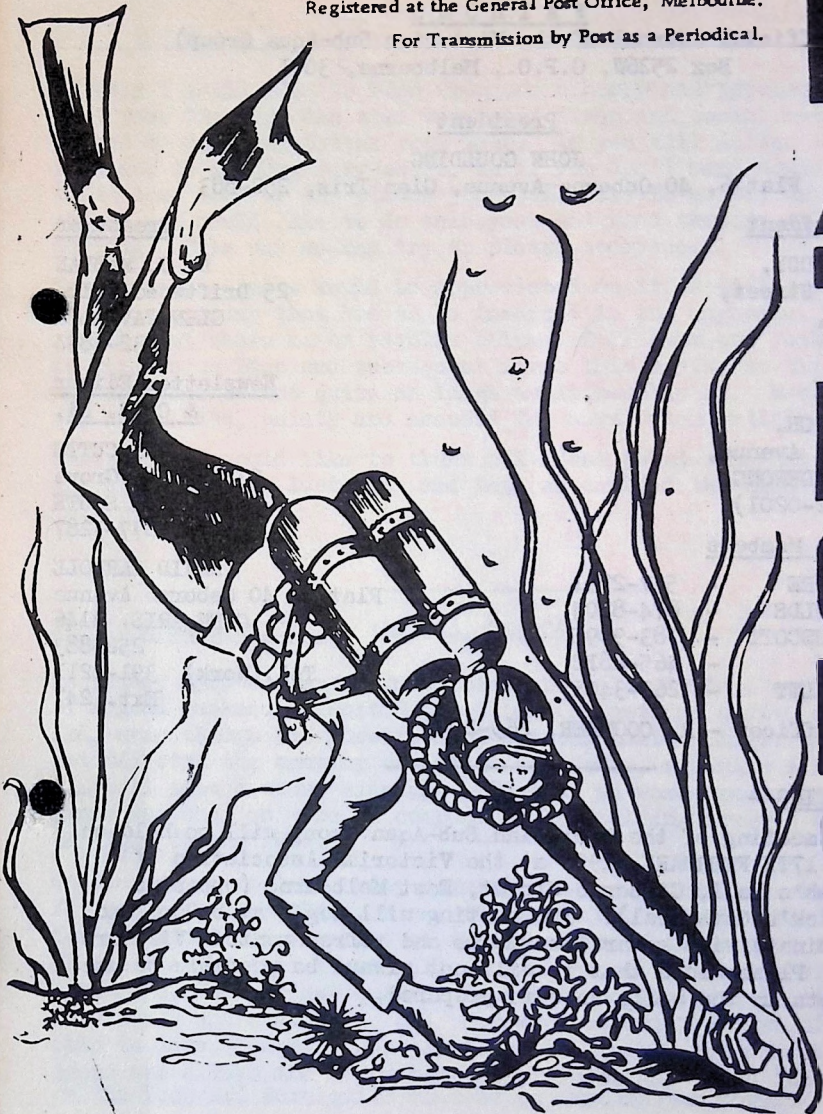


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FATHOMS



VICTORIAN SUB-AQUA GROUP

F A T H O M S

(Official Journal of the Victorian Sub-Aqua Group)

Box 2526W, G.P.O., Melbourne, 3001

President

JOHN GOULDING

Flat-6, 40 Osborne Avenue, Glen Iris, 252-883

Vice PresidentJUSTIN LIDDY,
8 Penang Street,
McKINNON,
58-2310TreasurerD. J. McBEAN
25 Driftwood Drive
GLEN WAVERLEY
232-4894SecretaryBRIAN LYNCH,
8 Madison Avenue,
NORTH DANDENONG
(Work 662-0201)Newsletter Editor
& Co.N. Ed.ALAN CUTTS
97 Orchard Grove
BLACKBURN SOUTH
877-3287Committee MembersDAVID MOORE - 547-2791
PAT REYNOLDS - 874-8204
BARRY TRUSCOTT - 783-9095
MAX SYNON - 465-2812
PETER OAKLEY - 267-3405DAVID CARROLL
Flat 6, 40 Osborne Avenue
GLEN IRIS, 3146
252-883
Tel.(Work) 391-2211
Ext. 247

