



CONTACT INFORMATION  
Mining Records Curator  
Arizona Geological Survey  
3550 N. Central Ave, 2nd floor  
Phoenix, AZ, 85012  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

The following file is part of the G. M. Colvocoresses Mining Collection

#### **ACCESS STATEMENT**

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

#### **CONSTRAINTS STATEMENT**

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

#### **QUALITY STATEMENT**

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

# COPY

REPORT OF NORTH MAGMA COPPER COMPANY PROPERTY  
NOW MAGMA EXTENSION MINING COMPANY  
SUPERIOR, ARIZONA  
By Kimball Pomeroy

## INTRODUCTION:

The growth and development of most of the Southwest Copper Camps have been a very interesting subject. Science in late years has been the leading factor, and in many cases unprofitable projects have been turned into the largest dividend payers solely through the genius of the Mining Engineer.

It is not however true that the Geologist has always been right, much as his services are indispensable. He is always limited by the fact that after he has employed the best ideas that his science affords, he is still unable to actually see under the ground until development work takes him there. So many costly mistakes have been made in the past that recently the good Mines have gone ahead without great excitement, paid dividends and developed with a safe and sane program.

In most districts in Arizona the original mine has risen to size and importance through the consolidation of numerous small properties promising but unprofitable on account of small size and poor management.

The original mine has proved that the district is one of intense enrichment, and ambitious and imaginative individuals conclude that it is better to spend money to develop a property adjacent to the known enrichment than to go to promising remote districts. This would seem to be sane procedure, and as a matter of fact, nearly every good district has seen the development of a new mine from nearby outcrops, that are really a part of or an extension of the original mine. Today most of the money for exploration work is being spent near already established camps. The Bisbee District is an excellent example, having developed from the comparatively small Copper Queen Mine to the once "Prospect" C and A and, recently the disclosure of still greater ore bodies, Today the future of the district is brighter than ever and many men of prominence believe that the extent of the enrichment has not been reached.

## THE SUPERIOR DISTRICT AND THE MAGMA COPPER MINE:

We have no intention of attempting to introduce our property by referring to the accomplishments of another mine, as is so often done in promoting stock schemes, but the reader will realize after studying the situation that one cannot discuss the North-Magma property, that we have assembled, without referring to the development of the Magma Copper Mine, as it is probable that in no district is the vein system so intimately related as it is in the Magma Copper Company and the North Magma properties. The Magma vein itself is so intensely rich that since 1909, when the great strike was made, it has not been necessary to go outside to develop new veins; in fact, today the Magma vein is still being prospected and its real development is still in its infancy. This is the answer to the first argument that is always advanced, when new development is proposed around a proven mine.

We expect to be asked why the Magma has not secured our claims, if they are worth prospecting. As a matter of fact, the Magma is still on a very extensive program of prospecting their own ground and we believe that they are very friendly in our project, because that any good comes to us can only help them.

COPY

THE MAGMA MINE AND OUTCROPS:

At the time the Thompson interests began to develop the Magma, then known as the Silver Queen Property, with the idea of striking Copper at depth, the property was considered of very doubtful merit. The Old Silver Queen was worked at the time of the Silver King Mine for Silver and Gold, as was the L.S. and A., now part of the Magma. The district was rough and remote and what profit was made had to be gotten from rich pockets. Our North Magma abounds in rich Silver pockets in the black quartz manganese outcrops.

It is probable that if these early workings had not been made, the Magma Mine would not yet be discovered. Slight copper indications and the presence of much iron stained ore, limonite, gave promise of copper deposits at depth. The discovery of massive copper at 300 ft, in places in the vein was sensational, but Geologists figured that the enrichment might be only secondary and might not persist at depth.

It may be safely stated that the present depth of the Magma Mine was proven in the laboratory. Microscopic studies prove that much of the early strike was formed from the re-deposit of copper leached from above but after the 575 foot level was reached it was definitely proven by the microscope that the ore was largely primary and not the result of re-enrichment, and the Mine should persist at great depth. The plan of the mine was therefore completely changed and the Magma was destined to become not only the richest Copper Mine in the world, but one whose limits have not yet been reached. Magma ores are so rich and so distinctive that they would be recognized anywhere in the world. The vein that outcrops from two claims on the surface has been found far under the dasite lava flow to the East and an air-shaft is being sunk to permit taking out ore and to extend the prospecting work farther to the East.

The vein which is faulted West of the main shaft has been picked up and although broken up by another fault, shows great deposits of massive ore and further thickness of fine concentrating ore.

The outcrop of the Magma vein, as well as the veins of the "North Magma" have very little copper indications, and are very similar in appearance to the outcrops at Bisbee. In places, it is very hard but in some places on the North Magma the Limonite is so pronounced that the vein can be broken with a pick.

On the North Vein of the North Magma there are some quartz stringers in the large vein that are so hard, that they have preserved the original copper and we find Chalcopyrite in large crystals. This occurs in the diabase.

The Magma Vein as well as the entire North Magma system is generally a black quartz thoroughly impregnated with Manganese oxide and Limonite, which is a hydrous iron oxide remaining from the leached sulphide ores. Microscopic studies made on the outcrops of the Magma vein and the North Magma prove almost conclusively that they are all formed at the same time and should prove to be the same depth. To the eye, one cannot possibly tell any difference except that the North Magma veins appear to have more limonite and are generally wider and the outcrops show on the surface for greater length.

