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

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09/19/95

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: ARIZONA MAGMA

ALTERNATE NAMES:
DIANA

MOHAVE COUNTY MILS NUMBER: 119A

LOCATION: TOWNSHIP 23 N RANGE 18 W SECTION 5 QUARTER NE
LATITUDE: N 35DEG 25MIN 00SEC LONGITUDE: W 114DEG 13MIN 27SEC
TOPO MAP NAME: CHLORIDE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

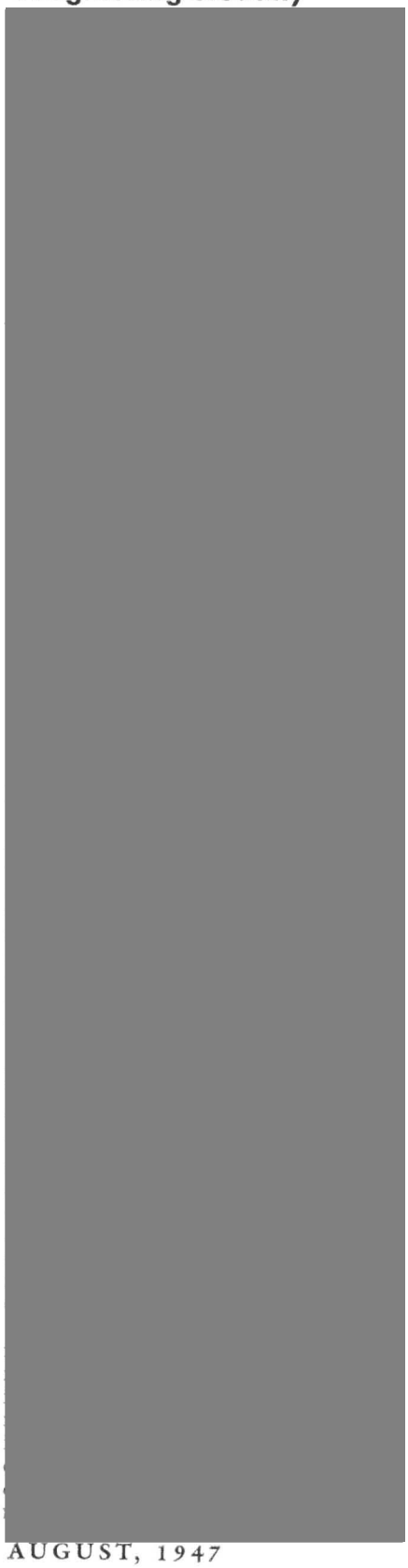
COMMODITY:
SILVER
GOLD LODE
LEAD

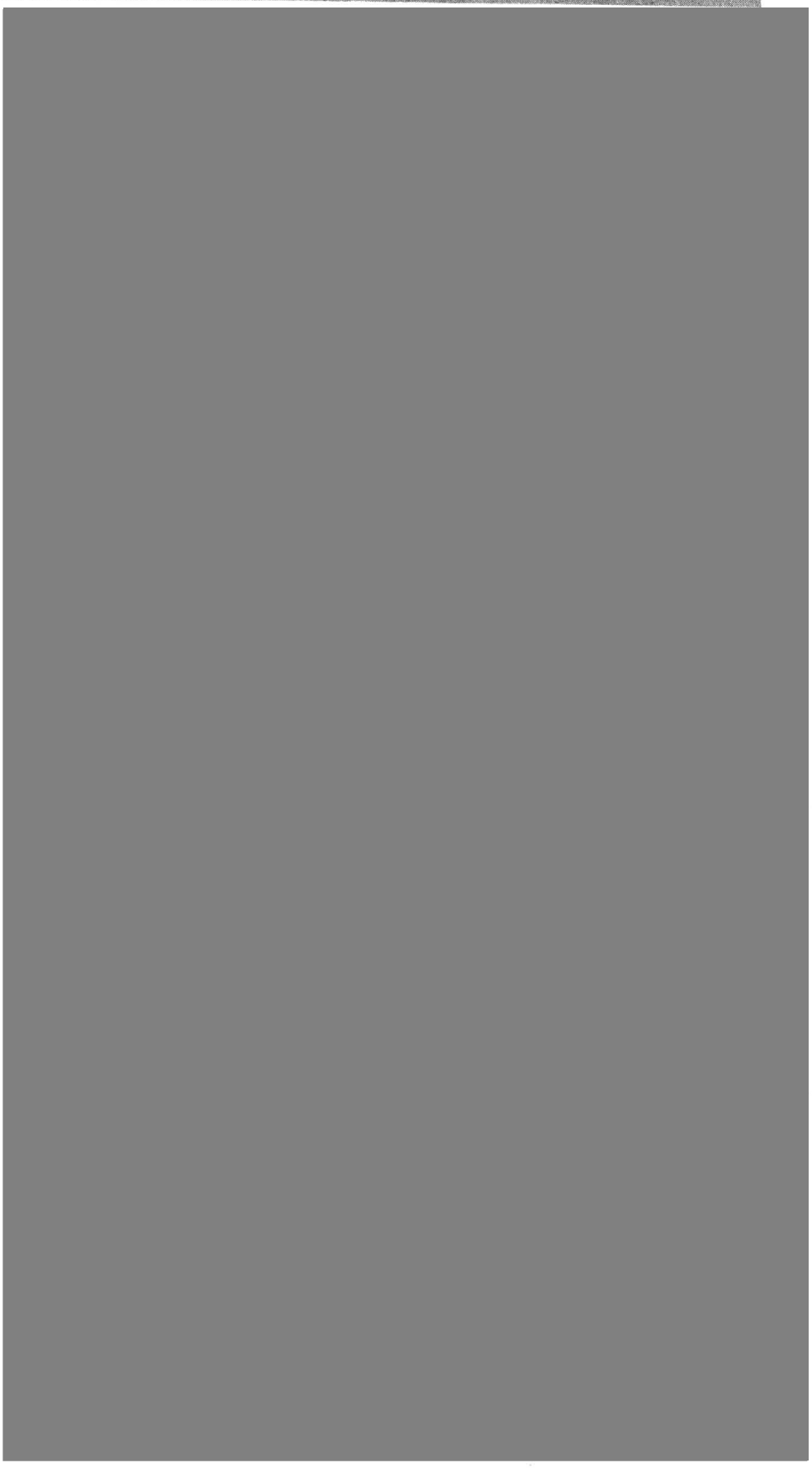
BIBLIOGRAPHY:

ADMMR MOHAVE CARD FILE
ADMMR MOHAVE CUSTOM MILL PROJECT
AZ MNG JNL, AUG 1920, P 13, VOL XII NO 3 P 20
AZ. STATE MINE INSP. RPT, P 2, 11, 1940
HINTON, "HANDBOOK TO ARIZONA" P 99
E&MJ VOL. 148, MAR. 1947
BLM AMC FILE 27399
ADMMR ARIZONA MAGMA (DIANA) MINE COLVO FILE
THOMAS, B.E. "GEOL. OF CHLORIDE QUAD" BULL OF GEOL. SOCIETY OF AMERICA, VOL 64, 4/53 P 397 402

precipitates — SOUTHWEST . . .

Construction at Magma Progressing Steadily





MINING WORLD
IN 1-13-05 KAH

CHARLES P. ELMER
ATTORNEY AT LAW
MASONIC TEMPLE
KINGMAN, ARIZONA

Arizona Magma
File

August 8, 1945.

Mr. George M. Colvocoresses,
Mining and Metallurgical Engineer,
1102 Luhrs Tower,
Phoenix, Ariz.

Dear Mr. Colvocoresses:

Thank you for your letter of the 6th, returning the report, maps, smelter settlement sheets and other data on the Arizona Magma Mine which I recently loaned you.

Trust that your investigation convinced you we have a mine there and that we will soon hear from Mr. N. A. Wimer with an interesting proposition.

With best wishes, I am,

Sincerely yours,

Charles P. Elmer

CHARLES P. ELMER

September 29, 1945

Mr. N. A. Wimer
530 West 6th Street
Los Angeles 14, California

For Arizona Magma file

Dear Mr. Wimer:

I acknowledge and thank you very much for your letter from New York enclosing a check of $250 in full payment of account covering examination and report on the Arizona Magma Mine.

I have just returned this morning from several days spent in Globe and vicinity and I expect to be here in Phoenix almost continuously until around the 9th and 10th of October when I may have to make another trip to the Globe district.

I hope that you may be returning from the East in the hear future and I shall stand ready to be of any possible assistance in reference to the situation at the Tennessee.

Yours very truly,

GMC/tar

THE LOTOS CLUB

110 WEST FIFTY-SEVENTH STREET
NEW YORK 19, N. Y.

To cover your statement for examination & report on Magma

Harwin

Arizona Magma Mine file

AGREEMENT OF LEASE AND OPTION TO PURCHASE

This Agreement of Lease and Option to Purchase, made this first day of September, 1945, by and between CHARLES P. ELMER, Trustee, of Kingman, Mohave County, Arizona, Lessor, hereinafter termed the first party, and HARRY NASLAND, of 128 South Reeves Drive, Beverly Hills, California, Lessee, hereinafter termed the second party:

WITNESSETH:

ARTICLE 1

That the first party, being the lawful owner or optionee of the described property, for and in consideration of the sum of TWO HUNDRED FIFTY DOLLARS ($250.00), to him in hand paid by the second party, the receipt whereof is hereby acknowledged, and for and in consideration of the payments to be made by the second party, and of the covenants and agreements hereinafter set forth, does hereby lease, let, demise and option unto the second party, his heirs and assigns, upon the terms and conditions hereinafter set forth, those certain mining claims situate, lying and being in the Wallapai Mining District, Mohave County, Arizona, the names of which and the books and pages where the location notices thereof appear of record in the Office of the Recorder of said Mohave County, being as follows, to wit:

NAME	BOOK OF MINES	PAGE
ANNEX WEST	3-F	196
ANNEX EAST	3-F	197
ANNEX	3-F	191
JERRY	3-F	193
MAGMA	3-K	426
STARLIGHT	3-F	198
ANAID EXTENSION	3-F	199
ANAID	3-F	195
JACK HAMMER	3-F	192
FLASHLIGHT	3-F	190
HIGHGRADE	3-F	199
STARLIGHT EXTENSION	3-W	413
DELAMAR	JJ	657

Together with all buildings, pipelines, tanks and all other fixtures and improvements therein and thereon, including mining and assay equipment and machinery, but

SPECIFICALLY EXCLUDING

the crushing and milling machinery and equipment, which is reserved by the first party.

Reference is hereby made to the above mentioned records for a more full and complete description of said mining claims

ARTICLE II. Option to Purchase and Term of Lease.

Upon the terms and conditions hereinafter set forth the exclusive option is hereby granted to the second party to purchase the above described property for the sum of TWENTY FIVE THOUSAND DOLLARS ($25,000.00), lawful currency of the United States of America, and in the event that this option is exercised all payments of rental or royalty previously made by the second party, under the terms of this agreement, shall be credited against the said purchase price. This lease agreement, unless sooner forfeited, cancelled, terminated or surrendered, as herein provided, shall continue in force and effect until the payment of the said purchase price has been completed, whereupon first party will execute a good and valid deed to the said property in favor of the second party or his assign.

ARTICLE III. Possession and Control of Property.

The second party shall have and he is hereby given and granted the right to enter into and take over immediately the sole and exclusive possession and control of said property and the whole and every part thereof, and during the term of this lease to remain in the sole and exclusive possession and control thereof, and to explore, investigate, measure, sample, examine, test, develop, work, mine, operate, use, manage and control the same, and the water and water rights appurtenant thereto, and to mine, extract and remove from said property the ores and minerals therein and appurtenant and belonging thereto, and to construct mining and treatment plants and treat, mill, ship, sell or otherwise dispose of the products of his operation and retain the full proceeds therefrom less the royalties payable to the first party as stipulated in Article IV hereof. The second party hereby expressly agrees that during the twelve months next succeeding the date of this contract he will expend, or cause to be expended, at least Seven Thousand Dollars ($7,000.00) for exploration and development work upon the leased premises.