Medical Officer - R. COOMBER, 269-2045

CLUB MEETING -

The next meeting of the Victorian Sub-Aqua Group will be held on TUESDAY, 17TH FEBRUARY, 1976 at the Victorian Association of Youth Club's Hall, Gisborne Street, East Melbourne (opposite St. Patrick's Cathedral). The meeting will begin at 8.00pm and will terminate with general business and refreshments. Visitors welcome. Please note that it will not always be possible to use the toilets in the hall, so come prepared.

EDITORIAL

Firstly I would like to wish everyone a happy and prosperous New Year. Last year the Club had some very good dives and social outings which we intend to match or better this year. As you will notice the dive calendar is growing very short, so if you don't mind could you please write down some of the places you would like to go to, or some of the things you would like to do this year and hand them in at the next meeting. This way we can try to please everyone.

Newsletter articles would be appreciated as it is difficult to write about everything that has to be inserted in the magazine. You will notice that there is no regular column of Flotsam and Jetsam and also no reports on Edon and subsequent dives this month, so this is why the magazine is not quite as large as it usually is. For those people who don't know, points are awarded for newsletter articles.

Justin and I would like to thank all those people who helped out with the dive training last year and hope we can get the same support again this year.

ED.

PORT CAMPBELL WEEKEND - JAN. 24, 25, 26

As Friday 23rd January turned out to be a lovely day, we had high hopes of a good weekend at Port Campbell and of getting a dive on the Loch Ard, even though the forecast was not the best. Still, undaunted, we set off with the company of Dave & Pat Moore, arriving at Port Campbell around about midnight. Just as we were wondering where this house was that we were to camp at, John Goulding arrives and escorts us right to the spot.

We awoke to a cool Saturday morning and some energetic characters going for a run, or something, along the Great Ocean Road. Then it was time for breakfast and a survey of the dive spot. After much discussion, it was decided that it was all systems go, although the wind had freshened, the sea was quite calm and those who were to dive first were ready and willing to go. However, before the rest of us were able to dive, the dive was cancelled due to the rough conditions. Still, there was always the Gorge and those crays; and those that didn't dive on the Loch Ard were quite content to explore the Gorge.

(Cont'd. Page 12)

DIVE CALENDAR

FEB. 22 PORTSEA HOLE - Time & meeting place to be advised.
Dive Capt. A. Cutts 877-3287

MAR. 6,7,8 RUSHWORTH WEEKEND - Organiser J. Liddy 58-2310

EASTER

APRIL 16,17, WILSON'S PROMONTORY - Contact B. Lynch for
18,19 Bookings.

THE DOCTOR NEEDS TO KNOW THE TRUTH - C.G. Macfarlane

When a diver needs the services of a medical officer it is of the utmost importance that he should tell the doctor the truth. His life might depend on it.

The abalone diver who is bent has almost invariably been doing the 'wrong thing' - not sticking to his tables, diving too deep, perhaps being too greedy. He therefore feels guilty, and does not wish to say too much when he approaches the medical officer. This may cause problems.

I recall the case of a diver with apparently minor bends who fronted up to a doctor 36 hours after diving, saying he had driven interstate in those 36 hours. In his first 12 hours in hospital he was treated with bed rest and oxygen, but his condition became worse. It was only after his condition had deteriorated significantly that he admitted he had been poaching in 28 metres of water. His further treatment was in a recompression chamber, but he may suffer bone damage because it was not instituted earlier.

In my own practice I often find that when a diver has the bends his response to treatment shows there must be a difference of at least 10 metres between the stated and probable depths at which he has been working. (Most divers also neglect the height of the swell in calculating the depths to which they are diving.)

Some medical officers are insufficiently aware of the problems of underwater medicine, and tend therefore to undertreat. Because the diver has been 'naughty' he feels in no position to be dogmatic or demanding. Thus both diver education and medical education are needed.

