

Fi

NI

THE

UNIVERSITY OF THE PHILIPPINES LIBRARY

10/27/75 X



OCT 10 1975

MARSMAN MAGAZINE



VOL. III
JANUARY
1939
NO. 7

MANILA, PHILIPPINES

January
1939

THE MARSMAN MAGAZINE

Vol. III
No. 7

Marsman Organization Ends Another Year Of Achievement

The production of ₱1,325,255.50 from 54,999 tons of ore milled and 348,450 cubic yards of gravel dredged in December brought the 1938 gold output of the Marsman-managed mining companies to ₱14,680,873.94 from the treatment of 663,657 tons of ore and 3,908,792 cubic yards of gravel. The total is more than ₱6,000,000 over that of 1937, an increase of around 75%.

In addition to the greatly increased gold production, the other activities of the organization wound up the year in excellent condition. Marsman Building Corporation has the construction of the new home and office building of the United States High Commissioner, started a few months ago, well under way. The 50-ton milling plant under

construction for the Tuba project in Camarines Norte is nearing completion, and will be in operation by March. Arrangements have been made for the return of the bucket-type dredger "Rotterdam" to Paracale, to augment the two new dredgers, "Mary Angus" and "Anne Petronella" in dredging operations.

One of the first decisions made by the board of directors of the Marsman Building Corporation in 1939 was at a recent meeting, when it was decided to proceed immediately with the construction of a new Marsman Office Building, to be located in front of the present temporary headquarters of the organization, in the Port Area in Manila.

M. P. TRANCO TO CONCENTRATE ON FREIGHT SERVICE

The freight service of M. P. Tranco, Inc. has increased so rapidly during the past few years that it has been found advisable to concentrate the activities of the company on that branch of the transportation service. As a result, announcement has been made of the sale of the passenger service of M. P. Tranco to Dangwa Transportation Company; the buses which serve the mining camps in the Baguio district were turned over to Dangwa on January 1, 1939, subject to approval of the Public Service Commission. In this way the company will be able to improve its freight service to the various mining properties in the Baguio district.

M. P. Tranco was founded in 1928 by Mr. Marsman to supply much needed

transportation service to the then-small mining industry of the Baguio district. Regular schedules were maintained to the mining camps, and freight was hauled to and from the railroad centers in the lowlands to the various mining properties. By 1938 some 35 buses were in operation, and employees of the various mining companies, as well as the general public, had come to depend upon M. P. Tranco for rapid and efficient transportation.

As the mining industry continued to grow, M. P. Tranco grew along with it, and, as mining in the Mountain Province becomes of more and more importance in the years to come, M. P. Tranco will as in the past be a vital factor in this development.

MARSMAN EXECUTIVES ON THE MOVE

The rapidly expanding activities of the Marsman organization are keeping the key men "on the go", as they supervise the various projects and make plans for new activities.

Mr. Marsman himself returned from London a short time ago. After leaving Manila he visited the Mangani Mine, and then flew from Medan, Northern Sumatra, to Amsterdam. He established contacts and concluded valuable business in Amsterdam and London before returning to Manila in time to spend the holiday season with his family.

G. B. Gifford Hull, consulting engineer of Marsman Hongkong China Limited, consulted with Mr. Marsman in London on engineering projects for the Hongkong Company.

Major A. Beckerleg is now on a business trip to Singapore and surrounding territory where he will investigate several placer properties under consideration by the organization. He will be joined by George W. Kerr, of the board of consulting engineers, and by T. S. Scrutton, consulting engineer for the Hollybush Trust Limited to London, who flew there directly from London.

Three of the Marsman executives have recently returned from abroad. Benj. S. Ohnick, vice-president of Marsman & Company, returned from a well-earned vacation to Seattle. J. O.

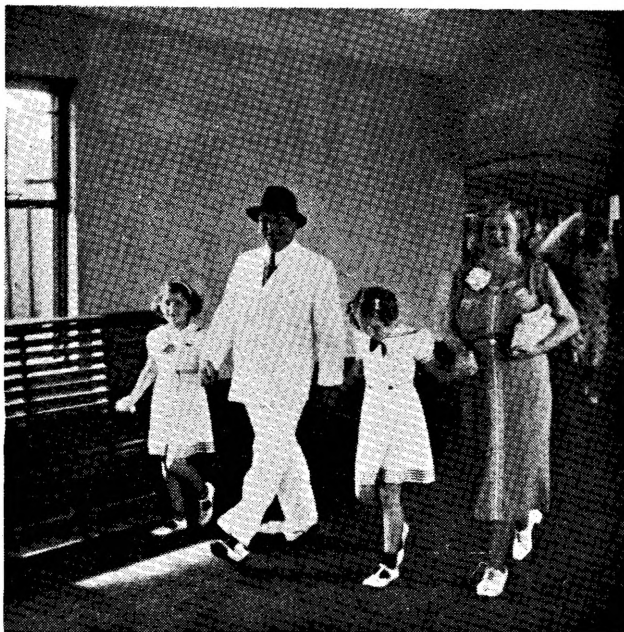
Enberg arrived from a combined business and pleasure trip to the Western United States, during which he examined some promising mining properties. R. W. Crosby of the mine consultation staff, also was in Western America on business and pleasure; during his trip he looked over mining operations in which the organization is interested.

Robert DeVos, managing director of Marsman Hongkong China, is now back in Hongkong after spending some time in London with Mr. Marsman, following which he went to the United States to follow up negotiations initiated by Mr. Marsman.

W. L. Carman, of the metals department of Marsman Hongkong China, has returned to Hongkong after a quick trip to the United States in connection with the metals business. He flew from Manila to San Francisco.

A. Prissall, travelling auditor, has returned to Manila after seven months with Marsman Hongkong China in Hongkong.

J. E. Atkinson, consulting engineer for the Mangani project, was recalled to Manila for consultation concerning that operation just before the New Year. He has returned to his post to supervise the further development of the Mangani mine.



