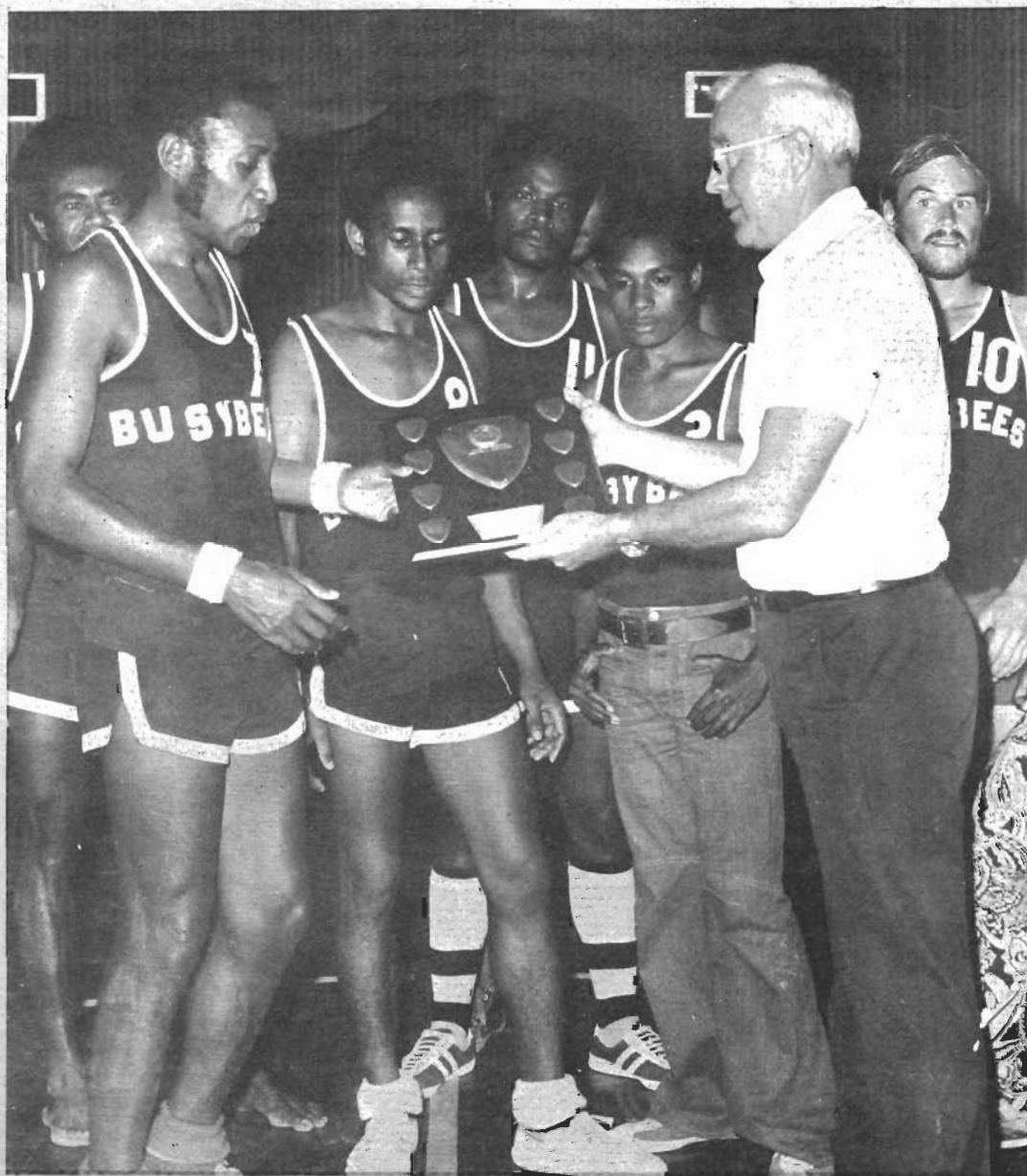


# Bougainville Copper Concentrates

VOLUME THREE / NUMBER TWENTY-THREE NOVEMBER, 1973.

Below, Fr. George Fahey, Panguna Catholic chaplain, presents the men's "A" grade basketball shield to Theo Aisen, captain of Busy Bees team who defeated Black Cats in the men's "A" grade grand final. Looking on are the rest of the Busy Bees team. See story on page 3.



# EDITORIAL

This is the first edition of Concentrates produced by an entirely Papua New Guinean staff. We hope you like it. The production of the magazine depends to a large extent on information supplied to us by BCL employees. If you have any items of interest or you are involved in some company or community event which you think we should cover, do not hesitate to get in touch with us. We would also appreciate receiving original contributions.

Peter Sissiou,	Acting Public Relations Manager	5-291
John Wakaria,	Editor	5-255
John Pippin,	Feature writer	5-255

## sports news

Soccer competition is drawing to a close with the finals coming up soon. This competition has been very successful, thanks again to the competition committees. It is likely that Fire Boys and Sunam will face each other in the "A" grade grand final and Loloho Power and Police in the "B" grade.

The cricket season is well underway and a few surprise results have already been posted.

The result of the first games between Loloho and Eastern Swingers. Loloho won the toss and sent Eastern Swingers to bat. Opening for the swingers Ben Taumona and Ken Rabura brought the score up to 19 when Ben was bowled. Swingers were soon in trouble and although Walabo, Andrew and Rabura tried hard the team was all out for 49 runs.