All work for the development and operation of the property is to be done in a careful and workmanlike manner and conform in all respects to the mining laws and regulations of the United States and the State of Arizona.

ARTICLE IV. Royalties and Rentals.

The second party hereby agrees to pay the first party royalties on all ores, minerals, bullion, concentrates and other products mined and removed from said property during the term of this lease as follows:

Ten per cent (10%) of the net returns received from the sale of bullion, ores, concentrates or other products derived from the leased property.

It is, however, expressly stipulated and agreed that should this agreement remain in force for more than a year, the minimum rental or royalty thereafter shall be the sum of One Hundred Dollars ($100.00) per month, and the second party will pay to first party, by the 10th of the next succeeding month, any sum that may be required to cover any deficit that may remain after the regular royalties have been paid.

But in order to retain this lease and option, second party shall be, and he is hereby, obligated to pay to first party the sum of Two Hundred and Fifty Dollars ($250.00) on the execution of this agreement, as recited in Article I hereof, and Two Hundred and Fifty Dollars ($250.00) on December 1, 1945, which sums shall be deemed the consideration for which this lease and option is given. In addition thereto, in order to further retain this lease and option after September 1, 1946, second party shall be and he is hereby obligated to pay the first party the sum of Three Thousand Five Hundred Dollars ($3,500.00) on said date, and, if said sum of Three Thousand Five Hundred Dollars ($3,500.00) is thus paid, the same shall be considered as advance payment of the royalties hereinbefore specified, and all sums paid to first party shall be credited on the purchase price.

ARTICLE V. Protection from Liens and Damages and Payment of Taxes.

The second party shall keep the leased property and the whole, and every part thereof, free and clear of liens for labor done or performed upon said property, or materials furnished to him on or for said property, or for the development or operation thereof under this lease and while the same is in force and effect, and will save and keep harmless the first party from all costs, loss or damage which may arise by reason of injury to any persons employed by the second party in or upon said property or any part thereof, or which may arise by reason of injury to any persons, livestock or other property as the result of any work or operations of the second party or his possession and occupancy of the property.

The second party will keep posted upon said property such notices of non-liability for labor or materials furnished as may be posted thereon by the first party pursuant to laws of the State of Arizona.

The second party shall pay all taxes assessed upon said property sub-

sequent to those for the year 1945 and falling due during the term of this lease and while the same is in force and effect, and shall pay all taxes levied or assessed against any and all personal property, machinery and equipment placed upon said property by the second party during the term of this lease. The second party shall also pay all sales taxes and other taxes of every kind, character and description levied or imposed during the term of this lease upon the ores, minerals, concentrates or products of ores, produced, sold or otherwise disposed of by the second party, and all taxes levied against the second party as an employer of labor. All taxes are to be promptly paid when due and before delinquent.

The second party shall also carry at all times during the term of this lease Workmen's Compensation, Liability and other insurance required by the laws and mining regulations of the State of Arizona, and shall also insure the buildings, machinery and equipment now on said property against loss by fire in the amount of not less than FIVE THOUSAND DOLLARS ($5,000.00)

During the life of this agreement the second party will perform the assessment work upon the unpatented mining claims hereby leased as may be required by law, or in the event that no such work is required, will do all things necessary to protect the title of first party to said claims.

ARTICLE VI. Reports and Maps.

The second party shall furnish first party quarterly with copies of the logs of all drill holes sunk on the property, and with such sample or assay maps as may be made, showing the position of such drill holes, and of any new workings with assay values of samples taken on said property, also with copies of all settlement sheets or mint returns for all products marketed as these are received from the purchasers of said products.

The duly authorized representative of the first party shall be permitted to enter into and upon said property and the workings of the second party at all reasonable times for the purpose of inspection, and also to examine the books of accounts and records of production and sale of products.

ARTICLE VII. Forfeiture Clause.

The failure of the second party to keep or perform any agreement on his part to be kept and performed, according to the terms and provisions hereof, and especially the failure of the second party to make the payments of the minimum

royalty or rental stipulated in Article IV hereof, shall, at the election of the first party, work a forfeiture hereof. Provided, however, that in the event of a default on the part of the second party and the election of the first party to terminate this lease on account thereof, the first party shall give to the second party a written notice of his intention to declare a forfeiture of this lease and to terminate the same on account thereof, specifying the particular default or defaults relied upon by him, and if such default arises from non-payment of rental or royalty, the second party shall have thirty (30) days after receipt of said notice in which to make good such default, but in the case of all other types of default, a period of sixty (60) days shall be granted to remedy said default and reinstate this agreement.

In the event of a valid forfeiture, surrender or other termination of this lease and option, the second party will surrender to first party peaceable possession of said property and the whole and every part thereof immediately, and all payments theretofore made shall become the property of first party as a rental for the use of the property and as consideration for the privileges hereby granted.

ARTICLE VIII. Force Majeure.

If the second party shall be delayed at any time in keeping or performing any agreement on his part to be kept or performed according to the terms and provisions hereof, except the payment of minimum royalties and taxes, by strikes, lockouts, fire, unusual delay in transportation, orders or regulations of the Government, or any duly constituted instrumentality thereof, unavoidable casualties, or acts of God, such delay shall not be deemed a breach of this lease or a default on the part of the second party constituting a cause for forfeiture, but the operations contemplated under this agreement shall be promptly resumed as soon as the cause of prevention no longer exists.

ARTICLE IX. Removal of Equipment, Etc. by Second Party

The second party shall have, and he is hereby given and granted thirty (30) days after a valid forfeiture, surrender or other termination of this lease and option in which to remove from said property all warehouse stocks, merchandise, materials, tools, hoists, compressors, engines, motors, pumps, transformers, electrical accessories, metal or wooden tanks, pipes and connections, mine cars and any and all other machinery and equipment erected or placed in or upon said property by

second party, together with all ore broken in the stopes or workings, except mine timbers and underground mine tracks and pipe lines in place on the main levels or in the shafts, and permanent improvements attached to the soil.

Provided, but only provided that the second party is not at that time in default in respect to any payments due to first party or in respect to any of the terms of this agreement, the non performance of which might involve the first party in any present or future liability. Otherwise in order to collect such payments or protect himself against such liability, the first party shall be entitled to a first and prior lien upon all moveable equipment and other personal property of the second party placed upon the leased property, and if necessary may dispose of same for the satisfaction of such claims.

ARTICLE X.

The second party expressly reserves the right to cancel, terminate and surrender this agreement and option and to relinquish all rights, privileges and obligations hereunder at any time during the term hereof after having given to first party thirty (30) days written notice of his intention and fully discharged all obligations previously incurred.

ARTICLE XI. Interpretation and Notification.

This Lease Agreement and Option to Purchase has been accepted and will be performed by the parties in the State of Arizona, and all questions pertaining to its validity, construction or interpretation shall be determined in accordance with the laws of the State of Arizona.

All notices herein provided for may be given by mail at the following addresses, until otherwise changed by written request of the parties hereto, to-wit:

To the first party at Kingman, Arizona

To the second party at 128 S. Rodeo Drive Beverly Hills, California.

ARTICLE XII. Inurement Clause.

Time is of the essence of this agreement. The terms, provisions, covenants and agreements herein contained shall extend to, be binding upon and inure to the benefit of the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the first party and the second party have caused their names to be hereunto subscribed in duplicate counterparts, as of the day and year first above written.

(signed) Charles P. Elmer, Trustee
First Party

(signed) Harry Nasland
Second Party

STATE OF ARIZONA)
COUNTY OF MOHAVE) SS.

On this, the 29th day of August, 1945, before me, FRANK H. KNISELY, the undersigned officer, personally appeared CHARLES P. ELMER, TRUSTEE, and HARRY NASLAND, known to me to be the persons whose names are subscribed to the within and foregoing instrument, and acknowledged to me that they executed the same for the purpose and consideration therein expressed.

WITNESS my hand and official seal.

(Signed) Frank H. Knisely
Notary Public

(SEAL)

My Commission expires
December 5, 1948.

DIANA MINE(Now ARIZONA MAGMA)

May 25, 1920

By T. D. Walsh, E.M.

The property known as the DIANA MINE is located about one mile northwest of the town of Chloride, Mohave County, Arizona. Chloride is situated on a branch line of the Santa Fe Railroad, 28 miles north of Kingman, the County Seat.

The property consists of six claims aggregating about 84 acres and the claims are known as the Anaid, Anaid Extension, Star Light, Diana Fraction, Flash Light, and High Grade.

There are three strong veins outcropping on the property, all more or less parallel and with a general strike northwest and southeast. The dip of the veins is from 50 degs. to 85 degs. to the northeast. The three veins are known as the Mainvein, Middlevein, and North vein.

Considerable "gophering" was done on all three veins in early days, but only on the Main and Middle veins has there been done any work at depth.

GEOLOGY

The mine is located on open ground at an elevation of about 4,000 ft. The general country rock is a porphyritic, pre-cambrian gneiss or granite. About 500' southeast of the main shaft the vein is cut by a diabase.dike. The gangue is hard quartz and a mixture of quartz and monzonite, locally crushed and recemented in the form of a breccia or conglomeratic mass with many of rock fragments rounded or pebble-shaped near the walls. On both the hanging and footwall sides of the vein occur gouge seams varying from a few inches to several feet. The ore contains principally gold and silver values with the gold predominating. Pyrite is the principal sulfide, but arsenopyrite galena and sphalerite are also present in small amounts.

DEVELOPMENT:

Practically all of the development work has been done on the Anaid Claim. On this claim there are two shafts, known as the Main shaft, and the Old shaft. The Main shaft is vertical, well timbered, a two compartment shaft 4' x 8' in the clear, and is 358' deep, the bottom being 43 feet below the 300 level, which is 315 feet below the collar of the shaft. The Main shaft is on the Main vein.

The Old shaft is about 750' northwest of the Main shaft and is an inclined shaft sunk on the dip of the Middle Vein. It is 116 feet deep with an average dip of about 60 degress. At the bottom of this shaft the vein was drifted on 50' to the south-east and 125 feet northwest. In this drift the pay streak is 8" to 18" wide, to the northwest and from 18" to 30" wide to the south east. The values are said to have come in at about the 100' level. A shipment of 5,710 lbs. sorted from the material taken from this drift and shipped to the Consolidated Arizona Smelting Co., April 6, 1918, showed values of 1.44 oz. gold and 72.56 oz. silver. An average value of $25.00 per ton is claimed for the vein as opened up on the bottom level of the Old Shaft. At present the water level is within about fifty feet of the collar of the shaft.

During the early days of the property (over 30 years ago) the Middle Vein was mined to a depth of 50' (water level) for a distance of about 200' along the vein and most of the oreshipped, as there are but few dumps left.

The vertical shaft on the Main vein passes thru the vein between the 200 and 300 ft. levels. On the 100 ft. level a crosscut to the south intersected the vein and showed a width of about 10 ft. At this point the vein consists mostly of gouge and crushdd and leached material with very low values. 50' of drifting was done on this level and ore running $15.00 per ton is said to have been encountered in several places in the floor of the drift. At present this drift is caved. A crosscut from the shaft 94 feet to the north was driven to intersect the Middle vein without results.

On the 200 level a crosscut south from the shaft intersected the vein 11 ft. from the shaft showing a vein width of 15'. Of this width about 10' on the hanging wall side is mostly gouge and crushed material. 4½ to 5 ft. on the footwall side show values from $6.33 to $26.93. The vein was drifted on for about 65' to the northwest and then a crosscut driven 150' to the north towards the Middle vein. This work is caved about 55' from the main crosscut. To the southeast the vein was drifted on a distance of 10' and the present face shows 4.3 ft. of ore running $6.33 per ton.

