

Bougainville Copper Concentrates

VOLUME THREE / NUMBER TEN MAY, 1973

Last ANZAC Day



April 25 saw the last Anzac Day ceremony to be performed in Papua New Guinea. The Kieta ceremony was witnessed by a crowd of between two and three thousand. The march past was led by the Pacific Islands Regimental Piper and Drummer sent from Port Moresby. Ex-servicemen of both races were few in number. The parade was addressed by Father Duffy of Tubiana Mission, prayers were said by a United Church representative and Mr. Ric Hearne spoke on behalf of the district administration. Our photo shows police buglers sounding the last post.

The Mine: in five years

Mine planning engineer John Dunlop explains the five year plan for the mine operation:

The plan of the final pit limits, of how the area will look, on present information, when all mining is finished, was drawn up in Melbourne during the feasibility/evaluation studies. During the many trials and investigations which went into the design of this pit, the main features or parameters of the mine were evolved, including:

- . Where the edge of the final pit would be, so that permanent structures such as workshops, main crushers, concentrator and waste dumps could be located outside.
- . How much ore was within the pit; the most economic rate of mining; and how much copper, gold and silver could be recovered and sold each year.
- . The amount of minerals the rocks must contain at any time before it became ore.
- . The amount of waste to be removed to uncover the ore.

Now the mine is in operation, planning is done within the constraints of the final pit plan, the capacity of the mining equipment available, and the capacity of the concentrator.

A plan is drawn up of the pit in 5, 10, 15 and 20 years time. These plans are developed with the aid of a computer, to 'mine' the orebody step by step and indicate in which direction the pit should be expanded at any one time.

The 5 year pit is the most detailed and accurate of these plans, and is broken down into a year by year sequence. Each year is thus checked for, among other things

- . An ore grade high enough to meet sales commitments.
- . Enough ore exposed to keep the concentrator supplied.
- . Enough room to work all the shovels efficiently.
- . A developing haulroad system, to serve all future shovel positions.
- . Enough waste removed to expose ore for the year following.
- . Total materials to be removed within the capacity of the equipment available.
- . Which facilities around the edge of the pit must be relocated.
- . Pumping and drainage requirements.



The pit area from the air. Line marks the periphery of the pit area in five years time.

The present pit will expand mostly to the north west and north during the next 5 years to 1978. During May, a new road is being built around the south side of the pit, which will remain for the 5 year period, as will the batter to which shovel 2 is digging on 730 bench Barapina.

During 1974 and 1975 stripping will be concentrated around the Biuro Granodiorite waste haul road. The north ore haul road, plus the transport compound, Shell fuel depot, pipe yard etc. will all be excavated, up to the edge of the road. During 1975 the first sinking cut will be taken under Pan Hill. Water from this bench (580m) will have to be pumped

out.

In 1970 the streams down past the helipad must be diverted, and Camp 3 hill, plus the cricket club will disappear. At the end of 1977 the pit will have 'holes' down to the 535m level, or 300 ft below the present working level; one under Pan Hill, the other under the Biuro waste road.

As a rough indication, the pit periphery in 30 years will encompass the light vehicle workshops, Married Hill, most of Mud Valley, lower half of Camp 1, Camp 2 and the hill beyond and the old Bechtel complex.

IN THE CLOUDS

by mauswara

For those who have received a copy of the current BCP telephone directory here are a list of the various languages featured on the cover: Motu, Pidgin, Serbian Cyrillic, Serbian, Italian, German, French, Afrikaans, Dutch, Spanish, Swiss-German, Tolai, Danish, Latvian, Portugese, Maltese, Maori, Solos (Buka), Romanic-Arabic, Finschafen, Arabic.

Jim Hocking, communications supervisor, is also planning the following Japanese sign meaning "telephone directory" in the next edition.....

電話
巾
長

Talking of languages (a pun?) did you know the Bougainville language of Rotokas contains the smallest number of letters in the world. Summer Institute of Linguistics expert Skip Furchow, is living in Togarau village, Rotokas, at the moment and told me the language contains only 11 true letters - five of them vowels. The people make up for this by stringing vowels together (they can make a sentence without consonants) or by lengthening vowels to make a new sound. Rotokas itself, by the way, means "red paint" - a reference to the peoples' habit of wearing red powder on their faces...

Another publication in Panguna. The "Apprentice Lamp" will serve as an outlet of self expression for the students in the BCP education centre. Editor is David Talei and his staff is entirely Papua New Guinean except for Mr. Rick Henson

who is acting as an advisor. Urune Buza in his "toktok save" column points out that the introduction of co-education in the mine training centre has resulted in a startling rise in attendance. (Perhaps the idea could be applied to other departments. Mini-skirted dollies running ahead of the 105's. Can-can girls in the concentrator...)

The "Apprentice Lamp" also features stories and poems by the students, some of them very good. I particularly like this poem by Pethro Lakao:

I was born into a primitive world
Many generations removed
From the outside world,
Living the contented life of a nomad.
Doing the same thing day after day,
Never thinking of tomorrow,
Never staying long in one place
To take roots and grow.

How my world is shattered
With the sound of many Machines,
Destroying everything I have loved
Mountains, hills, valleys, ravines.

Even though this new world excites me
With its magic and many wonders,
My old world still haunts me
And tells me to go back home...