All divers should insist that treatment in a recompression chamber should follow any joint pain after diving. I have found the greatest

cause of aseptic necrosis (death of bone tissue) is failure to do this. Such cases make up 95% of the bends I meet, and generally can be quite adequately treated by 'soaking' the patient at 10 metres in pure oxygen for one hour and then ascending at three metres an hour.

In my own practice the patient is given a repeat treatment 12 hours later because of the implications of platelet aggregation. It may well be that even more treatments are needed. Oxygen is cheap but bones are not.

I would warn emphatically against diving within three weeks after the extraction of a tooth or teeth (dental barotrauma). I have seen severe surgical emphysema (trapping of air in tissues spaces) following a dive to 24m 12 days after a dental extraction. The bubble on the diver's jaw was so big that his hard hat could not be removed at the surface, and recompression was necessary for 45 hours.

If surgical emphysema is diagnosed it would probably be wise for a doctor to assume that there is a pneumothorax (rupture of the lung wall) even though this is not so in many cases.

The speed with which pneumothorax can become dangerous can be dramatic. I have seen collapse follow difficulty in breathing (dyspnoea) in 15 minutes.

Round window rupture is a condition which may be easily ignored until it is too late to treat satisfactorily. It is characterised by deafness after diving, and may be of slow onset (within 24 or 48 hours). There may be no pain at all.

If not diagnosed and treated within 72 hours this can result in a 'dead ear' (which perceives no sound). Balance may be also affected.

Round window rupture is difficult to diagnose. It results from excessively energetic clearing of the nose, associated with partial obstruction of the Eustachian tube.

One of the factors which cause anxiety among divers is just at what depth symptoms of nitrogen narcosis might be expected. It is well established that the experienced diver can assess fairly accurately how far his narcosis has advanced, but it is also established that narcosis can occur as early as 13 metres water pressure.

I think divers would be wise to accept a definite figure below which it can be assumed that everyone can be shown to have some significant effect from narcosis, and I would suggest 20 metres.

The vagueness of the onset of narcosis symptoms adds, I think, to the load of anxiety. A specific figure may reduce the degree of uncertainty (and therefore anxiety) for many divers.

Apart from the bends, ear and sinus infections my third largest group of medical problems involves the design and maintenance of air compressors and air receivers.

This aspect of abalone diving is left almost entirely to the individual and bad design or bad maintenance can lead to death or irreversible brain or lung damage.

Carbon monoxide contamination is particularly dangerous because a high concentration of carbon monoxide has to be accumulated before the diver is conscious of symptoms. Carbon monoxide attaches to the place in the red blood cell which is normally occupied by oxygen. It takes a very long time for carbon monoxide to clear from the blood stream, and in a relatively short time the oxygen-carrying capacity of the diver's blood can be reduced by below 50%.

In two cases of long standing chronic carbon monoxide poisoning the air inlet of the compressor was within 60 cm of the exhaust of the motor. Believe it or not there are times when there is no wind in Bass Strait, and therefore exhaust fumes can be sucked in by the compressor.

In one case the diver's stamina and concentration was affected. He can dive now for only 5 $\frac{1}{2}$ -6 hours compared with 8-9 hours previously, and can average only 125-140kg of abalone a day against his previous 200-230kg. He had classical symptoms, and this situation went on for months before he asked for advice.

Many divers get a great deal of oil through to their mouthpieces, so much that when they spit out 'it drifts up in the water like smoke from a pipe.' Many of the divers' compressors are on the small side, work at high capacity, and therefore run hot. The air going to the receiver is often loaded with oil and water, and the drainage cock from the receiver is emptied only when there is a significant build-up.

A similar situation results when compressors have worn piston rings or when oil structure breaks down because of excessive use. Vegetable base oils should always be used, and oil changes should be done strictly to the manufacturer's specifications.

