cave was found on a boulder well inside the entrance-not its original position!

A few hours were spent exploring the cliffs and bluffs overlooking Beck's Gully with one noteworthy discovery- a new cave located on the cliff top south of Bl15. The cave had a "walk-in" entrance and the walls had patches of decayed spelotherms. The main chamber was completely dry, showing signs of recent animal habitation. Approximately an hour was spent digging out a ten feet long tunnel which connected to a second chamber. This chamber could give access to a more extensive system as there is a stream passage, at present blocked by silt and gravel, leading downwards from one wall. Access may also be gained via a 12' chimney, a second daylight connection being impassable.

Friday 20th April

B44-T.A., C.L., G.B., J.D., E.I., B.J., J.J.

B22-T.A., C.L., G.B., J.D., E.I., B.J., J.J.

B44-Grill Cave

As four of the seven members in the party had done no previous caving it was decided to make the Grill the first cave of the trip. We entered the cave at 9.00am with 30' of ladder, Gary and I hoping to reach the lowest sump if the air wasn't too bad. Foul air was first noted in concentration in the Crystal Palace but this had diminished by the chamber containing the "Safe from Russians" sign. It was at this point that large numbers of bats were seen. In the chamber slightly further on from there we could hear them quite loudly well before we reached it. From here on bats, totalling well in excess of one hundred, were seen all the way to the final large chamber containing the "Foul Air" signs in great profusion. At this point the party halted whilst Gary and I continued with the ladder. From here the air was particularly bad, both Gary and I experiencing difficulty in breathing. We laddered the 10ft pitch and reached the sump at approx. 10.30 am but did not remain long as the air was extremely bad. On the return trip the party explored various small side passages but found nothing of interest. Exit at 12 noon.

Total time in cave was 3 hours

B22-Acoustic Pot

This cave contains a magnificent 106' pitch and thus was chosen as a suitable spot to give the less experienced members of the party a bit of ladder-
ing practice whilst affording the more experienced an excellent abseil
(cont.)

We entered the cave at 1.45pm with 130ft of ladder (only 100ft of which is needed now that a beam of 4 x 4 has been placed over the head of the pitch to form a closer belay point) and 2 x 120', 2 x 60' of rope. A top belay was used while the first five members of the party descended. Jeff and I both abseiled to the bottom using a doubled rope.

The party then pushed further into the cave, roping one pitch that could have been otherwise very difficult to climb. On reaching a small chamber we found the passage split into two branches. Two members remained here while the rest continued into the left hand branch. This consisted of a moderately tight squeeze over a dirt floor leading to an extremely tight squeeze before the passage ended in a mud sump. Only Jeff was able to negotiate this last squeeze, and then only with considerable difficulty. At no time was bad air apparent in this cave though specific tests were carried out. We reached the sump at about 4pm but it wasn't till about 7pm that Gary and I finally left the cave due to the time spent in getting the less experienced members up the ladder.

One problem with this cave is that there is no natural air circulation and a large party spending a long time in it soon makes the air very heavy. Though not noticeable to the cavers involved it is very apparent to others entering later. It may be severe enough after a few such visits that breathing becomes difficult. Unfortunately it takes a considerable time for the air to clear, thus making it difficult to start a dig at the sump which appears to be quite promising.

A total of 5 hours 25.37 mins was spent in the cave

Saturday 21st April

B50

B50 is a small cave in the B16-51 doline. The party entered the cave at 10.45 am and spent 25 mins. investigating the digs at the southern end of the cave. They look quite promising, specially the one in the direction of the B16-51 system. Other noteworthy features of this cave include a crack in the rock of the western wall from which can be felt an intermittent cold breeze, large patches of white fungus growing in the freshly excavated soil from the dig and patches of fossils in the wall of the north west corner of the first chamber. We left the cave at 11.10am.

