

Bougainville Copper Concentrates

VOLUME TWO / NUMBER NINE MAY, 1972

Arawa market is doing well in its second month. Townspeople and villagers alike are using its amenities and more and more fresh fish are on sale. The municipal commission has plans to build a permanent market in the not too distant future.





Departing Joe Griffiths with Severinus Ampaoi (left), Francis Ianupuma and Leo Tandopan (industrial relations officers).

GOODBYE JOE

After almost 2½ years Joe Griffiths, operator training officer, has left Panguna. He first arrived here on January 4, 1970 and worked in the training centre preparing young indigenes to drive 105 trucks and training local driving instructors.

He visited Mt. Tom Price and Mt. Newman in Western Australia in April 1970 to study methods of training operators. On his return he prepared a training programme for 105 truck drivers and in the period between July and November, he and other instructors trained 77 men.

He was later promoted to training supervisor for pit maintenance and was involved in the preparation and completion of a training programme for repairmen. Promotion to operator training officer followed in August 1971 which made him responsible for planning and development for the training of all mobile equipment operators within the BCP complex. This covered 38 items of all mobile equipment with an estimated output for 1972 of over 1,000 trainees.

Speaking of the time when he first arrived, he says: "I was staying Camp 4 in a room with holes in the

floor and a door off its hinge. Conditions were so rough, I didn't unpack for nearly a month".

As time passed, Joe accepted the challenge that faced the training centre team. They had to start from scratch to complete a training programme that has no parallel in the mining industry. He said that to have been part of the training team and to have helped bring this mine into production with effective localisation of all mobile equipment operators is an experience that he will never forget and one that he will always talk of with pride.

His immediate future now lies in Sydney where he is to form a business marketing industrial training programmes for mobile equipment operators in construction and earthmoving industries.

- JOHN WAKARIA.

SEV. ON A TRIP

Industrial relations officer, Severinus Ampaoi, leaves Panguna on May 10 to do a three months course in industrial relations at the Australian School of Pacific Administration, Mosman, Sydney.

He and another 15 other Papua New Guineans selected from other industries and the Labour Department itself, are sponsored by the Labour Department. This is the first time a course such as this will be undertaken by Papua New Guineans, the aim being to broaden their knowledge of industrial matters and so prepare them for the time when top positions in industries will be localised.

During the last 18 months Severinus has been working

BIG MAN

Francis Paubakei (right) is a big man in his village of Malabita near Buin. That's why he wears the traditional smoothed shell through his nose. As well as being a big man, he is vice-president of the Buin Local Government Council; his daughter, Severina, is a welfare assistant with the council.

He carved his nosepiece himself from a shell he found on the beach. His shell arm ornaments and shell money round his neck come from the Solomons.



in BCP's industrial relations section and because he was already doing the job it was only natural that he be selected to attend the course. As he has had no training, save what he's gained from actually working at the job of industrial relations officer, the course will aid him greatly.

It will be his second trip to Australia. His first was in 1965, the year he was president of the Kieta Local Government Council. He led a group of Bougainvilleans on a month-long tour of Australia, visiting mine operations in Queensland, Northern Territory, Sydney and Canberra.

BOUGAINVILLE MINING REPORTS

The following is a text of the quarterly report released 28th April, 1972 by Bougainville Mining Limited:

"The Directors of Bougainville Mining Limited announce the following (unaudited) information relating to the Company and its 80% owned subsidiary, Bougainville Copper Pty. Limited, for the three months ended 31st March, 1972.

Operations

Bougainville Copper Pty. Limited was primarily involved during this period in completing construction of its facilities on Bougainville Island and in test running various components of these facilities in preparation for the commencement of commercial production in April.

During this pre-commissioning test period 3,134,602 metric tons of oxide and secondary ore were processed through the concentrator and 43,023 dry metric tons of concentrate, averaging approximately 29.1% copper, were recovered. One shipment of approximately 20,250 wet metric tons of concentrate was despatched to Europe in this period. Since the end of the quarter, commercial shipments have been made to Europe and Japan.

Total expenditure incurred on the project up to 31st March, 1972 amounted to \$388 million. Secured loan borrowings at that date totalled \$207 million. No expenditure was incurred on prospecting, exploring or the search for minerals during the three months ended 31st March, 1972.

With the exception of some work which remains outstanding in respect of housing at Arawa and recreational and community facilities, development work on the Bougainville project has, for all practical purposes, been completed.

Marketing

In the Chairman's supplementary statement at the Company's Annual General Meeting, shareholders were advised that negotiations were at an advanced stage for the sale of between 7,000 and 10,000 tons of copper contained in concentrate annually for a period of four years.

A contract has now been signed with Philipp Brothers, a division of Engelhard Minerals and Chemicals

Corporation (U.S.A.) for annual deliveries of between 24,000 and 36,000 wet metric tons of concentrate (approximately 6,700 to 10,000 tons of contained copper) for a period of four years commencing 1st January, 1973. This sale is subject to a trial shipment during 1972 of up to 5,000 wet metric tons of concentrate proving to be acceptable and to the approval of the Reserve Bank of Australia being obtained".

ARAWA TARGET CLUB

Arawa Clay Target Club had its first shoot on April 2 on the beach of the Arawa Country Club. Some 23 shooters took part under the instruction of the secretary of Rabaul Gun Club, Les Birkefeld. Les kindly supplied many of the guns and the clay targets; he said the Arawa club had a great potential.