As stated above, the Magma vein was followed principally because it was more accessible on the side of the mountain to work for gold and silver, while the prospecting for copper on the other veins would seem to be more favorable. In many respects the Magma was a very "long shot" for copper and many people thought it was a poor place to dig for copper.

The microscopic studies are given elsewhere in this report in detail.

COPY

NORTH MAGMA VEIN SYSTEM:

The large veins North of the Magma have been known for many years and on the mountain near the top, just North of Superior, there are open cuts assaying high in silver, but almost inaccessible for transportation. These veins are so obviously a part of the Magma enrichment, as will be noted on the accompanying pictures and maps, the prospectors immediately took great interest in them after the Magma strike in 1909, and thousands of dollars have been spent in shallow workings and the extent of the surface veins have been shown up to their full length.

However, no large concern could have possibly done anything in assembling these small groups, and until the past three years no one has really made any attempt to accomplish this great consolidation of all of the valuable holdings, that now include all the wide strip of ground North-East, North and North-West of the Magma ground. (See Map.) They reach from the North part of Oak Flat, on the Superior Highway, to a half mile West of the Old Silver King Road. The vein outcrops are fully two miles long and they enter the dasite as does the Magma vein system at their greatest widths. The Magma has been proven so far under the dasite to the East, that we feel that our dasite claims are fully as valuable as the ones that show veins on the surface, because the Dacite is merely a comparatively recent volcanic flow that has covered up the outcrops.

One of the accompanying diagrams show just how our veins run in relation to the Magma veins. The main veins are parallel and in ascending the mountain, one crosses five large parallel veins that are about the size of the Magma and very close together, before encountering our first vein. These veins belong to the Magma and they have only recently acquired this valuable ground, because it was so close to their main vein. Recent drilling tests from the Magma workings have proven the value of these veins, that are outside of the main vein. This is another valuable indication for our property, showing that these outside veins are really copper bearing, as would be expected from microscopic tests of the outcrops.

NORTH AND SOUTH CONNECTING VEINS AT RIGHT ANGLES:

The most conclusive proof that one gets on the surface, is that all of this vein system is the same, is that this series of parallel veins are plainly cut by two veins that run North and South at right angles to the main veins and cut the entire vein system, including the Magma vein and another black vein just South of the Magma vein. On the map, this forms a checker-board effect. A glance at the large photograph of the district will plainly show that the mountain is the same where the veins occur and is in itself quite convincing, as far as surface indications are concerned, in that it is all the same formation and is unfaulted except in a minor way.

MICROSCOPIC TESTS OF OUTCROPS OF VEINS:

The value of microscopic work is so fully recognized in the mining world, that we have had considerable work done on the different veins by Mr. J. B. Tenney, Eminent Geologist at the University of Arizona.

The comments of Mr. Tenney speak for themselves and are as follows:

1. MOSCOW VEIN:

From the main vein of the property, half way up the West slope on the Moscow claim, about  $\frac{3}{4}$  mile North of the Magma Mine,

a very large and persistent vein that in places shows lead, copper, zinc and occasionally rich pockets of silver in side stringers. Vein is thirty feet (30') wide here.

COPY

- (a) Vein matter specimen:  
Altered Porphyry or Diabase. Much sericitization, some Chloritization.  
A little residual chalcopyrite. Limonite occurs as films and stains surrounding partly filled cavities. No recognizable pyrite cast. Probably derived from chalcopyrite and bornite and possibly zinc blend.

CROPPING CHARACTERISTIC OF MAGMA- VEIN:

Cropping lacking in the typical gessan due to the scarcity of pyrite in the primary ore.

- (b) Wall Rock specimen:  
Regionally altered diabase with a little introduced Calcite due to hydrothermal action.

II. WATSON VEIN:

From the Gerald Cansler Claim on the West side of the mountain, 1/2 mile North of the Magma Mine. The vein is ten feet wide here and is very large and persistent vein extending East over the mountain and under the Diabase.

- (a) Wall Rock Specimen:  
Altered Sandstone or Quartzite. Round quartz grains. Specimen seamed with veinlet of limonite precipitated in place and therefore derived from Chalcopyrite. A few grains of residual sulphide.
- (b) Vein Matters:  
Brecciated quartzite thoroughly impregnated with limonite. No pyrite case discernable and no calcite. Limonite derived probably from chalcopyrite or zinc blend.

III. WATSON VEIN:

From the Palace Claim, straight North of the town of Superior, near the top of the mountain. This is about a mile East of number two specimen.

- (a) Vein Matter Specimen:  
The Limonite in the specimen has deposited in the place of the original sulphide, with very little migration, indicating either Chalcopyrite or zinc blend derivation. In the absence of Calcite in the vein matter, the absence of copper stain does not militate against the probability of Chalcopyrite derivation.
- (b) Wall Rock Specimen:  
The specimen shows extensive alteration with general impregnation with limonite and Manganese Oxide. Nothing can be said definitely of the probably derivation of the oxides. The extent of the alteration is very important showing strong mineralization solutions.

SUMMARY: Much detail might be written about the property, but the above and foregoing facts and maps give one a very good idea of the relation to the Magma. It has been a long and difficult task to get all of this property consolidated, so that it would cover all the outcrops, but we have finally accomplished this, and there are no possible Law-suits that can assail the Titles.