There were 3,963 staff and wages personnel employed by BCP on April 1. They were made up of 572 expat. and 74 indigenous staff and 419 expat. and 2,892 indigenous wages. This total includes apprentices, students on release and trainees. Largest department by far was mining with 1,014 personnel.....

Congratulations concentrator repairman Phil Sapak who became light welter weight boxing champion of Papua New Guinea in Port Moresby recently. Phil now enters the eliminating rounds for the (wait for it..) world

amateur championships which will be held during the Oceanic Games in Noumea later this year. No-one expects you to become a world champ Phil. But who can tell in the fight game....

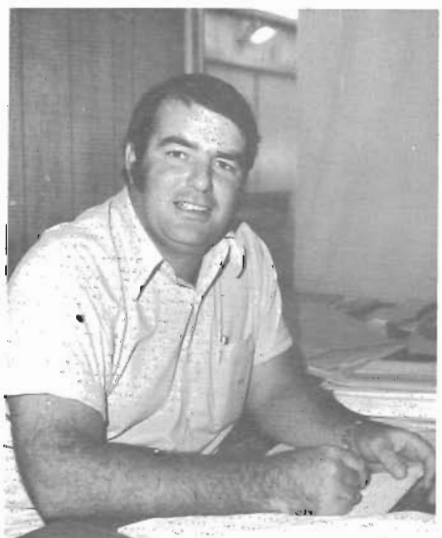
A certain mining magazine listed the major copper mines in the world recently under name, country, owner, metal output. For us they said, Bougainville, Bougainville, BCP, 180,000 tons. Another case of Australian ignorance of Papua New Guinea.....

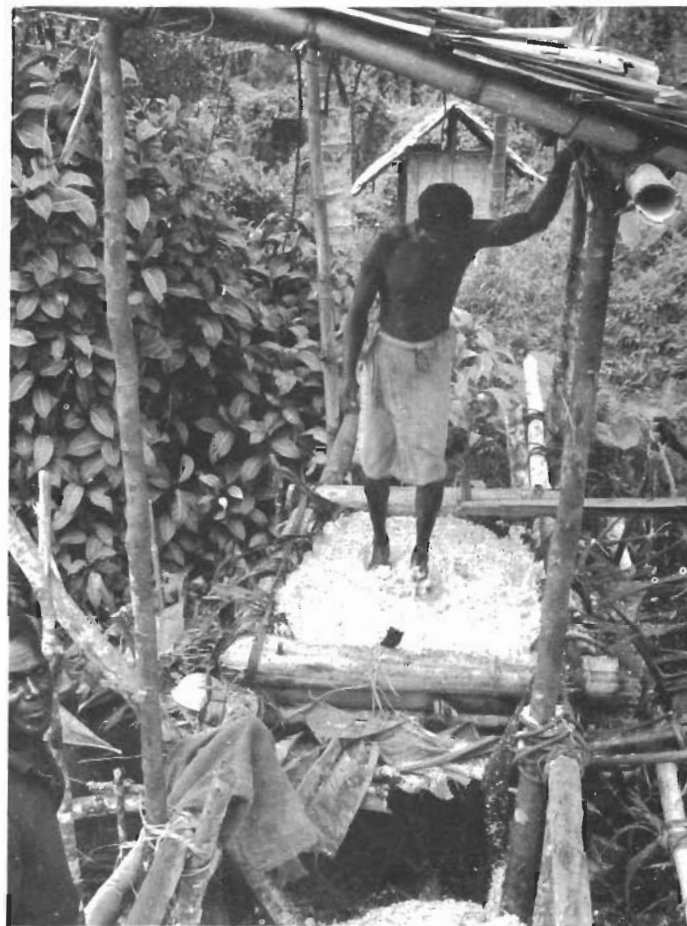
Was looking over John Dunlop's shoulder at his projected map of the pit area in 30 years time (see story opposite page). Strike me dead if the edge of the pit isn't going to go clean through the middle of my house in Mud Valley. Means I'll have to move the lounge into the bedroom, but at least I won't have any trouble getting up in the morning. And there's a gum tree on the edge of the garden I don't want knocking down, Mr. Dunlop.....

Mauswara flash: Air Pacific (former Fiji Airways) have started a new service linking Honiara with Brisbane direct. The BAC 1-11 service runs weekly starting June 1 (Friday) and costs \$130.30 one way. The return flight from Brisbane is on Saturdays. This means it costs \$163.30 to fly to Brisbane via Honiara and \$176.60 to fly via Port Moresby from Kieta. However the link flight from Kieta to Honiara leaves on a Wednesday and that means two nights in the Solomon capital. And accommodation is expensive.....

PEOPLE

Below left, Bob Laughton, transport supervisor, Peter Kuman, senior controlroom operator, secondary crusher, and Linda McInnes, typist BCP customs, Loloho. Middle, Philip To Vinirua, James Koimbo, both crusher operators and K. Kurio, flotation operator. Bottom, chief customs agent in Loloho, Pat Beston, Hosea Benson, grinding operator in the oall mills, and in the minegraphic lab. is systems analyst, D. Mason.