PHOTOGRAPHIC ANNOUNCEMENT

BCP photographic section would like to make it known they they cannot undertake any private work.

FOUND

A quantity of silver cutlery has been found hidden in the port warehouse. This would appear to have been removed from a case of personal effects. Anybody missing such cutlery (a souvenir teaspoon is in the set) should contact Nigel Cook on 4-149 or visit the warehouse.

BABY BOY

A baby boy, 9 lbs, for Anne and Boniface Boropi, security guard, at Panguna Hospital on April 5.

Films

PANGUNA

Sun. & Tues. May 14 & 16	Ipcress File	Michael Caine
Thur. & Fri. May 18 & 19	The Reward	Max Von Sydow
Sat. & Mon. May 20 & 22	Marriage of a Young Stockbroker	Richard Benjamin
Sun. & Tues. May 21 & 23	Vanishing Point	Barry Newman
Thurs. & Fri. May 25 & 26	T.V. Ringside Plus other sport shorts.	1 8 rounder 2 10 rounders
Sat. & Mon. May 27 & 29	The Navy Lark	Cecil Parker Ronald Shiner

ARAWA

Friday May 19	On a Clear Day	Barbra Streisand
Sunday May 21	Charge of the Light	Trevor Howard Vanessa Redgrave
Wednesday May 24	How to Make a French Dish	Ann Girardot
Friday May 26	Ipcress File	Michael Caine
Sunday May 28	Anne of the 1000 Days	Richard Burton
Wednesday May 31	The Reward	Max Von Sydow



Arawa housing

Piruke visits the place of the dead

By Michael Luakenu,
safety section,
from Buin

Once there lived a chief named Posena who had 10 faithful labourers. It was customary that the chief ate only the best type of food at each meal, especially fresh meat. Unfortunately something happened during this particular week. There was a shortage of fresh meat and Posena lost a few pounds.

He mused hard for a while and then had inspiration from above that the food which he had been eating was deficient in vitamins. Therefore he needed a change in diet in order to regain the few pounds that he had lost. He also realised that for him fresh meat was indispensable.

Early next morning he called his men to an assembly and he ordered them to go to the bush and each find an opossum. If one of them could not find any, the consequence would be death.

So they set out hunting for almost the whole day. All had one opossum save Piruke who was an orphan. The rest of his co-hunters attempted to find one for him but there was no success. But Piruke assured them that he could still be saved from being killed.

It was late in the afternoon that they decided to go down to a nearby creek to clean all they had. While they were still down the creek Piruke found a white cockatoo.

His mates saw the cockatoo and asked him: "Are you certain that it is going to save your life? It is too small and too young. You are still a dead man". Piruke replied: "I know that I am a dead man but don't make me so miserable. You are nuts".

When the hunters arrived home they stood in a line with their opossums. Piruke stood last in the line with his white cockatoo. Posena came following the line and Piruke started shivering with fear. But when Posena finished, he took the white cockatoo and left the opossums to the hunters.

After a few weeks the cockatoo flew away and Posena told his men to search for it. They refused and said: "Tell Piruke to search for it. He was the one who brought it to you".

Piruke obeyed and he found the cockatoo sitting at the entrance of a deep pit in the cemetery. As he tried to reach out to grab it, it jumped into the pit. Once again Posena told his men that one of them had to go down into the pit to take it back. But the others insisted that Piruke had to do so.

Piruke did not hesitate. As they were lowering him into the pit with a long rope the cockatoo descended further and further until it reached a strange place beneath the earth. This was the place for the dead.

Piruke was fascinated by the beauty of the place. It was surrounded by so many different coloured flowers and there was no garbage to be seen around the place.

He was about to drop unconscious when a chief confronted him. The chief ordered his men to pour water on him. Piruke regained consciousness and the chief asked him why he had come to this place. He replied that he had been following a cockatoo which led him to this place.

In the evening the chief rang the bell for the people to return from their gardens. As they were returning home Piruke recognised his parents and grandparents. The chief knowing that Piruke was eager to talk with them gave him permission. The parents became very angry because Piruke should have experienced death before he met them.

However the chief gave Piruke the cockatoo and sent him back to Posena. Posena asked him to narrate what he had seen beneath the earth.

As soon as Piruke finished telling about his adventure Posena became very jealous and killed Piruke because he thought that later on Piruke would be a rich man and that Piruke had seen something that Posena had not seen in life.

So Piruke saw his parents and grandparents again very soon.

NAVITU BUS SERVICE

Monday to Friday:

Northbound

Toniva Depart	8.00 a.m.	10.00 a.m.	12 noon	3.00 p.m.	5.00 p.m.
Kieta	8.15 a.m.	10.15 a.m.	12.15 p.m.	3.15 p.m.	5.15 p.m.
Kobuan	8.20 a.m.	10.20 a.m.	12.20 p.m.	3.20 p.m.	5.20 p.m.
Camp 9	8.30 a.m.	10.30 a.m.	12.30 p.m.	3.30 p.m.	5.30 p.m.
Arawa Arrive	8.35 a.m.	10.35 a.m.	12.35 p.m.	3.35 p.m.	5.35 p.m.

Southbound

Arawa Depart	9.00 a.m.	11.00 a.m.	1.00 p.m.	4.00 p.m.
Camp 9	9.05 a.m.	11.05 a.m.	1.05 p.m.	4.05 p.m.
Kobuan	9.25 a.m.	11.25 a.m.	1.25 p.m.	4.25 p.m.
Kieta	9.30 a.m.	11.30 a.m.	1.30 p.m.	4.30 p.m.
Toniva Arrive	9.45 a.m.	11.45 a.m.	1.45 p.m.	4.45 p.m.