Besides the maps and photos that speak for themselves, we would call special attention to the following points, which are mentioned in detail above:

1. Three Major and two Minor Veins parallel to the Magma on the North, several miles long and comprising over 150 claims.
2. The surface appearance of these veins is exactly the same as the Magma outcrop.
3. Microscopic studies indicate that in every way these veins are the same as the Magma outcrops.
4. Limonite is present in great quantities in all the veins and on our North vein the presence of chalcopyrite and bornite in protected quartz stringers in the main vein, indicates that the iron stain was derived from these sulphides, now largely leached out except for the protected copper.
5. In the same vein oxide zinc ores occur in considerable quantity, as much as 20%, and there are many lead and zinc stringers on the surface leading out from the main vein. Silver also occurs in many outcrops. All of this is characteristic of the Magma Vein at a slight depth.
6. The parallel veins are cut by two North and South veins at right angles of exactly the same outcrop appearance. Indicating to the eye the simultaneous and common origin of all of the veins.
7. This property is by far, the most promising, undeveloped, copper prospect in Arizona, if not in the United States. It adjoins the most intensely mineralized fissure vein in the world, and almost every possible indication, other than the actual cutting of the veins, points to deposits that will be larger even than that of the Magma, because the veins are more extensive.

Respectfully,

(Signed) KIMBALL POMEROY

TO WHOM IT MAY CONCERN:

The above and foregoing report was made several years ago and compiled by Kimball Pomeroy.

The name of the company has been changed from the North Magma Copper Company to MAGMA EXTENSION MINING COMPANY and incorporated under the laws of the State of Arizona. This change was made when additional ground was put into the company. This report is lacking in many details and serves only as a prospectus.

RALPH J. POMEROY.

BRIEF REPORT  
ON THE  
MAGMA EXTENSION MINING COMPANY  
PROPERTY  
PIONEER MINING DISTRICT  
PINAL COUNTY, ARIZONA

By W. D. COCHRAN, E.M.,  
Phoenix, Arizona

October 11th, 1940

COPY

PROPERTY:

The Magma Extension Mining Company property comprises One hundred twenty-six (126) Claims, six of which are held by patent and the balance by right of location under the U.S. Mining laws. All assessment work having been done and taxes paid on the patented claims.

LOCATION: The property is located in the Pioneer Mining District near Superior, Pinal County, Arizona and joins the Magma Copper Co., property, workings and smelter as shown on the attached map.

HISTORY:

The Pioneer District is one of the oldest producing mining districts in Arizona. It includes the Silver King Mine, once Arizona's greatest Silver Mine, with a production of more than \$15,000,000.00 also the Magma Copper Company which joins this property with a production of around \$155,000.00.00 and just getting off to a good start. The Miami Copper Company, which is only a few miles East with a record of several million dollars, then the Inspiration Copper Company about 20 miles East has produced millions and still operating; further East is the Old Dominion with a record of several million. All of these properties are in line along the same Mountain with similar Geologic formations and conditions.

GEOLOGY:

The Pioneer Mining District has certain well defined and characteristic geological features which prevail from the Magma Chief ground Southward for a number of miles. Briefly summarized, it shows a belt of steeply uplifted limestone beds resting on quartzite, underlain by diabase. The limestone dips Eastward into the mountain and is capped by a great thickness of Dacitic Lavas forming the mountain summit. A line of slipping and brecciation along or near the contact between quartzite and limestone shows a Gossan Outcrop for many miles, which at many places carries extensive masses of Manganese and Iron Oxide veined with green copper carbonate and silicate.

The great belt of uplifted limestone is broken by cross breaks or fissures, with displacement or faulting of the limestone and other rocks. The cross faults are numerous and most of them show outcrops characterized by black Manganese and more or less iron oxide. The Magma Ore Bodies occur in a cross fracture of this kind that is filled by grey diorite porphyry, carrying the ore along the contact from near the surface down to 1500 feet.

Beginning at a point near the center of the Black Diamond claim #6 and extending West to the Rex #4 claim is a vein which carries immense tonnage of Manganese, Silver, Copper and Gold Ore. On the Watson claim an incline tunnel has been driven 2,200 feet on the vein and is in Manganese Ore all the way. About 1,500 feet South of the above vein is another vein and beginning at a point about the

center of the Hill Top #1 claim and extending Westward where it intersects another vein near the East end of the Magnet Fraction claim running North-East, South-West carrying Manganese Ore all the way. Beginning at a point near the center of the Maryland claim and extending south to the Magma Copper Company shaft #1 is another vein carrying Manganese Ore.

VEINS:

There are four major veins running East and West across the property, with five or six minor veins intervening; there are two major veins running North and South and several intermediate veins. See map attached. I also refer you to report of Kimball Pomeroy.

Beginning at a point near the center of the Black Diamond claim #6 and extending west to the Rex #4 claim, the vein carries immense tonnage of Manganese, Silver, Copper and Gold Ore. On the Watson Claim an incline tunnel has been driven 2,200 feet on this vein and is in Manganese Ore all the way. About 1,500 feet South of the above vein is another vein and beginning at a point about the center of the Hill Top #1 claim and extending Westward where it intersects another vein near the East end of the Magnet Fraction Claim running North East South-West carrying Manganese Ore all the way. The North-East South-West vein is also in Manganese Ore for about 2,000 feet. Beginning at a point near the center of the Maryland Claim and extending South to the Magma Copper Company shaft #1 is another vein which carries Manganese all the way. Note RED lines on the map indicate the Manganese Ore Veins. There are numerous other veins on the property which do not show on the map.