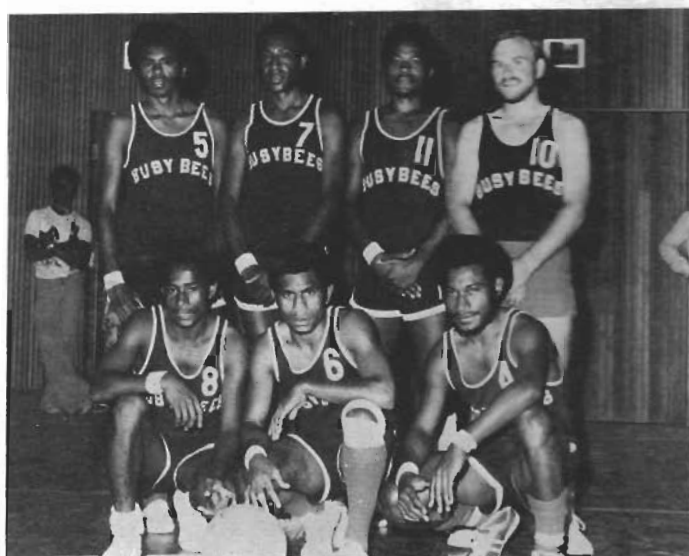
Loloho	7/67	declared	Eastern Swingers	49
N. Fieldon	20	not out	K. Rabura	11
Amos	17		B. Taumona	10
F. Ageda	9		B. Walabo	8
Goasa	5/17		A. Andrew	7
			Walabo	4/10

October 28		Kieta v Hula Colts		
Kieta	7/202	defeated	Hula Colts	157
B. Greathead	94		K. Kaiwa	not out 59
P. Allan	52		K. Jack	26
			H. Afona	21

November 4				
Kieta	227	defeated	Lavara	67
L. Chalk	70		Uda Gamu	16
M. Brown	29			
J. Iseral	29			
P. Allan	27			

The game between the Veterans and Eastern Swingers was cancelled due to the playing ground under construction.

The games cancelled will all be played at later dates.



Just as a reminder to the other teams, Marshall Lagoon team has withdrawn from the competition so the teams playing Lagoon as listed on the draw has to take a bye.

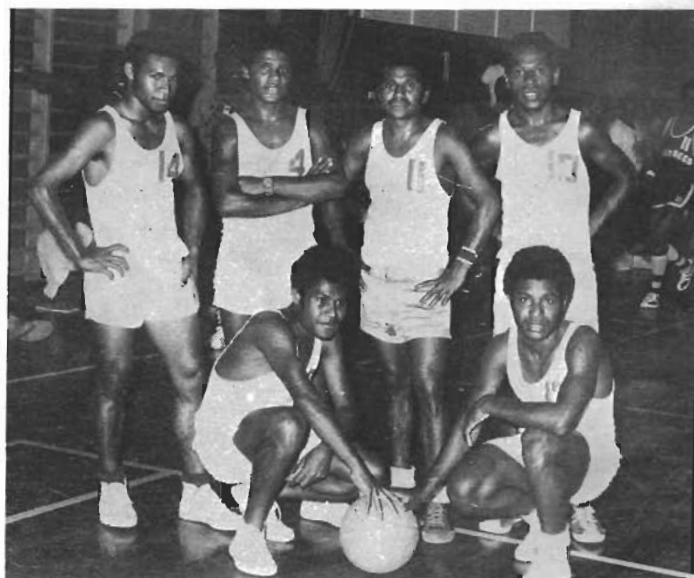
All team captains please note that results of games must be handed in or phoned through to N. Stewart on 5-287.

For information, below is the latest timetable for the use of the squash courts in Panguna.

Monday	- Ladies' Competition	- 1 pm to 2 pm.
Tuesday	- Mens' "A" Res. Comp.	- 7.30 pm to 10 pm. (Courts 1 & 2)
Wednesday	- Mens' "A" Grade Comp.	- 4.30 pm to 10 pm. (Courts 1 & 2)
Thursday	- Mens' "A" Grade Comp.	- 4.30 pm to 10 pm. (Courts 1 & 2)
Friday	- Reserve	7.30 am to 10 pm
Saturday	- Reserve	7.30 am to 10 pm
Sunday	- Reserve	7.30 am to 10 pm.

The current competition is in full swing with many players finding some good early form. In mens' "A" grade the team to beat appears to be the Hotshots but they are assured of some spirited opposition as the competition progresses.

The Panguna Squash Club's social calender got off to a highly successful start with a "Wine and Cheese" evening held at the courts. All members and guests has thoroughly enjoyable time. The next social get



together is planned for December 8, so keep that evening free. I'm assured the evening planned will be a beauty.

At any time if you are at the gymnasium hall, just take a glance at the notice board. If you are interested in gymnastics, please have your name on the list.

Classes will commence once we have enough members.

If any department, such as pit workshop or similar type workshops, want to give their employees something to do during lunch time breaks, I have plenty of dart boards (no darts though), soccer and volley balls so lunch time competitions can take place.

A reminder to all is that any equipment on loan must be signed for prior to taking it from the sports store and it must be returned IMMEDIATELY after use or the following morning at the latest.

Ring me for your requirements on 5-272.

- Danny Palipal -  
Recreation Officer

On October 25 the MEN'S BASKETBALL grand finals for the Winter competition were held in the gym. It was most encouraging to see the good spectator turn out.

Team standings leading up to the finals were as follows:

<u>A Grade</u>		<u>B Grade</u>	
Busy Bees	37	Kalibobo	35
All Stars	27	Black Cats	34
Eagles	26	Busy Bees	28
Black Cats	21	P.D.F.	22
Huon	17		

At this stage Busy Bees, with one defeat for the season, were firm favourites in A grade. The unpredictable All Stars team remained a possible danger.

B grade however, was a different story. Throughout the season the games between Kalibobo and Black Cats were very close contests. To further confuse matters, P.D.F. produced good form to win four of their last five games.

The elimination finals saw Black Cats perform well to win their way into both the A and B grade Grand Finals. Scores for these games were (half time in brackets):

#### A Grade

1st Semi Final

Black Cats 34 (16) d. Eagles 24 (16)

2nd Semi Final

Busy Bees 39 (21) d. All Stars 11 (5)

Preliminary Final

Black Cats 26 (12) d. All Stars 22 (14)

#### B. Grade

1st Semi Final

P.D.F. 38 (10) d. Busy Bees 26 (8)

2nd Semi Final

Black Cats 18 (10) d. Kalibobo 16 (10)

Preliminary Final

Kalibobo 40 (12) d. P.D.F. 16 (6)

Turning now to the grand final night. I would like to thank the Arawa and Panguna women for turning on an entertaining game prior to the men's grand finals.

The B grade grand final saw a crowd pleasing clash between Kalibobo and Black Cats. The one point advantage to Kalibobo at half time proved to be the eventual winning margin in a very tight game.

Scores:

Kalibobo 24 (13) (Vitus W. 13) d. Black Cats 23 (12) (Peter G. 12).

After a tentative first half the A grade grand finalists, Busy Bees and Black Cats, settled down to a high scoring second half. The importance of Busy Bees' 6 point half time lead was shown when little separated the two teams' second half performances.