On the 300 level, the footwall of the vein is at the shaft, and a crosscut north at this point shows a vein width of 16'. The foowall side of the vein is a crushed monzonite and the talc showing low values for five feet. 10.5 feet next the hanging wall gave values of $9.90 per ton.

From the crosscut a drift 46' to the southeast along the hanging wall side of the vein shows in good ore the entire distance. Crosscuts to both walls at the face of this drift shows 6.9 feet of ore running $12.87 per ton. A cut 4.3 ft. across the back of the drift, midway between the face and the crosscut at the shaft, gave values of $13.28 per ton.

To the northwest a drift was driven 97.5 ft. from the crosscut with a short crosscut to the footwall fifty feet from the main crosscuts. The values next the footwall in this crosscut are low, the material being the same as in the main crosscut from the shaft. The hanging wall was not broken into. 2.7 ft. on the hanging wall side gave values of $8.16 per ton. At the face of the drift crosscuts to both walls show values of $14.21 across 6.8 ft.

Taking the values in the four crosscuts the ore will average $11.22 per ton for an average width of 6.7 ft. and for a distance of 143.5 ft.

Between the 200 and 300 levels, the dip of the vein is 73 degrees from the 200 level to the 100 level, the dip is about 85 degs and from the 100 level to surface the vein is practically vertical.

In the early days the vein was worked to a depth of about 50' (water level) and for a distance of over 100' along the vein. Judging from conditions in both the Main vein and the Middle vein there is a barren or leached zone from the water level to about the 100' level. It is probable that the values found on the 200 level will extend nearly to the 100' level.

The values in the gouge and crushed material of the vein are very erratic; running from 1 ounce in silver to 2.50 oz. gold, and 6.30 oz. silver across four feet. These high assays have been ignored in calculating the probable pay ore, but they tend to show the complete mineralization of the vein at depth. The increase in width of the pay ore from an average of 4.7 ft. on the 200' to 6.7 on the 300 level, also bears out this tendency. The foot wall proper assays from 1 to 2 ounces silver per ton.

The ore is an ideal concentrating one, and should present no difficulties in treatment. The high iron content makes the concentrate a desirable one for the smelter.

GENERAL CONDITIONS

Since the mine is located only a short distance from town, the cost of building bunk houses and maintaining a boarding house is eliminated. A good road of easy grade one mile from the railroad makes transportation cost reasonable. About one mile of poles and wiring is necessary to connect up with the electric power line at Chloride. The mine at present is making about 20,000 gals of water per day which is enough to operate a 100 ton concentrating plant. The present drift on the 300 level is standing well without timber and the cost of stoping ore should be comparatively low.

Since the climate is mild, the conditions are ideal for all year round mining.

HISTORY OF THE DISTRICT.

The camp of Chloride dates from the early sixties and derived its name from the character of its rich silver ores. It has continued fairly active up to the present time and work is now being done on a number of properties in the district.

The deposits occur in two systems of well-defined fissure veins. One strikes a little west of north and stands nearly vertical and the other strikes about due northwest and dips either to the northeast or to the southwest.

The most famous mine of the district is the Tennessee which has been worked for nearly thirty years and to a depth of 1,600'. The present holding company is contemplating the erection of amill. Heretofore most of the ores were either shipped direct to the smelter or to the concentrating plant at Needles, California.

The property operating nearest the Diana is the Tuckahoe about 1/2 mile southwest. The Tuckahoe is now being opened up on the 500 level and reports from this work show encouraging results.

CONCLUSIONS AND RECOMMENDATIONS.

Since the size of the pay ore in the vein has increased from the 200 to the 300 level it is advisable to sink the present shaft 90'. This will allow a 30' sump to take care of water below the 400 level.

Drifting to the northwest and southeast on the 300 level should be continued to determine the length of the ore shoot and raises driven at intervals to block out ore. Drifting on the 400 level should be carried on and raises driven to the 300. Drifting to the southeast on the 200 level should be resumed and raises run on this level to determine the height of the ore body above the 200 level.

The average of values on the 200 level gives $17.41 per ton for an average width of 4.7 ft. and represents a length of about 40 feet. The average of values on the 300 level gives $11.22 for an average width of 6.7 ft. and represents a length of 43.5 ft. Taking these figures as representative there is a probable block of ore between the 300 and 200 levels of 4,000 tons of an average value of $14.30. Since there is good ore in both faces of the drift on the 300 level it is probable that the ore shoot will continue a considerable distance further.

The expenditure of $15,000 to $20,000 should prove up the property sufficiently to warrant the installation of modern electrical equipment and the planning of a 50 ton concentrating plant which could later be enlarged. The present 12 H. P. hoist should be replaced by a 25 H. P. hoist to facilitate the work outlined. Otherwise, the present equipment is ample.

The property thoroughly warrants the expenditure of the above mentioned money and if results are favorable, the general opening up of the property at depth.

The title has not been examined by the writer.

Respectfully submitted,

(signed) T. D. Walsh

E. M.

Kingman, Arizona

May 25, 1920

TDW:FT.

All gold taken at old price.

EQUIPMENT

1	40 ft. head frame
1	35 H. P. Western Engine
1	12 H. P. Western Hoist
1	7 H. P. Hercules Engine
1	9 x 8 Ingersoll-Rand Compressor
1	Pump Jack
3	Jackhammers
1	Bar and mountaing for Jackhammer
3	50 ft. lengths air hose
2	Buckets
1	Water boiler
1	Car
6	Water tanks
1	Champion blower (400)
1	Electric generator, wrenches, pipe dies, blacksmith ship equipment, etc.

Copy Exhibit A.

Kingman, Arizona
February 2, 1940

Mr. C. M. Hart
Mr. Robert Lesher

Original returned to Elmer.

Gentlemen:

The following report is submitted on the Arizona-Magma Mine at Chloride:

Three pieces of development work are being done on the 200 level at present. They are the hanging wall branch and the foot-wall branch of the 200 west drift, and a west drift from the 200 north cross-cut. In addition to this, the 402 East Raise is being driven east of the shaft from the 400 level to the 300 level. When completed, this raise will allow increased production from 401 stope.

Present production is coming from the 303 stope above the 300 level and from the 401 stope above the 400 level.. The 303 stope is about 50 feet long and has from 65 to 70 feet of backs left. The grade of the ore at the start was about $5.00 per ton. It is said to be coming into a richer zone showing ruby silver. The latest car sample was $12.00 per ton. It is expected to produce 20 tons per day.

The 401 stope is said to be in ore of an average value of $10.00 to $12.00, and is producing about 10 tons per day. The 402 raise has about 30 ft. to go before completion. When this is completed, the 401 stope will produce about 35 tons per day.

The present mill tonnage taken from the two stopes mentioned, and apparently from the development headings also, is about 48 tons per day of a grade of $4.00 per ton. The samples taken in the development headings show negligible results. With a mill capacity of 75 tons per day, and costs of approximately $350.00 per day, the situation at the mine appears rather desperate at this moment.

The recommendations of the U.S. Smelting, Refining and Mining Engineers, according to Mr. Carpenter, were that efforts be concentrated on lateral work and the bringing of the 303 and 401 stopes into full production as soon as possible. The present development is in accordance with their reported recommendations. They advised against sinking deeper, or driving the 200 cross-cut to the Starlight vein at this time.

Apparently the work is being done in a very conservative manner; but if the 200 west drifts do not develop mill tonnage in the near future it will be necessary to either drive the 400 level to the west or drive the Starlight cross-cut some 280 ft. to intercept the Starlight vein. The Starlight vein is very impressive as to size and continuity, and it is my belief that this latter piece of development is important for future operation.

The Arizona-Magma Corporation has authorized and issued 800,000 shares of stock of no par value. Of this amount, 500,000 shares are held by Cliff Carpenter and a Mr. Slocum. At present Mr. Slocum holds a mortgage against the corporation for $58,000.00. The U.S. Smelting, Refining and Mining Co. have agreed to a loan of $10,000.00 to the Arizona-Magma Corporation, provided Mr. Slocum will allow the notes so issued to be a first lien on the property. This he has so far refused to do. A sum of $10,000.00 would probably be sufficient to do the badly needed development work and place the mill on capacity production.

It is my opinion that most of the troubles at the Arizona-Magma are due to insufficient funds to develop sufficient ore ahead of production to guarantee stability. I am informed that some 90,000 tons of ore have been extracted from the mine, and sent through the mill. This is a comparatively large tonnage for a mine of its size and for one with so little development work.

The problem presented can only be solved by either securing additional capital, or striking a rich grade of ore in the very near future.

Included in this report are two sketch maps and one assay sheet.

Very truly yours,

/s/ Robert A. Elgin

Probable Ore.

303 West F.W. Stope.

Length	Height	Width		Cu. Ft.	Tons	Grade
40'	60'	4'	=	9600	800	$ 8.50

Gross Value - $6800

401 Stope East on F.W.

Length	Height	Width	Cu. Ft.	Tons	Grade	Value
85'	20'	2½'	4250	350	$12.00	$4200

The 300 level F.W. vein was in a good grade of ore from the shaft for a distance of several hundred feet. The 400 level to the west was not in commercial ore. We have a block therefore which shows ore on top, but is below commercial grade at the bottom. It is reasonable to expect that the 401 stope will extend an appreciable distance to the west as it approaches the 300 level. This would add materially to the probable tonnage of mill grade ore.

To place the mine on a curtailed production basis, the following figures were compiled:

303 Stope East - 15 Ton basis

1 miner
1 mucker
1 timberman

401 Stope East

1 miner
1 mucker
1 timberman

Mill Crew

1 crusher man
1 ball mill operator
1 solution man

General

1 hoistman
1 blacksmith & top man
1 skip tender
1 pumpman & general labor
1 timberman
1 timber helper

30 Tons @ $8.00 net=$240.00
Concentrate Cost = 30.00 (Transportation & treatment)
Net 210.00

Power $ 25.00
Supplies 30.00
Labor 91.00
$146.00 Bal. $64.00

One additional heading (A development drift)

1 miner)		
2 muckers)	$16.00	
Supplies	15.00	$64.00
Total	31.00	
		$33.00

Credit Balance:

Present Situation

Owe:	Citizens Utilities	$ 8,400.00
	Tarr, McComb & Ware	6,100.00
	Labor to Feb. 1st.	5,620.00
		20,120.00
	Labor from February to date	1,168.00
		21,288.00
	Cliff Carpenters Lien	8,000.00
		$ 29,288.00
	Social Security)Federal	$ 266.00
	)State	2,042.00

Notes on Elgin Data.

1939

Elgin gives results of 13 samples taken in 401 stope over average width of 2.44' with average value of $13.95, representing 2530 ~~a foot~~ cu ft or 200 tons with gross value of $2790.00 and net value of $1490.00.

Other samples (location not stated) give values of $6.52, $6.51, $6.54, $3.00 and lower grade samples from 200' level north drift to incline and 200 west near hanging wall and foot wall drifts, where evidently no pay ore was found.

Smelter settlement sheets from Sept. 2nd. to Dec. 21st., 1938, represent concentrate with gold from 1.20 to 1.65 oz., Silver from 60 to 150 oz. per ton., about 0.3% Cu.; 2.00% Pb.; 3.70% Zn.; 33.00% S.; 32% Fe.; 10.% Insol. and less than 1% of lime.

Similar returns from Jan. 3rd. to June 9th., 1939, seem to show slightly higher gold and silver, (the latter in several cases over 200 oz.) and similar contents in other metals.

All shipments made to U.S. Smelting, Refining and Mining Co. at Salt Lake and usual payments made for gold and 95% of the silver with no bonuses or penalties, and "working charge" (toll) at $3.81 per ton. Freight $8.40 per ton and truck-haul $1.00.

July 10th, 1945

Mr. Nye A. Wimer
530 West Sixth Street
Los Angeles 14, California

Re: Arizona Magma

Dear Mr. Wimer:

This will acknowledge yours of the 6th instant on the above subject. I have noted with care the names of the parties who may be of assistance in obtaining information concerning this property, and with some of these gentlemen I am already acquainted.