Films

PANGUNA

Thurs. & Fri. May 17 & 18	Harlow	Carol Baker
Sat. & Mon. May 19 & 21	Funeral In Berlin	Michael Caine
Sun. & Tues. May 20 & 22	Darwin Adventure	Nicholas Clay Ian Richardson
Thurs. & Fri. May 24 & 25	To be advised	
Sat. & Mon. May 26 & 28	The Longest Day	Huge cast of top stars
Sun. & Tues. May 27 & 29	The Inspector	Stephen Boyd Delores Hart

ARAVA

Friday May 18	Salt and Pepper	Sammy Davis Jnr. Peter Lawford
Sunday May 20	Alice's Restaurant	Arlo Guthrie
Wednesday May 23	Harlow	Carol Baker
Friday May 25	When Legends Die	Richard Widmark
Wednesday May 30	Funeral In Berlin	Michael Caine

Note: A matinee will be held each Saturday afternoon at 1.30 p.m. Saturday evening's show will be screened.

Dress restrictions will be relaxed for the matinee only and thongs may be worn.

These pictures show how sago is prepared for a village feast. Top left, Sipuru villagers (Kongara C.D.) have felled a saksak tree that no longer supplies leaves for house construction. They cut half the bark off and began beating the pulp inside with bamboo poles. When the sago pulp had been removed they transferred it to a platform where the owner of the tree began crushing it with his feet (see above). Mats are held under the platform and act as a sieve, separating the sago from the pulp. As the owner stamped on the sago pulp, water was poured on the platform to help the sago through.

This village collected about 200lbs of sago from the tree - enough to feed the whole population of about 200. This sago will be smoked over fires for preservation and later mixed with coconut and baked into cakes for the village feast.

COMINGS AND GOINGS

Two new BCP storemen are D. A. Doran, materials handling, port, and B. Groenveld, supply, admin. Leaving or left are R. Gordon, senior foreman, crushing; T. D. Wilson, truck shift foreman; Kerry Davis, senior analyst, chemical lab; Ken McDonald, senior analyst, chemical lab; Noelle Due, secretary to the managing director; Beverley Jaeger, secretary to the company secretary; R. C. Purdue, foreman, crusher; P. A. Nicholls, blasting foreman; John McGee, crushing mechanical super., concentrator.

SPORTS NEWS

Well, the big BOXING news is that Phil Sapak is the national light welter weight champion and is to represent the country in Noumea later this year in that division. Francis Dutai went very, very close to winning his division. Although he was eliminated in the semi final he was beaten by only 1 point and that was by the eventual gold medal winner of his division.

Butch Abraham who went with them was full of praise for their overall behaviour, dress, (apparently the Loloho Boxing Club shorts, singlets and dressing gowns went over really well) and most of all their fighting ability. Congratulations to both Phil and Francis and to Butch - the man in the corner.

The following is a report from coach, Butch Abraham:

The Time: 9.15 Saturday night 21/4/73.

The Place: Sir Hubert Murray Stadium Open Air Boxing Ring.

The Contestants: Bernard Kodeng, Papua's entrant and winner of a gold medal in the last South Pacific Games; Francis Dutai, Bougainville's welter weight entrant. The bell rings:

The crowd, over 2,000 strong, roars as the Bougainville entrant flashes out a long straight left lead to catch last year's champion squarely on the chin. For three, three minute rounds the audience was given a display of boxing rarely seen in amateur ranks. Bernard, the more accomplished of the two, forcing early while Francis, boxing very defensively, attempted to out box his very experienced opponent.

Round 1 went very narrowly to Papua's entrant. Round 2 a draw. In round 3 a very determined and fit Francis changed roles and took the fight up to Bernard stunning him with left and right combinations to the head. Bernard a true champion, fought back and the round and fight went very narrowly to Papua. Both boxers received a standing ovation as Francis congratulated the winner in an embrace mid ring. Bernard Kodeng went on to take out the final, convincingly out-pointing two other opponents.

In one day Francis had flown in a plane, visited outside Bougainville, fought in a Papuan Amateur championship and gained confidence and experience which will be invaluable to him in future contests.

Final night, Monday 22/4/73. It was very hot with a crowd over 2,500. Ron Boyce, Papua's light welter-weight entrant (ex Sydney amateur champ.) was very confident while a nervous and very excited Philip Sapak of Bougainville waited expectantly. The bell rang and three days of tension were unleashed as Philip rocked with savage rights the taller southpaw opponent. Philip sensed early that if he allowed his taller opponent to box he would be in trouble. He carried the fight to Boyce, refusing to give ground even when he was landed with a vicious right rip to the heart and a left hook to the head that would have slowed any lesser opponent.

Philip began to wear him down and with a true fighter's courage carried the fight to the Papuan entrant. When the referee was forced to stop the bout in the 2nd round Philip was well in front and would most certainly have knocked his opponent out. A very jubilant Philip received his gold medal and offered condolences to his weary opponent.

Philip was selected for the PNG team to Noumea which will go in July or August. This trip is for the elimination bouts to decide the contestant for the

world amateur championship bouts to be held in Madison Square Garden, (New York) in September so Philip will be in extensive training for the next two months.

Both lads were true ambassadors for Bougainville and their conduct and manner, both in the ring and out, made me very proud to have been their coach for the championships. In my opinion we were unlucky not to have taken both Jack Luff, feather weight, and James Hasob (Tarui) light weight. Both of these lads would have given the fighters in their division a shake. Maybe later on they will get their chance. Philip, Francis and myself would like to take this chance to thank BCP for their very generous assistance with our fares and also thanks to Vic Caruana, Ron Herrick, Phil Teakle and all others who help in the running of regular tournaments here.