When Mr. Marsman returned from London recently, he was met at Pier 7 by Mrs. Marsman, his daughter Anne Petronella, and his niece, Eileen Wedderburn.

MANILA MACHINERY & SUPPLY CO.

INCORPORATED
675-681 DASMARIÑAS
—MANILA—

Exclusive Philippine Agents

FOR THE FOLLOWING MANUFACTURERS:

JEFFREY MFG. CO., Columbus,
Ohio.

Conveying and Mill Equipment

TRAYLOR ENG. & MFG. CO.,
Allentown, Pa.

Crushing and Cement Equip-
ment

WALWORTH INTERNATIONAL
CO., New York City, N.Y.

Valves, Fittings, Tools

RUSTON & HORNSBY, LTD.,
Lincoln, England

Diesel Engines, Diesel Loco-
motives

BUCYRUS ERIE CO., South Mil-
waukee, Wisconsin.

Gold Dredges & Excavating
Equipment

IDEAL ELECTRIC & MFG. CO.,
Mansfield, Ohio.

Alternators, Generators, Mo-
tors.

MINE SAFETY APPLIANCES
CORP., Pittsburgh, Pa.

Complete Mine Safety Equip-
ment, Miner's Protective
Hats.

KIMBALL KROGH PUMP CO.,
San Francisco, Calif.

Pumps for all Mill Purposes.

THE A. LIETZ CO., San Fran-
cisco, Calif.

Complete Surveying Equip-
ment.

E. H. EDWARDS CO., San Fran-
cisco, Calif.

High Grade Wire Rope.

WRIGHT MFG. CO., 230 Park
Ave., New York City.

*Division of American Chain and
Cable Co., Inc.*

Hoists, Trolleys' Cranes.

SULLIVAN MACHINERY CO.,
New York, N. Y.

Hoists, Air Compressors, Rock
Drills, Etc.

OWEN-DYNETO CORP.
New York, N.Y.

U.S.L. Protected Arc Electric
Welders

SAN MAURICIO MINING COMPANY

San Mauricio was just under the record established in November, and produced in December ₱497,035.94 from the treatment of 9,734 tons of ore. Average recovery was ₱51.061 per ton; the highest of any Philippine mining operation. Extraction was up, being 95.05% for gold values.

The total production of San Mauricio for 1938 was thus raised to ₱4,037,292.08 from the treatment of 109,107 tons of ore.

The development advance was 1,322 feet, of which 656 feet were capital, 310 assessment work, and 356 operating advance. Of the capital development 266 feet were in ore, as were 17 feet of the assessment work and 303 feet of the operating advance. The December work continued to add to the ore reserves. Tacoma No. 1 drift on the 200 level was advanced 57 feet in high grade ore over a width of 18 inches. Tacoma No. 3 north drift on the 200 level was advanced 63 feet through old workings, and grab samples gave high assays.

Tacoma No. 5 north drift on the 200 level was advanced 48 feet, with good values over a width of 13 inches. Tacoma No. 3 north drift on the 400 level was advanced 117 feet with good ore over a width of 48 inches. Tacoma No. 3 north drift on the 500 level was advanced 31 feet, and has not yet reached the projected position of the high grade ore body already developed on the 200, 300, and 400 levels. Recently, however, a 2½ foot section of the vein gave unusually high assays.

The north drift on the 425 level in the Santa Ana mine was advanced 67 feet, and the south drift on the same

SUYOC CONSOLIDATED MINING COMPANY

The December production of Suyoc was ₱136,420.20, from the treatment of 6,556 tons of ore. Average recovery was ₱20.81 per ton, and extraction was 84.79%. The total production for the company for 1938 was ₱1,677,168.09 and the tonnage treated was 76,939.

During the month the total development advance was 1,369 feet, of which 694 feet were capital and 675 operating. Of the capital advance 182 feet were in ore, as were 93 feet of the operating development.

Sinking was resumed in No. 1 shaft during December, and 50 feet of advance was made. Crosscut 2242-E was advanced 18 feet, through a series of well mineralized stringers. On the 1900 level the 19242 was advanced on ore to connect with the bottom of 1846 winze, thus establishing natural ventilation.

Mine operations were quite satisfactory, although there was a seasonal shortage of labor.

On the 1800 level, the 1801 was temporarily stopped, and the 1862 crosscut started to the east to cut the projection of the ore encountered in this block on the 1600 level. Crosscut 18252 north was extended 33 feet, 23 feet of which were commercial over a narrow width.

level 69 feet, both drifts showing ore of low value.

Stoping conditions were normal for the month, with all stopes in good condition. Milling operations, and general conditions at the plant were normal for the month.

Construction was started at the old San Mauricio shaft on a new headframe which is being constructed inside the old frame in order not to interrupt hoisting.



◆
Clyde R. Smith, mill superintendent at United Paracale, watches closely one of the U. P. mill employes scrub bullion bricks before weighing, wrapping, and mailing to the United States mint.

Boyles Bros. Drilling (Philippine) Co.

MARSMAN BUILDING

Manila

Diamond Drilling Specialists

We Carry In Stock

A Complete Line of Diamond Drills

Diamond Drilling Supplies

Bortz

Carbon

Ready-Set Bits

When contemplating diamond drilling

Consult us

No Job Too Small—No Job Too Large

Tel. 2-32-32



**Head Office
and Factory:
Boyles Bros.
Drilling Co., Ltd.
Vancouver, B. C.**

**Branch:
Boyles Bros.
Drilling Co., Inc.
Salt Lake City
U. S. A.**

ANTIMONY—WOLFRAM

REGULUS guaranteed 99% min.—CRUDE guaranteed 70% min.—
WHITE OXIDE 98-99 soluble

MARSMAN HONGKONG CHINA LTD., HONGKONG

European Agents:—THE HOLLYBUSH TRUST LTD.