I shall make every effort to thoroughly investigate the various phases of the situation as noted on page two of your letter, but I am sure that the validity of the title to the property should be passed on by your attorney, and probably Judge Krook can advise you better than I in that regard.

In addition to such information as I may be able to obtain at Chloride and vicinity, I believe that it may be possible for me to secure considerable data concerning the operation of this mine by Cliff Carpenter to which I referred in a previous letter, and I shall make every effort to do so.

Referring to your item No. 6, it should not be difficult to figure the cost of putting the mining and milling plant in good operating condition, but in estimating the cost of item No. 5 I shall probably have to be considerably less specific as unwatering an old mine not only involves the pumping out of the water, but frequently the repairs of shaft timber and removal of caved ground from the shafts and drifts whose exact condition is often impossible to forecast. However, I will make my estimates as careful and conservative as possible and may find on arrival at the mine that the situation is not so very complicated after all.

I have no other work outlined for the last week of this month, and I shall positively make no engagements which might in any way conflict or interfere with the proposed trip to Chloride and the completion of the investigation which you have entrusted to me. It may be that it will require a little longer time than I had anticipated, but I will certainly make every effort to carry through in an efficient manner as speedily as may be possible.

NYE A. WIMER
530 WEST SIXTH STREET
LOS ANGELES 14, CALIFORNIA

Ariz Magma

July 12, 1945

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

Dear Mr. Colvocoresses:

Re: Arizona Magma

In order that Messrs. Krook, Winsett and Elmer may know of your change in plans, I have made copies of your letter of July 10th concerning your proposed examination of the Arizona Magma property and am forwarding one to each of these gentlemen.

I have no doubt but that you could learn considerable about the property from Mr. Cliff Carpenter provided you are able to locate him. No one around Kingman or Chloride seems to know where he is except they believe he is in Phoenix.

I understand fully the problem you will face in estimating the cost of unwatering the property and would, of course, not expect you to forecast what underground repairs might be found necessary.

I am glad that you have set aside your time after the copper company trial has ended for this work as I am anxious to know what the results of your examination will show.

Yours very truly,

N. A. Wimer

Vallejo, Calif / Mar 3rd

NAW:df
c.c. Carl Krook, Kingman
c.c. Walter Winsett, Chloride
c.c. Charles Elmer, Kingman

Ans by Mail 7/17/45

ASSAY-DESCRIPTION-LOCATION

200 Level

Location	Description	Width	Oz.Au.	Oz.Ag.	Value
SE Face Drift Ft. Wall	(0.1.6') Qtz.&Sulf.	1.6'	.28	6.40	$12.00
" "	(1.6'02.3) Gouge	.7')	tr.	.40	.40
" "	(" ") "	.7')	1.08	4.28	25.88
		same)			
	(2 samplings)				
" "	(2.3'-4.3) Qtz.& Sulf.	2.0)	.16	.68	3.88
" "	" "	")	.16	6.00	7.60
		same)			
	(2 samplings)				
14'NW of X-cut "	(0-1.1) Qtz.&Sulf.	1.1	.32	18.00	24.40
" "	(1.1-2.5) "	1.4'	.20	8.00	12.00
" "	(2.5-5.0') "	2.5	.22	32.00	36.40
Cross cut from shaft	10.7 crushed vein & gouge	tr.		.23	.23

3-- Level

SE Face Drift Hanging Wall	(0-2.3') Gouge	2.3	tr.	.22	.22
" "	(2.3'-3.5')		.32	5.84	10.24
" "	Qtz. Sulf.	1.2			
" "	(3.5'-7.0) "	3.5	.64	2.64	15.44
" "	(7.0-9.2') "	2.2	.36	3.00	10.20
" "	(9.2-11.7')				
	crush quartz	2.5'	tr.	1.60	1.60
25' fromSeface4.3'across back of drift		4.3'	.48	3.66	13.28
Xcut from shaft Hangingwall	(o-3.8') Qtz.&sulf	3.8'	.68	3.68	17.28
" "	(3.8-8.1) Crushed quartz.	4.3'	.10	.62	2.62
" "	(8.1-10.5) Qtz. & Sulf.	2.4'	.32	.88	7.28
" 52' crushed qtz.&gouge on footwall		5.2'	tr.	.56	.56
Xcut 50'NW Main Xcut					
" " " Footwall	(0-1.1') crushedvein	1.1	tr.	.28	.28
" "	(1.1-3.2) "	2.1	"	2.84	2.84
"	(3.2-4.9) "	1.7	tr.	2.24	2.24
"	(4.9-7.4) "	2.5	tr.	.76	.76
"	(7.4-11.9) "	4.5	"	.76	.76
"	(11.9-14.6) Qtz. sulf.	2.7	.32	1.76	8.16

Hang wall not broken into, drill holes show about 5' sulfides

NW face Footwall	(0-2.68) Gouge	2.6'	tr.	1.52	1.52
" "	(2.6-5.4) Qtz.Sulf	2.8	.56	7.64	14.84
" "	(5.4-8.1) "	2.7	.66	3.08	15.72
" "	(8.1-9.4) "	1.3	.36	2.52	9.72
" "	(9.4-12.4') cr.vein	3.0	tr.	1.04	1.04

DIANA MINE (ARIZONA MAGMA)

NOTE BY G. M. COLVOCORESSES, October, 1937.

This property is now known as the Arizona Magma andis operated by a company of that name. The mine was reopened in 1934, equipped with a good flotation mill and since then has been a steady, and, I am told, a profitable producer, as such it seems likely to continue for some time to come.

The management is in the hands of Cliff Carpenter and for a time W. B. Gohring acted as Consulting Engineer.

Gohring speaks highly of its prospects.

Operated for several years but finally lost money & closed about 1940. Ore was comparatively low grade but for a time they made good money with mining & milling costs in 1935 - given as less than $5.00 per ton. Don't know if any pay ore remains in mine

Humboldt

Copper Hill Chloride

REPORT ON THE DIANA MINE,

Chloride, Mohave County,

Arizona.

oOo

(Now Arizona Magma)

Kingman, Arizona.
May 25, 1920.

T. D. Walsh,
E.M.

1935 Now known as the Arizona Magma a
Magma Arizona & equipped with mill &
operating regularly.

The property known as the DIANA MINE is located about one mile northwest of the town of Chloride, Mohave County, Arizona. Chloride is situated on a branch line of the Santa Fe Railroad, 28 miles north of Kingman, the County seat.

The property consists of six claims aggregating about 84 acres and the claims are known as the Anaid, Anaid Extension, Star Light, Diana Fraction, Flash Light and High Grade.

There are three strong veins outcropping on the property, all more or less paralleland with a general strike northwest and southeast. The dip of the veins is from 50 degrees to 85 degrees to the northeast. The three veins are known as the Mainvein, Middle vein and North vein.

Considerable "gophering" was done on all three veins in early days but only on the Main and Middle veins has there been done any work at any depth.

Geology

The mine is located on open ground at an elevation of about 4,000 feet. The general country rock is a porphyritic, pre-cambrian granite. About 500 feet south east of the main shaft the vein is cut by a diabase dike. The gangue is hard quartz and a mixture of quartz and monzonite, locally crushed and recemented in the form of a breccia or conglomeratic mass with many of the rock ffagments rounded or pebble-shaped near the walls. On both the hanging and foot wall sides of the vein occur gouge seams varying from a few inches to several feet. The ore contains principally gold and silver values with the gold predominating. Pyrite is the principal sulfide, but arsenopyrite, galena and sphalerite are also present in small amounts.

Development.

Practically all of the development work has been done on the Anaid claim. On this claim there are two shafts, known as the Main Shaft and the Old shaft. The Main shaft is vertical, well timbered, a two compartment shaft 4' x 8' in the clear, and is 358 feet deep, the bottom being 43 feet below the 300 level, which is 315 feet below the collar of the shaft. The Main shaft is on the Main vein.

The Old shaft is about 750 feet northwest of the Main shaft and is an inclined shaft sunk on the dip of the Middle vein. It is 116 feet deep with an average dip of about 60 degrees. At the bottom of this shaft the vein was drifted on 50 feet to the southeast and 125 feet northwest. In this drift the pay streak is 8" to 18" wide, to the northwest, and from 18" to 30" wide to the southeast. The values are said to have come in at about the 100 foot level. A shipment of 5,710 lbs. sorted from the material taken from this drift and shipped to the Consolidated Arizona Smelting Company, April 6, 1918, showed values of 1.44 ox. gold and 72.56 oz silver. An average value of $25.00 per ton is claimed for the vein as opened up on the bottom level of the Old shaft. At present the water level is within about fifty feet of the collar of the shaft.

During the early days of the property (over 30 years ago) the Middle vein was mined to a depth of 50 feet (water level) for a distance of about 200 feet along the vein and most of the ore shipped, as there are but few dumps left.

The vertical shaft on the Main vein passes thru the vein between the 200 and 300 foot levels. On the 100 foot level a cross cut to the south intersected the vein and showed a width of about 10 feet. At this point the vein consists mostly of gouge and crushed and leached material

with very low values. Fifty feet of drifting was done on this level and ore running $15.00 per ton is said to have been encountered in several places in the floor of the drift. At present this drift is caved. A cross-cut from the shaft 94 feet to the north was driven to intersect the Middle vein without results.

On the 200 level a cross-cut south from the shaft intersected the vein 11 feet from the shaft showing a vein width of 15 feet. Of this width about 10 feet on the hanging wall side is mostly gouge and crushed material. 4½ to 5 feet on the foot wall side show values from $6.33 to $26.93. The vein was drifted on for about 65 feet to the northwest and then a cross cut driven 150 feet to the north towards the Middle vein. This work is caved about 55 feet from the main cross cut. To the southeast the vein was drifted on a distance of 10 feet and the present face shows 4.3 feet of ore running $6.33 per ton.

On the 300 level, the foot wall of the vein is at the shaft, and a cross-cut north at this point shows a vein width of 16 feet. The foot wall side of the vein is a crushed monzonite and talc showing low values for 5 feet. 10.5 feet next the hanging wall gave values of $9.00 per ton.

From the cross-cut, a drift 46 feet to the southeast along the hanging wall side of the vein shows in good ore the entire distance. Cross-cuts to both walls at the face of this drift shows 6.9 feet of ore running $12.87 per ton. A cut 4.3 feet across the back of the drift, midway between the face and the cross-cut at the shaft, gave values of $13.28 per ton.

To the northwest a drift was driven 97.5 feet from the cross-cut with a short cross-cut to the foot wall 50 feet from the main cross-cuts. The values next the foot wall in this cross cut are low, the

material being the same as in the Main cross-cut from the shaft. The hanging wall was not broken into. 2.7 feet on the hanging wall side gave values of $8.16 per ton. Athe face of the drift cross cuts to both walls show values of $14.21 across 6.8 feet.

Taking the values in the four cross cuts the ore will average $11.22 per ton for an average width of 6.7 feet and for a distance of 143.5 feet.

Between the 200 and 300 levels, the dip of the vein is 73 degrees from the 200 level to the 100 level the dip is about 85 degrees and from the 100 level to surface the vein is practically vertical.

In the early days the vein was worked to a depth of about 50 feet (water level) and for a distance of over 100 feet along the vein. Judging from conditions in both the Main vein and the Middle vein there is a barren or leached zone from the water level to about the 100 foot level. It is probable that the values found on the 200 level will extend nearly to the 100 foot level.

The values in the gouge and crushed material of the vein are very erratic; running from 1 ounce in silver to 2.50 ounces gold, and 6.30 ounces silver across four feet. These high assays have been ignored in calculating the probable pay ore, but they tend to show the complete mineralization of the vein at depth. The increase in width of the pay ore from an average of 4.7 feet on the 200 level to 6.7 on the 300 level, also bears out this tendency. The foot wall proper assays from 1 to 2 ounces silver per ton.