Several divers have installed cooling coils and water traps between the compressor and receiver. This has been dramatically successful in improving air quality and extending the life of the filter cartridge, which is expensive and therefore sometimes not changed often enough.

Air quality can be tested very simply by using the colour change tubes available from CIG.

The cooling coil can be fixed to the transom of many boats or alternatively can be attached to flexible hose between the compressor and receiver and dropped over the side when the compressor is started.

The diver who is getting emulsified oil (the gray slime 'like pipe smoke') in his air can develop a degree of obstructive airway diseases which we call 'oil pneumonitis'. We correct this condition as soon as it is discovered. 'Before and after' respiratory studies would show a tremendous difference.

It is generally recognised that increased vibration probably plays a role in bubble formation ('nucleation') in the patient with the bends. I have been involved on a number of occasions with patients transported by helicopter deteriorate more than those transported by fixed wing aircraft. It seems possible that this is due to the increased vibration in helicopters.

Finally I would advise divers that the cost of a full annual diving medical examination, which should include a full blood examination, an electrocardiogram, respiratory function tests, long-bone X-rays and chest X-rays, is well in excess of \$100. It is therefore common sense that the diver should be insured under the present health scheme, though this may become unnecessary in the future.

The proposed new health service however does not seem to cover ambulance transport. For \$10 or \$12 a year divers can be provided with air ambulance service to anywhere in Australia at any time. They can join by contacting any local ambulance service.

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DIVE PROCEDURES AND DUTIES OF DIVE CAPTAIN

1. Dive Captain

- a. Plan dive - weather conditions, currents, tides, distances to travel, times in and out of water. Set depth. Any particular dangers.
- b. Full equipment check before dive, including medical certificates
- c. Dive buddies to be allocated and boat complement agreed upon.
- d. Briefing before dive - outline of probable dive procedure, area and establish dive order.

- c. Written check in and out of water.
- f. Back up diver to be dive captain's buddy.
- g. Dive captain to compile written report after dive to go into club records.
- h. When more than one boat, deputy dive captain to be appointed.
- i. Boats to be moored to anchored buoys where possible rather than fixed anchors.
- j. Dive Captain to make sure buddies check out each other's equipment.
- k. Dive captain to check capacity of boats for particular day and conditions.
- l. Where there are more divers than spaces in boats, Dive Captain will allocate spaces, having regard to who contacted him prior to dive and who turns up on time.
- m. Dive Captain to be identified in some manner.
- n. Dive Captain to select alternative dive sites and select deputy Dive Captain if there are more divers than spaces, or if primary dive site is unsuitable.
- o. Dive Captain will ensure that novice divers are buddied with experienced divers.
- p. Dive Captain to ensure all divers return to shore.
- q. Dive Captain to notify commencement and termination of dive.
- r. Responsibility of Dive Captain terminates when all divers have notified him that they have finished that dive.
- s. If divers intend continuing diving after the planned dive, then they will notify the Dive Captain of their intentions.
- t. If that diver is advised against that dive, but still does so, he shall be reported to the Committee.

2. Responsibilities of the Diver

It is the diver's responsibility to -

- a. Contact the Dive Captain prior to the dive.
- b. Be kitted up and ready at the advertised time - the advertised time will be on the briefing time. If the diver misses the briefing, then he may not be assured of the dive.

- c. Obey all instructions of the Dive Captain.
- d. Make payment to the Dive Captain any moneys agreed upon.
- e. Make any criticism he feels necessary direct to the Dive Captain at the time. If no satisfaction is obtained then matter can be reported to Committee.
- f. Stay in the boat he is allocated to.
- g. Ensure his gear is in good condition.
- h. Report to Dive Captain on entering and leaving water and to report any abnormalities.
- i. Notify Dive Captain if Diver aborts dive or finishes for the day.
- j. Seek the approval of Dive Captain or Safety Officer if diver wishes to make secondary dive.

THE ABOVE GUIDELINES WERE FORMULATED BY THE GENERAL COMMITTEE OF THE VICTORIAN SUB AQUA GROUP ON 16TH DECEMBER, 1974. ANY MISUSE OF THESE GUIDELINES WILL BE REPORTED TO THE COMMITTEE.