Scores:

Busy Bees 47 (15) (Simon Nathan 18) d. Black Cats 38 (9) (Robert Philips 12).

At the conclusion of the evening Father Fahey presented the A grade's shield to a jubilant Busy Bees team and then the B grade shield, donated by Ken Delaney to Kalibobo.

The P.A.B.A. looks forward to catering for more teams next year. I would ask all interested people to watch notice boards for information concerning a meeting to arrange the first competition for next year. It is hoped to start this competition around the middle of next January.

- John Payne -

Here are the final round results of the three town TENNIS competition. Panguna Blue surprised the previous undefeated side Arawa, winning by 12 games. Panguna Green defeated Arawa Yellow and Kieta Red beat Kieta Black for a place in the finals. The final table is as follows:

Arawa White	34
Panguna Green	30
Panguna Blue	26
Kieta Red	14
Arawa Yellow	10
Kieta Black	6

The final should be close, with good tennis expected and the top teams being closely matched.



Opposite page, top picture shows the Busy Bees, premiers of the men's "A" grade basketball and bottom shows the Kalibobo team, premiers of the men's "B" grade basketball. Above, the Arawa 1 women's basketball team who, together with a combined Panguna women's team were the curtain-raisers for the men's grand finals.

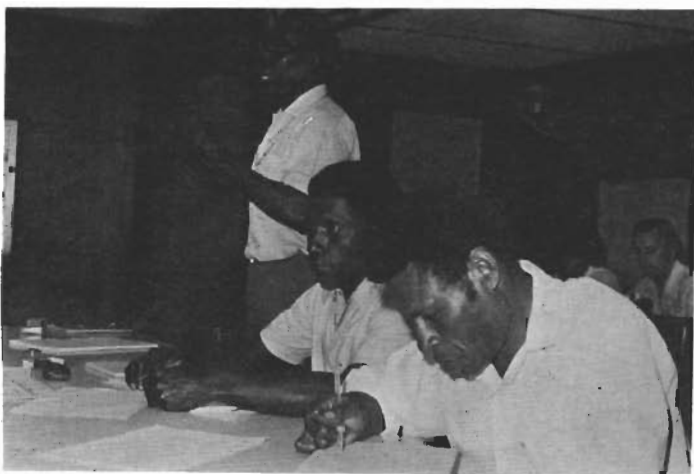
#### COMBINED LOCAL GOVERNMENT COUNCILS CONFERENCE

Delegates from Bougainville's eight local government councils (Buke, Teop/Tinputz, Wakunai, Eivo, Kieta, Buin, Siwai and Bana) plus the Arawa Municipal Commission, meet twice each year to discuss matters of mutual interest and to make recommendations. The Conference met at Buin from 16th to 18th October. However, the Conference decided to adjourn after two days of discussion and reassemble at Panguna on 30th October for a further two days to complete the agenda.

At Panguna the Conference was held in the old Camp 2 Mess Hall and delegates were accommodated in the Village Relations section of Camp 2. Mr. D. C. Vernon hosted a cocktail party in the Guest House annex on Monday, 30th October, to which all delegates and observers were invited.

A B.C.L. staff employee, Henry Moses, was a delegate at the Conference in his capacity as a Kieta Local Government Councillor. The President of the Buin Local Government Council, Mr. Aloysius Noga was in the chair. All four Bougainville members of the House of Assembly attended.

Some 40 agenda items were discussed. However the future form of district government for Bougainville occupied much of the Conference's time.



Above photo shows (standing) Aloysius Noga, President of Buin Local Government Council addressing the conference. Mr. Noga also chaired the conference. In the middle is John Dakeni, President of the Kieta Local Government Council and on his left is Pius Ilawa, Local Government Assistant.

## DEPARTMENT NEWS

### CONCENTRATOR

In the month of October the milling section of the Concentrator was available to treat ore for 97.4% of the time. This figure represents the highest availability since operations commenced and can be compared against the operating plan figure of 95% for the milling section.

In the milling section the pieces of  $\frac{1}{2}$ " sized ore previously processed in the crushing plant are ground with water into a slurry which is further treated in the flotation cells to extract the minerals. The actual daily production achieved by the company is directly dependant upon the throughput and availability of the primary ball mills.

The achievement of 97.4% availability can be attributed to the close co-operation between the operations section and the mechanical and electrical maintenance sub-sections of the Concentrator Department.

In the pre-ceding months process operations and the maintenance planning sections have compiled records of the operational hours of all equipment associated with the milling circuit, and have devised a scheduled shut-down sequence for each mill to permit certain maintenance to be carried out at intervals of 375 hours 750 hours and 1500 hours. These shut-downs are for periods of 2 hours, 6 hours and 8 hours respectively.

It has been possible to implement the present system of scheduled preventative maintenance due to the systematic elimination of high wear areas in the mill area either through component re-design or by the use of better materials. In addition, the supply of spare components and assemblies has improved, now that component useage and ordering lead times have been more accurately established.

As a result of all this the unscheduled shut-down of the grinding mills have been reduced to a minimum.

As one could expect in a plant this size major problems have occurred from time to time which have taxed the resources of the maintenance section. These problems have either been eliminated or are being systematically tackled to find satisfactory solutions.

The current results reflect credit on all personnel involved.

### PORT

Recently, Anewa Bay was visited twice by H.M.A.S. "Samarai", under the command of Lt. J. Parker, R.A.N. "Samarai" took on fuel and water prior to a patrol to investigate reports of Taiwanese trawlers fishing within Papua New Guinea Territorial waters, off the Trobriand Islands. On completion of the patrol "Samarai" again called to take on fuel water and stores for the return voyage to her base at Manus Island.

A lot of interest is centred round the opening of the Coastal Sports and Social Club, which will take place on November 17. Interest engendered by the two previous functions has been maintained, and the finishing touches are being added to the renovations to the Clubhouse, which old-timers will not now recognise as the erstwhile Dillingham office block. Congratulations are due to all those concerned with the alterations, who have given a great deal of voluntary time to get the building ready. The 200 tickets for the opening function were sold very quickly, and the night's revelry promises to be the biggest social occasion ever, in the port.