The ore is an ideal concentrating one, and should present no difficulties in treatment. The high iron content makes the concentrate a desirable one for the smelter.

GENERAL CONDITIONS.

Since the mine is located only a short distance from town, the cost of building bunk houses and maintaining a boarding house is eliminated. A good road of easy grade one mile from the railroad makes transportation costs reasonable. About one mile of poles and wiring is necessary to connect up with the electric power line at Chloride. The mine at present is making about 20,000 gals. of water per day which is enough to operate a 100 ton concentrating plant. The present drift on the 500 level is standing well without timber and the cost of stoping ore should be comparatively low.

Since the climate is mild, the conditions are ideal for all year round mining.

HISTORY OF THE DISTRICT.

The camp of Chloride dates from the early sixties and derived its name from the character of its rich silver ores. It has continued fairly active up to the present time and work is now being done on a number of properties in the district.

The deposits occur in two systems of well-defined fissure veins One strikes a little west of north and stands nearly vertical and the other strikes about due northwest and dips either to the northeast or to the southwest.

The most famous mine of the district is the Tennessee which has been worked for nearly thirty years and to a depth of 1,600 feet. The present holding company is contemplating the erection of a mill. Heretofore most of the ores were either shipped direct to the smelter or to the concentrating plant at Needles, California.

The property operating nearest the Diana is the Tuckahoe, about $\frac{1}{2}$ mile south west. The Tuckahoe is now being opened up on the 500 level and reports from this work show encouraging results.

CONCLUSIONS AND RECOMMENDATIONS.

Since the size of the pay ore in the wein has increased from the 200 to the 300 level it is advisable to sink the present shaft 90 feet. This will allow a 30 foot sump to take care of water below the 400 level.

Drifting to the northwest and southeast on the 300 level should be continued to determine the length of the ore shoot and raises driven at intervals to block out ore. Drifting on the 400 level should be carried on and raises driven to the 300. Drifting to the southeast on the 200 level should be resumed and raises run on this level to determine the height of the ore body above the 200 level.

The average of values on the 200 level gives $17.41 per ton for an average width of 4.7 feet, and represents a length of about 40 feet. The average of values on the 300 level gives $11.22 for an average width of 6.7 feet and represents a length of 143.5 feet. Taking these figues as representative there is a probable block of ore between the 300 and 200 levels of 4,000 tons of an average value of $14.30. Since there is good ore in both faces of the drift on the 300 level it is probable that the shoot will continue a considerable distance further.

The expenditure of $15,000.00 to $20,000.00 should prove up the property sufficiently to warrant the installation of modern electrical equipment and the planning of a 50 ton concentrating plant which could later be enlarged. The present 12 H. P. hoist should be replaced by a 25 H.P. hoist to facilitate the work outlined. Otherwise, the present equipment is ample.

The property thoroughly warrants the expenditure of the above mentioned money and if results are favorable, the general opening up of the property at depth.

The title has not been examined by the writer.

Respectfully submitted,

(Signed) T. D. Walsh,
E.M.

Kingman, Arizona.
May 25, 1920.

TDW: FT

EQUIPMENT.

1----40 foot head frame.

1----35 H.P. Western Engine

1----12 H. P. " Hoist

1----7 H.P. Hercules Engine.

1----9 x 8 Ingersoll-Rand Compressor

1----Pump Jack.

3----Jackhamers.

1----Bar and mounting for Jackhammer.

3----50 foot lengths air hose

2----Buckets

1----Water boiler

1----Car

6----Water tanks

1----Champion blower (400)

1----Electric generator

Wrenches, pipe dies, blacksmith ship equipment, etc.

ASSAY-DESCRIPTION-LOCATION

200 Level.

LOCATION		DESCRIPTION	Width	Oz.Au.	Oz.Ag.	Value
SE Face Drift	Ft.Wall	∠(0-1.6') Qtz. & Sulf.	1.6'	.28	6.40	$12.00
"	"	∠(1.6'-2.3') Gouge	.7'	tr	.40	.40
"	"	∠(" "') "	.7' (Same	1.08	4.28	25.88
		(2 Samplings)				
"	"	∠(2.3'-4.3') Otz.&Sulf.	2.0' (Same	.16	.68	3.88
"	"	∠("	")	.16	6.00	7.60
		(2 Samplings)				
14' NW of X-cut	"	∠(0-1.1) Qtz.&Sulf.	1.1'	.32	18.00	24.40
"	"	∠(1.1-2.5) "	1.4'	.20	8.00	12.00
"	"	∠(2.5-5.0') "	2.5'	.22	32.00	36.40
Cross cut from shaft.		10.7 crushed vein and gouge		tr	.23	.23

300 Level

SE Face drift.	Hanging wall	∠(0-2.3') Gouge	2.3'	tr	.22	.22
"	"	∠(2.3'-3.5') Qtz.Sulf.	1.2'	.32	3.84	10.24
"	"	∠(3.5'-7.0') "	3.5'	.64	2.64	15.44
"	"	∠(7.0- 9.2') "	2.2	.36	3.00	10.20
"	"	∠(9.2-11-7') Crush qtz.	2.5'	tr	1.60	1.60
25' from SE face -4.3' across back of drift			4.3'	.48	3.60	13.28
Xcut from shaft.	Hanging wall	∠(0-3.8') Qtz. & Sulf.	3.8'	.68	3.68	17.28
"	"	∠(3.8-8.1) Crushed qtz.	4.3'	.10	.62	2.62
"	"	∠(8.1-10.5') Qtz &Sulf.	2.4'	.32	.88	7.28
"	52' crushed qtz & gouge on foot wall		5.2'	tr	.56	.56
E cut 50' NW main Xcut.						
" " "	Foot wall	∠(0-1.1') crushed vein	1.1'	tr	.28	.28
"		∠(1.1-3.2') " "	2.1'	Tr	2.84	2.84
"		∠(3.2-4.9') " "	1.7'	tr	2.24	2.24
"		∠(4.9-7.4) " "	2.5'	tr	.76	.76
"		∠(7.4-11.9') " "	4.5'	tr	.76	.76
"		∠(11.9-14.6') Qtz.Sulf.	2.7'	.32	1.76	8.16
Hang wall not broken into, drill holes show about 5' sulfides						
NW face	Foot wall	∠(0-2.6') Gouge	2.6'	tr	1.52	1.52
"	"	∠(2.6-5.4') Qtz & Sulf.	2.8'	.36	7.64	14.84
"	"	∠(5.4-8.1') "	2.7'	.66	3.08	15.72
"	"	∠(8.1-9.4') "	1.3'	.36	2.52	9.72
"	"	∠(9.4-12.4') cr. vein	3.0'	tr	1.04	1.04

Kingman, Arizona
February 2, 1940

Mr. C. M. Hart
Mr. Robert Lesher

Gentlemen:

The following report is submitted on the Arizona-Magma Mine at Chloride:

Three pieces of development work are being done on the 200 level at present. They are the hanging wall branch and the foot-wall branch of the 200 west drift, and a west drift from the 200 north cross-cut. In addition to this, the 402 East Raise is being driven east of the shaft from the 400 level to the 300 level. When completed, this raise will allow increased production from 401 stope.

Present production is coming from the 303 stope above the 300 level and from the 401 stope above the 400 level.. The 303 stope is about 50 feet long and has from 65 to 70 feet of backs left. The grade of the ore at the start was about $5.00 per ton. It is said to be coming into a richer zone showing ruby silver. The latest car sample was $12.00 per ton. It is expected to produce 20 tons per day.

The 401 stope is said to be in ore of an average value of $10.00 to $12.00, and is producing about 10 tons per day. The 402 raise has about 30 ft. to go before completion. When this is completed, the 401 stope will produce about 35 tons per day.

The present mill tonnage taken from the two stopes mentioned, and apparently from the development headings also, is about 48 tons per day of a grade of $4.00 per ton. The samples taken in the development headings show negligible results. With a mill capacity of 75 tons per day, and costs of approximately $350.00 per day, the situation at the mine appears rather desperate at this moment.

The recommendations of the U.S. Smelting, Refining and Mining Engineers, according to Mr. Carpenter, were that efforts be concentrated on lateral work and the bringing of the 303 and 401 stopes into full production as soon as possible. The present development is in accordance with their reported recommendations. They advised against sinking deeper, or driving the 200 cross-cut to the Starlight vein at this time.

Apparently the work is being done in a very conservative manner; but if the 200 west drifts do not develop mill tonnage in the near future it will be necessary to either drive the 400 level to the west or drive the Starlight cross-cut some 280 ft. to intercept the Starlight vein. The Starlight vein is very impressive as to size and continuity, and it is my belief that this latter piece of development is important for future operation.

Arizona-Magma Mine.

The Arizona-Magma Corporation has authorized and issued 800,000 shares of stock of no par value. Of this amount, 500,000 shares are held by Cliff Carpenter and a Mr. Slocum. At present Mr. Slocum holds a mortgage against the corporation for $58,000.00. The U.S. Smelting, Refining and Mining Co. have agreed to a loan of $10,000.00 to the Arizona-Magma Corporation, provided Mr. Slocum will allow the notes so issued to be a first lien on the property. This he has so far refused to do. A sum of $10,000.00 would probably be sufficient to do the badly needed development work and place the mill on capacity production.

It is my opinion that most of the troubles at the Arizona-Magma are due to insufficient funds to develop sufficient ore ahead of production to guarantee stability. I am informed that some 90,000 tons of ore have been extracted from the mine, and sent through the mill. This is a comparatively large tonnage for a mine of its size and for one with so little development work.

The problem presented can only be solved by either securing additional capital, or striking a rich grade of ore in the very near future.

Included in this report are two sketch maps and one assay sheet.

Very truly yours,

/s/ Robert A. Elgin

Probable Ore.

303 West F.W. Stope.

Length	Height	Width		Cu. Ft.	Tons	Grade
40'	60'	4'	=	9600	800	$ 8.50

Gross Value - $6800

401 Stope East on F.W.

Length	Height	Width	Cu. Ft.	Tons	Grade	Value
85'	20'	2½'	4250	350	$12.00	$4200

The 300 level F.W. vein was in a good grade of ore from the shaft for a distance of several hundred feet. The 400 level to the west was not in commercial ore. We have a block therefore which shows ore on top, but is below commercial grade at the bottom. It is reasonable to expect that the 401 stope will extend an appreciable distance to the west as it approaches the 300 level. This would add materially to the probable tonnage of mill grade ore.

To place the mine on a curtailed production basis, the following figures were compiled:

303 Stope East - 15 Ton basis

1 miner
1 mucker
1 timberman

401 Stope East

1 miner
1 mucker
1 timberman

Mill Crew

1 crusher man
1 ball mill operator
1 solution man

General

1 hoistman
1 blacksmith & top man
1 skip tender
1 pumpman & general labor
1 timberman
1 timber helper

30 Tons @ $8.00 net=$240.00
Concentrate Cost = 30.00 (Transportation & treatment)
Net 210.00

Power $ 25.00
Supplies 30.00
Labor 91.00
$146.00 Bal. 64.00

One additional heading (A development drift)

1 miner)		
2 muckers)	$16.00	
Supplies	15.00	$64.00
Total	31.00	
		$33.00

Credit Balance:

Present Situation

Owe:	Citizens Utilities	$ 8,400.00
	Tarr, McComb & Ware	6,100.00
	Labor to Feb. 1st.	5,620.00
		20,120.00
	Labor from February to date	1,168.00
		21,288.00
	Cliff Carpenters Lien	8,000.00
		$ 29,288.00
	Social Security (April) Federal	$ 266.00
	State	2,042.00
		31,596.00

Figures ale

Notes on Elgin Data.

Elgin gives results of 13 samples taken in 401 stope over average width of 2.44' with average value of $13.95, representing 2530 ~~a foot~~ cu ft or 200 tons with gross value of $2790.00 and net value of $1490.00.