Saturday: Additional services operate northbound departing Toniva at 9.00 am and 11.00 am and southbound departing Arawa 8.00 am, 10.00 am, and 12 noon.

Sunday: Additional services operate northbound departing Toniva at 9.00 am, 11.00 am, 1.00 pm, 4.00 pm and southbound departing Arawa 8.00 am, 10.00 am, 12.00 noon, 3.00 pm and 5.00 pm. Terminals: Toniva - Bougainville Transport Office; Kieta Hotel Kieta; Arawa - BCP Supermarket corner. Fares: Toniva to Kieta, 20 cents, Toniva to Arawa, 60 cents, Kieta to Kobuan, 10 cents, Kieta to Arawa, 40 cents.

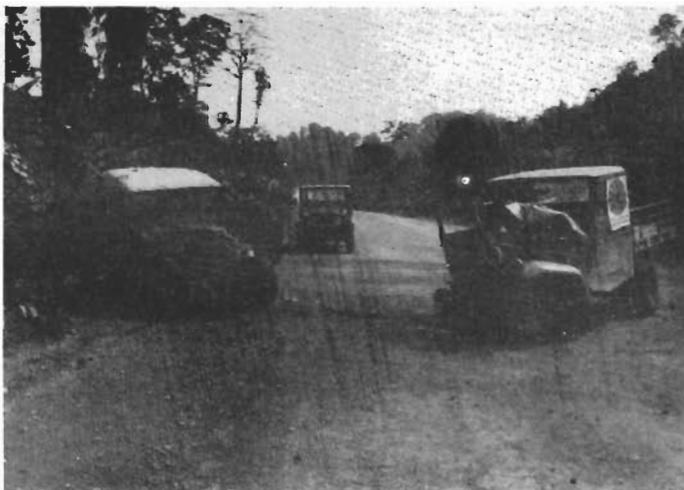
Road safety – and you

Have you thought about road safety lately – yes you have – probably you have heard of the large number of people who have been injured recently in road accidents on the Port-Mine Access Road. One of those injured or more may have been your friend as in just over a month recently no less than 42 persons were injured on the roadway and one unfortunately fatally injured.

We all think when we read of road accidents or hear of them that this type of thing happens to other people not to ourselves but we know this is not right because accidents happen to people and we are people.

The number of accidents which have occurred recently have involved men, women and children and in addition to the fatality a number of people have been very seriously injured, sufficiently so to give them an injury which either takes months for them to recover from or may incapacitate them for life.

This article is written by the Safety Section in co-operation with the Security and Ambulance to bring to your notice the necessity in the interest of humanity to drive carefully. There are other things which you as a driver or a passenger can do to minimise accidents. Look at the photo here. Probably you have seen these types of accidents on the roadway. The Ambulance, Safety and Security officers see this all too frequently. How can we stop this, how can you avoid it happening to you, your family or your friends – very simply – obey the fundamental rules of the road and drive carefully. Remember, it can and will happen to you if you don't drive safely.



You as a driver have obligations to your family, your passengers, your friends and yourself. Do make sure always, that the following safety features of your vehicle are perfect: 1. Your brakes, 2. your steering, 3. your lights, 4. your indicator lights. Make sure that every safety feature on which your life may depend on your vehicle is in perfect working order. If it is not, don't drive it. Don't just lay this article to one side, now keep on reading, it may save your life. In one journey on the Port-Mine Access Road you can encounter conditions so varied that you must adapt your driving to them. Think about them. Have you travelled over the Port-Mine Access Road where you have encountered dust, rain, fog, traffic, pedestrians. All those things are hazards and you must treat every one of them with the utmost care. Do you switch on your headlights when you encounter fog or mist? Do you reduce your speed to allow for corrugations on the

road? Do you drive slowly in rain and dust? If you don't the next accident may involve you. Do you allow your passengers to ride in the back of your vehicle without being properly seated? Do you as a passenger allow yourself to be carried in vehicles where you cannot sit down properly? If you do the next accident could involve you. Do you comply and obey the road signs on the road? Do you drive carefully having regard for the conditions you encounter? If you don't the next accident may be yours. Do you make allowances for the other driver? Are you ready for any mistake that he may make? If you don't the next accident may be yours. When you allow somebody to drive your vehicle, do you know whether he is a competent driver? Do you know whether or not he holds a current Papua and New Guinea licence to drive your vehicle? If you don't the next accident could be yours. Do you drive or allow yourself to be driven by anyone who has been drinking to excess? If you do the next accident could be yours.

During the last month four times as many people have been injured on the road than have been injured and lost time from work. The answer to the road toll is in your hands – are you prepared to help and in helping, help yourself.

What you can do to help at the scene of an accident: 1. park your vehicle so it is not a road hazard. 2. to stop the next vehicle – has he a radio – if he has extra passengers can these people help to warn approaching traffic that an accident has happened. 3. if a car with a radio is available, radio security control, inform them a. your name, b. where the accident has happened, c. how many people are injured, d. their injuries if they are evident; if there are additional hazards from electricity, gas, inflammable liquids or chemicals. If there is no radio despatch a driver or passer-by to the nearest point where he can obtain help or contact the security control. Remember, security control is the point where all the assistance you require can be obtained. Their telephone number is Panguna 5-123, or Loloho 4-123 or if you are using a radio just clearly ask for security control. e. remember if the patient is obviously seriously injured do not move him under any circumstances unless his removal is necessary to avoid further injury. Wait for the ambulance. f. If the patient is bleeding badly use a clean piece of rag, clothing will do as a pad over the wound to stop the bleeding and keep it there until the ambulance arrives. Bring this article to the notice of all your family and friends. It may save a life.