The biggest crowd by far this season turned up on Friday April 27, to see the boxing between the Honiara team and the locals. Unfortunately they were much too over enthusiastic and pushed over the cyclone gates and caused other damage to property in spite of all we could do to maintain order and this I am afraid will be the last time boxing will be held in Camp One. This is a pity so until the new gymnasium is opened all boxing will be held at Loloho.

Apart from this a terrific night of boxing was witnessed and the boys from both camps really looked the part. Both teams had their own uniforms complete with dressing gowns. The evening was shortened by a few of the fights not going the distance but I am sure even though this was the case everyone enjoyed themselves. The barracking was thunderous and must have given the fighters great encouragement.

The results went as follows:- David Levi, Panguna won by TKO over his opponent of Loloho after round 1. Featherweight: Jack Luff, Panguna won in the second round when his opponent Pascale Tove of Honiara couldn't go on. Lightweight: James Hasop, Panguna, won on points from Adifaka of Honiara. Light Welter: Solomon Noa, Honiara won on points from Gabriel Pore of Panguna. Welter: David Samo (Honiara) won on points from Noah Popot, Panguna. Middle: Paul Konterake of Honiara won the bout when his opponent was disqualified in the second round. Light Middle: Francis Dutai, Panguna defeated Samuel Penieli of Honiara. Heavy: Silas Saru, Honiara defeated Lawilla Gawila of Panguna. Lawilla put up a very game performance against a much better fighter.

National champion, Philip Sapak could not fight as he sustained a cut over his eye in Moresby.

The final of the pre season RUGBY knock out competition was held on April 29 and resulted in a great victory for Brothers. They defeated Kumul before a very large crowd at Toniva. This game was of very high standard and certainly intimates that this years competition is going to be top class.

The yearly competition kicks off at Toniva on May 6. Unfortunately the draw for this year isn't available yet so we don't know what games are to be played.

A team of possibles played a team of probables and the possibles ran out easy winners 24 - 3.

As you probably know a team from Bougainville is to play a combined Rabaul team as a curtain raiser to the big Papua versus New Guinea game on June 10 at Rabaul. The training squad for this game will be named on May 14.

All the new facilities are getting very close to completion and new staff for these facilities are

being recruited. Times of opening, and all other problems are now being worked out and it is hoped that in the very near future a complete run down of these facilities will be published.

The AUSTRALIAN RULES competition is rearing to get underway but I'm afraid their proposed date of starting will have to be put back a couple of weeks as out Panguna ground will be a little while yet. I must say once this ground is ready to play on there shouldn't be any complaints re drainage, stones etc. as I think engineering have done a first class job. "Ross Wilson will be a curator at the Melbourne Cricket Ground yet!".

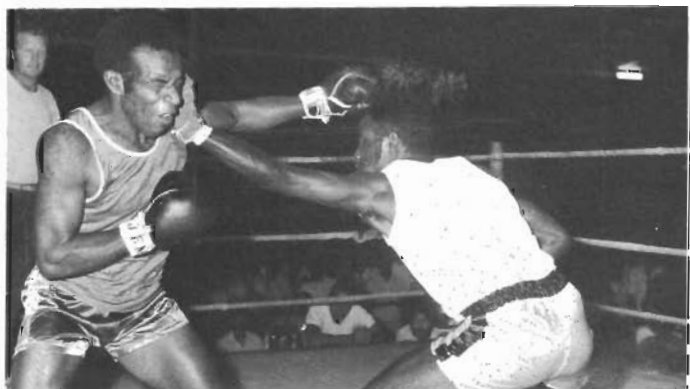
- RON HERRICK

Three teams are vying for top place in the Panguna/Arawa/Kieta tennis tournament. On the weekend of April 28 Panguna Blue were defeated by Panguna Green in a very close match by only two games. In an even closer match Arawa White were beaten by Kieta Black in sets after drawing games 40 each. Arawa Yellow beat Kieta Black by nine games.

Table on April 30 stood as follows:

Panguna Blue	12 (leading in games)
Panguna Green/Arawa White	12
Kieta Black	8
Arawa Yellow	4
Kieta Red	0

(Four points count for a win, which is reckoned on the number of games won, not sets).



Panguna on the receiving end: Top, James Hasop catches it from Adifaka. Above, one on the jaw for Gabriel Pore from Solomon Noa.

GOURMET'S CORNER

Here's a local dish you might like to try out on your friends. It's a dish you are not likely to try very often. And it saves the necessity of having to mow the lawn. MUMU is the name. You kill your pig (or any other animal), clean it and cut into large portions. Wrap in wild banana leaves. Dig a hole in the garden about three feet deep and light a large fire in it. Place in stones and keep the fire going until they are very hot. Move excess debris away and place the pig wrapped in leaves directly on top of the stones. Replace earth and light a fire above it. Let the fire burn all day and in the early evening start to uncover the mumu. Take out the pig and local vegetables that have been placed on the stones and serve on the leaves. Eat with the hands.

And now for a French classical dish. BEEF WELLINGTON is prepared by selecting a 6lb fillet of beef (for six people). Skin and remove all excess fat. Season and seal quickly in a frying pan. Roast in a moderate oven (350°F) for about 25 minutes, keeping it underdone. Remove and cool. In the meantime prepare duxelle. This is finely chopped onions and mushrooms and ham quickly sauted in a frying pan and cooled. Make up puff pastry, roll out the size of the fillet and place duxelle on top of the pastry roll. Place fillet on top of duxelle. Cover one long side with the pastry. Eggwash it and glue other long side on it. Fold the two ends to seal. Eggwash the whole roll, place in bacon tray, leave to rest for 35 minutes and bake in hot oven for 20 minutes. Take out and slice roll at an angle into 12 portions. Serve with mushroom sauce and fondant potatoes. Serve with a nice bottle of Hunter River Burgundy.