Other samples (location not stated) give values of $6.52, $6.51, $6.54, $3.00 and lower grade samples from 200' level north drift to incline and 200 west near hanging wall and foot wall drifts, where evidently no pay ore was found.

Smelter settlement sheets from Sept. 2nd. to Dec. 21st., 1938, represent concentrate with gold from 1.20 to 1.65 oz., Silver from 60 to 150 oz. per ton., about 0.3% Cu.; 2.00% Pb.; 3.70% Zn.; 33.00% S.; 32% Fe.; 10.% Insol. and less than 1% of lime.

Similar returns from Jan. 3rd. to June 9th., 1939, seem to show slightly higher gold and silver, (the latter in several cases over 200 oz.) and similar contents in other metals.

All shipments made to U.S. Smelting, Refining and Mining Co. at Salt Lake and usual payments made for gold and 95% of the silver with no bonuses or penalties, and "working charge" (toll) at $3.81 per ton. Freight $8.40 per ton and truck-haul $1.00.

NYE A. WIMER
530 WEST 6th STREET
LOS ANGELES 14, CALIF.

July 6, 1945

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

Re: ARIZONA MAGMA

Dear Mr. Colvocoresses:

In connection with your proposed visit to the above named property at Chloride, I submit the following for what assistance it may be.

CHARLES P. ELMER - Attorney at law and State Senator, address Kingman. Property is vested in Mr. Elmer as Trustee for the owners who are former creditors. I have spoken to Mr. Elmer and told him of your proposed visit. He stated he would cooperate with you in every way possible.

TARR, McCOMB & WARE, JOHN ALLEN WARE - This concern is one of the principal former creditors and they have also agreed to give you any assistance they can.

CITIZENS UTILITIES COMPANY, M. J. HART, MGR. - This concern is one of the principal former creditors and they have also agreed to give you any assistance they can.

ROBERT ELGIN, E.M. - I understand that Mr. Elgin made a report on the property for the creditors before foreclosure and after operations were suspended. I have been unable to locate a copy of his report. However, Mr. Elmer states that Mr. Elgin was employed by Bureau of Mines, Salt Lake City, and is perhaps still there and that he, Mr. Elmer, would be glad to communicate with Mr. Elgin and request a copy of his report.

ROBERT THURSTIN, E.M. - Can be located at the Tennessee Mine where he is an active partner in Mines Operating Company. Mr. Thurstin did some engineering work for the last operators and has a good knowledge of the property.

FRANK SHUCK - Had an option on the mill recently and is at present living in the residence house on the property. Mr. Elmer told me Shuck's option had expired and that the present arrangement with him was that he was acting as custodian in exchange for free house rent. I believe M r. Shuck had Southwestern Engineering estimate the cost of rehabilitating the mill. Mr. Shuck is a personal friend of the writer and I feel sure he will be glad to give you every cooperation you may request and will perhaps show you the data he assembled during the time he had his option. I believe he requested an R.F.C. loan and that it was refused.

WALTER WINSETT - Caretaker at Tennessee Mine. Worked underground and on the surface at Magma and can no doubt supply some information you may need. I have asked Mr. Winsett to do anything he can to assist you in this examination.

CARL KROOK - Told me he had a claim map of the Magma properties.

E. ELMO BOLINGER - I understand he has a claim located among the Magma claims. Perhaps Mr. Elmer can give you some information in this connection.

In addition to any information you may acquire and furnish in your report it is suggested that the following be included.

1. As many maps as possible including claim map, underground section map and as many assay maps as can be had.
2. Authentic shipment records as far back as possible. It may be necessary to get these from the Smelter where the shipments were made. I am sure Mr. Elmer will assist you in this connection.
3. Any and all geology available including, of course, your own opinion from surface indications.
4. Your opinion as to the validity of the title.
5. An estimate of the costs of unwatering the mine including, of course, any mechanical or electrical equipment that might be needed for this purpose. For example, there are no transformers. Perhaps this could be supplied by Citizens Utilities.
6. An accurate estimate as near as possible, itemized, of the cost of putting the milling plant and mining plant in first class operating condition.

I would like to have three signed copies of your report.

Very truly yours,

N. A. Wimer

NAW:D
c.c. Carl G. Krook
Charles Elmer
Citizens Utilities, Att: Mr. Hart
Tarr, McComb & Ware, Att: Mr. John Allen Ware
Walter Winsett.

Southwestern Engineering Co. Estimate of Cost to Recondition
Arizona Magma Mill

Scheme 1. Using as much as possible the present equipment.

	Machines & Parts	Construction Labor & Material	Total
	$	$	$
Ore Receiving Hopper		500.00	500.00
Feeder & Conveyor	1,870.00	310.00	2,180.00
Crude Ore Bin		30.00	30.00
Jaw Crusher	70.00	10.00	80.00
Elevator	100.00	110.00	210.00
Screen	570.00	125.00	695.00
Rolls	270.00		270.00
14" Belt Conveyor	50.00	20.00	70.00
Ore Sampler	385.00	25.00	410.00
Ore Feeder	30.00	10.00	40.00
Ball Mill	720.00	60.00	780.00
Classifier	300.00	200.00	500.00
Flotation Machine		800.00	
2-2" Sand Pumps	810.00	40.00	850.00
2-5' x 5' Conditioners	1,050.00	100.00	1,150.00
2-1½ Conc. Pumps	315.00	50.00	365.00
Reagent Feeders	665.00		665.00
Thickener, Zinc 14' x 8'	420.00	480.00	1,160.00
Thickener, Lead 12' x 8'	1,120.00	480.00	1,600.00
Filter & Vacuum Pumps	1,545.00	250.00	1,795.00
Vacuum Equip.	200.00	350.00	550.00
2 Diapragm Pumps	20.00	30.00	50.00
Tailing Pump	100.00	170.00	270.00
Power Transmission Belting	195.00	100.00	295.00

	Machines & Parts	Construction Labor & Material	Total
	$	$	$
Water System	500.00	960.00	1,460.00
Laboratory	1,400.00	100.00	1,500.00
Operating Tools	250.00		250.00
Operating Supplies	2,150.00		2,150.00
Supervision & Engineer		1,000.00	1,000.00
Travel Expense		250.00	250.00
Total Items	15,105.00	6,560.00	21,665.00
Contingency			1,085.00
Fee			2,500.00
Total			25,250.00

Second plan would involve additional $4,000 for new flotation machine and purchase of several other items, bringing total cost to $32,190.

These figures include the $2,500 fee of the Southwestern Company plus $1,250 supervision and travel expense, and some other costs which might not be essential as I doubt if it would pay to make separate lead and zinc concentrates but I do not think that it would be safe to estimate that the mill could be put in an efficient workable condition for much less than $20,000, since the present flotation machine should be replaced and much of the other equipment is in poor condition and requires heavy repairs and replacement.

The equipment of the reconditioned mill as per recommendation of the Southwestern Engineering Co. would comprise the following items.

		Number of Units
1.	Fine Ore Bin	(1)
2.	Ore Feeder	(1)
3.	4' x 5' Ball Mill	(1)
4.	36" Classifier	(1)
5.	2" Wifley Pump	(1)
6.	5' x 5' Conditioners	(2)
7.	S.W. Type #3612 Flotation Machines	(2)
8.	" " " #3606 " "	(2)
9.	" " " #3604 " "	(1)
10.	14" x 36" Sutorbilt Blower	(1)
11.	S.W. 1½" Sand Pump	(4)
12.	" " 12' x 8' Thickener	(1)
13.	Diapragm Pump	(2)
14.	14' x 8' Thickener	(1)
15.	3 Leaf, 2 Compartment 4" Diam. Filter	(1)
16.	Filtrate Pumps	(2)
17.	3" Tailings Pump	(1)
18.	Dry Reagent Feeder	(1)
19.	Triplex Liquid Reagent Feeders	(2)

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15.	3 Leaf, 2 Compartment 4" Diam. Filter	(1)
16.	Filtrate Pumps	(2)
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18.	Dry Reagent Feeder	(1)
19.	Triplex Liquid Reagent Feeders	(2)

August 6th, 1945

Orig. Magma file

Mr. Charles P. Elmer
Attorney at Law
Kingman, Arizona

Dear Mr. Elmer:

Fulfilling my promise, I herewith return to you the following documents which you kindly loaned me in connection with the Arizona Magma Mine:--

Blue print of ore reserves

Copy of report by Robert A. Elgin, dated February 2, 1940

Certificates of assay covering numerous samples numbered 1501 to 1522

Resume of samples in pencil, and typewritten statement concerting the location from which samples were taken.

Settlement sheets of ore shipments to Salt Lake, September 2nd to December 21st, 1938, and January 3rd to June 9th, 1939.

Tracing of 200 West Drift.

Trusting that you will find all of the above in order, and thanking you very much for your courtesy and cooperation,
I remain

Yours very truly,

GMC/b
Enclosures 12
(as listed)

August 6th, 1945

Mr. Nye A. Wimer, President
Tennessee Schuylkill Corporation
Chloride, Arizona

Dear Mr. Wimer:

Enclosed herewith are three copies of my report on the Arizona Magma.

I am sorry that it is not possible to make this report more complete or conclusive one way or the other, but I certainly would not advise you to make any large investment in the Magma under present conditions.

I will return to Mr. Elmer the documents which he loaned me, and I hope by tomorrow or Wednesday to mail you some further comments concerning the Tennessee Mine and present and future operations.

I hope that you will carry out your plan of visiting Phoenix the latter part of this week, and if you can advise me a day or two in advance of your arrival I will make it a special point to be on hand, and I hope you can come in the morning and have lunch with me.

Sincerely,

GMC/b
Enclosures 3
(Report on Arizona Magma)

P. S. Yours of August 3rd with financial reports of first half of this year is just received. I will give these records careful attention and probably will have an opportunity to discuss them with you when you come to Phoenix the latter part of this week.