The veins on the original map were shown in fine dots, but on the re-print they do not show up very plainly, therefore I have traced along same with Red, and in the veins showing Manganese, I have traced with Red also.

DEVELOPMENT:

The main development is an incline tunnel 2,200 feet in length and a 200 foot incline tunnel, both on the Watson Claim. These tunnels are in the Manganese Ore all the way, and the 2,200 E. tunnel has between 700 and 800 feet of backs. There are many other workings on this property and I again refer you to Report of Mr. Kimbell Pomeroy on Page 3.

The workings of the tunnels are opened in places more than 40 feet in width and still carry the Manganese Ore.

O R E S:

MANGANESE:

There are great veins of Manganese Ore on this property ranging from 30 to 60 feet in width and run from 27% to 52% Manganese.

SILVER, GOLD, COPPER:

This Manganese Ore is carrying Silver, Gold and Copper with a net value of around \$10.00 per ton after making all deductions.

OTHER ORES:

There are also large deposits of MOLYBDENUM and VANADIUM on this property, and there are several good properties working just to the East near Mammoth, Arizona. There is also an abundance of high grade Copper, Lead, Silver and Gold at depth, assuming that these veins carry to depth as do the Magma Copper Company's veins and they should, as it is the same vein system.

*miles from Mammoth*

ORE IN SIGHT:

Ore blocked out and in sight will probably run into several million tons. It is very difficult undertaking to even undertake to estimate the possible tonnage as the Mn. shows on the surface the full length of the part of the veins that carry Mn. and the width of the veins vary from 10 to 60 feet in width and it is believed that it extends in depth from 1,200 to 1,600 feet. This Mn varies in percent from 27% to 52% and there is some of same that will no doubt meet Government specifications.

MAGMA COPPER COMPANY:

The Magma Copper Company would like to have this property and they have bought several claims from the owner in the past, and are after six of the claims at the present time but they do not need it, as they have enough for a long time. They have the best mine in the U.S., barring none and have enough ore blocked out to keep them going for many years to come.

SMELTERS AVAILABLE:

There are three smelters nearby as follows: Magma Copper Company, Superior, Arizona, about three miles haul, American Smelting & Refining Company, Hayden, Arizona, a distance of 75 miles; Inspiration Copper Company, a distance of about 23 miles. The Magma Copper Company have, in the past, handled from one to five cars per week of this ore, but pay only for the silver, gold and copper, which runs around \$10.00 net per ton. They do not pay anything for the Manganese content and have recently cut down to one car per week on account that they mine about as much ore themselves as they can handle. Neither of the above smelters have offered anything for the manganese content of the ore, yet they want it.

NEEDED EQUIPMENT:

This property should be equipped with a smelter with a smelter and the necessary equipment to handle, at least, 100 tons per day, and I believe that this sized operation can be installed at a total cost not exceeding \$80,000.00. An operation twice this size would be more available. With this operation the combined value of the different materials should be worth from fifty to sixty dollars per ton net, as this would increase the percentage of Manganese to a high grade product besides saving the other metals.

SMELTER SITE:

There is a good smelter or mill site just below the hill from the Watson Claim, so that in case of the smelter the ore would not have to be hauled but a very short distance.

I would suggest going in under the ore and shooting down, so as to take it out just above the smelter and not have to haul it off the mountain side. I believe this could be done so as to eliminate most of the trucking, and by far the cheaper way to mine the ore.

HAULING:

They are at present time trucking around the hill to get the Magma Copper Company Smelter or to the railroad, a distance of about three miles, but they are opening up a new road, which will shorten the haul about two miles.

LESSEES:

There are lessors here now that are just chomping at the bits to get on the property. These lessees and the men that buyer could put to work, would make more money for the buyer in a year than the cost of the property, as they could soon be taking out from 1,000 to 1,500 tons per day, even though nothing was realized for the Manganese.

OWNERS REASON FOR SELLING:

The reason for this property being for sale today, is that the owner is getting old and has been very sick for the past two years. He has only one boy that does not care a snap for the mining business and he has no experience. He told me that he wants to get something out of what he has now, as the boy would soon lose it all after he is dead. He is one of the real mining men of this State; he located this property before the Magma Copper Company property was located, and could have had it if he wanted it, but the property that he has, looked better to him and probably will be when it has the work done on it that the other property has. He has been a long time getting this big property together, but he really has something now.

RECOMMENDATIONS:

I would recommend the purchasing of this property and the installation of an operation consisting of a Smelter of from 100 to 200 tons daily capacity with the necessary equipment to handle this amount of tonnage.

I believe with an operation consisting of only 100 tons per day capacity and necessary equipment, that \$1,000.00 or more in silver, gold and copper and around \$5,000.00 in Manganese can be produced. With an operation twice this size, twice the profit can be made. This would give sufficient tonnage of high grade Manganese to contract to the Government.

REMARKS:

Read carefully and you will understand what the owner, Mr. Kimball Pomeroy means, when he says that this is one of the greatest prospects in the U.S. The same veins the Magma Copper Company are working run through this property, only he has not been able to go down on them (financially) like the Magma Copper Company has, but they never got pay dirt until they were well in depth, and came very near giving it up as a bad job. What he says about the Geologists and Engineers has happened at both the Magma and the Bisbee properties.