INSURING THE VENTURE

Insurance often confused laymen, but in fact there was a very simple plan of approach for all insurance matters. Two areas should be considered - material loss and liabilities. Material losses were those relating to one's own property, such items as loss or damage to:

- | | |
|-----------------------|---------------------------------------------------------------|
| * hull; | * catch; |
| * machinery; | * dinghy and outboard; and |
| * gear and equipment; | * other expenses, such as salvage costs and removal of wreck. |

Liabilities would include loss or damage as a result of one's negligent operations to:

- * other vessels;
- * property aboard other vessels;
- * delay or loss of use of other vessels;
- * salvage charges for other vessels;
- * docks, wharves, beacons and other property;
- * loss of life or personal injury to persons on board the other vessel, to one's crew members or passengers;
- * other liabilities such as pollution, damage without collision.

Insurance contracts -

Mr. Fillmore said there were only two types of insurance contract currently used. Institute Time Clauses and Institute Fishing Vessel Clauses. He related the material losses liabilities to the 'Institute Fishing Vessel Clauses' as these were more comprehensive and more commonly used at the moment.

These clauses covered all those material losses listed resulting from a peril of the sea or caused by violent, external and visible means except catch, and with limitations applied to machinery and fishing gear.

Catch would normally require a separate contract. For instance some prawn vessel owners insured their catch from the time caught, through processing and transit to the buyer.

The same clauses included quite a number of the listed liability matters as shown. There were two sections under the standard clauses dealing with liabilities, the Running Down Clause and the Protection and Indemnity Clause.

The first dealt with collision liabilities with other vessels and the associated expenses. The Protection and Indemnity Clause dealt with loss of life and personal injury to parties other than on the insured's vessel, and included damage to other property not included under the Running Down Clause.

Other liabilities could be covered by arrangements through a Protection and Indemnity Club, and these could include liabilities to crew members and other liability matters not covered under the Institute Fishing Vessel Clauses, such as pollution and damage caused without collision.

Protection and Indemnity Clubs had been set up in the UK by vessel owners, as it was found that the liability covers offered by insurers were not sufficient to cover all possibilities.

Crew liabilities -

One of the main reasons for interest in these clubs from some States has been crew liability. Mr. Fillmore said, 'As you all possibly appreciate Australia has a very complicated workers' compensation system whereby each State has its own Act or ordinance setting out the compensation payable.

In some States it is compulsory for the vessel owner to insure his crew for compensation - New South Wales, Victoria and Northern Territory. But in the other States - S.A., W.A., Queensland and Tasmania - crew

members who share in the catch of the vessel are specifically excluded from the relevant compensation acts.

Consequently vessel owners in the latter States should be laughing, as they can legally avoid that additional expense. However all property owners are open to liability claims at Common Law, which means that should you be negligent a crew member could sue for a lump sum for perhaps a disability incurred on board your vessel.

In those States where the compensation Acts are compulsory Common Law cover is automatically included, but in the other States it is necessary for owners to seek this cover through a Protection and Indemnity Club.

With a new national compensation scheme being anticipated from the Federal Government, the entire situation as outlined could change. Liabilities to passengers on board your vessel other than crew would bear special consideration.

Mr. Fillmore said normal policy exclusions included:

- * painting the bottom of the vessel and scraping;
- * freight;
- * catch;
- * damage as a result of riots and strikes;
- * war damage;
- * malicious acts;
- * damage from nuclear devices;
- * fishing gear, while being used.

Premium rate assessments -

Some of the particulars which underwriters considered when assessing the premium rate were:

is the vessel owner-operated?

- * age of vessel;
- * construction;
- * excess;
- * past claims experience;
- * history of vessel;
- * operating areas;
- * qualifications of master and crew and experience; and
- * type of fishing activities.