### ENGINEERING AND TECHNICAL SERVICES

Due to the current crises in the Middle East, B.C.L. supply of fuel is cut back by 12%. This was only to be as expected. The Company's oil supplies come from Iran and Kuwait, via Singapore. The bulk of the oil is used at the Loloho Power Station . . . . .

Barclay Bros. have started work on their new road sealing contract. More roads in Townsite area, squash courts area, and Concentrator will soon be sealed . . .



# certificate presentation

At a dinner in the staff mess Kawerong Haus on November 9, members of Supply Section were presented with certificates of proficiency in supervision and warehousing.

Certificates were presented by the Manager, Engineering and Technical Services Mr. R.B. Hope.

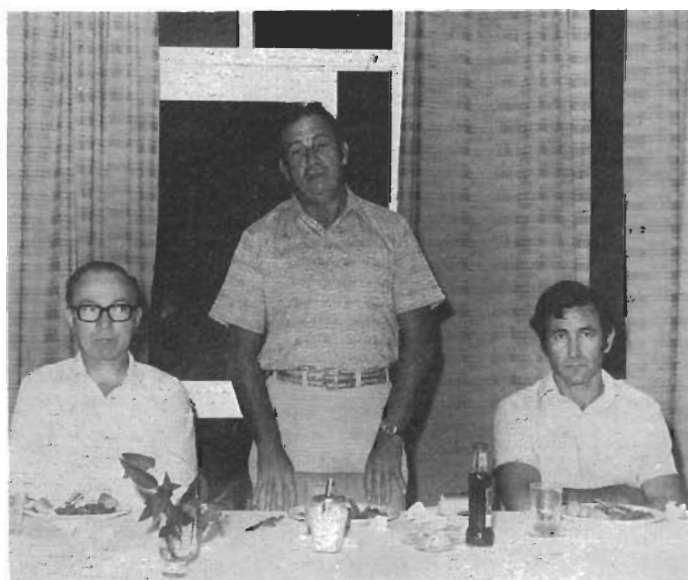
John Cameron representing Training and Localisation when congratulating the recipients expressed the hope that each would put into practice the various theories expounded during the supervisory course.

Among the students presented with introductory warehousing certificates were four warehousing apprentices who filled the four top positions in the course.

Makai Kuriai gained top marks and is to be commended for his effort. The course extended over a period of nine weeks and three evenings a week.

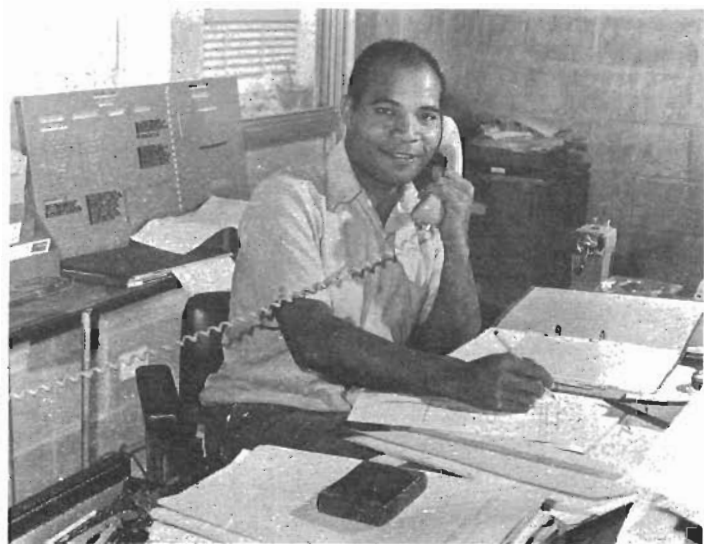
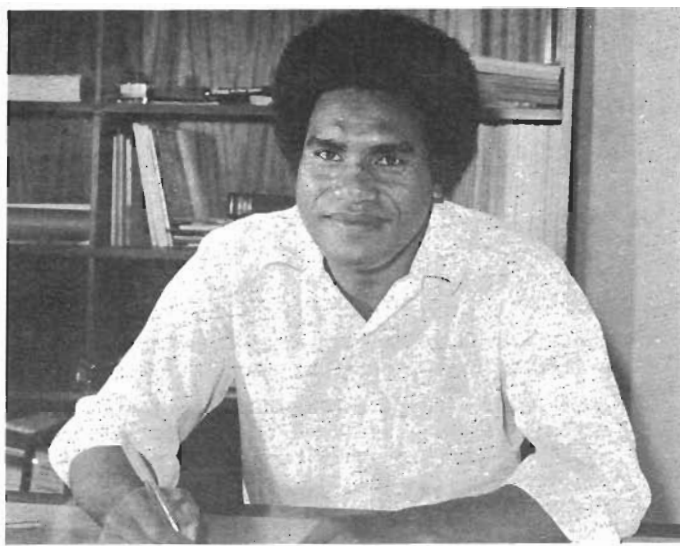


Photos - top row (from the left), Bob Hope, manager of engineering and technical services presents July William, storeman, with his certificate; Levi Malawi, storeman and Joseph Ratsi, storeman. Second row - Geosai Keosai, storeman; John Laita, purchasing clerk and Jackson Korove, apprentice clerk. Third row - James Kenda, supply clerk; John McGregor, supply officer, and John Morga, supply officer. Fourth row - Peter Heni, clerk; Ken Nelson, supply foreman; John Mimpai, storeman; Elias Erisi, apprentice clerk; Titus Sihono, storeman and Peter Erie, storeman. Above, Jackson Sarameli, apprentice clerk; Malcolm Gordon, supply officer and Alphious Pisa, supply officer. Right, Capt. J. Dalby (centre) addresses the certificate receivers. Seated on his right is John Cameron, training development officer and on his left is Bob Hope.



# PEOPLE

From the left, below, in our Port Moresby office are John Tydeman, liaison officer; his Middle, with assistant research officer to Mr. R. W. Ballmer, David Stephen is Jill Andre new public relations secretary and John Davimako, trainee accounting machinist. Bottom, college; also from the same section is apprentice clerk Joseph Agurpai and Gideon Abo, as



assistant, Michael Aeava and Margaret Ravu, typist.  
w, secretary also in Moresby office; Rosina McKee-Duff,  
George Vagi, administrative officer in mine training  
counting machine operator.