B35 -Hollands Hole

The Root Chamber soon after the entrance to this cave has some of the best, undisturbed formations to be seen at Bungonia. The party entered the cave at noon and spent some time admiring the formations and tree roots from which the chamber derives its name. Faith and flexibility soon conquer the Hiphugger squeeze though at first sight it does seem impossible! The final chamber before the first dig was reached without incident though we were not alone there- a bat- (the only one seen in the cave) a small frog and a small albino centipede- like creature being the original occupants. Gary and I continued into the dig, finding it rather tight. We reached the top of a nasty looking chimney and decided that Gary should go on to the sump while I remained at the top of the chimney. Gary reached the operation dig at the sump with some difficulty, encountering foul air near the end. As expected the chimney did prove to be quite difficult - very tight. We left the cave at 2.30pm. (cont)

B25 MASS CAVE.

We reached this cave at 4pm on our way to find chalk Cave (B26). The cave is extremely dry, the floor consisting of a thick layer of fine dust. The altar is still there and does not appear to have been disturbed. In one corner of the cave there is a twenty feet deep dig which is also very dusty-so much so in fact that visibility is reduced to inches at the bottom even after a very slow and careful descent. We left the cave at 4.15pm.

B26 - CHALK CAVE

As we were uncertain of the position of the entrance to this cave we spent over half an hour exploring the eastern face of Folly Point. We found numerous 'caves' in the cliff face-all showing signs of having been once extensively decorated but now quite dry and decaying. Most of them also showed signs of long-term animal habitation. We found an entrance to Chalk Cave at 5.05pm. The roof of the main chamber looked very unstable - an observation borne out by the rubble on the floor. As we had expected to find a 70' pitch we had bought with us 80' of ladder and 120' of rope. We rigged the ladder from what appeared to be the head of the pitch and Garry had the honour of being the first to descend. Unfortunately when he reached the bottom of the ladder he estimates that he was still 30' from the bottom of the pitch! While he was on the ladder members of the party tried to find routes to points lower down the pitch without success. One likely looking passage was found to be blocked by what appeared to be a roof collapse. Unfortunately, as it was getting dark we had no choice but to leave - climbing Folly Point in daylight is bad enough, at night it would be extremely dangerous. As it was, we left the cave at 6.00pm and just managed to make the top of the Point before total dark. In all 55mins was spent in this cave

Sunday 22nd April.

B24 Richard Foster, T.A., G.B., G.A.

B24. ODYSSEY CAVE

Odyssey Cave is the deepest cave on the Australian mainland- being 485' deep. It is also quite dangerous due to the unstable nature of the boulder-pile through which the passage passes for first 150'-200' (vertical).

Ric Foster, a caver of considerable experience, was leader of the party. The cave requires 300' of ladder and 640' of rope. We entered the cave at 11.00am carrying the gear. We had estimated a total time of 6hrs to reach the bottom and get out again. This being later found to be wildly short of the real time required. It took over an hour to reach the top of the pitch at the end of the rockpile. This is only 26' but a squeeze at the head makes it difficult to ladder. Abseiling saves time here. The next pitch (67') was laddered. One wall of this pitch is of beautiful, golden flowstone. We rested at the bottom and tidied the gear. By this stage it was obvious that we would not reach the bottom and still get out at the pre arranged time. It was therefore decided leave the gear for another attempt the next day. The air at the bottom of the 67' pitch was slightly bad but still safe and I was able to descend to the top of the 120' shale band without any appreciable increase. Some time was spent looking at the fantastic formations at the junction of the climb over the gours and the shale band. We left the cave somewhat tired, at 5.00pm after 6 hours underground.

We reentered the cave the next day at 9.00 am. This time it took us 1½ hours to reach the bottom of the 67' pitch. The air was tested and found to be O.K. As
(cont..)

soon as I climbed down to the top of the shale, I noticed that the air was very bad. The transition into the bad air was quite rapid- the boundary being only a foot or so thick. This was very disappointing as it would have been dangerous to continue. About half an hour was spent photographing the formations that decorate this part of the cave. Some extremely delicate helectites were found and pure white calcite was present in all types of formations.

Getting all the gear back up through the rock-pile was more difficult than getting it down but it was finally accomplished and we left the cave at 3.00pm.