Even John Hayes Hammond turned down the Magma Copper Company properties, saying, "they did not have a chance," and today it is without dispute the best mine in the U.S.A., and they have enough ore blocked out to run their plant for the next 24 years.

The Magma's #1 shaft is now over 5,000 ft. in depth and they are working on a 60 ft., vein that runs 12 feet of high grade Bornite Copper, with high grade Lead with good Gold values.

My personal opinion is that the Magma Extension property will make a bigger mine than the Magma Copper Company property is today, as they have the same veins and the same formation and a larger vein structure at the surface than the Magma Copper Company ever had.

The Magma Extension Property could be handled in several tracts and should make several good mines from this immense property of 126 claims. This is the best piece of mining ground for sale in the State or anywhere else. To see it is to know what I say is correct.

VALUE OF PROPERTY:

This property was sold just a few years ago for \$2,500,000.00 and the contracts closed in Los Angeles, Within a week thereafter, the buyer was killed in a plane crash, so the old man who has had it for years had to take it back, and has now decided to sell it again.

This property should sell for \$5,000,000.00 if the owner had the money to have it properly mapped, showing all the workings together with the assays, relation of workings to the Magma Copper Company's property, take photos and get out a real prospectus

on the property and the District, but that would take considerable time and money, and the owner does not have the money to have it done.

ASSAYS:

The assays that they have had run on the Manganese have run from 27% to 52%. I believe the ore will average as is, between 30% and 45% Mn. On a sample that I recently took of the ore, they are shipping, I got the following returns; Manganese 31%; Silver 29 oz.; Insolubles 27%; Zinc 5%; Barite 5%.

Following from Arizona Assay Office, Phoenix, Arizona;

Sample #1	44.4 oz. Silver	
" #2	145.2 oz. "	
" #3	73.5 oz. "	71.1% Lead
" #4	24.8 oz. "	
" #5	4.1 oz. "	.03 oz. Gold \$1.05

COPY

Following from Arizona Testing Laboratories, Phoenix, Arizona.

Lab. No.	Gold oz.	Value	Silver oz.	Price	Value	Remarks
30317	0.04	\$ 1.40	61.64	64¢	\$39.45	
30385	0.02	.70	49.80	64¢	\$31.87	
30848	0.02	.70	34.54	70¢	\$24.18	
30889			8.75	70¢	\$ 6.13	#1 Surface big cap
30890			39.48	70¢	\$27.64	#2 Bottom of Shaft
30891			36.54	70¢	\$25.65	#3 Surface No. of "

Following is analysis on three samples of Manganese ore, for Manganese only, sent to the Colorado Fuel & Iron Corporation, Pueblo, Colorado, January 18th, 1940:

	#1	#2	#3
Iron	10.2%	6.7%	10.1%
Manganese	25.7%	24.4%	30.3%
Insolubles	24.8%	5.8%	17.0%
Phosphorus	.031%	.95%	.058%
Lead	.9%	3.0%	2.5%
Zinc	1.0%	6.8%	5.0%
Barium Carb.	12.5%	nil	13.9%

SHIPPING RETURNS:

Following are a few of the many shipping returns from the Magma Copper Company Mill, at Superior, Arizona:

Date	Car No.	Dry Tons	Copper%	Silver oz.	Gold oz.	NET Returns
1/2/29	78	52.933	.80	18.10	.01	\$490.51
10/11/39	73	26.364	.60	28.40	.01	\$373.05
12/8/39	75	89.7925	.64	15.10	.01	\$581.35
"	77					
12/8/39	73	43.9475	.65	18.50	.01	\$404.89

The above and foregoing assays and shipping return are from the originals.

VALUES:

I believe that with the aid of the Smelter that instead of only getting around \$10.00 per ton for the Silver and Copper, that the Manganese values will add at least \$50.00 per ton to the other metals bringing the total net value up to better than \$60.00 per ton, as this would give a Ferro grade Mn., which at the present price should be worth better than \$75.00 per ton. I do not believe that the above figures are unreasonable at all, and if true, operating only

300 days per year would give a net profit of \$1,800,000.00. This can be accomplished with a 100 ton Smelter.

Following are very conservative figures and only an estimate on part of one vein, and there are five Manganese veins on the property:

Vein 4,500 ft in length, 200 ft. deep and 20 ft. wide.  
Using 10 cu.ft. to the ton would give 1,800,000 tons at \$8.00 per ton equals \$14,400,000.00.  
Smelting \$3.50, Mining \$1.00, Trucking 80¢, total \$5.30 per ton, leaving a net profit at this price of \$2.70 per ton.

GROSS on 1,800,000 tons @ \$8.00	\$14,400,000.00
Mining, Smelting & Trucking 5.30 per ton	\$ 9,540,000.00
NET PROFIT for Silver & Copper on this	\$ 4,860,000.00
ROYALTY rate on Manganese @ 2.00 per ton	\$ 3,600,000.00
NET PROFIT on this part of the vein	\$ 8,460,000.00

This provided you could get the royalty rate on the Manganese.

This is not even 10% of the Manganese tonnage on the property, but to assume that it is 10% of the tonnage, then there would be 18,000,000 tons and a net value of \$84,600,000.00 on the Manganese, silver, and copper. To say nothing of values at depth.

CONCLUSION:

It is my opinion that this is the outstanding property to be found anywhere; it is large enough for the big companies, and I understand it can be had at a price that can be paid by the independent or small operator.