149 Leadenhall Street, London, E.C.3

Telephone: Avenue 5393

Telegrams: Hollyma, London

CHROME
INQUIRE:

MARSMAN TRADING CORPORATION

Underground at United Paracale. Mat Jarvie, foreman of the Longos section of the mine, is shown in one of the stopes, which is 8 sets wide (over 64

feet). Ore from this area is of higher than average value, and was responsible to a great extent for the excellent showing made by the company in 1938.



United Paracale, Longos Point Mine; one of the richest stopes in the district.



By Ralph Keeler

THE "BUSINESS" OF MINING

The secret of success in mining, as in any other business, is efficient organization. Modern mining has become a business which is much more complicated than most industries because of the different and unusual elements involved.

The manufacturer of shoes, for example, has to consider financing, raw materials, machinery, methods, and markets. He can start out making ten pairs of shoes a day, and can increase his factory until it turns out 10,000 pairs. If the demand for this product increases suddenly, as in the case of a war, he can put on extra shifts, or increase his factory floor space. If the demand for his product is lessened, he can curtail his operations by cutting down his staff, knowing that when conditions improve he can resume full capacity operations.

The mining operator, however, has many more problems to solve before he can become successful.

The life of any mine, no matter how large, is definitely limited by the amount of ore available. Every ton of ore mined is one ton that can never be replaced. Thus the mine operator has to realize, from the very start, that his operation has but a relatively few years in which to be successful—success in a mining enterprise being the return of ca-

pital with a reasonable dividend for those who have invested their money.

If the property is a gold mine, then there is no question about the marketing of the product, or of competition from others. Even a gold mine, however, is subject to various economic conditions; a decrease in the price of gold would seriously affect many marginal operations for example, and rumours of such an event, common not so very long ago, affected mining stocks adversely until they were dispelled.

If the operator is working a base metal property, then he must consider where and for how much he can sell his metal. World conditions change metal prices almost overnight, and it is not at all unusual for a producing mine to be forced to shut down because of a lack of a market. In the Philippines, the production of chromite was seriously curtailed in 1938 when the American market was surfeited. There are prospects that shipments may be resumed in 1939 as a result of the contemplated rearmament program advised by President Roosevelt. The vast deposit of iron ore in Surigao owned by the Philippine government can not be developed until a satisfactory contract can be arranged, presumably with Japanese interests or with the Japanese government.



To continue the comparison of the shoe manufacturer with the mining operator: If the shoe manufacturer, after operating for a few years, decides, for one reason or another, to move to another location, he can haul his machinery and supplies to a new city, and can resume business within a few weeks.

Once the mining operator starts a tunnel, or moves a ton of rock on a property, he is limited to that property, unless he wishes to lose his investment. Mining machinery and equipment can be transported, to a certain extent, but the isolated locations of most mines makes the cost of such transportation prohibitive. A tunnel is a waste of money unless it uncovers ore, serves as a haulage way, or in some way contributes to the success of the venture; and after the ore has been exhausted, a mine becomes a hole in the ground, not only worthless but at times dangerous unless properly safeguarded.

The shoe manufacturer can make high-priced shoes, or low-priced shoes, depending upon his estimate of the market. He can change his patterns and models more or less at will, or more or less without excessive cost. The miner, however, must make his decisions promptly, and accurately, for once he has made them he is "stuck" with them.

For example, most mines have areas in which the grade of the ore varies. One mine, for example might have 5,000 tons of P100-per-ton ore blocked out; 5,000 tons of P50.00 rock; and 100,000 tons of P10 rock. Is the operator going to mine out all of his P100 ore, make a handsome profit at the very start of operations, move on to the P50 rock, and make half as much, and then finally clean up the P10 rock at a very slight profit? Not if he is an efficient operator; he will mix his high grade with his low grade ore, and can thus maintain his mill heads at a point where a satisfactory profit will be realized, at the same time making it pos-

sible to mine all of the ore, he took out all of his high grade at the start (which operators have occasionally done because of the urgent need for funds) he would find himself left with a mine from which he could get only medium or low grade ore; his margin of profit would be so narrow that it would be a constant struggle to make ends meet.

If the mining operator opens up too many tunnels, his maintenance costs will be excessive; if he has too few, he will have trouble securing enough ore to keep his mill bins supplied in case of emergency. Once an underground mining operation is started, it must be maintained; and the longer it is continued the more workings there are to maintain.

Obviously, then, in order to handle the administration of a mining operation successfully, there must be skilled technical knowledge, shrewd business sense, and efficient executive ability to coordinate the two.

"The technical committee is a recent development in mine management. It is made up of engineers each of whom has some special qualification that enables him to advise the board on certain phases of its business. It is, in effect, a committee of consulting engineers. Only the very largest of mines could afford or justify such an aid in good management. There is undoubtedly wisdom in council, and when a mining company has a technical committee composed of specialists in geology, smelting, concentrating, and mining it should have few errors in engineering. The technical committee should read and analyze all the data coming from the mine and should meet at least weekly to discuss matters. This committee, like the consulting engineer will probably have no power of discipline or appointment except that which comes from intimate device and counsel with the board."*

* From "The Economics of Mining" by T. J. Hoover, 1933.



J. H. Marsman was quick to appreciate the importance of cooperative technical action in mining; he organized the first board of consulting engineers in the Philippines, in 1932. The success of the Marsman-managed mines since that time bear witness to the efficiency of that organization.

Almost as important as the purely technical side of mining is the business

end of the industry. It wouldn't do the miner much good to recover ₱20 per ton from his ore if through ill-advised purchasing, the costs of dynamite, fuel oil, and machinery were so high as to make a profit impossible; nor could a mine be operated efficiently if supplies were delayed, if the quality of vital machinery was inferior, and operations thus held up.

(To be continued)

Close Human Relationships

—exist between this bank and the people of this Community.