FIRST AID

So much interest has been shown in the first aid training programme organised by the company, that a public meeting will be held in the medical centre at Bl8 Panguna on June 7 at 7.30 p.m. to discuss the formation of voluntary classes in first aid, and the promotion of first aid services at sporting events, and in the safety at home, first aid wise.

In first aid, remember, age is no barrier, therefore spend some of your leisure hours learning a lesson that may save the life of you or of your family, or even that of your friend. If you are unable to attend the public meeting, but would still like to take part in the classes, you can contact the first aid officer at the medical centre phone 243 Panguna.

HYDROLOGY

As we saw in the last issue of Concentrates, water is vital in the development of the Bougainville Copper project. But before water can be put to good use for such a project it is necessary to know something about its characteristics. This, in brief, is the task of the Hydrology section.

Let's start by defining hydrology. It is the science of the distribution and behavior of the waters of the earth, including the oceans and the clouds. All of these waters are closely related and this relationship is known as the hydrologic cycle.

In simple terms the cycle involves the lifting of water into the atmosphere, its falling again as rain, and its return to the sea via rivers and streams. Evaporation of water by the energy of the sun releases water into the atmosphere from the surface of the sea, lakes, streams, small puddles, damp soil and even from the leaves on the trees. This water in the air is measured by a well known scale - humidity.

The temperature of moist air decreases by an average of 2.7°F for every 1,000 ft above sea level. This rate of cooling with altitude is known as the adiabatic lapse rate and is due to the reduction in air pressure at higher altitudes. Because the air is cooler at higher levels and because cool air cannot hold as much evaporated water as warmer air, there is an altitude where the temperature is too low to hold water vapour. Above this altitude, called "cloud base", water condenses into tiny droplets to form clouds. It is because this temperature occurs at the same altitude over wide areas that clouds have flat bases.

When the tiny cloud droplets begin to coalesce they become too heavy to float in the air currents, and thus fall as rain.

The first rain drops merely wet the soil and the bush and do not flow. When water begins to flow it first fills the depressions on the ground and flows down the stems and trunks of trees and bushes. This tends to hold back the flow of water in the early part of a storm, and is known as "retention". Some water seeps into the ground - "infiltration". When rainwater flows over the ground it is known as "overland flow" and when it at last reaches a defined channel it is known as "streamflow".

Streamflow is less restricted and velocities in natural streams on Bougainville are commonly between 2 and 15 feet per second. These velocities are usually measured with a current meter which Joseph Kebori and Raphael Nahuma use.

As the storm continues and as more and more areas in the stream catchment contribute water, the quantity of water in the stream channel builds up, or "concentrates" to form a flood wave which passes down the river. This flood wave has been known to rise very rapidly - as fast as 2 ft in five minutes at the Jaba pump station. When the wave passes, the height of the water recedes gradually at a rate which is characteristic of the catchment. This is known as "streamflow recession".

As we know, streams continue to flow after rain has ceased. Where does this water come from? It was this mystery that baffled early civilizations and probably set back industrialised civilization by 3,000 years. It is now general knowledge that the streams are fed from groundwater springs which in turn are replenished by the infiltration of rainwater into the ground. Groundwater in varying quantity and quality may be found nearly everywhere, and it is interesting to note

that over 95% of the earth's useable fresh water is in the form of groundwater.

To complete the hydrologic cycle the rivers and streams flow to the sea with perhaps some temporary retention in lakes and swamps. And there we have the simple story of the water cycle powered by the energy of the sun and the force of gravity.

Although the concept of the hydrological cycle is fairly common knowledge today, it was only three centuries ago that a Frenchman, Pierre Perrault, proved that rainfall was adequate to account for all streamflow. The science of hydrology is especially concerned with the terrestrial phase of the cycle - that is, from the time the water is precipitated upon the land until it is discharged into the sea or returned to the atmosphere.

Where does all this fit in with our copper mine? The mine requires large guaranteed supplies of water and if we are to keep up a high rate of production it is necessary to measure the more important parts of the hydrologic cycle in order to understand how water behaves on Bougainville.

Rainfall and streamflow are measured by automatic recorders and information has been collected for a number of years. What is the value of past record when we are really interested in the future behavior of water? The kind of questions we are asked are - 'what is the largest flood expected in the next five years?' or 'what is the smallest quantity of water expected at the pump station in the next 30 years?' or 'how many times will floods exceed a certain amount in any one year?'

They are answered by using past records to estimate the probability of the occurrence of floods and periods of low stream flow. These are statistical predictions and we do not attempt to make short term forecasts. The application of statistical probability theory to the design of river engineering works or water supplies enables engineers to estimate the degree of risk of the loss or failure of what they are designing.

Thus the daily or monthly rainfall which is published in Concentrates from time to time, is, in itself, of little interest to the hydrology section. What is important are the predictions derived from long periods of such records.