A possible explanation of the concentration of the bad air is the marked difference in the weather on the two days involved. The Sunday was quite cold following a particularly cold night. This would tend to make the relatively warmer cave air rise- thus thinning out the bad air at and near the bottom of the cave. Monday, however was considerably warmer, following a milder night. This would make the colder cave air sink lower in the cave. This process would have the effect of concentrating the bad air and lead to a more pronounced boundary layer than was noted on the previous day. The fact that there had been no rainfall in the area for some time seems to rule this out as a factor.

It might be noted here that a very similar phenomena was observed in B22 when this cave was visited again on Monday night.

B22 - Acoustic Pot.

We visited this cave again hoping to push through the rock slot which at present marks the end of the right hand branch. This slot looks negotiable if a small amount of limestone could be chipped away from the edges. A chamber of considerable size can be seen on the other side of the slot.

Some of the party abseiled the 106' pitch while the others did some ladder practice on it. Ric, and a friend, Chris, pushed straight on to the site of the dig. There is not usually enough air in the cave near the sumps to support a large number of people for any length of time. However we were again foiled by the presence of bad air so our visit had to be terminated. We are not sure why the air had degenerated so markedly since our earlier visit - it could have been either a spontaneous increase; the change in weather or; more likely in this case, the fact that the cave had been visited many times by many parties. The cave was left at 9.30 pm after $3\frac{1}{2}$ hours underground.

Tuesday 24th April.

Bl6 - B51 = Blowfly Cave.

We decided to do this cave by first setting the ladder in B51 and abseiling into the Bl6 entrance. Due to the fact that the pitches in B51 are in a series of steps, I had to climb to the bottom ledge so as to ensure that the ladder was touching the bottom of the pitch.

Bl6 was entered at 2.00 pm, everyone abseiling as it was necessary to pass through a few moderately tight squeezes while still on the rope. The party passed through the cave without incident, with Ric pointing out features of interest and helping at the more difficult spots. The cave was left at 5.15pm.