THERE are no dividing lines between the interests and welfare of this bank and the interests and welfare of its neighbors, whether or not they are customers.

Our depositors who entrust their funds to our keeping represent a broad average of the men and women of the Community. Our borrowers are men and women engaged in active business enterprises which, we feel, entitle them to the use of the bank's credit resources created with the aid of our depositors' money.

This bank, as a center of the financial interests of these men and women, makes possible interchange of practical helpfulness.

PEOPLE'S BANK AND TRUST COMPANY

Manila, Philippines

Four Provincial Branches at your Service

Baguio, Mountain Province

Tarlac, Tarlac—San Pablo, Laguna

San Fernando, Pampanga

1938 Brought Bullish Trend To Stock Market

Reacting to favorable local news, especially to the good progress attained by the mining industry, the Manila stock market in 1938 moved generally upward, reaching the highest level in more than a year toward the closing of trading in December. Although failing to attain the highest level of 1937, the market during the year just passed did not sag to the low point of the previous year in spite of the seasonal lag in business at about the end of the second half and of the nervousness created by several unfavorable outside factors which briefly halted the impressive rally during the second-half of the year.

Prices started picking up early in 1938 as traders took a bullish attitude. After reaching the peak in February, however, a downward trend set in, slashing appreciably the early gains until March. Since then narrow fluctuations developed as dullness prevailed in the market. The market reached its low point in May when the gold share average at the Manila Stock Exchange slumped to 169.04, as buying interest waned owing to the seasonal lag in business.

The start of the second half saw prices improving slightly as buying interest returned. By August a decidedly upward trend began, the rapid strides attained by the mining industry imparting a cheerful tone to the market and attracting a lot of investment buying. A general realization among the buying public that prices had been selling at comparatively low levels also helped in boosting further prices of mining shares.

The only wild fluctuations registered were in September when the European war scare halted briefly the impressive rally. However, the period of weakness was short-lived, the temporary appeasement of the European crisis at the peace of Munich having given a sort of "breathing spell" for business. Locally, the news was reassuring, and the market staged what was perhaps the most spectacular recovery since the boom in 1938.

With the crisis passed, the market resumed the recovery, prices searing to higher ground during October until November. The advance in prices brought with it a wave of buying, partly for investment purposes and partly for speculation. At the end of October, the average passed the 100-level and the value of transactions on the two exchanges exceeded the two-million-peso mark, the value at the Manila Stock Exchange alone nearly reaching that mark. On November 11, the market reached the high level of 111.43 as the value of shares sold again passed the two-million-peso mark for the second time in the year and establishing a new high in business volume for the year.

As is the natural course for a market to follow after rapidly scoring considerable gains, prices passed through a period of technical correction during the second half of November until early in December. As expected, however, the market resumed the advance before the close of the year and reached the best level on December 27, the gold share average at the Manila exchange as reported by Swan, Culbertson and Fritz passing the 114-level in heavy turnover.

Although the highest level the market had attained for more than a year, the December high is still below the 1937 high of 228.73 on January 18. However, the low is above that for 1937 when the average at the Manila exchange on September 10 slumped to 62.50 and forced the board of directors of the exchange to peg prices in order to prevent further wild fluctuations.

The further rise of the market toward the close of trading in December was brought about by the end of the selling for income tax purposes early in the month and by the encouraging prospects for a better business outlook for 1939.


Most of the factors affecting favorably the mining share market had been local, the rapid strides made by the mines in particular, and the pickup in the business situation in general, buoying up sentiment. The recovery in the

United States as reflected in the rise of the New York stock market also exerted a considerable influence on the course of the local market. Although the recovery of New York stock prices imparted only a psychological effect on the trend of mining shares here, the outside influence is considered to be substantially due to the business recovery in the United States. Whatever the trend of business in the United States is bound to be reflected here, it is pointed out. The New York market had

derived its encouragement from the upswing in several lines of business.

The upswing has only begun and bids fair to continue at least until the rest of this year. This recovery which has already been felt here, together with the anticipated further expansion in the mining industry, will have a substantial influence on the course of the mining share market this year.

(Reprinted from the Manila Daily Bulletin of January 3, 1939.)



DEWAR'S

White Label

ALL YOU NEED
TO SAY FOR
THE BEST
WHISKY

Sole Agents

THE MANILA WINE MERCHANTS, INC.

Largest Wholesale and Retail Liquor Dealers in the P. I.

<p>Head Office 174 Juan Luna Tels. 4-90-57/4-90-58</p>	<p>Retail Branch Office 37-39 Calle Alhambra Tel. 2-17-61</p>
--	---

MARSMAN & COMPANY SIGNS CONTRACT WITH MOUNTAIN MINES, INC.

A contract has just been signed by Marsman & Company, Inc. with Mountain Mines, Inc. for the management and operation of the property of the latter company in the Mountain Province, near Kalinga.

Mountain Mines, Inc. has been reorganized and recapitalized. The original capitalization of ₱200,000 has been increased to ₱1,000,000; of the new capitalization ₱150,000 is now being offered for subscription by Jacob Rosenthal & Company, Inc.

The present officers of Mountain Mines, Inc., all of whom are serving without salary, are: V. L. Rodriguez, director and president; T. M. Jordan, director and vice-president; George C. Dankwerth, secretary; A. F. Kelly, director and treasurer; Alf Welhaven and I. Barza, directors.

The property of the Mountain Mines, Inc. is situated approximately eleven kilometers, air line, due west of the Municipality of Lubuagan, Kalinga, Mountain Province.

Its property consists of two adjoining groups of claims, the Lucky Strike Group and the Bumabag Group. The Lucky Strike Group consists of 40 claims with an approximate area of 360 hectares. The Bumabag Group consists of 48 claims with an approximate area of 432 hectares. All of the above claims were located in November and December, 1933.