## FILMS

### PANGUNA

Sat. & Mon. Nov. 17 & 19	Peyton Place	Lana Turner Hope Lange
Sun. & Tues. Nov. 18 & 20	Hard Contract	James Coburn Lillie Palmer
Thurs. & Fri. Nov. 22 & 23	On The Buses	No Press Sheet Available.
Sat. & Mon. Nov. 24 & 26	The Music Lovers	R. Chamberlain Glenda Jackson
Sun. & Tues. Nov 25 & 27	300 Spartans	R. Richardson Diane Baker

### ARAWA

Sunday Nov. 11th	Waco	No Press Sheet Available
Wednesday Nov. 14th	Flight Of The Phoenix	James Stewart Peter Finch
Friday Nov. 16th	Bouno Sera Mrs. Campbell	G. Lollobrigida Phil Silver
Sunday Nov. 18th	Alfred The Great	No Press Sheet Available.
Wednesday Nov. 21st	Chicago Chicago	Beau Bridges Brian Keith

The above programmes are subject to change as they  
depend on films arriving on site as scheduled.

- Michael T. Low  
Projectionist.

### GOURMET'S CORNER

The title is formidable but the result is delicious.

Sultan Boca comes from Italy. Cut slices from a  
of veal, flatten out, pin to each a slice of ham with  
a toothpick. Saute in a skillet, add finely chopped  
onions, swirl with marsala, add cream and cook for  
few minutes lightly. Arrange on a flat plate and  
accompany with noodles; coat veal scallops with the  
sauce. Serve with broccolini wrapped with bacon, baby  
carrots and sauted kaulau.

Banana Negress: bake a rectangular sponge cake. Take  
6 ozs of icing sugar, the same amount of butter, 4  
egg yolks, zest of orange; mix sugar and butter to  
creamy consistency, add egg yolks and zest, a dash  
of Cointreau and mix into the cream. Select ripe  
bananas, cut them in half and place them on the  
ready-creamed sponge. Cover bananas with remaining  
cream. Melt 8ozs of chocolate and pour over the  
chilled creamed bananas. Place in fridge to set.

### CHRISTMAS - NEW YEAR BOOKINGS FOR LOLOHO FAMILY RECREATION CENTRE.

The Christmas/New Year holiday period will be divided  
into four sessions for the purposes of booking  
accommodation at the Loloho Family Recreation Centre  
(1) Pre-Christmas December 21 to December 23, (2)  
Christmas December 24 to December 27, (3) Pre-New  
Year December 28 to December 30, (4) New Year  
December 31 to January 3, 1974.

All reservations for these times must be made at the  
Loloho Family Recreation Centre Office, extension  
4-141, before November 20.

Due to the shortage of accommodation we do not  
anticipate being able to accommodate all the people  
who have made reservations. It has therefore been

decided that all allocations will be by ballot for the above periods and will be known on November 23.

The successful ones will be advised by telephone of the results. The usual conditions will apply for reservations outside the Christmas/New Year period where no family will be allocated accommodation at the Centre more than once in any given four week period.

Those successful in the draw for the above periods will not be allocated accommodation within the four weeks either side of these periods.

Cancelled accommodation will be offered to employees who have lodged their names with the office for the opportunity to use cancelled accommodation. The same procedure will be adopted by offering the accommodation to the person whose name is at the top of the waiting list.

- L. S. DEVEREUX -

#### USE OF MEAL TICKETS IN BCL MESSSES

There is an increasing problem developing with unauthorised persons obtaining meals in the messes. The regulations in this regard are restated here for advice on this matter.

Only certain non-residents of the camps are allowed to take meals in the BCL messes by using properly authorised BCL meal tickets. These are:-

1. Married BCL employees not resident in the single quarters, who take a meal in the mess during their normal working hours, -80¢ meal ticket per meal, per person.
2. Married BCL employees and their families, except as in 1 above, \$2.00 meal ticket per meal, per person.
3. Authorised contractor's employees not resident in single quarters, \$2.00 meal ticket per meal, per person.

- K.A. Edwards -  
Manager Personnel Services

#### KEVIN IS PROGRESSING WELL

Bougainville Copper employees who know and are closely associated with Kevin Miller, industrial relations manager, who recently underwent an operation at Arawa Hospital and had to be flown to Australia soon after for further treatment, will be pleased to know that he has arrived safely in Sydney and is progressing well at Sydney's St. Vincent Hospital.

## **EMPLOYMENT NEWS**

#### STAFF VACANCIES:

The company is seeking applications from mature young men already employees on site to fill vacancies in the Port Department, Loloho. The position requires ambitious men with a minimum of Form 3 education and previous seagoing experience or a desire to be employed in a maritime environment.

#### TRAINEE STEVEDORE FOREMAN (2 POSITIONS):

The successful applicants will undergo a two year training period covering both technical and supervisory aspects of Stevedoring. It is essential that they have a comprehensive command of both English and Pidgin.

Other staff vacancies include, Senior clerk, Surveyor, Stenographers and Civil detail draftsman.

#### CURRENT WAGE VACANCIES:

R105 driver trainee, laboratory assistant and dockers.

Applications should be addressed to: Mr. P. D. Fox,  
B63, PANGUNA.

#### COMINGS AND GOINGS

Welcome to the following: M. Giersberg, fitter; C. Christidis, fitter; A. Pigeon, electrical technician; B. Kari, trainee R105 operator; P. Sivio, trainee R105 operator; T. Taramana, travel clerk officer; Mrs. D. Purpuruk, maintenance recorder; I. Franklin, fitter-turner; J. Hill, mechanical fitter; P. Green, welder; B. Middleton, fitter; K. Raru, cleaner; S. Quila, recreation clerk; R. Philomena, typist; J. Tamura, storeman; R. Phillips, camps inspector; K. Highet, laboratory foreman; K. Buxton, truck shift foreman; P. Stagg, expeditor; E. Nour, senior analyst; G. Phillip, stenographer; Mrs. Mayne, typist; T. Saric, lubrication foreman; V. Griffith, supply officer; Mrs. Palipal, nurse; H. Watson, assistant unit controller; J. Keket, linesman; R. Keruish, fitter-turner; N. Kandutsch, fitter; R. Eberhardt, fitter; J. Munagata, welder; P. Tsikoa, security guard; P. Ditchburn, mechanical fitter; S. Mara, R105 operator; A. Eglon, fitter; G. Feltis, electrician; J. Savura, recreation officer; I. Waigigi, storeman; G. Warupi, trainee R105 operator; W. Lukara, docker; N. Mimiaga, recreation clerk; M. Takima, labourer; J. Oba, labourer; T. Kapalis, labourer; K. Yap, labourer; I. Tomaling, sampler; P. Warrey, attendant; P. Adale, cleaner; A. John, trainee R105 operator; S. Kariko, trainee R105 operator; E. Opeti, driver; B. Kambilu, labourer; P. Gabriel, trainee R105 operator; P. Gerar, trainee R105 operator; T. Black, metallurgy technician.