S.U.S.S. MEMBERSHIP LIST 1973

		Home Ph.	Status
ALDIS, Geoff	c/o Wesley College, NEWTOWN 2042	512185	P
ANDERSON, Ted	6/1 Mulwarrie Ave, RANDWICK 2031	396608	TF
ANDERSON, Murray	c/o 58 Woonona Ave WAHROONGA 2076		F
AUSTIN, Tony	University Hall, 287 Parramatta Rd, GLEBE 2037	6606276	F
BARWELL, A.	10 North Pde, HUNTERS HILL 2110		P
BELL, J.	57 Leichardt St, GLEBE? 2037		P
BIRCH, Barry	41 Hay Street, LAWSON 2783		P
BODLE, Diane	18 Mulgowrie Cres, BALGOWLAH HEIGHTS, 2093	4488064	P
BRISTER, Keith	1/73 Dunmore Street, BEXLEY, 2207		TF
BURNHAM, P.	25 Kirrang Ave, VILLAWOOD, 2163	722356	P
BYRNE, G.	36 Numa St, NORTH RYDE, 2113	8887986	P
CALLENDAR, Ian	23 Avona Ave, GLEBE, 2037		F
CARTER, J.	24/23 Iluka Ave, MANLY 2095	9773593	P
CATERELL, Trevor	14 Orange St, EASTWOOD, 2122	854833	F
CHIDGEY, G.	60 Renwick St, MARRICKVILLE, 2204	556822	P
CLARKE, M.	Dep't Mining Engineering, Sydney University	x 2140	P
COPE, Frances	12 Doomben Ave, EASTWOOD, 2122		P
COSGROVE, Chris	3 Archibald St, SOUTH BELMORE 2192	784302	F
CRISP, Phillip	28 Wyomee Ave, WEST PYMBLE, 2073	446833	P
CROAKER, G.	St Pauls College, NEWTOWN 2042	511693	P
DANIEL, Rick	c/o Applied Geology Dep't, University of N.S.W.	6622453	P
D'ARCY, Peter	17/1 Lauderdale Ave, FAIRLIGHT, 2094	9492600	P
DUNKLEY, Jeanette	22/53 Alice St, WILEY PARK, 2195	7599956	F
DUNKLEY, John 8	22/53 Alice St, WILEY PARK, 2195	7599956	TF
EARNSHAW, T.	15 Hamber St, KOGARAH BAY, 2217	541091	P
ETHERINGTON, Wendy	3 Rangers Rd, MOSMAN, 2088	901084	P
FARDOULY, Terry	64 Bettington Rd, DUNDAS, 2117	6305021	TF
FIELDHOUSE, Chris	94 Barker Rd, STRATHFIELD, 2135	765028	TF
FILEWOOD, Greg	73 Denman St, CRONULLA, 2230	5233743	P
FIRKIN, Steve	1A/83 Homer St, EARLWOOD 2006	552185	F
FOGARTY, G.	35 Nelson St, GORDON, 2072	4981173	P
FRANCIS, Geoff	29 Yellambi St, YOWIE POINT 2228	5252636	F
FRANKLIN, Ross	105 Arab Rd, PADSTOW 2211	7713737	P
GAINSFORD, Mark	12/228 Longueville Rd, LANE COVE, 2066		F
GIDDKY, L.	56 Riverview Rd, OYSTER BAY 2225		P
HADFIELD, G.	St Pauls College, NEWTOWN 2042	511693	P
HAPP, Andrew	43 Mackenzie St, HOME BUSH 2140	769570	A
HARVEY, N.	39 Fowler St, CAMPERDOWN 2050		P
HICKSON, Ian	13 Waratah Rd, TURRAMURRA 2074		P
HINTZE, Michael	6/77 Albert St, HORNSBY 2077		P
HOLLIDAY, John	56 Lynwood St, BLAKEHURST 2211	541922	TF
HOLLIDAY, Louise	42 Bromborough Rd, ROSEVILLE 2069	463708	F
HUNT, Glenn	23 Hipwood St, NORTH SMDNEY		
HYDE, Brendan	10 Park Ave, GORDON 2072	4983520	F
JENKINS, Arthur	9 Excelsior Pde, MARRICKVILLE 2204	557538	F
KAY, Robert	23 Avona Ave, GLEBE 2037		P
KIDD, Phillip	81 Linda St, BELFIELD 2191	6428394	F
KIRKBY, Ken	St Andrews College, NEWTOWN 2042	511449	P
KNOX, Deborah	Moore College, Carillon Ave, NEWTOWN 2042	511136	P
LACEY, Ern	22 Rose St, WHIPPENDALE 2008		P
LAKE, Peter	42 Russell St, EASTWOOD 2122		F
LAWLER, Cathy	c/o Wesley College, NEWTOWN 2042	512185	P
LISTING, Manfred	63 Belgrave Espl., SYLVANIA 2224	5227576	F
LYLE, Roger	26 White St, BALGOWLAH 2093	945437	F