Premiums relating to hull insurances usually dropped as the sum insured increased. Hull insurance rates varied considerably when comparing southern and south eastern waters with those operating in the northern and western waters of Australia. In the southern areas rates would vary from 5% for vessels with values around \$5,000 down to approximately

2.5-3% for vessels valued at more than \$100,000. It must be remembered however that any one of the above considerations could vary a premium.

Protection and indemnity club premiums were usually calculated on length and gross registered tonnage and varied from \$50 for small vessels up to about \$500 for vessels around 30m long.

The club contributions or premiums could be adjusted depending on the claims experience. If it had been adverse vessel owners could be asked to make a further payment. However there was a provision whereby the owner could pay an additional 40% initially and be exempt from any further call.

Mr. Fillmore said some of the rates offered at present for hull insurances were cheaper than those applying almost 10 years ago. The majority of commercial fishing vessel insurance was arranged by broking firms. There were only a few insurance companies who underwrote the risk direct with fishermen. In past years most hull insurance in Australia was insured back with Lloyds of London, but the trend by brokers had been to form pools of local underwriting firms to write this business within Australia.

Insurance on many of the larger vessels was still written by Lloyds but felt eventually the local companies would be able to retain almost all risks within Australia. There were other insurance markets available in Japan and USA but those were not commonly used.

There are a few areas I think in which all fishermen can endeavour to minimise insurance premiums. Let's face facts - the major cause of increased premiums in any area of insurance is claims. If claims are kept down commercial fishing vessel insurance will become more attractive to insurance companies and competition will reduce rates.

Reducing claims - Mr. Fillmore said claims would be reduced if fishermen gave attention to the following factors:

- * Correct safety equipment such as life raft, flares, fire extinguishers and lighting.
- * Sufficient mooring facilities: ensure that moorings are regularly checked so that faulty sections can be replaced before the event. Be confident that the chains and weights are adequate for the size of vessel.
- * Through an association or co-operative, push for safer port facilities.
- * Have community salvage equipment available or know where to obtain it in the event of an emergency. Perhaps a team could be organised among fishermen who would be familiar with the equipment and could assist in minimising a loss.
- * Excesses: all commercial hull insurances were subject to some form

of policy excess - a nominated amount to be paid in the event of a claim. In most cases the excess applied to all claims other than a total loss when no deduction was made. Generally the insured could elect whatever excess he required from about \$50 upward, bearing in mind that the higher the excess the lower the premium.

However the larger and more expensive vessels usually attracted much higher excess than \$50, either by the choice of the owner or the attitude of the insurer.

What does the future hold? What I would like to see introduced into Australia is the formation of co-operative insurance schemes perhaps initially to the known Safe Ports. Mr. Fillmore said, the idea is to form a committee to control the acceptance of insurances into a community fund. The acceptances are limited to say \$10,000 any one loss, and the excess amounts of cover provided at very much reduced rates by insurance companies.

At the end of a term, if the scheme is profitable, a certain amount is put into reserve for the following year and the balance distributed to the members as a bonus. If the scheme is unprofitable, then members could be asked to contribute further.

With a scheme of this nature, it would be essential to have two to three years' good experience so that reserves could build up and finally show good premium reductions to members. Quite a lot of research would need to be undertaken before a scheme of this nature could be instigated and controlled correctly.

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PORT CAMPBELL WEEKEND (Cont'd.)

Unfortunately, the rest of the weekend was marred by bad weather and resulted in cancelling all diving. Sunday afternoon we went on a trip to Moonlight Head where those with plenty of energy climbed down to the beach and back up again. On the beach there were four anchors in groups of two. One set had been beached by the Warrnambool Skin divers club and were off the wreck of the "Fiji". The other set, much larger than those of the Fiji were unnamed. Monday saw an early start for home. Although the weather was against us, there will always be a next time.