Farewell to the following: Peter Harper, inventory analyst; W. Duncan, line foreman; T. Ibana, typist; D. Gardiner, lube storeman; T. Tyzack, surveyor; S. Cuddihy, lube foreman; R. Dowling, supply officer; Mrs. Bowden, stenographer; E. Beermann, mineralogist; J. Coles, mechanical foreman; D. Noack, research assistant; P. Martignoles, supply officer; Mrs. Callagan, typist; A. Gabriel, surveyor; Mrs. Givney, typist; J. Masee, operation foreman; B. Wendt, photographer; D. Weldon, computer operator; D. Faulkner, plant metallurgist; T. Hanna, rigger; R. Alexander, welder; R. Oberari, shovel operator; J. McKenzie, fitter; E. Bivi, operator; N. Mogia, driver; D. Pitehe, operator; K. Opon, labourer; N. Kerun, trades assistant; T. Potabi, trades assistant; J. Loughlin, electrician; C. Garda, diesel operator; P. Nau, labourer; F. Loubai, labourer; P. Lai, cleaner; P. Tanu, trades assistant; N. Kora, labourer; H. Memange, carpenter; C. Togular, docker; T. Tau, cleaner; H. Spencer, fitter; N. Yangon, driver; P. Wape, shovel oiler; L. May, fitter; P. Brenau, R105 operator; J. Sipasipa, storeman; N. Vukina, driver; J. Lavutul, R105 operator; R. Maikas, labourer; M. Harnas, fitter; C. Itaki, attendant; S. Panaki, driver; P. Oa, trainee technical officer; C. Lapole, lubeman; G. Torlop, crane operator; K. Sipa, concrete worker; V. Hageo, plant operator; L. Pema, driver; N. Miro, clerk; A. Waihoe, trades assistant; J. Duga, driver; R. Marinkovic, fitter; J. Sinkep, driver; S. Tukan, equipment operator; S. Olo, driver; F. Jeremiah, laboratory assistant; J. Atavi, deckhand; P. Kobonu, clerk; P. Getsi, bus driver; Y. Muba, docker; B. Cross, panel beater; K. Betson, mechanical fitter; N. Turi, labourer; W. Misia, project ganger; S. Kunju, cleaner; F. Appolos, storeman and P. Irakau, security guard.

#### WANTED URGENTLY

Indegenes or expatriate, male or female, interested in youth and guide/scout movement to train as brownie/guide leaders or cub/scout leaders. No experience is necessary. Training will be provided. Phone 958286 or call at house 45 Kupei Road.

- Jim Embery G.S.L. 1st Panguna.

# New road into tailings lease

The Company has, for some time, been conducting hydrological and agricultural research in the tailings lease at a location known as "Cross Section 19", about half way between the Jaba Pump Station and the mouth of the Jaba River. These efforts were entirely supported by helicopter because of the lack of other means of access.

So that the research work could be expanded economically it was decided to build a road into the area, branching off the main Buin to Panguna road near Leira Village.

Before work could commence, negotiations took place with the local landowners who agreed that the road would assist the development of their area. It was decided to use as many of the actual landowners as possible in the construction work force. One landowner, Martin Levita, was found to hold a multi-equipment operator's licence issued by B.C.L. and he was hired to operate a bulldozer. Another was trained to drive a tipper and a number were trained as chainsaw operators.

Construction started in mid July this year as a joint Engineering/Community Relations/Landowners project. Leading hand Roy Ave of East New Britain was in charge of operations. The 6 miles of all weather road was completed in mid October.

Already the local people have started new agricultural developments adjacent to the road, and a wet bean cocoa buying service is now operating up to the southern tailings lease boundary.

Below, with all operations stopped and equipment stationary, the crew responsible for the newly completed road sit and stand on their dozer to have their photograph taken.

## VISITING EYE SPECIALIST

Dr. Powrie will be arriving in Arawa on December 6, 1973, for a four day visit.

His tentative plans are:-

December 6	-	2 p.m.	-	5 p.m.	Consulting
December 7	-	8 a.m.	-	12 noon	Consulting
December 7	-	2 p.m.	-	4 p.m.	Operating
December 10	-	-----	-		Operating

Dr. Powrie will be departing for Rabaul on December 11

Outlying medical centres should send cases of bilateral cataracts, acute injuries and follow-ups only, unless the case is discussed with the Medical Superintendent

Please notify Mrs. M. Parkes (95-1266 Ext 74) immediately of any patients to be seen, and ensure that patients for probable operation are in the hospital by December 1973.

## NEW CALEDONIA

During November the Company had an interesting visit from five members of "Le Nickel"; here to view BCL's operations. The "Le Nickel" mines of New Caledonia, a French Territory, have been operating for some 100 years. Unlike the Panguna copper ore, the New Caledonia nickel ore is on the tops of hills underneath a thin layer of laterite.

New Caledonia has a population of approximately 120,000. About half the population are original Melanesians and the other half are a mixture of expatriate Europeans, Caledonian Europeans, Vietnamese, Indonesians, Tahitians and Wallace Islanders. The latter half of the population have been attracted to the island by the mining industry during the last century.

Nearly half the population of New Caledonia lives in the capital, Noumea.

For those interested, the November issue of Pacific Islands Monthly, carries an up to date article on current New Caledonian affairs.



# indoor fish tanks

Anyone who has glimpsed the teeming life found on tropical reefs cannot but be amazed by the colour, size, and shape of the fish inhabitants.

A hobby gaining in popularity in the Kieta area is the keeping of tropical salt-water fish in the home.