McGOWN, Graeme	38 Ivy St, CHIPPENDALE 2008		F
MacINTOSH, Thea	2 Towri Close, ST IVES 2075	4493920	F
MACKENZIE, Wendy	6/30 Russell St, STRATHFIELD 2035	749479	F
MACKAY, Glenda	12 Park Ave, OATLEY 2223	5701324	P
McPHERSON, Mark	517 Box Rd, JANNALI 2226	5289383	P
MANNELL, Robert	14 Winifred St, BANKSTOWN 2200	705734	P
MATHERS, Col		462389	TF
MATTHEW, Gary	62 Raglan Rd, MIRANDA, 2228		A
MATTHEWS, Linda	5 Dalwood Ave, SEAFORTH 2092	945250	P
MILLIGAN, Ian	12 Arundel St, FOREST LODGE 2037		TF
MORGAN, Tom	158 Edwin St, CROYDON 2132	7983484	P
MOULE, Alan	30 Wollie St, KINGSGROVE 2208	504859	F
MOUATT, John	33 Marion St, ENMORE 2042	5192986	P
MUENZENRIEDER, Joye	20 Figtree St, LANE COVE, 2066	4282034	F
MUENZENRIEDER, Ludwig	20 Figtree St, LANE COVE, 2066	4282034	TF
MURRAY, Keith	6 Memorial Ave, PENRITH 2150		P
MURRAY, Ron	c/o O.T.C., P.O. Box 98, CARNARVON, W.A. 6701		TF
OPPER, Stephen	34 Pattison St, CONCORD, 2137		P
ORR, G.	57 Isaac St, PEAKHURST 2210	539397	P
OSBORNE, R.	60 Lauderdale Ave, FAIRLIGHT, 2097	943428	P
PIDDINGTON, M.	126 Victoria Rd, BELLEVUE HILL 2023	361830	P
POLLARD, Mark	19 Bogota Ave, NEUTRAL BAY, 2089	9093378	P
POULTER, Norm	P.O. Box 120, NEDLANDS, WA. 6009		A
RADCLIFFE, Peter	116 Davies Rd, PADSTOW 2211		A
RILEY, Beverley	1/2 Grace Campbell Cres, HILLSDALE 2036	297351 (W)	F
SEABROOK, Jim	142 Parramatta Rd, CROYDON 2132	746084	TF
SHANKS, Georgina	45 Devlin St, ASHCROFT 2168	6078346	F
SIMPSON, Anne	138 Homebush Rd, STRATHFIELD 2135	6423161	P
SMITH, Andrew	St Andrews College, NEWTOWN 2042	511449	P
SMITH, Graeme	37 Vista St, CARINGBAH 2229	5246447	P
SMITH, Harvey	109 Maxwell St, TURRAMURRA 2074	4496919	F
SMITH, P.	51 Treatts Rd, LINDFIELD 2072	462223	P
SPENCE, Rob	1165 Canterbury Rd, PUNCHBOWL 2196	7596552	P
SPILSBURY, Brian	43 Byrnes St, GRANVILLE 2142	6378204	F
STEDMAN, Roger	7 Alma St, PYMBLE 2073		P
SWEETNAM, Tony	35 Neerim Rd, CASTLE COVE 2069	404933	P
SZRAMKA, Zygmund	23 Knight St, CABRAMATTA 2166		F
TAYLOR, G.	7 Birubi Ave, PYMBLE 2073	444678	P
TONKIN, Peter	130 Lawson St, CHIPPENDALE 2008		P
TOOMER, Phil	3/37A Fitzroy St, KIRIBILLI 2061	9290432	A
TOWNLEY, Lloyd	109 Kissing Point Rd, TURRAMURRA 2074		P
TUNNEY, Rick	P.O. Box 176, FAIRY MEADOW 2519		A
TURNER, Janine	117 Derby St, PENRITH 2750		F
TURNER, Geoff	117 Derby St, PENRITH 2750		F
VAUGHN, Jack	3 Salmond St, CHIFLEY, A.C.T. 2606	821552	TF
VAUGHN, Judith	3 Salmond St, CHIFLEY, A.C.T. 2606	821552	F
WALLACE, Grahame	20/8 Wulworra Ave, CREMORNE POINT 2090	901661	P
WARD, Denis	293 Park Rd, AUBURN, 2144	6442497	TF
WARILD, Alan	36 Northmead Ave, NORTHMEAD, 2152	6393292	P
WARRELL, Joanne	c/o Wesley College, NEWTOWN, 2042	512185	P
WARRELL, Stephen	c/o Wesley College, NEWTOWN, 2042	512185	P
WATT, Alec	Moore College, Carillon Ave, NEWTOWN 2042	511136	F
WATSON, Rob	3 Rosebank St, GLEBE 2037		F
WELCH, Bruce	108 Queens Pde East, NEWPORT BEACH, 2106	991013	TF
WILLIAMS, Denis	117 Holly St, CASTLE COVE 2069		P
WRIGHT, Harley	13 Cabramatta Rd, MOSMAN, 2081	9691884	TF
WYTHES, Brian	c/o St Andrew College, NEWTOWN 2042	511449	F