What else does the hydrology section do? The disposal of mine tailings is accomplished by the action of running water. In order to predict what will happen to the tailings it is necessary to study how the streamflow carries and deposits the sediment. This study is made by continuously measuring the discharge of water and sediment past the Sedimentological research station at Mokopolo which is located about halfway between the Jaba pump station and the sea.

These measurements are made by continuously recording the water level at the station, and measuring flow and sediment concentration. In the photograph on this page, hydrographer Fred Lane is fitting a water sample bottle into the suspended sediment sampler; 83 measurements were made in April and several thousand calculations are made and checked monthly to produce a short list of daily sediment tonnage figures.

The survey section is assisting us by measuring the levels of deposited sediment in the Jaba and Kawerong Rivers at 37 tailings monitor sections. Samples of the sediment are taken by hydrology and are analysed by the concentrator department. The purpose of this work is to report what is happening in the tailings disposal area and to collect data so that predictions of future behavior of the sediment can be made.

In addition to the sediment station at Mokopolo, the stream gauging stations at Panguna and the Jaba pump station play an important part in providing data in the Jaba valley. The most useful data is derived from a

combination of stream gauging stations and raingauges (pluviometers). However to date we have been unsuccessful in building them where we need them. It is hoped that the local people in the Jaba valley will help us to understand the behavior of the river by allowing us to build our pluviometer stations. We will then be able to do a better job of predicting what will happen to the tailings in the valley.

In the Arawa area, hydrology operates two gauging stations which, together with all the other stations on Bougainville, provide general hydrological information from which predictions of the general behavior of our rivers can be made. Another task is the operation of weather stations at Mokopolo, Panguna, and Loloho. These provide data about our climate but are not equipped to give short term weather predictions. At Arawa one house has been specially fitted with an experimental air-conditioning unit which was developed by CSIRO. Temperature and humidity are measured inside the house and compared to that outside. The results are also compared to the temperature and humidity in a standard B6 house.

Hydrology operated several oceanographic stations in the old days but now maintains only the tide gauge at Loloho. Data is sent away for the processing of tide predictions which are published for the Department of the Navy (Australia). The tide recorder also records water temperature which ranges between 84 and 90°F and as such is among the highest sea

water temperatures measured in the world.

The tide recorder is also capable of measuring tsunami which are commonly but incorrectly called tidal waves. These waves are generated by under-sea earthquakes and are well known for the terrible destruction they cause in other parts of the world.

Since 1969 we have recorded three such waves at Loloho. One originated from an earthquake near Japan, the other two from near Rabaul in July of last year. The three tsunami had a maximum height of about 15 feet and waves surged with a period of about 8 minutes. These waves would be barely noticeable at Loloho where the water is deep. However, on the sand flats at Kobuan, Arawa and Tunuru they would have been noticed by a marked ebbing and flowing of the sea at 7 to 10 minute intervals.

The scope of the hydrology section is both broad and interesting. We are hoping to run a programme, with the assistance of the mine training section, to train hydrographers in this interesting work. To date the response of recruits has been slow and I feel this is due to the fact that little is known of the work of our section. As a prerequisite for the course, potential students should have passed mathematics, physics and English to fourth form standard. Any starters?

- JOHN MILNE



The Jaba River, swollen by thousands of tons of tailings, snakes towards the sea. Above, Fred Lane handles a suspended sediment sample.



Sports news

We had a small sample of FOOTBALL with an international flavour at the end of April. HMS Hydra, a Royal Navy survey ship visited Kieta and the challenge was thrown out. A soccer team mainly from Kobuan met a team from the ship and won 2-1. It was quite a good game and the scores actually flatter the opposition as a great number of easy shots for goal were missed by our lads.

The ship's rugby team turned out against a representative side from Panguna and were run off their feet. Our lads were much fitter but when one is surveying there isn't any time for practice and as the ship is surveying Bougainville channel with no sporting grounds in the area it was great to see the enthusiasm and keenness shown by the visitors.

After rugby, the RSL invited both teams to an after the game drink which was thoroughly appreciated. It is hoped to have another visit by Hydra in the near future as they are in the area for a few more weeks, when further games will be organised.

The Australian Rules competition commenced on April 29 and good keenly contested games resulted. I am glad to see that 16 a side teams are being played. This helped to open play up, but it is noticeable that when the pressure is on in the last quarter players still wander from their positions and congestion occurs. It may be a good idea to bring in the 50 yard square in the centre as this has really opened up play from the centre bounce in Victorian Association football. Perhaps the committee would give thoughts to this as it will help the umpires in controlling the game.

It is also very gratifying to see the number of spectators who turn out to witness the games.

Results:- Mining 9.10 d. Clerks 7.8
Concentrator(1) 11.10 d. Administration 6.12
Apprentices d. Concentrator (2)

The RUGBY competition starts May 7. All games will be played at the new rugby ground at Toniva. First game commences at 10 a.m. Buses will leave Camp 1 Mess at 8 a.m. going via Kawerong Haus, Karoona Haus.

A Bougainville Rugby League Association has been formed and an election for office bearers was held, resulting as follows: President, Herb Steiner (Barclays), Secretary, Simon Bonga (BCP), Treasurer, Rigo Lewa (BCP). It is intended to affiliate with the PNG R.L. Association.

This looks like a great start for a season of rugby league football

SOCCER will commence in the very near future. There is a slight hold up organising an administrative committee but this should be accomplished in the next few days.