- EDDIE MUCHA



PORT DEPARTMENT SAFETY AWARD

Back in December Concentrates ran a story on an award from the National Safety Council of Australia to the port department for attaining 100,000 man hours free of disabling injury over a five month period. At the time this was the first such award to be made to any industrial organisation in Papua New Guinea.

Last month the port department achieved yet another "first" when the National Safety Council of Australia presented an Award of Merit for a quarter of a million manhours free of disabling injury.

The award, in the form of a pennant and a certificate, was presented to Captain J. I. "Jack" Dalby, port superintendent, and his supervisory staff at the monthly meeting of the Bougainville Copper Joint Safety Council by the Council's President, Mr. J. D. Erickson (AGM Production and Community Relations).

The safety section join Mr. Erickson and the Joint Safety Council in congratulating all port department employees and sincerely hope that their outstanding accident-free achievement will be an example to other departmental employees no matter where they work.



A fine crayfish caught by a Pidia villager in Kobuan Bay. Although similar to the crayfish which the Victorians know so well they are distinct in as much as they cannot be caught by traps.

FISHING - BETWEEN SEASONS

If a person were to go into a detailed study of meteorology I dare say he would be able to find a very definite change in the seasons around about this time of the year. The winds seem to prevail from a different direction and it doesn't quite rain so much. In the fisherman's world the change is a bit more startling; the bait schools have moved on, taking the tuna with them on their migration southwards; the mackerel have spawned, leaving a few spent males behind and the dolphin fish have gone out to the deep oceans to follow the currents to some other bloke's line.

To take their place we have the rainbow runners, small classes of trevally and the pickhandle barracuda. To the fisherman this must mean a change in tactics to smaller lures and baits and to fish in closer to the reefs.

The Bougainville Sport and Game Fish Club is organising lecture nights to teach fishermen to adapt themselves to these seasonal changes, to fish with lighter tackle and how to enjoy this complete family participant sport. For further information watch for the notices or contact me on 5-325.

- DON WOODFORD

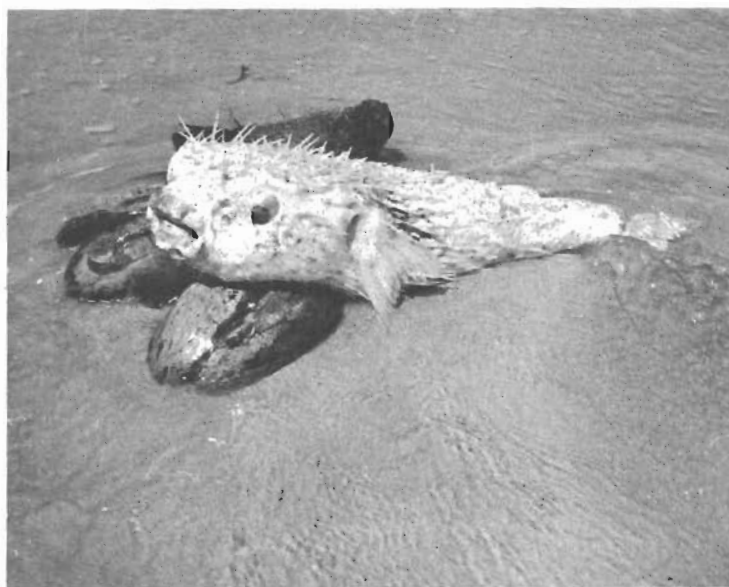
SKIN DIVING

Recently there occurred on Bougainville a skin diving incident which resulted in the fatal drowning of a BCP employee.

The waters around Bougainville are among some of the best diving waters in the world and skin diving has been a popular sport here for many years; this is the first BCP fatality, but one is still too many.

Skin diving is an enjoyment and excitement which can not be matched on the surface. You can limit your degree of participation to surface observation in shallow waters, or enjoy the thrill of deep water dives into the depths. The variety of interests open to the skin diver are as limitless as the vast expanse of the underwater world itself.

Even though the undersea is a safe and friendly



Puffer fish, one of the vast family of Toados. Although the Japanese and other races treat parts of these fish as a delicacy the best insurance is to leave them well alone.

place, man is out of his natural element when underwater. He must learn a new set of nature's rules which are not encountered on the surface. These basic rules have been gained from the knowledge and experience of thousands of divers over a period of many years.

The greatest danger to a skin diver is ignorance of these rules. Learn and practice them, and the underwater world will welcome you with unending fun and interest. Break them and the results may be a painful and frightening experience or even a fatal accident.

Make sure you are trained by a qualified and confident instructor, and the next time you go diving, remember and put into practice all he has taught you.

- J. G. APPLETON
Assistant Security Officer



Inspector Ekonia Ibana (in front of policemen), former officer-in-charge of the Panguna Police Station, inspecting the force for the last time during a hand-over parade held for the new officer-in-charge, Inspector Paul Kamang (middle). Far left is sergeant-major Pelika. Insp. Ibana has left for a seven week course in Port Moresby and another two and a half months course in Australia. Inspector Kamang was at the Arawa Police Station before coming up to Panguna.