I find myself again referring to the Report of Mr. Kimball Pomeroy, especially pages 4 and 5, Microscopic tests, etc.

I have spent several days on the property and I am convinced beyond any doubt that the same vein system continues and prevails on the Magma Extension property as they have on the Magma Copper Company property.

I have also gathered much information from various sources as well as observation that convinces me that this property is worthy of consideration and should develop into one of the best if not the best property to be found anywhere.

Respectfully submitted,

W. D. Cochran, E.M.

Phoenix, Arizona, November 30th, 1943.

Mr. R. M. Auersperg,  
Jefferson Hotel,  
Phoenix, Arizona

In re: Magma Extension Mine  
Pinal County, Arizona.

Dear Sir:- I have examined the above property consisting of one hundred or more unpatented claims and six patented mining claims containing about 2500 acres of land.

It is my opinion that it is the largest Manganese Deposit of such a high grade in the State of Arizona, besides there contains copper, lead, zinc, gold and silver.

This property joins the Magma Copper Company on the North, East and West. At the time of my examination, Mr. Bell of the U. S. Mineral Reserve Board, concurred with my estimate of 50,000,000 tons of twenty-eight per cent (28%) Manganese in sight. This is sufficient ore to operate a smelter for years. Ore should be delivered to the smelter for not more than \$5.00 per ton.

About 3.7 tons of this ore is required, per ton of Ferro Mn, or to make one ton of Ferro.

Smelting costs to make one ton of Ferro should not exceed twelve dollars (\$12.00) per ton. See present market quotations on Ferro Manganese.

An Allis Chalmers Blast Furnace Smelter is available here, that I erected in 1939 and we will endeavor to furnish in addition two A-C Muckers, Compressors, rail, pipe, hammers, stopers and drifters, truck scales, drill steel, ore cars, tanks, frequency changes, or 25 cycle motors and five (5) trucks.

Ore analysis shows Mn 28% CaC 12% Fe 8%, P O, Al .01  
S 16% Sio2 19%.

I have been engaged in the mining and smelting for the past thirty-two (32) years, employed the greater part of that time by the large smelting companies and it is my reasoned opinion that the property properly managed should be very profitable with even a three hundred (300) ton per day unit.

Very truly yours,

(Signed) Herbert D. Mollahan

*Magma mine file (yay)*  
From Engineering and Mining Journal--April, 1946

MAGMA REPORTS TONNAGE IN NEW PROPERTY

The Magma Copper Co. reports that an area of 1,000 ft. by 4,000 ft. has proved to be mineralized at the San Manuel property, in Arizona, as the result of more than 39,000 ft. of churn drilling. Two ends and one side of the orebody remain open for extension.

An estimate of tonnage confined within the boundaries of completed drill holes indicate 83,900,000 tons of ore averaging 0.79 percent copper and containing small and as yet undetermined amounts of gold, silver and molybdenum. The total is made up of 35,300,000 tons of oxidized ore assaying 0.74 percent copper largely in the form of copper silicate; 20,800,000 tons of secondary ore assaying 0.86 percent copper composed of mixed copper silicates and sulphides, and 27,800,000 tons of sulphide ore assaying 0.81 percent copper.

Approximately 36,700,00 tons of ore will be amenable to ordinary sulphide flotation, and the remainder of 47,200,00 tons will have to be treated by methods yet to be determined.

GENERAL INFORMATION ON MAGMA COPPER COMPANY

Population of Superior	5000 /
Number of Men Employed-Mine	571
"    "    "    "    -Mill	45
"    "    "    "    -Smelter	116
"    "    "    "    -Mechanical	52
"    "    "    "    -Miscellaneous	22
"    "    "    "    -Salary	62
"    "    "    "    -Railroad	<u>16</u>
Total	884 Men Working

Elevation - 500 Level - 3030 feet above sea level

Water Pumped - approximately 400 gallons per minute

SHAFT DATA

	<u>TOP</u>	<u>BOTTOM</u>	<u>COMP.</u>	<u>AIR TRAVEL</u>	<u>USE</u>	<u>CA.</u>	<u>REMARKS</u>
No. 1	Surface	- 800 L.	2-Comp.				Caved
No. 2	215 L.	- 3600 "	3-Comp.	Downcast	Hoist.	1 1/4"	All Concrete. 4-T. Skip
No. 3	Surface	- 4553 "	3-Comp.	Downcast	Hoist.	1 1/4"	3-T. Skip
No. 4	Surface	- 1500 "	3-Comp.	Upcast	Vent.		Fan on 500 L.
No. 5	Surface	- 4689 "	4-Comp.	Downcast	Hoist.	1 1/4"	@-1139 elev. at bottom
No. 6	Surface	- 2560 "	3-Comp.	Downcast	Vent.		
No. 7	Surface	- 2550 "	3-Comp.	Downcast	Vent.		
No. 8	Surface	- 4425 "	4-Comp.	Upcast	Vent.		Steel Sets
W. 14 Winze	2000 L.	- 4664 "	3-Comp.	Upcast	Hoist.	7/8"	

PRODUCTION

22,000 Tons Copper Milling Ore per month  
 6,000 " " Smelting " " "  
7,000 " " Zinc Milling Ore per month 1.7% Cu. & 8.2% Zn.  
 35,000 Tons Ore per month assaying 5 1/2% Cu., 2. oz. Ag. & 0.02 Oz. Au.