ALAN CUTTS

PRIVATE TRIP TO RUSHWORTH - 10,11TH JANUARY, 1976

Glenys, Esther, Graham and I left Preston at 4pm with our caravan in hot pursuit of the car. We arrived in Shepparton at 6.35pm and parked the caravan outside Ian Richardson's house on the Friday night. I must mention that Ian and Pauline put on a very good tea for us on our arrival. During Friday evening we had a few social drinks and all tried to thrash Katrina at billiards.

Saturday morning saw us making the pilgrimage to Monichino's Winery 5 miles north of Numurkah to buy our various supplies of liquor. After tasting wine until 11.30am we finally bought a few kegs of wine and headed back to Shepparton. We hooked up the caravan and loaded hundreds of feet of rope and the "Windlass" aboard and headed for Rushworth.

At this stage I think I should mention the names of the group. They are from left to right - Justin, Katrina, Frank, Tony Shush, Glenys, Graham, Esther and myself. For those who don't know Esther (Ess) is my sister-in-law.

When we arrived at Rushworth we headed straight for the old Phoenix Mine which is approximately $1\frac{1}{2}$ miles from Rushworth. We set up camp in record time and started to assemble the Windlass (winding drum) above the 300 foot vertical mine shaft.

Frank was lowered to the first level about 50 feet below the surface. Then Justin was lowered to about 100 ft. to check out an obstruction and also to determine whether the descent should continue. A slight amount of doubt existed so Justin came up and asked me if I would have a look.

I descended to the obstruction and found it pretty safe and then descended further to the 230 foot level and found another drive (tunnelled shaft). Tony joined me and we had a fairly good look in a zig-zag fashion, as the miners followed the seams of quartz for the gold. After Tony and I had been down for about 30 minutes, Justin and Frank came down as a search party. Apparently whilst we were down, someone on the surface mentioned bad air or gas, and this made the women on the surface a little anxious for our return.

Justin and Frank found us quite easily and we all returned to the surface a little exhausted.

After tea we sat around the camp fire and talked and had a drink or two and by about 11.30pm we all turned in.

Sunday 7.30am I woke for a quick stroll into the bushes, after my duty completed, I tried in vain to wake the others. Clad only in shorts and sand shoes and armed with a geologists pick I decided to explore the area for other shafts or diggings.

I arrived back at 9.30 just in time to see the others dragging themselves out of bed. Breakfast over, we decided to descend to the bottom. I descended to the 230 foot level, then Tony joined me. We did a gas test next by lowering a primus lamp by rope to the bottom. The lamp did not go out, great, this proved there was air at the bottom, also there was no explosion so there was no methane gas (produced by decomposing wood). Tony went to the bottom and reported that everything was OK. Frank then joined Tony on the bottom and then they both disappeared into the darkness. After about 5 minutes I could hear voices in the same drive as I was standing in, so I went to investigate. About 70 yards from the main shaft there is an air vent in the floor which leads down to the level Tony and Frank were on.

Justin with Ian Richardson in tow then appeared, the three of us then descended the air vent and met the others. We had a good look at this section and also took some samples which were thought to be gold bearing. We then surfaced and had some lunch. Then we took Glenys, Graham, Ess, and Katrina down to the 230 foot mark and had a good look around for about an hour.

After that we then packed up and headed back to Melbourne after a thoroughly enjoyable and different weekend.

There is a trip organised to Rushworth on the Labour Day weekend (6,7,8 March). If you are interested in going would you contact Justin (58-2310) or myself (877-3287) to make arrangements. The following is a list of equipment you are likely to need -

Fresh water, food, cooking utensils etc., torch and spare batteries bedding and tent or caravan, something to cook on, old clothes, safety helmet if you have one, geologists pick or something similar.

Drink is not supplied on site, so bring your own.

Rope is not required as Justin and I have about 1,000 feet.

Power is not supplied so bring your own lighting.

AIR FILLS

Justin will only supply air between 8am and 9pm weekdays, SATURDAY 12.30pm - 8pm, SUNDAY 9am - 8pm. Fills outside these hours must be arranged with Justin. These times have been arranged so Justin is not disturbed at unusual hours and also to comply with the new noise pollution act just past.

ALAN CUTTS.