LOOKING AFTER YOUR HEALTH

"Tiny" Wendt caught some of our medical and first aid personnel outside the BCP medical centre recently. From left are medical assistant Chris Mola; first aid officer John Dunkley; Sister Eccles; medical assistant, pathology, John Ekoda; Sister Keates; Rima Rahu, clerk and Dr. D. R. Johns.

THE POOR DEVIL CHILD

Some years ago lived a married couple in Kipnabere village near Rabaul. The couple had lived all their lives without a child.

One day the wife went into the bush to collect some food. While wandering around in the bush, she came across an egg which, thinking it was of wild fowl, she took home, cooked it and ate it. But this egg was actually of a snake. Two weeks after she had eaten the egg the woman became pregnant. Nine months later she gave birth to a baby boy named Tavup which means a devil.

Poor Tavup grew up, but he could neither speak nor walk. Whenever the villagers went gardening or some other place Tavup had to be left behind in the village. And when they came back they found all the food in the village had been eaten. Soon the people decided to try to catch who was responsible for all this. Some of them blamed poor Tavup. But others did not.

A large amount of cooked food was therefore prepared in a house. To make sure that the thief must be caught this time they prepared spears, axes and fighting clubs. Then every one in the village left the place and stayed hiding in the nearby bush shrubs. One man climbed a big tree taking with him a conch shell to signal them if he saw the thief.

After a short time he saw Tavup crawling into the house and eating up all the food. The man on the tree blew his conch and immediately the people began attacking Tavup who miraculously ran, making for the sea. He was shot twice, but even that he did not feel. The people ran after him for seven miles without catching him. Then Tavup swam into the sea and is believed by my people to be still living in the sea near Kokopo.

He returned to Kipnabere village once recently, killing a relative of mine.

- DAMIAN MARAVU,
Community Relations driver
from Kipnabere village
East New Britain.

toktok

SENIOR SCOUTS NEWS

April 16 was an eventful occasion for the Scout movement on Bougainville - the investiture of five scouts as senior scouts.

The scouts - Kenton Laughton, Phillip Miriona, Methodius Nesika, Paul Tondapan and Alu Willy - had the added honour of being the first group of seniors to be invested in the Bougainville area.

It was pleasing to see the number of parents and friends who accepted an invitation to be present at the investiture.

Part of the Easter break was spent in a two day hike from Panguna to Arawa. The hike followed a native track up the Kawerong Creek valley and then roughly from the Bovo River to Arawa.

With heavy packs the hike up to the top of the Crown Prince Range took about 2½ hours with the writer discovering he had been city bred.

Refreshments of fresh coconuts collected by one of the seniors were readily accepted by the group at Kupei Village.

An overnight camp was established on the Bovo River about two miles from Kupei Village.

As there were only about three miles to hike to Arawa nobody was in a hurry to leave the next morning from such a quiet and peaceful location. On arrival at Arawa I know that most of the members were very pleased to see the bus.

- DARRYL MACDONALD
1st Panguna Senior Scouts

FOR SALE

Toyota Crown station wagon. 1966. \$700. Also
Seiko wrist stop watch. \$65. John Milne, 5-342.

OUR BUS DRIVERS

BCP's transport section employs 25 bus drivers at Panguna and 10 at Loloho and Arawa. Here are most of the Panguna drivers.

Below (from left) John Lasin (concentrator), Killion Youngman (night shift foreman), Kris Vuletic (concentrator), Paul Galo (concentrator) and Paul Getsi (Mud Valley). Standing in the bus is John Mabua (night shift, mining).

Bottom two pictures show Kila Hunini (concentrator) and Julai Akuila (mining).



EXTENSIONS

The Concentrator is at present undergoing extensions to its crushing and grinding plants.

First, grinding. The extensions provide for an additional grinding unit. The extra mill will ensure that concentrate production will meet sales contracts commitments and maximise the Concentrator efficiency.

An additional 18 by 12 ft Allis Chalmers ball mill is being installed, powered by a Mitsubishi 4,250 h.p. motor. The ball mill discharge pump (GIW unit) will be powered by a 500 h.p. motor with a Heenan and Froude fluid drive coupling. This coupling, which incorporates variable speed into the circuit, will allow metallurgical plant control techniques to be studied in detail.

To accommodate the ninth ball mill, the fine ore storage capacity has been extended to provide necessary ore draw points.

Process control equipment to be installed includes a gamma density gauge and an 18 inch magnetic flux flow meter. The combination of these two units will provide pulp mass flow information not presently available from the other mills.

Second, additional crushing and screening equipment. This will enable the concentrator plant to maintain capacity when treating harder ores which cause slower crushing rates and higher in-plant circulating loads.

The fitting of finer screen cloths to the tertiary screens will also provide a finer ball mill feed which will increase ball mill capacity.

The following have or are being installed:

- Three additional crushers. One secondary 7 ft standard Symons cone crusher and two tertiary 7 ft shorthead Symons cone crushers. These units have been placed in the existing crushing lines with additional feed fins and feeders.

- An extra 8 by 20 ft secondary double deck simplicity screen and six simplicity single deck screens of the same size. These screens have been installed to separate fine material from oversize at the screen fees. This material is conveyed to the fine ore storage stockpile while oversize returns to the tertiary crusher.

- Conveyors 9, 10, 11, 12, 13 and 14 are being extended by 54 ft to service the additional major equipment. Conveyors 6, 13, 14, 15 and 16 are being increased in speed to handle the higher circulating loads with a greater degree of safety.