A good BOXING night was held at Camp 6 on April 28 with the Panguna boys dominating the bouts. Jack Luff and a member of a Japanese ship turned on a very good fight. Unfortunately Paul Gallo couldn't find an opponent. Good to see the old gang - Vic Caruana and Peter Woodward - again running things, ably assisted by our trainer Terry Barr who also helped out as referee. I have had a letter from Honiara that is encouraging as the writer, a friend of our Robby Roberts, has asked about the possibilities of arranging a fight night between fighters from here and Honiara. I have replied for more information on this and further details will be promulgated later.

On May 7 the HOCKEY competition commences officially although for the past month practice and trial games

have been played. Teams from Panguna (3) and Kieta or Rigu High School (3) will meet each week at the hockey field at Rigu. New players are always welcome and if enough are interested, another one or two teams will be entered in the comp.

In two or three weeks time selectors will name a squad to represent B.H.A. at the PNG hockey championships in Port Moresby on the Queen's birthday weekend in June.

A charter aircraft has been arranged and at present the association is attempting to raise enough money to help finance the trip. Anyone interested in hockey should come to the field in Kieta at Rigu High School on Sunday afternoon at 1.30 p.m. or contact Graham Hurrell on 322, "Lofty" Jackman at the Commonwealth Bank, Panguna or Steve Hanson at the Commonwealth Bank, Arawa.

With the possibility of charter aircraft being used during Queen's birthday weekend, feelers have been put out to see if any Port Moresby R.L. Australian Rules or basketball teams would be interested in coming over here backloading the charter aircraft which in turn will cut fares. More news of this later.

- RON HERRICK

100TH HASH

The 100th Panguna Hash House Harriers run took place recently. The trail was laid by founding members Peter Griswold, who has now moved down to Arawa, and Joe Griffiths, who has now left. The run was followed up by a Hash Thrash declared to be the best ever. Joe and Peter would like to thank PHHH for its wonderful staying power. By the way, they did cheat by laying the trail from a vehicle!



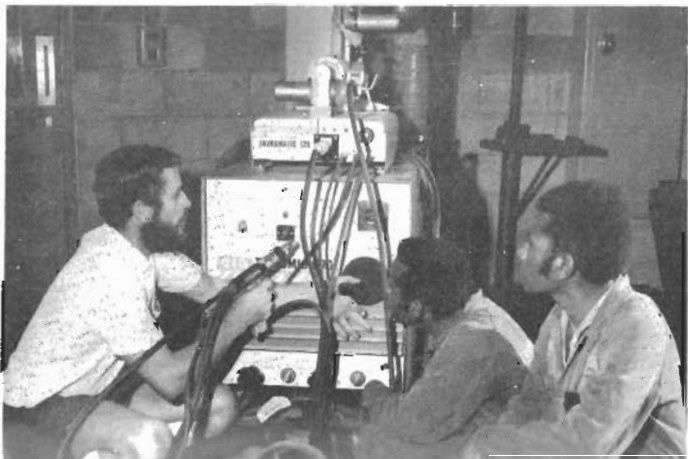
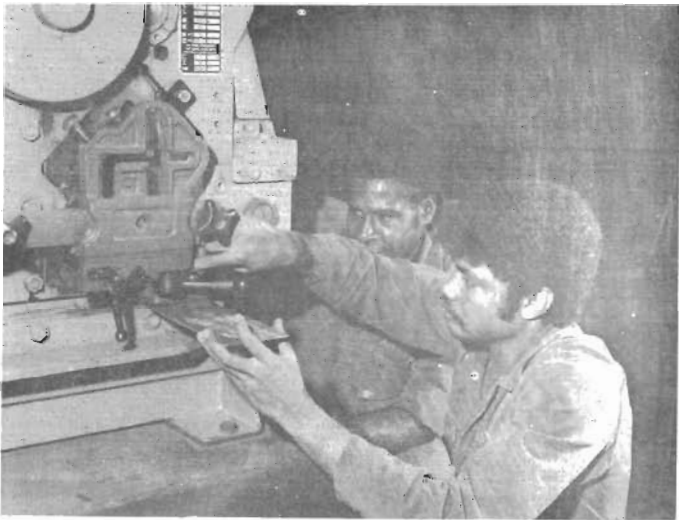
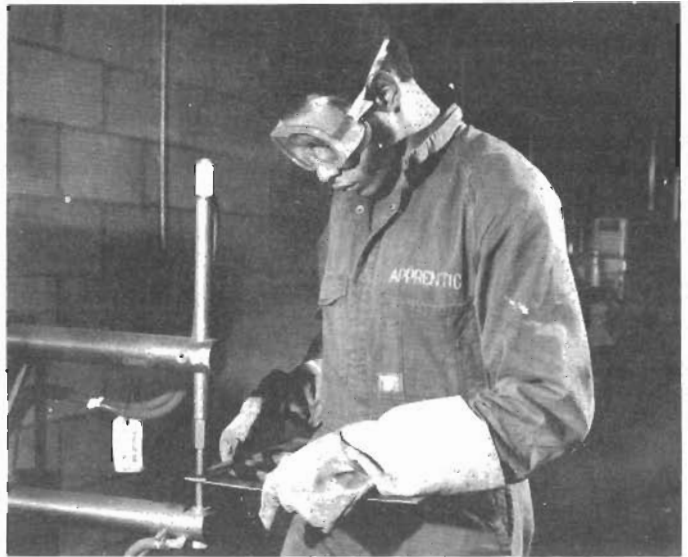
Ron Herrick says Jack Luff had a good fight last week. Here's Ron holding Jack aloft at the finals of the Bougainville Boxing Championships last year.