The property is bounded as follows:

- (a) On the NE by the Batong Buhay property and the Batong Guinto.
- (b) On the NW by the property of Balatok-Lubuagan Mines, Inc.
- (c) On the SW by the properties of the Moldero Gold Association (Elenostro Group) and Eu-charist Gold Association.
- (d) On the SE by the properties of the Moldero Gold Association (Baglinit Group) and the Batong Guinto.

The comprehensive development at the Batong Buhay property, with the erection of a mill indicated in the near future, has warranted work on a new road started by the Philippine government being rushed as much as possible. The completion of this road will greatly facilitate transportation into this district. A short extension of the road, probably not to exceed two kilometers, will reach the Mountain Mines Camp, which is situated in the North central part of the property.

Following are extracts from a report made by Marsman engineers on the property recently:

“Assay values of samples taken from various outcrops show low grade gold ore. These low values on the surface are probably a result of leaching. Similar conditions existed on the Batong Buhay outcrops.

“The extremely favorable development of high grade ore reported on the Batong Buhay property, under similar outcrop conditions as those existing within the Mountain Mines property, points favorably to the development of pay ore in the Mountain Mine veins. There is also some reasonable likelihood that the Batong Buhay veins may extend into the Mountain Mines property.

“In view of the favorable geological conditions existing within the Mountain Mines properties in conjunction with their immediate proximity to the Batong Buhay property, we consider that further development work thereon is fully warranted and should be undertaken to determine true commercial worth. While only work alone can ultimately decide, we view these claims with more promise than almost any other undeveloped property which is known to us in the whole Mountain Province.”

Under its management contract, Marsman & Company, Inc. is to have complete management and supervision of all mining and milling operations.

ITOGON MINING COMPANY

During December the Itoigon plant treated 28,728 tons of ore, from which ₱330,849.76 was recovered. Average recovery was ₱11.52 per ton, and extraction was 84.74%. Production for the entire year of 1938 was ₱4,148,539.02, from the milling of 364,138 tons of ore.

The development advance totalled 4,240 feet; 2,630 capital and 1,610 feet of operating work. Of the capital advance 579 feet were in ore, as were 836 feet of the operating advance.

The main Sesame counter drive 875 level, which was advanced 313 feet during December, was driven through the Sesame vein and is being continued on line to the southeast corner of the Midway Fraction where it will be turned due west to intersect the Balatoc 251 and 231 veins. The Sesame vein, at the place the counter drive crossed it, is about 10 feet wide and show better than average assays.

The 96 vein crosscut, 500 level, intersected the 96 vein, which proved to be approximately 20 feet wide, with 6 feet of above-average ore.

The new hoist for the 523 winze is being installed. This winze has been timbered to the 700 level and the 700 station is now being cut.

General operating conditions were good, and both mine and mill are functioning efficiently.

UNITED PARACALE MINING COMPANY

Another new all-time production record was established at United Paracale, with the production of ₱233,984.82 in December from the treatment of 9,981 tons of ore. Average recovery was ₱23.44 per ton, and gold extraction was 92.99%. The development advance was 1,212 feet, of which 918 feet were capital and 294 feet operating. Of the capital advance 223 feet were in ore, as were 65 feet of the operating advance.



Atlas Powder Company representative J. C. Costello, center, talks things over with Warren Gilkison, general superintendent, right, and Carl I. Dismant, mine superintendent, of the Itoigon Mining Company.

Gold production for the year 1938 was ₱2,602,536.81 from the milling of 113,473 tons of ore.

The 301 drift north, Baluarte 300 level, was advanced 112 feet along the vein 4.2 feet wide, in high grade ore.

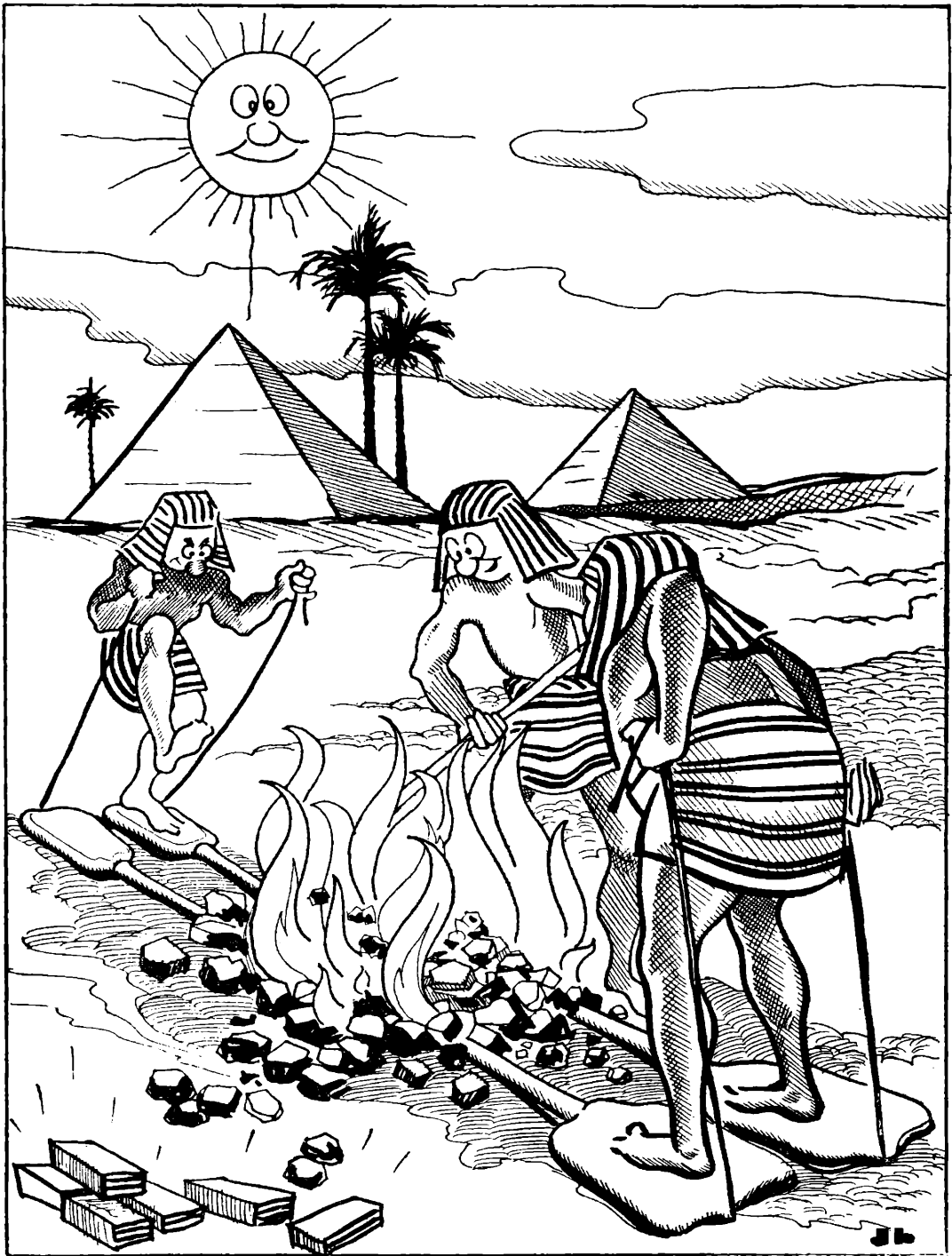
The Big Bear crosscut west was advanced 136 feet through granite, cutting a narrow stringer 6 inches wide that gave high assays.