- The crushing plant dust system will be extended to service the additional crushers and two completely new units will be installed in the screening plant to service the new screens.

- An industrial vacuum cleaner will be installed in the screening plant to assist in plant cleaning of fine dust accumulation. This system should improve the general plant hygiene standards. If it is successful, installation of further units in the crushing plant will be considered.

- The crushing plant maintenance bay has also been extended and a 56,000 lb overhead crane will be installed to improve service facilities.

- Two 30,000 lb under-running overhead cranes will also be installed to service the screening plant.

These plant changes are aimed at ensuring maintenance of the required tonnage levels to meet

production commitments. They should be complete by early June.

Other ancillary equipment includes:

- . Maintenance bay extension at north end of grinding bay.
- . One 300 CFM instrument air compressor in a new compressor house near the concentrate pumphouse.
- . One 1000 CFM service air compressor in the new compressor building.
- . Maintenance bay extension at the south end of the flotation bay.
- . One 44,800 lb crane over the grinding bay.
- . Additional cranaage in flotation bay.

- PAUL PIERCY
Research Metallurgist

COLUMN 3

In mid April members of the PNG Commission of Inquiry into Land Matters were up here. A public meeting was conducted at the Karoona market.

Also delighted to have been visited by Mr. and Mrs. Luis De La Pena Porth from Mexico. Luis is a Senior Advisor to the Mexican Government.

Two lone fliers were on site in April. Mr. & Mrs. C. Cowper flew a Cessna from Sydney and back. They said they didn't want to miss all the excitement in Panguna.

EASTER ROUNDUP

Panguna must have seemed like the grave over the Easter weekend. Everyone who wasn't working over the holiday seemed to have taken off for the beach or further pastures. One large group went by charter to Rabaul; there was the usual collection of single men heading for Honiara; another group went to Buin and yet another to Buka (John Meyer and his apprentices).

A party of five took off in perfect weather for a climb of Balbi volcano, another flew into Torokina for a trek into the Keriaka caving area. Then there were three mad Englishmen who set off in a loft yacht to circumnavigate Bougainville Island. The three - Mike Bell (Panguna A.D.O.), John Dunlop (mine planning engineer) and John Ashby (rock mechanics engineer) - successfully completed the voyage in 8 sailing days.

The restricted licensing laws didn't appear to upset too many people although there must have been some well stocked fridges about the place. The charter party to Rabaul found the town "dry" both the weather and the booze. Mood of the trip was one for relaxation (there being not much else to do but sit at the hotel pool or play golf). It appeared most of the Rabaul population was out of town for the weekend and most of the population in the town was made up of visitors. A nice, relaxing weekend was the general verdict.

CONCENTRATES IS EDITED BY JOHN ECCLES,
JOHN WAKARIA AND JOHN PIPPIN. TEL. 5-255.
PHOTOGRAPHERS ARE BRIAN WENDT AND GENA
ILAI. TEL. 5-127.

Letter Box

Beware you Australians who sold land and home to come up to Panguna in the hope of saving enough money to go back in a few years and buy a bigger and better home. I was one of those who did just this and I went south recently and during my leave had a look at land and house prices. We already know that Sydney is a place where only millionaires can live. But over the past year alone prices of houses in inner Melbourne suburbs have risen in many cases by over 50 per cent.

Nondescript properties in such unfashionable districts as Collingwood and Fitzroy are changing hands for sums in excess of \$20,000 where one year ago a measly \$10,000 would have solicited tears of joy from a vendor. The writer approached two well known estate agents near the centre of Melbourne to inquire after properties and was rebuffed in each case. Each agent said he had nothing to sell and buyers in plenty. A Melton agent said although he used to have 50 or 60 lots on his books, he had nothing these days worth looking at.

The reason for this inflation of course is that most people want to live reasonably close to the centre of town. So that although Australia is a large country with a small population, there is a housing shortage in the areas people want to live.

With population pressures and the shortage of desired land it is plain to see that there is not enough to go round. So the market has become bigger and the prices have gone up. Similarly land prices are rocketing upwards. At an auction at East Keilor 65 blocks of land were recently sold at prices averaging \$11,000. These will probably be sold in the near future at a good profit.

Whether or not this is all part of a bubble that might soon burst is something no-one knows. Sydney's bubble hasn't burst yet although some say Perth's has. Somebody once said, "Land is a good buy, they have stopped making it!" And this holds true today. But a word of warning. Don't panic and buy a "bargain" property you haven't seen.

- ALAN CULLUM

The apple,
The divine fruit with which Eve tempted Adam,
But at 11½ cents per piece, (current supermarket price
Who can afford the temptation ?