TENNESSEE SCHUYLKILL CORPORATION

REQUISITION

FOR

MATERIAL AND SUPPLIES

CHLORIDE, ARIZONA, _____ 194__

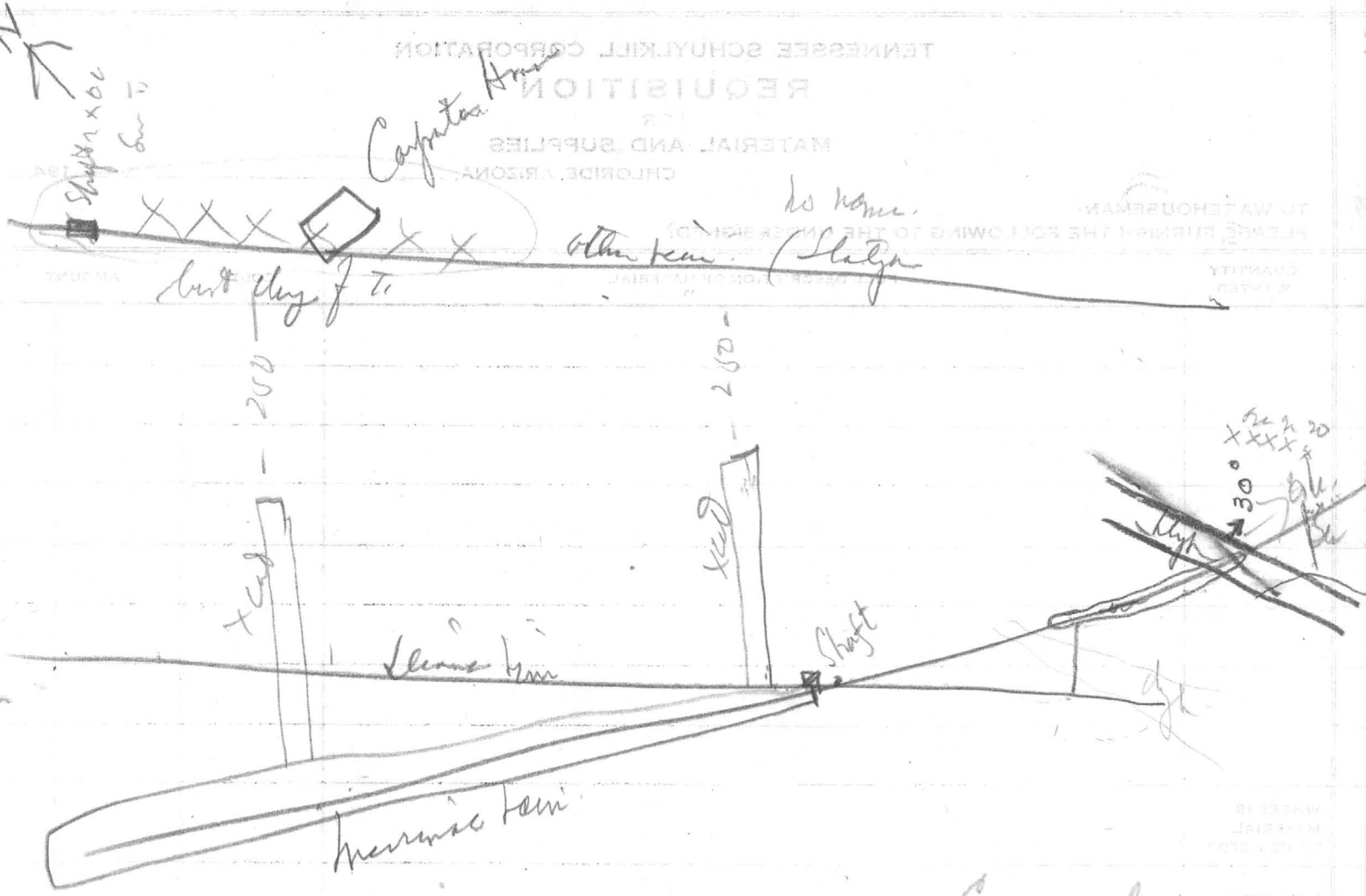
TO WAREHOUSEMAN:
PLEASE FURNISH THE FOLLOWING TO THE UNDERSIGNED:

QUANTITY WANTED	FULL DESCRIPTION OF MATERIAL	COST	AMOUNT	
WHERE IS MATERIAL TO BE USED?				
HOW SOON NEEDED?				

SIGNED _____

APPROVED _____
GENERAL MANAGER

POSITION _____



Check clear
started for work

Began after Thursday 7/25 45

Argyle Region

Visit + Shuck + Knoscott

& note exp cond of mine

& mile equip'd

Claims to be checked

for Lmp Guard, Guard Exp,

Star Light, Lenin Tractor,

Flash Light, Hyde Grade

(Now mentioned by Schrader)

Lmp Gold of Wash.

porphyritic granite (gneiss)

mile diab dyke. Lmp of

V-gtz & gtz & tourmaline

breccia. Lmp in talc

Hmi, Sulfide (pyrite & gold

& galena) pyrite & gold

Report of Elgin to Elmer.

Report of Smithsonian Eng. re
removal of small station
transformer.

Shipment received. Schmidt
& Elmer do

To C. Kruger
Knock up map of Little
Chas Elmer
John Allen / Lane / Lane & Lane
Ward, - by Ed Little Co.
to Penn st

Ed Jr. Arnold
Robt Thurston / Eng Copper
Frank Shuck

Magna 7/28
+ Thurston "

2 sem x intend clos
& / stuff & finish 6
/ h. w 45° & get
finish for / stuff & on
/ 40' eq = 180 fr /
between
Can 200 c - near / 100'
of cyde ~~+ h thd~~ & 8
- all mixed wd. Eyh
to shrink on 30' grade
e.g. pole / shd incl 6
shrink on 40' bank.
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least end of 200 Nh

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to 1,000,000

Reach Nh 2 Cor
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Ch 2 200 State h cond
or beg & fix (add 200 pc
Corp grad 2 no Stud
tuck Lyd Symp
2 gen 2 Pers Co Nd
Asylum 2 pers at Sea
- Mr Surg Sch.
Mercurac grad Enlisted
Enlisted
/ Seiana
Inchok - 61 Enlisted

Zu kurze kurze + fixe kurze

+ für alle 20.000

X und 2 × 250 = 500

Ik ab Grunde:

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5000
20.000

X und 20.000 f

Wb: Zahl umstand

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Lk d kurze

Summe Summe 12.000 Tl

Verp. Kosten 8.000

(Gut gut

Lief. 5.000

Lief. 8000 t kurze d

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y to by Steel Lab & See &
and / dyhm

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— v.g. & he may be moved
& 200 Cent. & he last
& cut / [illegible] Jury
up / Mayor
Good deal v b modern
in / Hermance owner who
has myth a Chloride
in Lamp v still & indeed

Mrs. Parker & Hartley &
Libbey & Hunter consider a
v. g. time

Magna Hill & no justify
fixing 2 stakes down & 1
to the, Town Hill &
if Mrs. in taken to
Hill by Wright seem so
low for day.

Supposed to blasted
and ~ on 130' Level
for Mrs. & my Com
to the gate for for
by Phila

Send Copy of Mrs.

to R. A. Thurston
at Jenner-Kerr

Schedule given me:
Log of Steamer Thurston
Leaves Cape Foraday
Brings up 1 crafted +
to Nyman Peterson
Closed 1 Jan 1940

Started with Chuck @
40 Cedar - good
dark but 10
of 20"

Crusher & Rolls

+ Mostly for CO
Surface, Surface Light
Surface Rig

Lesser duration
types of drum
Sandblock of
Cabasa

Hypo-Intestinal
to 138 + Lunch
Back in 2hrs

Small comp Conf

August 3, 1945

Report on Arizona Magma Mine
Chloride, Arizona

(mailed Aug 6th to Chloride

Mr. N.A. Wimer, Pres.
Tennessee-Schuylkill Corp.
Chloride, Arizona

Dear Sir:

At your request and especially in accordance with your letter to me of July 6, 1945, I have recently visited Kingman and Chloride and investigated the above named property as far as present conditions will permit and I herewith submit the following report.

As a conclusion I do not recommend the purchase or lease of the Arizona Magma for reasons that will be apparent from the text of my report but make certain suggestions which I trust will merit your careful consideration.

Location & History:

The Arizona Magma (formerly known as the Diana) according to information and map furnished by Mr. Elmer, the trustee, comprises the following group of unpatented lode mining claims:

Annex West

Annex

Annex East

Jerry

Magma

Star Light

Anaid

Anaid Extension

Jack Hammer

High Grade

and Flash Light, aggregating about 180 acres.

These are located in the Wallapai Mining District, Mohave County, Arizona, below the west slopes of the Cerbat Range and at an elevation of about 4,000 feet above sea level.

They are about one mile northwest of the town of Chloride and some 400 yards from the paved road which leads to Chloride from the Boulder Dam Highway. The distance from Kingman, the County Seat and nearest point on the Santa Fe Railway is 24 miles.

The surface [illegible] hills and [illegible] yas. There [illegible] ative shrubs and grasses.

I could find no record of the discovery or early history of this mine and it is not mentioned in the U.S. Geological Survey Publication covering this district which was prepared in 1906.

However, according to an Engineer's report, there had been a good deal of surface work done in the 80's and 90's and before 1920 the main shaft on the Anaid Claim had a vertical depth of 358' while another and older shaft on the Star Light Claim had followed down another vein to a depth of 116', on an incline of about 60°. Prior to that date considerable drifting had been done on the 100, 200, and 300 levels of the main shaft and good ore had been stoped out from the main or Magma

vein whose width varied from five to as much as sixteen feet. Much of this ore averaged better than $15.00 per ton in gold and silver which would be equivalent to well over $20.00 per ton at the present price of gold.

Some mining appears to have been done at intervals during the 1920's and the Arizona Magma Co., headed by Cliff Carpenter, started operations in 1934 and built the present mill and shipped ore and concentrates until the early part of 1940, when financial difficulties caused a cessation of operations that had been unprofitable for some months past.

The title to this property now vests in Charles P. Elmer, Att'y of Kingman, who acts as trustee for the creditors and former owners and his statement, confirmed by Judge Krook, is that he could give a clear title to a purchaser or execute a bond and lease.

Geology and Ore Occurrences.

Since it was not possible to visit any of the underground workings this description is based on personal observations along the surface and on the report of a mining engineer, T.D. Walsh, who thoroughly examined and sampled the mine in 1920.

The general country rock is a porphyritic, pre-cambrian gneiss, sometimes called a granite. About 500' southeast of the main shaft the vein is cut by a diabase or syenite dike. The gangue is mostly quartz or a mixture of quartz and monzonite, locally crushed and recemented in the form of a breccia or conglomeratic mass with many

of the rock fragments rounded or pebbleshaped near the walls. On both the hanging and footwall sides of the vein occur gouge-seams varying from a few inches to several feet. The ore contains principally, gold and silver values with the gold predominating. Pyrite is the principal sulfide, but arsenopyrite, galena and sphalerite are also present in small amounts.

Recent Work and Present Showing.

I could obtain no complete record of the production made by Mr. Cliff Carpenter and his associates who shipped to various smelters, but I was informed that during their period of operations, 1934-1940, some 90,000 tons of ore were mined and the total value of the ore and concentrate shipped, approached $1,000,000 and also that for the first four years or more their operations were profitable but this condition changed for the worse as costs increased and the grade of the ore dropped to an average of less than $6.00 per ton so that a heavy loss was sustained toward the last as evidenced by the increasing indebtedness of the Company, apparently exceeding $90,000, and the eventual seizure of the property by the creditors as represented by the trustees.

It is difficult to pass any judgment on this record which may in part have been due to the inefficiency of the local management but it seems evident that the development work was not carried out sufficiently in advance of the mining and I was informed that prior to the shut-down, nearly all of the pay-ore had been extracted from the main vein above the 200' level and that such ore as had been developed in the 300 and 400' levels was mostly too low grade to

mine with profit.

The two crosscuts which had been started to tap the Star Light vein, still lacked in each case from 200 to 250' of reaching their objective and the expense of completing these would have been in the order of $8,000.

This situation seems to be generally confirmed by the report of Robert Elgin, which was made for the creditors in 1940 and a copy of which is attached as exhibit A.

The only detailed assay maps which I could find covered small sections of the mine and were made in 1936 & 1937, representing small blocks of ore which have since been mined but I attach as exhibit C, a section of the working on which some notes have been made and this, as well as other maps which I examined, seemed to confirm my opinion that both quantity and quality of ore decreased below the 200' level. While many of the figures in the blue-print which was given me are quite illegible, they seem to indicate that the reserves at that time amounted to over 20,000 tons of ore with value varying from $20.00 to $5.00 per ton in different sections. Presumably all of the better grade ore was mined prior to the shut-down.

Cost of Reopening Mine and Reconditioning the Equipment.

Examination of the surface plant indicated that the mine equipment, i.e., hoist, compressor, steel sharpener, etc., was in fairly good condition and could probably be put back in service after an expenditure of some $5,000, largely for small tools and items of equipment. The local power company advised me that they would re-

place the transformers at their expense provided the mine was to resume operation and assuming that they still had available, as at present, an extra bank of transformers.

The condition of the mill is bad and estimates made by the Southwestern Engineering Co. for Mr. Schuck in June of 1944, (see Exhibit B attached) involved an expense of $25,250 to recondition the present plant for the treatment of 50 tons of ore per day or $32,190 if the flotation machine and some other items were to be replaced with more modern and efficient machines. My own estimate would be a minimum of $20,000.

The cost of unwatering the mine should be comparatively small as the flow is reported to be in the order of 30 gallons per minute. As far as could be ascertained the collar of the shaft and upper 40', down to the present water level, is in good condition but there is reason to fear that the timbers around the 200' station might have to be replaced and that some caving may have occured at that point and elsewhere.