Textbooks on aquarium care seem to view the keeping of tropical salt-water fish as difficult, and expensive.

But for the keen skin-diver living on Bougainville, it is neither. The greatest expense is the actual tank itself. Which the price can range upwards from \$10 (a fish tank approx 27"x13" costs \$25 or so), an air-pump \$11, charcoal filter \$1.50, and charcoal and fibre glass complete the outlay.

Setting up of the tank depends on the enthusiasm of the individual. Sand, weed, rock are easily obtainable at Loloho, where too, all our fish are caught.

We have found live coral does not keep in our aquarium.

While the fish do better with live coral, unless changed quickly the coral dies, and clouds the water. This has resulted in fish fatalities. Catching the fish is a most time consuming process, but this has proved to be the most exciting aspect of this whole affair.

One tended to dream from one Sunday to the next of the fish to be caught, and the new things to be seen on the reef.

Discussion with other aquarium owners on the merits of different catching methods seem to indicate that nets of mosquito netting are probably superior to plastic bags. However, we found that a plastic bag proved useful for holding fish caught with the nets. The bag can be fastened to a belt.

Necessities for catching: small net (mosquito net seems most satisfactory), clear plastic bags, gloves (preferable strong leather gloves), underwater knife, and underwater mask.

Salt-water must obviously be brought from the coast. I believe a formula for salt water exists, but should only be attempted by a B.Sc. The regularity with which the water must be changed varies greatly. If the water begins to cloud or smell, obviously it is due for a change. We have found from experience that aquariums in Panguna require a heater.

The actual selection of fish for an aquarium will depend on the individual.

I try to catch only small fish and to keep different species all the same size.

This seems to cut down fighting to a degree.

I feed my fish on meat-meal and have used crushed 'weet-bix' also with no harm to the fish.

I have reached the conclusion through my inept and inexperienced handling of them, that reef fish are a lot more hardy than their delicate colours suggest.

- E. J. Mitchell.

## Engaged

Miss Louise Child, secretary, Industrial Relations, announced her engagement to George Tinos, carpenter, with Watkins, on November 4. George comes from Italy and Louise from Queensland. We wish them both the best of luck, and sincere congratulations.

## "THE TRUTH OF PROOF"

Following up "An Ounce of Proof" my lead in story for the PNG national fishing competition the outcome was in the vicinity of 300 pounds of proof in favour of the Bougainville Sport and Game Fish Club. Bougainville's score at 3347.2 points eclipsed the total of the next three clubs points at 3290. Runners up in the competition were Madang 1663.2 points, New Britain, 943 points, Moresby 684 points and last Lae with 526.7 points. Bougainville fished to win with 7½ teams in some of the roughest weather seen off our coast for sometime. On Sunday afternoon several boats fished outside the reef in swells up to 15 feet high. The Port Moresby club "chickened" out of the same weather on both Saturday and Sunday, an effort which undoubtedly put them out of the running. The average length of Bougainville's boats would be about 15 feet as opposed to 20 feet in Moresby. As in most sports the team which goes out to win usually does.

Top boatman and fisherman for the PNG competition would most certainly be John Goulter, Building Inspector of the Engineering Technical Services Department. John fished with Lindsay Doyle of Mining to take out the top team prize with 1091.2 points. John also scored the trophy for the highest individual point scorer and the trophy for the best score - 20 lb. line class. I think everyone will agree that this is a fantastic effort for a man who has only been fishing for a few short months. Congratulations John Goulter.

The only other trophy taken by the Bougainville club (not that there were many more) was taken by Graham Hoskins. Graham's catch, a 75 lb. yellowfin tuna won the most meritorious catch trophy. Graham landed the fish on 20 lb. tackle after a fantastic five hour fight ending at 7p.m. on Saturday night. A good effort.

All in all, a terrific effort for PNG's youngest game fishing club. Congratulations.

- Don Woodford -

## FROM BML TO BCL

The Directors of Bougainville Copper Ltd. announced that the scheme of arrangement whereby shareholders in Bougainville Mining Limited would hold shares direct in Bougainville Copper Ltd. became effective on October 26, 1973.

This means that trading of Bougainville Copper shares on the Australian Associated Stock Exchanges and The Stock Exchange Association of New Zealand commenced on Monday, October 29, 1973. Because of this change, the Directors have allotted 213,900,000 in Bougainville Copper for those who hold shares in Bougainville Mining. The change means that Shareholders will receive six shares for every five shares they held in Bougainville Mining before October 26, 1973. Any fractions of shares in Bougainville Copper which might result from this allotment will be aggregated and the shares will be sold so that the net earnings from these sales together with the dividend of 10 cents per share will be distributed amongst those who held shares in Bougainville Mining.

The Directors also announced that a dividend of 10 cents per Bougainville Copper share will be paid in November, 1973. The dividend will be paid to all shareholders including the Papua New Guinea Government, the Investment Corporation of PNG and the members of Bougainville Copper who became entitled to shares according to the allotment made on October 26. Dividends paid to non-residents of Papua New Guinea will be subject to Papua New Guinea withholding tax of 15 per cent and where applicable this tax will be deducted before the dividend is paid.

# TOKTOK

This legend taken from "Garamut", a school magazine produced by the students of St. Joseph's High School Rigu, was written by Luduvicus Tseran, a form 1 student at the school this year. The story is as follows:

A long time ago there lived two brothers, the first born was Tukana, and the second brother's name was Tohiana. They were very hard working boys. They had no father. They lived together with their mother.

One day their mother told them to go fishing. They were very happy when they heard this. She told them that they must not go too far away. She told them that they should fish in the nearby reef.

Their mother prepared some food and then they got ready and at about 7 o'clock in the morning, they said goodbye to her and told her to have the fire ready when they returned.

When they arrived at the first reef, the older brother said, "Let us not fish here, but find a good place." So they went on until they passed two more reefs. When they came to the fourth reef the first born told the younger brother that they should fish there. They caught fish by the hundreds, small ones and big ones. They continued to fish until the older brother became too tired to fish anymore. The younger brother however kept on fishing.

This was a bad place to fish because there was a giant living near. The giant could smell the two boys and knew that somebody was stealing his fish. So he came out of his cave to find out who it was, and saw the two boys. The giant was very angry so he lit a fire to cook the boys. When the first

born saw the smoke, he told his brother that there must be a giant in the place.