Concerned shopper



(In future, letters for publication must be signed).

panguna

ORGANISATIONS:

Panguna Arts Society	Mr. M. Duthie	5-176
Lions Club President	Mr. L. Smith	5-135
Parents & Citizens Assoc.	Mr. R. Hope	5-314
Primary School Mothers Club	Mrs. M. Blackwell	958176
Squash Club Secretary	Mr. M. Sullivan	5-139
Crickets Club President	Mr. J. Trezise	5-317
Scout & Guide Chairman	Mr. J. Ainsworth	5-136
Committee Guide Capt.	Mrs. J. Bissaker	5-245
Brownie Ldr.	Mrs. A. Embery	45 Kupei Rd.
Group Scout Master	Mr. J. Embery	45 Kupei Rd.
Photo. Club President	Mr. N. A. Nour	5-275

EMERGENCY DIRECTORY:

<u>Security Emergency Control</u>	958333.....123
(For all emergencies)	
<u>Medical</u> BCP Medical Centre	958304.....254
Panguna Hospital	958089
<u>Police</u> Police Station	958222
	958263

BANK:

A branch of the Commonwealth Bank is situated approx. 150 yards west of the Trade Store and is open:

Monday to Friday	9.00 a.m. - 2.00 p.m.
Friday Only	4.30 p.m. - 6.00 p.m.
Saturday	8.30 a.m. - 10.00 a.m.

POST OFFICE is open:

Monday to Friday	8.30 a.m. - 12.00 p.m.
	1.00 p.m. - 4.00 p.m.
Saturday	8.30 a.m. - 12.00 p.m.

LIBRARY is open:

Sunday to Saturday	10.00 a.m. - 10.00 p.m.
--------------------	-------------------------

TRADE STORE is open:

Monday to Friday	9.00 a.m. - 5.30 p.m.
Friday evening	6.30 p.m. - 8.30 p.m.
Saturday	9.00 a.m. - 12.00 p.m.

HOSPITAL:

Out-Patients:

Monday to Friday	8.00 a.m. - 12.00 p.m.
	1.00 p.m. - 4.00 p.m.
Saturday	8.00 a.m. - 11.30 a.m.

Maternal & Child Health Clinics:

Tuesday & Wednesday	8.00 a.m. - 3.30 p.m.
---------------------	-----------------------

The BCP Medical Centre is open for treatments from:

Monday to Friday	8.00 a.m. - 4.00 p.m.
Saturday & Sunday	8.00 a.m. - 10.30 a.m.

CHURCH SERVICES:

Catholic	Sunday 8.00 a.m. and 7.00 p.m.
	Every evening 7.00 p.m.
	Priest in charge - Father G. Fahey, P.O. Box 48, Panguna.
United Church	Sunday at 9.00 a.m. and 8.00 p.m.
	Sunday 6.45 p.m. at Camp 10
	Every Wednesday at 7.30 p.m.
	Minister in charge - Rev. Battersby, P.O. Box 9, Panguna.
Lutheran	Sunday at 10.00 a.m.
	Sunday at 8.00 a.m. at Camp 10
	Pastor in charge - Rev. D. Zweck P.O. Box 497, Arawa

arawa

ORGANISATIONS:

Lions Club President	Mr. W. Weir	95122
Country Club	Mr. I. Baird	4-120
Arawa Civic Association	Mr. R. Jeffery	5-287
Tennis Club President	Mr. R. Bowden	5-374
Girl Guides President	Mrs. C. Newman	95159

POLICE STATION: 95122

TRADE STORE is open:

Monday to Thursday	8.30 a.m. - 5.30 p.m.
Friday	8.30 a.m. - 8.30 p.m.
Saturday	8.00 a.m. - 12.00 p.m.

BANK is open:

Monday to Friday	9.00 a.m. - 2.00 p.m.
Saturday	8.30 a.m. - 10.00 a.m.

POST OFFICE is open:

Monday to Friday	8.00 a.m. - 12.00 p.m.
	1.30 p.m. - 4.00 p.m.
Saturday	8.00 a.m. - 12.00 p.m.

LIBRARY at the old Fermentary Homestead is open:

Monday to Friday	10.00 a.m. - 12.00 p.m.
	1.00 p.m. - 4.00 p.m.
Saturday	9.00 a.m. - 12.00 p.m.

HOSPITAL:

Intermediate Out-Patients

Monday - Friday	10.00 a.m. - 11.30 a.m.
-----------------	-------------------------

Ante-Natal Clinic

Monday (Doctor in attendance)	1.30 p.m. - 3.00 p.m.
Wednesdays	8.00 a.m. - 11.30 a.m.
	1.00 p.m. - 3.30 p.m.

Maternal & Child Health Clinic

Monday and Friday	8.00 a.m. - 11.30 a.m.
	1.00 p.m. - 3.30 p.m.

Vaccinations

Tuesday & Thursday	1.30 p.m. - 3.00 p.m.
--------------------	-----------------------

General Out-Patients

Monday to Friday	8.00 a.m. - 12.00 p.m.
	1.00 p.m. - 4.00 p.m.

Emergencies

7 days a week, 24 hours.

No visiting the hospital is allowed outside regular visiting hours, unless special arrangements have been made. Visiting hours are:

3.00 p.m. - 4.00 p.m.
7.00 p.m. - 8.00 p.m.

CHEMIST: 951304

Monday to Friday	8.30 a.m. - 12.30 p.m.
	1.30 p.m. - 5.00 p.m.
Saturday	8.00 a.m. - 12.00 p.m.

DENTIST: Arawa 951424

Monday to Friday	8.00 a.m. - 12.00 p.m.
	2.00 p.m. - 6.00 p.m.
Saturday	8.00 a.m. - 9.30 a.m.

CHURCH SERVICES:

Catholic	Sundays 8.00 a.m. and 5.00 p.m.
United Church	Sunday 9.00 a.m.
Lutheran	Sunday 10.00 a.m.
	Sunday 7.00 p.m. every second week, in English, at house 15/112

All services are held at the Arawa Fermentary.