1,340 Tons per day of 24 hours

6 Carloads of timber goes in mine each week

67.8 Miles of Underground - Shafts, Drifts, Crosscuts, Raises

*all the visitors must sign a release and register before going through the mine, mill, or smelter.*

*Magma Extension Mine*

June 4, 1946

*Make file card  
Miss Miss*

Mr. W. D. Van Dyke, Jr.  
Reymert Mining Company  
902 Wells Building  
Milwaukee 2, Wisconsin  
PERSONAL

RE: North Magma Copper Company  
New Magma Extension

Dear Van Dyke:

I have yours of May 31 in which you acknowledge mine of May 29 on the above subject and state that you do not desire to have me make any further investigations.

However, I have talked in regard to this property with Frank Carrow who is very familiar with all of the mining operations around Superior, and he tells me that most of the claims were staked by a man named Pomeroy in areas where nothing had been found and where no one else would go to the expense of staking claims and performing the location work. He went on to say that he thought that most of these claims were quite a long way from the Magma holdings and out quite a way in the direction of the old Silver King. He thought that none of the property had any value.

You perhaps noted that the report by Cochran was written in 1940 and none of his statements in respect to the value of Manganese ore would apply at the present time. During the war the United States government spent a great deal of money trying to develop producers of Manganese and financed <sup>in</sup> any such operations but as far as I can learn, the only Manganese shipped from the Superior district in recent years came from one of the claims of the Magma Copper Company which was being worked by leasers.

We all know that not only the Magma Company but Inspiration, United States Mining, and A. S. & R, and many other large concerns have very thoroughly worked the Superior district and it is quite certain that no large prospect of ore carrying gold, silver or copper has escaped their attention. Of course there is always a chance that some good ore might be found with depth, but the expense of such exploration has not seemed justified. I am sure that your friend, Mr. Pray, will make no mistake in failing to invest in the Magma Extension and incidentally I would like to keep the copy of the reports which you sent me for my files, unless you wish to have these returned to you.

Personal regards.

Yours very truly,



*promising*

GMC: IW

May 29, 1946

Mr. W. D. Van Dyke  
902 Wells Building  
Milwaukee 2, Wisconsin

*Chas Magma Extension*

RE: North Magma  
Copper Company

Dear Van Dyke:

I have yours of May 24 enclosing reports on the above named property which I have only been able to glance over hurriedly but to which I will later give careful attention.

As you say the statements made in the reports are not only fantastic but either show profound ignorance on the part of the writer or more probably are made with the definite intention of deceiving the reader.

I never heard of W. D. Cochran who signs himself as a mining engineer, but I note that he is not registered as such in Arizona and many of the statements and estimates in his report are obviously absurd.

As to <sup>w</sup>Hubert D. Mollahan who signs the other report, this man has been endeavoring to promote mines for some years, and at one time was closely associated with a notorious crook named J. Ben Ross who drew a \$5,000 fine and a prison sentence (later suspended) for his part in a mining swindle in New Mexico. Apparently Mollahan was not mixed up in this particular project but he has been in some other things that were nearly as bad and I should not have the slightest confidence in any statements which he might make nor wish to be associated in any way with any company that he recommended.

I will be able to give you some further information next week but meantime would strongly advise that your friend in Chicago should not make any investment whatever in this organization nor consider going to the expense of having the property thoroughly examined by a competent engineer.

Personal regards.

Yours very truly,

GMC:IW

*J m c.*

W.D.VAN DYKE JR.  
902 WELLS BLDG.  
MILWAUKEE, WIS.

June 12, 1946

*h. a.*  
*Magma Extension*

Mr. George M. Colvocoresses  
1102 Luhrs Tower  
Phoenix, Arizona

My dear Calvo:

Thanks very much for your letter of June 4, 1946. Of course you may keep the copies of the reports I sent you relative to The Magma Extension.

My friend Mr. Max Pray is tremendously obliged for the good advice you have given him and I also want to express my appreciation of your helping me out in this matter.

With kind personal regards, I  
am,

Sincerely yours,



W. D. Van Dyke, Jr.

ek

W.D.VAN DYKE JR.

902 WELLS BLDG.

MILWAUKEE, WIS.

May 31, 1946

#6/4.  
46

Mr. George M. Colvocoresses  
1102 Luhrs Tower  
Phoenix, Arizona

In re: North Magma Copper Company, now  
Magma Extension

My dear Colvo:

I want to thank you very much for your letter of May 29th advising that my friend Mr. Max Pray of Chicago should not make any investment whatever in the above company. Your letter is exactly what I wanted and I have advised Max Pray that we would not be interested in joining with him in any way in connection with the above property. I have told him that as I had felt in the beginning, this property could not be as reported in the fantastic report which the Magma Extension Company submitted.

I hope you will not bother further in regard to this report and my request that you give me the benefit of your advice as I am sure that my friend or ourselves will give no more time or attention to the matter. Thanking you again for your letter of May 29th, I am

Sincerely yours,



W. D. Van Dyke, Jr.

ek

W. D. VAN DYKE JR.  
902 WELLS BLDG.  
MILWAUKEE, WIS.

*Pomeroy*  
*Cochran*  
*Hollman - Crook*

May 24, 1946

Mr. George M. Colvocoresses  
Luhrs Tower  
Phoenix, Arizona

My dear Colvo:

A friend of mine in Chicago has been approached to promote a company to take a lease on the North Magma Copper Company Property, now the Magma Extension Mining Company at Superior, Arizona. The owner has represented that he is willing to lease the property with the equipment thereon on a royalty basis at customary royalty rates. My friend in Chicago knowing that we had been interested in mining in the vicinity of this property asked me if I would look over the report he received from the owner, a copy of which I have had made and enclose herewith.