Suddenly they both saw a very big shark, heading towards them. They began paddling their canoe home as fast as they could but they were too late. As the shark came closer, they threw the biggest fish they had in the sea. When the shark had eaten this, he began chasing them again. They threw another string of fish, to try to hold him off. They did this over and over again, until there was only one string of fish left in the canoe. Again the shark came, and so they gave it the last string of fish. By now they were near their home but it was just too bad for them, as the shark came on again. When the shark came after them again, the first born said to his brother, "Please cut me into two pieces, give my body to the shark, but keep my head." The younger brother did as he was asked because his brother was the first born. The young brother was very sad indeed at having to say goodbye to his brother. While the shark was eating the older boy the younger boy was able to escape and get back to his home.

When he told his mother what had happened, their mother was very sad indeed. Anyway, they buried the head of the older boy in the ground. After some time, a big tree grew on the spot where they had buried the older boy's head. There was fruit on it, and one of these fell to the ground. They tasted it and found that it was very good to eat. So they planted more and more. They called it coconut. When we look at that coconut today, we can still see the eyes, nose and mouth of the older boy who was fed to the shark, to save his younger brother long ago.

## LETTERS TO MINING EMPLOYEES

The following letter was sent by J. D. Erickson, assistant general manager - production on November 9 1973, to all mining department employees.

Today marks the third year of operation for the Panguna open pit. It was a memorable day on the 9th November, 1970, when the first loaded truck came down the then recently finished south haul road.

Since that time 77,900,000 tonnes of waste and 46,400,000 tonnes of ore, making a total of 124,300,000 tonnes of material have been removed from the mine area.

I would like to express my appreciation to all of you for your contribution toward the achievement in these three successful years. I know your continued enthusiasm will result in many more years of safe, efficient productive effort.

On November 12, he sent another to all pit workshop employees, it read;

Congratulations on your excellent performance.

Your conscientious effort toward safety has been marked by the accomplishment of 250,000 man hours without a disabling injury in the Pit Workshop.

Even more important than the statistic is the fact that no one had to suffer the pain and economic loss caused by serious injury.

I hope this achievement will serve as an additional incentive to continue the record and serve as an example to all that a job can be done safely.



Above, a scene on October 23, 1970, when the first shovel to be assembled was put into operation at the mine. The 105 trucks were also taking their first loads at the time.

## BOUGAINVILLE LAUNDRY

Now in its fourth year of operation as laundry contractors to BCL, Bougainville Laundry has established itself as the largest commercial laundry operation in Papua New Guinea. Catering for the needs of more than 4000 employees of mainly Bougainville Copper involves a daily production of 3000 to 4000 articles or 400 lbs dry weight each day. Ironing and folding of flatwork is completely automated, as indeed it needs to be, with over 2000 sheets and pillowcases requiring ironing per day.

The Laundry has recently opened its ultra modern drycleaning facility at the company's headquarters in the Itakara Industrial Area managed by a papuan Louis Piauka. A complete drycleaning service is now available through agencies established at Panguna, Arawa and Kieta.

With the only expatriate, Lloyd Morris, as manager, the Laundry is staffed by Papua New Guineans.



Top, at one of the first stages of the whole laundry process, a worker switches on the washing machine with a load of clothing. After this the laundry is put through several stages up to spin-dry. Above, the workers put the sheets through another machine in the background which first irons them and throws them out folded at the other end.

# ROAD SAFETY

What happens in the very last moment of a driver's life?

Here is a scientific reconstruction of the final seven-tenths of a second in the life of a driver not wearing a safety belt who crashes at 80 kmh (50mph) into a solid object.

0.1 second - The front bumper collapses and jagged steel penetrates the object.

0.2 second - The bonnet crumples as it rises smashing into the windscreen. Spinning rear wheels leave the ground. The radiator grille disintegrates. The mudguards come into contact with the object, forcing the rear part of the car to spread. In the same tenth of a second, the heavy structural members of the car begin to act as a brake on the terrific forward momentum of the chassis. But the driver, who was not strapped in, continues to move forward at the vehicle's speed. This means a force of 20 times gravity, and his body now weighs 1,450 kg. His legs, ramrod straight to meet the impact, snap at the knee joints.

0.3 second - The driver's body is now off the seat, torso upright, broken knees pressing against the dashboard. The plastic and steel frame of the steering wheel begins to buckle. The driver's head is now near the sun visor, his chest above the steering column.

0.4 second - The car's front end is now wrecked but the rear of the car at this split second is still travelling at an estimated 55 kmh. The driver is still moving at 80 kmh. The engine crumples into the object.

0.5 second - The driver's hands strain on the bent steering wheel. The force of gravity drives him onto the steering column and his lungs and intercostal arteries immediately puncture. Blood spurts into his lungs and he is dying.

0.6 second - So great is the impact that the driver's feet are jerked from his laced shoes. The brake pedal bends double at the floor boards. The chassis twists in the middle and the bolts shear off. The driver's head makes contact with the windscreen. The rear of the car begins its downward fall.

0.7 second - The whole body of the car is now out of shape. Hinges are torn and doors sprung open. In the last shudder the seat rams forward, crushing the driver against the instrument panel. Blood comes from his mouth from the ruptured lungs and arteries, his skull fractures against the dashboard. Shock has already stopped his heart. He is now dead.

All new company vehicles and many of the older vehicles are fitted with seat belts which can save YOUR life in the event of an accident. The above occurs at 80 kmh into a stationary object, but a head on collision between two vehicles travelling at only 40 kmh (25mph) will produce the same impact force. Excuses for not wearing safety belts killed over 150 people in Papua New Guinea alone last year. What's your excuse .....

## FOR SALE

CARRIBEAN SANDPIPER (10 months old) with 85h.p. Chrysler & Trailer, and Canopy, Tonneau (all weather cover). Seagull auxiliary motor, Spare battery (marine) Ski's, ropes & bridles, ladder. 2 fuel tanks, bunk cushions. Navigation lights, cabin light, G.P. light. Tachometer, Speedometer, Hour clock, Water pressure gauge, Compass, Ammeter, 2 batteries, 4 Bouyancy vests, 1 fire extinguisher, Motor spares, Fibre glass kit, 2 anchors & ropes. \$2,900 - ONO.

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