Heavy ground which necessitated spiling slowed up the Malaguit crosscut west and the advance was only 14 feet for the month.

Although considerable rain fell during the month, weather conditions were unusually good, considering that the district is now in the period of the northeast monsoon.

MYSTERIES OF MINING

This is the thirteenth in a series of features describing various interesting phases of mining and the mining industry.



The Egyptians were probably the first real metallurgists; their work contributed much to the science of the time of extracting metals from ores. Here the artist shows a primitive furnace; the workers on each end of the rails are stepping up and down to create an artificial draft, by means of which high temperatures could be attained.

THE PHILIPPINES NEW SMELTING INDUSTRY

Modern smelting is not an intricate, complicated process—it is simply concentration of metals by fire. Chemically, it is the union of an acid, silica with a base, iron and lime, forming a waste product, slag. The precious metals gold and silver, are collected by a carrier, which is heavier than the slag and settles to the bottom, where it is tapped off. The usual carriers are matte (an artificial sulphide of iron and copper), copper or lead, according to the character of the ore.

The only type of smelting carried on at present in the Philippines on a commercial scale is gold, silver, copper smelting, and the only smelting plant is that of the Philippine Smelting Company, a Marsman organization, at Mambulao.

When the Paracale district was reopened by the Marsman engineers, in 1933, most of the ore blocked out was not particularly difficult to treat, being composed chiefly of oxides. As the San Mauricio mine was opened, however, and as development at United Paracale progressed, the ore became more and more complex. Several new mines came into production in the area, and most of the ore treated in the whole area is complex in nature, being more or less similar in character.

For some time it was necessary, in the Paracale district, to ship the flotation concentrates to the Tacoma smelter. The approximate cost of this method was around ₱100 per ton of concentrate. In addition, there were other disadvantages: the uncertainty of shipping facilities, the necessity of maintaining a large labor crew for the periodical loading and the storage space, trucks, lighters and other equipment necessary for the handling of the large quantities of concentrates produced each month.

Accordingly, the Marsman engineers, after a careful discussion of the problem, decided on the installation of a smelting plant; it was constructed during late 1937 and early 1938. Now functioning as an adjunct to the mining industry, it serves the entire district. It

is of distinct advantage to the various mining companies, and also it permits the new mines to process their high grade ore obtained during development work thus making funds sooner available for further work. It has resulted in the inauguration of an entirely new industry in the Philippines, a further step in the economic advancement of the Commonwealth. Presently the Philippine Smelting Company affords employment to more than two hundred men and has a payroll of approximately ₱10,000 monthly.

Smelting as practised at Mambulao can be described simply as follows:

Flotation concentrates from United Paracale and San Mauricio, and from other plants in the district in addition to those, as well as high grade ores, are trucked to the smelter bins. After careful weighing, and sampling, the material is then mixed with the required flux (depending upon the chemical composition of the material) and conveyed to the sintering machines. The work of the sintering machine is two-fold: first, to roast out the excess sulphur and second to fuse the concentrates and fluxes together into a "clinker" which is called sinter. The amount of sulphur burnt off controls the ultimate grade of the matte produced. The charge goes on to the sintering machines with about 24% sulphur and the resulting sinter contains about 6% sulphur—some 75% of the sulphur having been eliminated.

The sinter cake is broken into pieces ranging from 1 to 4 inches in diameter, and is then fed to a blast furnace along with silica, lime, slag, and other ingredients which may be required to make a liquid and free-flowing slag. Alternate layers of coke and charge material are added to the blast furnace as required. Air is blown through the charge to supply the necessary oxygen for the combustion of the coke and the reduction of the sulphur.

The charge melts and flows continuously from the furnace into a brick-lined settler where the matte and slag separate. The matte is tapped from the bottom of the settler into matte moulds, and the slag overflows the top of the

settler into portable slag pots and sent to the slag dump.

The matte contains about 50 ounces of gold and 150 ounces of silver per ton; it is around 55% copper. Thus the main object of smelting locally, which is to convert a large tonnage of concentrates into a small bulk of matte, thereby saving the mining companies sacking, transportation, and treatment charges on a large tonnage of valueless material, is achieved.

The ratio of concentration, which depends on the grade of material received is about 15 to 1. In other words, from

15 tons of concentrate received about one ton of matte is produced and is shipped to the copper smelter at Tacoma, Washington, for further treatment and refining.