Training centre (part four)

The training centre metal fabrication and welding shop caters for a group of 18 apprentices. There are also nine groups of apprentices to other trades given instruction on welding techniques as part of their training.

The repair and maintenance of equipment used on the mine requires the understanding of modern techniques of fabrication in many different materials. While steel is the most common, other metals such as stainless steel, brass, copper and aluminium are also used and training in welding and fabrication is most important.

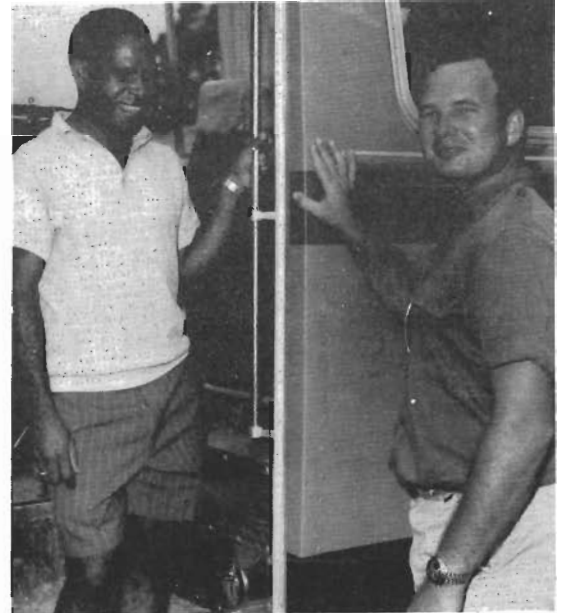
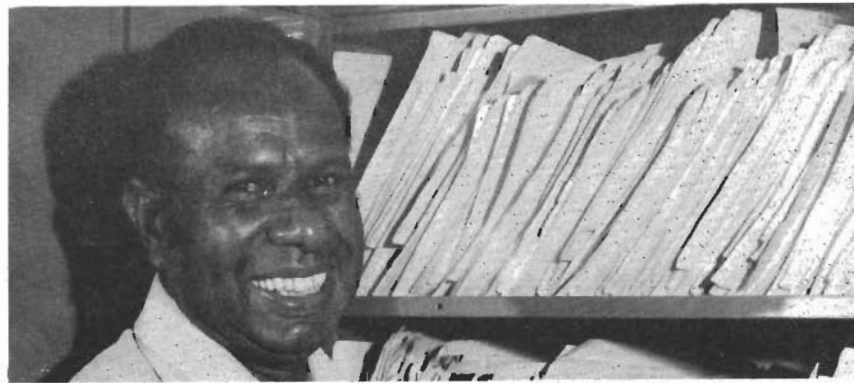
The machine shown below is a mechanical punch and spear used for accurately cutting steel metal sections. Alex Mesualisy is seen adjusting the stop whilst Ivo Sanduma aligns the cutting edge. Pipe work is important. Bottom Abel Graiba is adjusting the cutting height on a pipe profile cutting machine. Top, Joseph Sirinai attaches a bracket to the body of a machine. Oxy-acetylene welding is widely used throughout the mine and maintenance jobs often require such skills. An effective means of joining steel is by resistance welding. Assembling a metal frame on a spot/welding machine (right) is Gideon Lese. Keai Lare (right centre) is seen arc welding a locating stop on a jib crane housing. Many maintenance operations are carried out "on location" and the ability to weld in all positions is essential. Bottom right, practical instruction in the use of specialised equipment is given to all apprentices who attend block courses. Here the adjustments on an automatic welding machine are explained to Stephen Fiware and Alex Lolo by Ron Bibby, metal fabrication/welding instructor.

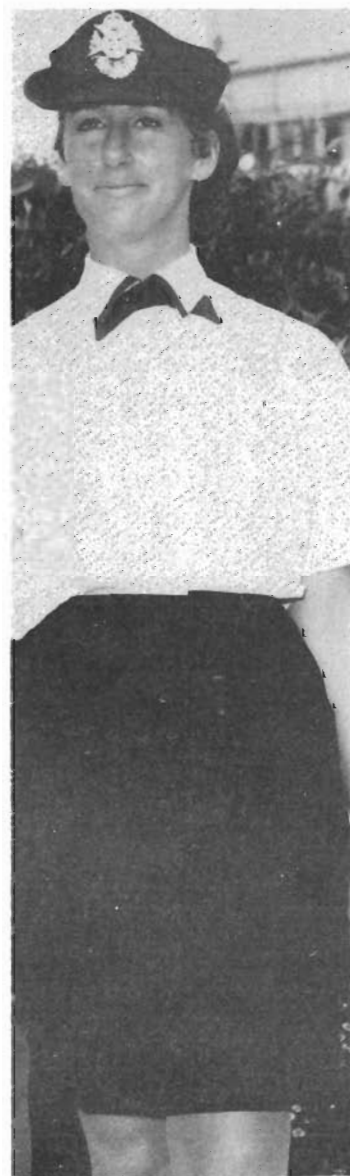


people



Left, Kasi Buabua, employment record clerk; below, Soi Forova, record clerk grade I; below him, Simeon Ake, UN ambassador for the Ivory Coast, Africa, talks to Simon Feely, visitors liaison officer and a 105 truck driver; bottom, Phileomon Tulo (Buka visitor), Siera Munaga, maintenance scheduling supervisor, Simon Bonga, assistant facilities officer; and Herman Haliho from Buka. Below, directly, Eisa Cason, bus driver, talks to Borry Ega, trainee bus driver; bottom, Ray Jeffrey, employment manager.