It would appear to me that the statements made in this report are fantastic. It would appear to me that if there were any assurance of this property having the values as represented in the enclosed report the Magma Copper Company would certainly have done business with the owner before now.

I have told my friend in Chicago that I would write you sending a copy of the report for you to look over and I was sure that you would be good enough to write me briefly what if anything you know of this property. I have advised my friend to make no commitments on the basis of the enclosed report and that unless ~~you~~ felt the property was worth a thorough examination by a competent engineer, the best thing to do was to drop the matter. I would be greatly obliged if you would write me at your convenience advising whether or not in your opinion this property is worth my friend's spending the necessary time and money to have a thorough examination of same made by an independent and competent engineer.

With kind personal regards, I am

Sincerely yours,

*W. D. Van Dyke Jr.*

W. D. Van Dyke, Jr.

*W. D. Van Dyke Jr.*  
*George M. Colvocoresses*  
*John*  
*John*

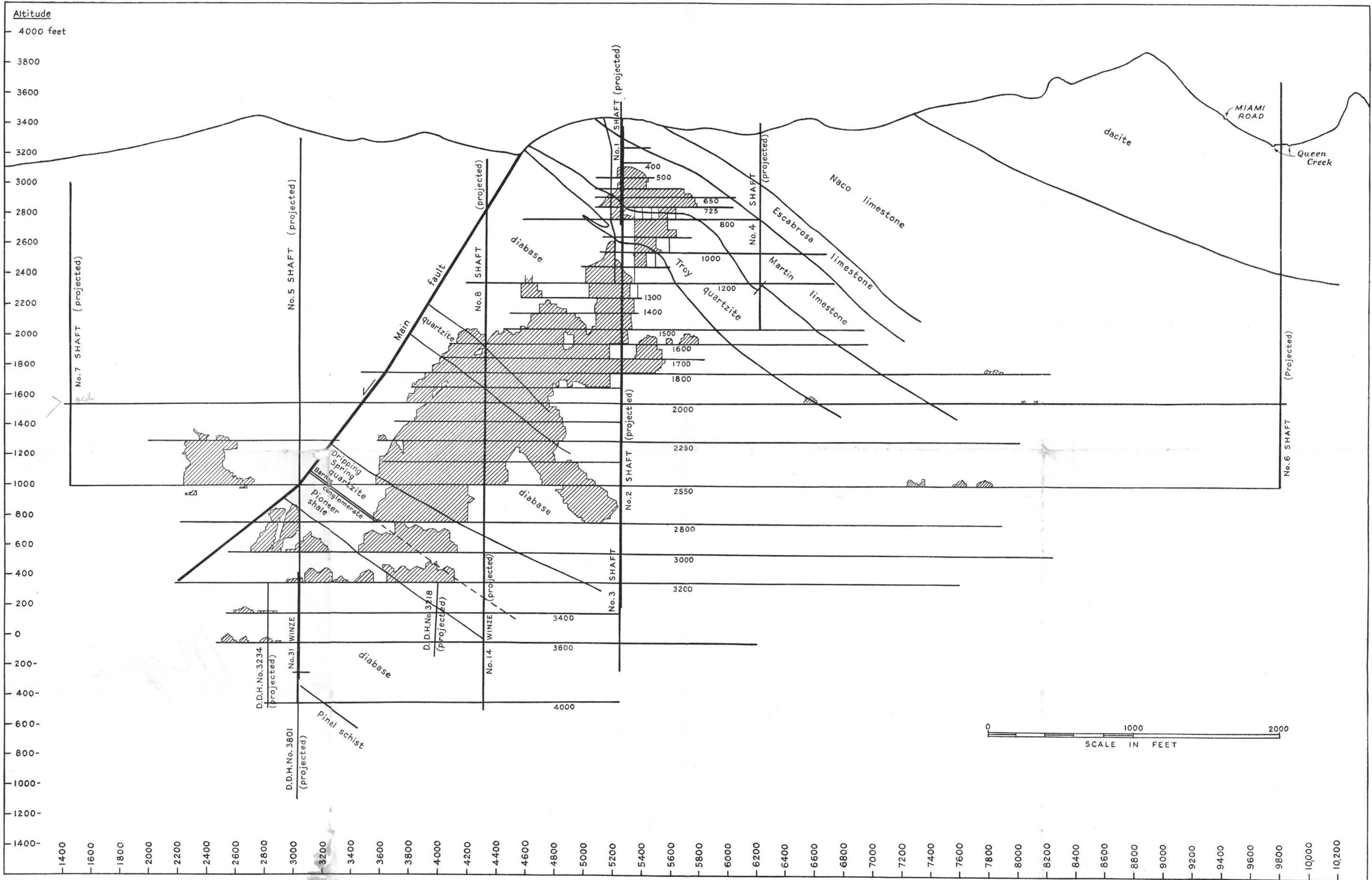


Plate XXIII.—East-west vertical section of Magma Mine through No. 3 shaft with projection of stope ore bodies, showing geology of south wall of Magma vein. Compiled by M. N. Short from maps of Magma Copper Company.