At the present time the Philippine Smelting Co. acts as agent in the further processing of concentrates of ores for the following companies: United Paracale Mining Company, San Mauricio Mining Company, Santa Rosa Mining Company, Paracale Gumaus Mining Co., Gumaus Goldfield, Inc., Santa Ana-San Joaquin Mines, Inc., and several leasers.

COCO GROVE, INC.

During December the two dredges handled 348,450 cubic yards of gravel, from which ₱126,964.78 was recovered. The total output was around ₱20,000 higher than that of November, and it brought the 1938 production figure to 2,215,337.99 from the 3,908,792 cubic yards of material handled.

The dredge Mary Angus handled 171,760 cubic yards, and recovered ₱69,157.33. The area dredged was 112,115 square feet, and the average depth was 40.3 feet.

The dredge Anne Petronella recovered ₱57,807.45 from the 176,690 cubic yards handled. The area dredged was 80,095 square feet, to an average depth of 59.5 feet.

Results of December operations checked well with the drill hole logs. In general the dredge operated smoothly, without any serious repairs or overhaul being necessary. Both dredges are working in general accordance with the dredging program, and at the end of the year both had reached the positions expected.

I. BECK, INC.

Provided Miners Since 1898
Retail & Wholesale

Wearing Apparel. Haberdashery for Men, Women & Children.
Big Line of Household goods. Radios. Phonographs. Beds. Toys.

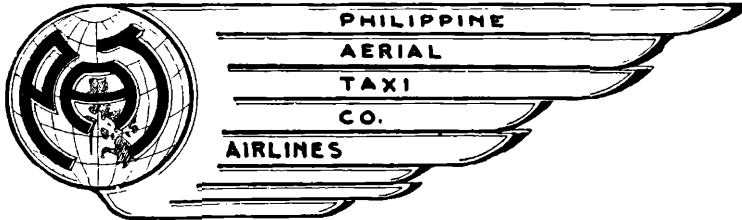
Send for Catalogue

For Reference ask any old Mining Man

SAFETY

See the Philippines
from the air

COMFORT



Over One Million Miles Safely Flown

Serving the Mining Districts

BAGUIO - DAILY SERVICE -

Leave Manila.....	6:30 a.m.
Arrive Baguio.....	7:30 "
Leave Baguio.....	7:40 "
Arrive Manila.....	8:40 "

ONE WAY P25
ROUND TRIP ... P45

PARACALE -

Tues.	{	leave Manila	6:45 a.m.
Thurs.		arrive Paracale	8:00 a.m.
Sat.		leave Paracale	8:05 a.m.
		arrive Naga	8:40 a.m.

Manila-Paracale, one way P35, round trip P70
 Manila-Naga, one way P50, round trip P100
 Manila-Legaspi, one way P65, round trip P130
 Paracale-Legaspi, one way P30, round trip P60
 Paracale-Naga, one way P15, round trip P30
 Naga-Legaspi, one way P15, round trip P30

PHILIPPINE AERIAL TAXI CO.

J. H. MARSMAN, President

RESERVATIONS

Mackay Radio	Tel. 2-43-45
Manila Hotel	" 2-20-22
Bay View Hotel	" 2-43-84
Grace Park Airport	" 2-43-30
Baguio	Royal Garage
Paracale	Marsman & Co.
	(H. Maciean)

SPEED

SERVICE

MARSMAN AND COMPANY, INC.

Producing Mines

<i>Name</i>	<i>Location</i>	<i>Type Property</i>	<i>Plant Capacity Daily</i>	<i>General Superintendent</i>
Itogon Mining Company	27 km S. of Baguio	Gold Lode	1,000 tons	Warren Gilkison
Suyoc Consolidated	98 km N. of Baguio	Gold Lode	200 "	L. M. Robinson
United Paracale	Paracale, Camarines Norte, 200 km Sw of Manila	Gold Lode	300 "	R. H. Canon
San Mauricio	15 km N. of Paracale	Gold Lode	300 "	H. L. Barr
Coco Grove	Paracale	Gold Placer	13,000 cubic yards	F. A. Nowacki
Mindanao Mining Company	Zamboanga, Zamboanga	Gold Placer		Frank Dale

Properties under Development

<i>Name</i>	<i>Location</i>	<i>Type Property</i>	<i>In Charge</i>
Tuba Project Mountain Mines	Tayabas Kalinga	Gold Lode Gold Lode	L. H. Hinckley Frank Erno

AN OPPORTUNITY

Much of the attention which the Philippine exhibit at the Golden Gate Exposition which opens in April will receive will be concentrated on that part of the exhibit devoted to the mining industry.

The western United States in particular has followed keenly the progress of mining in the Islands. Most of the American engineers engaged in the operation of Philippine mines came from, or had much of their training and experience, in one or more of the western States. Much of the equipment and supplies used in mining operations here comes from Pacific coast manufacturers or agencies. San Francisco is itself a center of mining and its residents are mining-minded.

The Golden Gate exposition affords an excellent opportunity to tell the world—for the millions who will crowd the Fair will be from all over the world—about Philippine mining. It will be a wonderful chance to put over the fact that mining is on a sound basis here; that our mining operations are carefully and efficiently supervised; that the surface of mining in these Islands has but been scratched, and that ore reserves of the leading companies insure continued operation at full capacity for years to come.

(Please turn to next page)

Page

Marsman Organization Ends Another Year of Achievement	1
M. P. Tranco to Concentrate on Freight Service	1
Marsman Executives On the Move	2
San Mauricio Mining Company	4
Suyoc Consolidated Mining Company ..	4
Mining For the Investor	7-9
THE "BUSINESS" OF MINING	
1938 Brought Bullish Tread to Stock Market	10-11
Marsman & Company Signs Contract with Mountain Mines, Inc.	12
Itogon Mining Company	13
United Paracale Mining Company	13
Mysteries of Mining	14-16
THE PHILIPPINES NEW SMELTING INDUSTRY	
Coco Grove, Inc.	16
Marsman and Company Operations	18
Editorial—An Opportunity	19-20

THE MARSMAN MAGAZINE

Published each month for Marsman & Company, Inc., Marsman Building, Port Area, Manila, Philippines. P. O. Box 297

The magazine is sent to all stockholders of Marsman managed properties and to all staff members of the companies associated with the Marsman interests.