Top left, Toreia Josiah, lab. apprentice; top, Simon Kamai, engineering clerk; above, Joseph Lue, former PNG Minister of Transport and regional member for Bougainville, now accommodation officer; right, Marlene Coff, former secretary, now Melbourne police woman.

Anzac Day was well attended in Kieta. About 1,000 attended a march past by the boys Rigu High School (see middle photo) and the laying of wreaths at the war memorial.

Below, from left, Ken McKenzie, manager, community relations; Father O'Sullivan from Manetai Mission, Rich Hearne, ABC, and Wally Clark, manager of Toborei Plantation. Bottom picture, Rick Hearne addresses ex-servicemen.



Arawa news

About \$1,100 in personal tax has been collected by the Arawa Municipal Commission at the rate of \$12 for each adult male who has been resident in the town for more than six months. By way of outright gift, the council has returned \$1,000 through the Arawa Civic Association Fermentary Building Project. Anyone who refuses to pay the tax can be gaoled for six months and fined \$200.

Quite a number of Arawa residents have had their dogs registered since the council passed a dog registration rule. Arrangements are now in hand for the construction of a dog pound and the employment of a dog catcher to round up stray and unregistered dogs. Dog taps are available at the commission office.

Arawa is to hold municipal elections at the end of June for the position of Commissioner to represent the townspeople on the AMC. He or she will hold the position until the Commission is disbanded and the town council elections held. Enrolment in the elections is compulsory but voting is not; persons entitled to enroll and who do not, can be fined \$20 and a further dollar a day until enrolment.

The firm of Pikonava Transport has been awarded a contract for the collection of garbage in Arawa. A charge of \$1.24 a month for this service will be levied on householders and collections will take place twice a week at each house, starting 6 a.m. Schedule is as follows: Monday and Thursday - sections 16, 15, 14, 13, 12, 11, 10 and 9, in that order; Tuesday and Friday - sections 18, 17, 19, 22, 6, 7, 8.

A NEW MAGAZINE

A new magazine on the Panguna/Arawa scene. The training department issued the first edition of "Training Telegraph" in April. A roneoed monthly news sheet it carries plenty of news and chatty information. It also features a crossword puzzle and a message that applies to the readers of this magazine too: "Don't hesitate to air your views. To be a democracy a country has to have people who will speak up. If you disagree, then say so, but do it democratically through this magazine. It takes more than a punch on the nose to convince a man he's wrong".

Running the magazine, with members of her English class, is training department teacher Lynne Bowman. Here's some training news from the Telegraph:

LOCALISATION AT BCP.

The management of BCP, in negotiation with the Administration of PNG, has set a determined goal for its localisation programme. Effective localisation should be in evidence by 1980. At the present time, 70% of the BCP workforce is made up of indigenous workers. This should increase to approximately 80% by 1975.

We can well understand that certain areas in the localisation of the operations will be quite difficult to do in a short time. For example, certain highly technical and highly responsible executive positions cannot be taken over just because a trainee has completed a schooling and training programme. It will be absolutely essential that these positions be filled by staff with a good deal of experience and with the ability to make high level decisions.

In an effort to help develop the leadership ability of the indigenous workforce, an ongoing offering of courses in the area of leadership development and basic

supervisory development will be carried on each month. Since August 1971, 78 indigenous staff have participated in 4-5 day leadership development courses. Of this number, half were scholarship students here on vacation employment.

Several basic supervisory courses were conducted in early 1971, and, starting this March, are being carried on monthly. These are four day courses covering the area of supervisory skills, organisational structure, human relations and on-the-job instruction. Participants involved in these courses thus far have shown keen interest and have co-operated well.

Gradually, these courses will be geared to go into greater depth as the new supervisors have gained some experience in their positions. Certain individuals will perhaps have the opportunity to attend more specialised courses in the area of management at other seminars outside Panguna.

It will be a long hard haul for all of us to meet this goal which we all eagerly look forward to. But with patience, understanding and determination from both the trainee and from those who are training, we will be evidencing a great thing taking place here at BCP. We have seen great things already. There are some mighty big things yet to come - we sincerely hope they include you!

- MAX SCHEIMANN

POWER STATION OPERATORS

Our first meeting in the power house was very strange. We were all strangers except those who had met before. Anyway, after a few days, we began to know each other.

To get familiar with our job, a week was spent down at the Power Station. During that week for those of us who had not seen such things, it was a great surprise. Tom Griggs, who took us around, showed us many parts of the power house. Some names he said, we had not heard of before. For example, the steam generator, turbine, superheaters, draft fan and the furnace. These names made me feel like giving up!

None of us dared to ask questions or touch anything that was vibrating. We were all thinking of being electrified, if something went wrong. After our familiarization with the power house, we were split into two groups - power station one and two.

We are finding our job very interesting after getting used to the strange names and functions of the boiler which we have just finished. Our next task is the turbine and we all hope to start on it very soon with our new teacher.

- SELAN

FOR SALE

Toshiba cassette player. Two external speakers. \$100. R. Clark, 958001.

Akai X355 and five 10" tape reels and adapters. Internal speakers only. \$250 o.n.o. B. Wendt, 127.

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