NOTE: *All ore values, bullion figures, etc., given in this magazine are expressed in pesos based on gold at \$35.00 an ounce and silver at the market price. Figures given in monthly reports are based on mine assays, and may differ to some extent from final mint or smelter returns.*

SUBSCRIPTION PRICE, ₱5 A YEAR.

RALPH KEELER, Editor and Business Manager

The Chamber of Mines, the Bureau of Mines, and the Commonwealth Government should work hand in hand in the preparation of an exhibit which will portray the true situation here. Preliminary work now going on indicates that the spirit of cooperation being shown between those three agencies will result in a fine representation for the Commonwealth's most promising industry.

A remarkable feature of the development of the mining industry in the Philippines has been the fact that American capital has taken practically no part in it. Attempts in the early days, and in comparatively recent years, to interest American financiers in Phil-

ippines gold mines, were unsuccessful. Today, however, the remarkable achievements of the past five years have opened the eyes of American business to the possibilities they have been overlooking. A number of leading Philippines mining stocks will probably be listed on the San Francisco Stock Exchange this year, and thus an active interest in our mining industry will be developed in the United States.

If the mineral industry section of the Philippine exhibit is properly prepared, it will be of tremendous value in stimulating interest in Philippine mining—and in making possible even further growth and accomplishment for the industry.

E. E. Elser, Inc.

All Forms of Insurance

Telephone 2-24-28

P. O. Box 598

MANILA

MARSMAN TRADING CORPORATION

offers efficient service and tested, quality products to the
Philippine Mining Industry with complete stocks of

MINE AND MILL SUPPLIES

Assay Equipment &
Supplies
Heavy Chemicals
Bone Ash
Borax Glass
Litharge
Pine Oil
Xanthates
Zinc Dust
Dynamite, Caps, Fuse
Drill Steel & Detach-
able Bits
Steel Balls
Mine Cars
Rails & Accessories
Carbide Lamps
Safety Hats
Waterproof Clothing

**Carbide, Picks,
Shovels, Wire
Rope, Hose and
Hose Couplings,
Pipe and Fittings,
Cement, Galvan-
ized Iron, Gaso-
line, Oils, Greas-
es, and all other
supplies required
by the Mining In-
dustry.**

Agitators
Akins Classifiers
Ball Mills
Crushers
Diesel Engines
Flotation Machines
Magnetic Pulleys
Mine Hoists

Pumps
Cameron
Wilfley

Reagent Feeders
Redwood Tanks
Thickeners
Streamline Oil Filters

BAGUIO

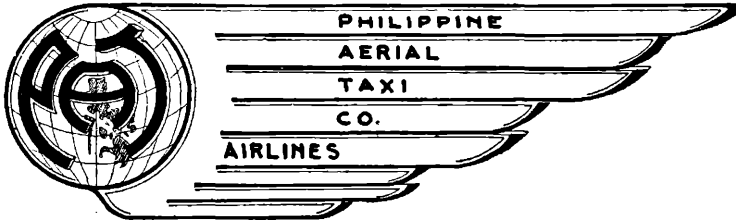
MANILA

PARACALE

SAFETY

See the Philippines
from the air

COMFORT



Over One Million Miles Safely Flown

Serving the Mining Districts

BAGUIO - **DAILY SERVICE** -

Leave	Manila.....	6:30	a.m.
Arrive	Baguio.....	7:30	"
Leave	Baguio.....	7:40	"
Arrive	Manila.....	8:40	"

ONE WAY P25
ROUND TRIP ... P45

PARACALE -

Tues.	{	leave Manila	6:45	a.m.
Thurs.		arrive Paracale	8:00	a.m.
Sat.		leave Paracale	8:05	a.m.
		arrive Naga	8:40	a.m.

Manila-Paracale, one way P35, round trip P70
 Manila-Naga, one way P50, round trip P100
 Manila-Legaspi, one way P65, round trip P130
 Paracale-Legaspi, one way P30, round trip P60
 Paracale-Naga, one way P15, round trip P30
 Naga-Legaspi, one way P15, round trip P30

PHILIPPINE AERIAL TAXI CO.
J. H. MARSMAN, President

RESERVATIONS

Mackay Radio	Tel. 2-43-45
Manila Hotel	" 2-20-22
Bay View Hotel	" 2-43-84
Grace Park Airport	" 2-43-30
Baguio	Royal Garage
Paracale	Marsman & Co.
	(H. Maclean)

SPEED

SERVICE

RPM

REG. U.S. PAT. OFF.

DIESEL ENGINE LUBRICATING OIL

Caterpillar Tractor Co. says...

"'RPM' Diesel Engine Lubricating Oil is endorsed by Caterpillar Tractor Co. as an outstanding lubricating oil for use in 'Caterpillar' Diesel engines and is approved for use in servicing these engines for delivery and is recommended to users for their use in the field."

"RPM" will save you real money in the operation of your "Caterpillar" Diesel engine equipment. If you haven't yet tried it, place your order now for—



"RPM"
REG. U.S. PAT. OFF.
DIESEL ENGINE LUBRICATING OIL
(U.S. Patent No. 2,001,108 Other Patents Pending)

Distributed by

THE TEXAS COMPANY (PHILIPPINES) INC.

MANILA - CEBU - ILOILO - LEGASPI - ZAMBOANGA - DAVAO - BAGUIO -
PARACALE

"Refinery sealed drums for your protection."