The shaft is reported to have a depth of 580' but no stations were cut below the 400' level and I should guess that the cost of unwatering and reconditioning the shaft alone down to the 400' level would not exceed $5,000. Some additional expense would probably be involved in catching up the drifts and crosscuts and it would be prudent to set up a fund of double this amount to provide against such contingencies. Should the mill operate for any substantial length of time it would probably be necessary to purchase or lease additional space for the storage of tailings.

From the above it will be apparent that the entire cost of reconditioning the mine and mill and completing the crosscuts to the Star Light vein may well approach $50,000, with proper allowance for contingencies, and in my opinion the present ore reserves and

chances of developing additional ore in or from the old workings do not justify any such investment.

If it were found feasible to treat this ore in the Tennessee mill the above estimate might be nearly halved but even so, I do not consider it a good mining gamble, especially since the premium prices for lead and zinc are only likely to be paid until August of 1946, after which date the Tennessee mill might find it difficult to operate with profit.

Star Light Vein.

In my judgment the most promising showing on the Arizona Magma property consists of the north or Star Light vein, provided that the limits of the Star Light Claim are actually as shown on the Claim Map (Exhibit D attached).

The vein filling as examined in two shallow shafts on the east and west sides of the Cliff Carpenter residence, was found to consist of quartz and crushed wall rock lying in a strong fracture zone and having a width of six to ten feet and said to assay in the leached zone near the surface from $3.00 to $4.00 per ton.

It is my understanding that this is the vein to which Walsh refers in describing the work around the old incline shaft which was full of water at the date of his visit, (1920) but had apparently been open within the previous two years. I quote from his report as follows:

"The old shaft is about 750' northwest of the main shaft and is an inclined shaft sunk on the dip of the middle vein. It is 116 feet deep with an average dip of about 60 degrees.

At the bottom of this shaft the vein was drifted on 50' to the southeast and 125 feet northwest. In this drift the pay streak is 8" to 18" wide to the northwest and from 18" to 30" wide to the

southeast. The values are said to have come in at about the 100' level. A shipment of 5,710 lbs. sorted from the material taken from this drift and shipped to the Consolidated Arizona Smelting Co., April 16, 1918, showed values of 1.44 oz. gold and 72.56 oz. silver. An average value of $25.00 per ton is claimed for the vein as opened up on the bottom level of this old shaft. At present the water level is within about fifty feet of the collar of the shaft."

This vein is also favorably mentioned in Elgin's report of 1940 and it was highly spoken of by Schuck, Winsett and others who were familiar with the district and expressed great regret that the crosscuts from the main vein had never been pushed out to meet it.

Now the main Magma workings are filled with water and the old inclined shaft is doubtless badly caved. It would therefore appear to me that the most logical and economical method of exploring this vein would be to sink a new shaft which might be a continuation of the shallow shaft on the west side of the Carpenter house and could probably be sunk (with two small compartments) to a depth of 100' for about $7,000 or to 200' for some $12,000.

I think it likely that the conditions found in this vein at a depth of 100' would serve to determine whether the work should be continued and if these are favorable a total expense of $25,000 might serve to open up a body of comparatively high grade ore down to the 200' level and extending from beyond the old inclined shaft to the east end line of the Star Light Claim.

But in this connection it is very important to note that although this length would appear from the map (Exhibit D) to be over 500', yet the claim is now made by Judge Bollinger that nearly all of this eastern section of the Star Light is legally a part of his Delmar Claim and this contention is evidenced by stakes recently set up on the property with no apparent opposition from Schuck, or Elmer.

No doubt but that the ~~interested~~ Government officials ~~might~~ will continue to argue with some force that the payment made to the owner as representing the value of the ore is in their opinion a ~~sense~~ royalty and therefore must be limited by and the payments made by the smelters and to the "A" premiums paid by the Metals Reserve on lead and zinc; but the rental of equipment or other personal property used in the operation ~~are~~ is an entirely different matter and is not covered or referred to in M.P. R. 356.

I am personally familiar with several mining operations where lessees pay an admissable royalty to the owners of ~~a~~ the mine and operate with rented equipment ~~for which they pay a rental~~ and the fact that in this case the equipment belongs to the owner of the mine should in no way affect the rights of the ~~said~~ owner to collect a proper rental and to base that upon the returns from the operation rather than ~~using~~ making a fixed charge per month. P. You have already referred to the question of charging a rental for your equipment and now this.

I have discussed this matter with J.R. Payne and Judge Krook ~~and~~, (although the judge did not have an opportunity to pass ~~in~~ on the legality of the proposal,) I feel confident that he will eventually approve and I do not believe that the Gov't. officials can find any flaw in such a plan or successfully contend that it is a method of obtaining a royalty higher than the maximum permitted by M.P.R. 356.

If such proves to be the fact, the trustees will be able to continue to divide all of the proceeds from shipments as ~~it~~ he has done in the past and many calculations will be saved in respect to the payments for lead and zinc, ~~and~~ I therefore recommend this program for your careful and favorable consideration.

If the east end line of the Star Light is really located west of the Carpenter House then it would hardly appear worth while for the Magma Co. or their successor in interest to either extend the underground crosscuts to the Star Light vein or to do any development on the surface unless and until a satisfactory arrangement had been worked out with Judge Bollinger. For the present it appeared advisable to defer any approach along that line until you had personally had an opportunity to consider the entire situation which I have endeavored to cover in this report.

Merrimac Mine.

In discussing the situation at the Arizona Magma, Robert Thurstin suggested that it might be well to acquire and operate the nearby Merrimac Mine where he believed that a large body of good ore remained between the 200 and 300' levels, which could be treated in the Arizona Magma Mill with substantial profit.

However, it did not appear to me that his suggestion was based on any reliable data regarding the assumed ore since the Merrimac, which was primarily a silver mine, has been closed down almost continously since 1902 and one or more attempts to reopen it have resulted in failure.

In 1927, my Engineers from Humboldt thoroughly sampled the Merrimac dump and also took some samples along the 60' level, which was dry at that time, and the average of all of ~~it then~~ them was less than $4.00 per ton and would change but little by reason of the subsequent advance in the price of gold.

My best information is to the effect that the mine contained two different classes of ore, namely, a high grade with ruby silver which had been pretty well cleaned out during the old operations and a low grade refractory ore with lead and zinc which could not be readily

concentrated.

While I cannot approve of Thurstin's suggestion I think that it may be well to try to obtain some additional data regarding the Merrimac and shall make an effort along that line when opportunity permits.

Regarding the entire proposition, and especially the ownership of the Star Light vein and limits of the claim it may also be well to correspond with Cliff Carpenter whose present address is 852 Grant Street, Vallejo, California, although I should advise carefully checking any statements that Carpenter may make.

Conclusions & Recommendations.

I do not advise any purchase or lease of the Arizona Magma property with a view to reopening and operating the mine and mill because all available evidence indicates that, practically speaking, no pay ore (it should have an assay value of at least $10.00 per ton if royalty is to be paid to the owners) is left in any accessible portion of the old workings.

While carrying out such a program would involve an expenditure approaching $50,000.- or say $30,000 if the ore were to be milled at the Tennessee, there would be a very poor chance that this investment would ever be recovered.

I do advise a further investigation of the Star Light vein where both past records and present showing seem to call for more development provided that the ore shoots in this vein ~~be~~ are in the Arizona Magma ground or can be acquired on reasonable terms.

Yours very truly

Attached:

Exhibit A.- Report by Robert A. Elgin, Feb. 2, 1940
" B.- Estimates by Southwestern Engineering Co.
" C.- Print of Section Map of Mine 1937
" D.- Print of Claim Map

Send [illegible] from [illegible] Creek [illegible]

Straighten [illegible] & Bridge & get [illegible] ...

Lillian [illegible] Pave for hyrum 25 [illegible] Cos

[illegible] from [illegible] mile

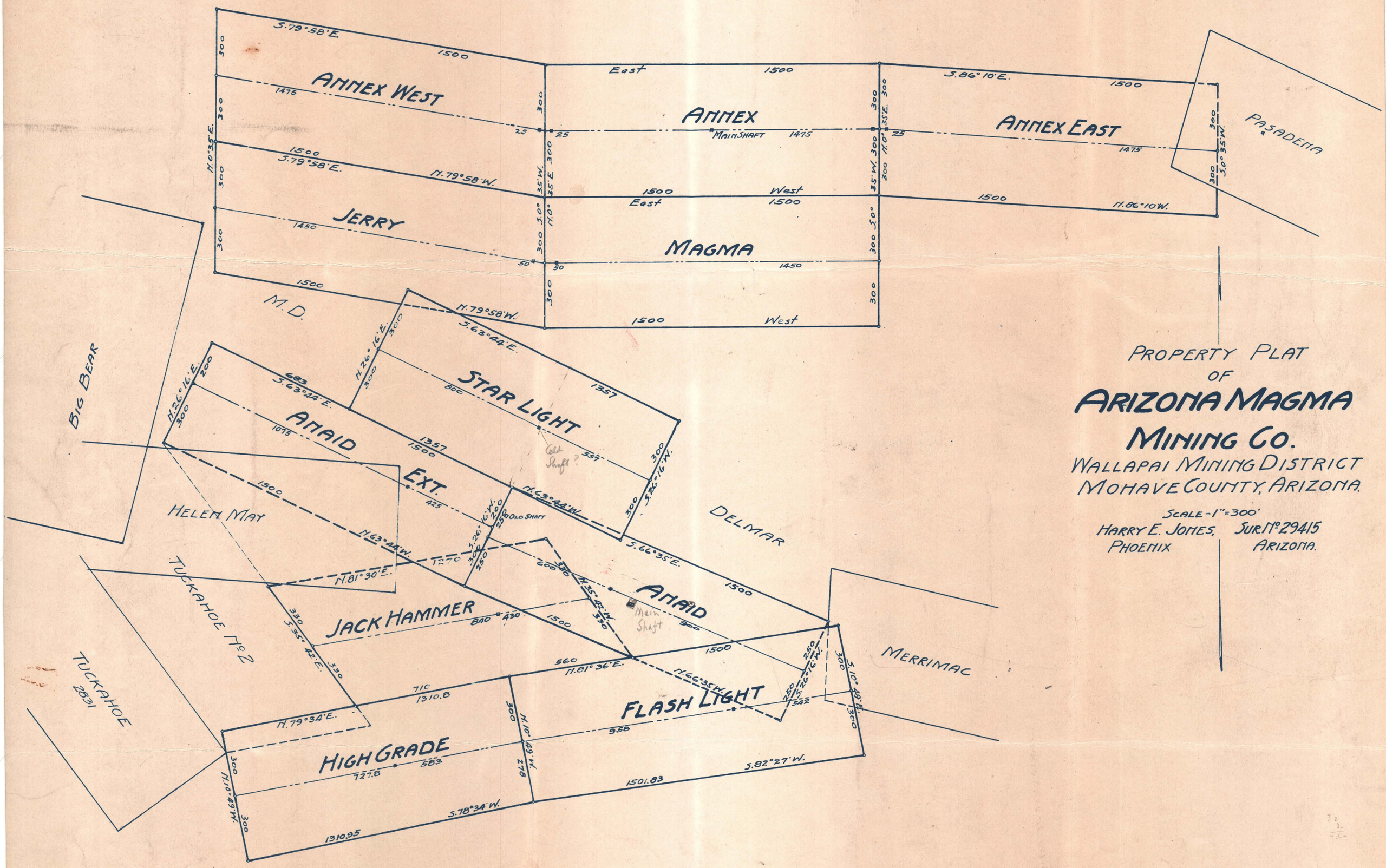
to right a total injured

for 1 yr & 7 8 [illegible] hyrum @ 100 [illegible]

5

month

MAGMA



PROPERTY PLAT OF
ARIZONA MAGMA MINING CO.

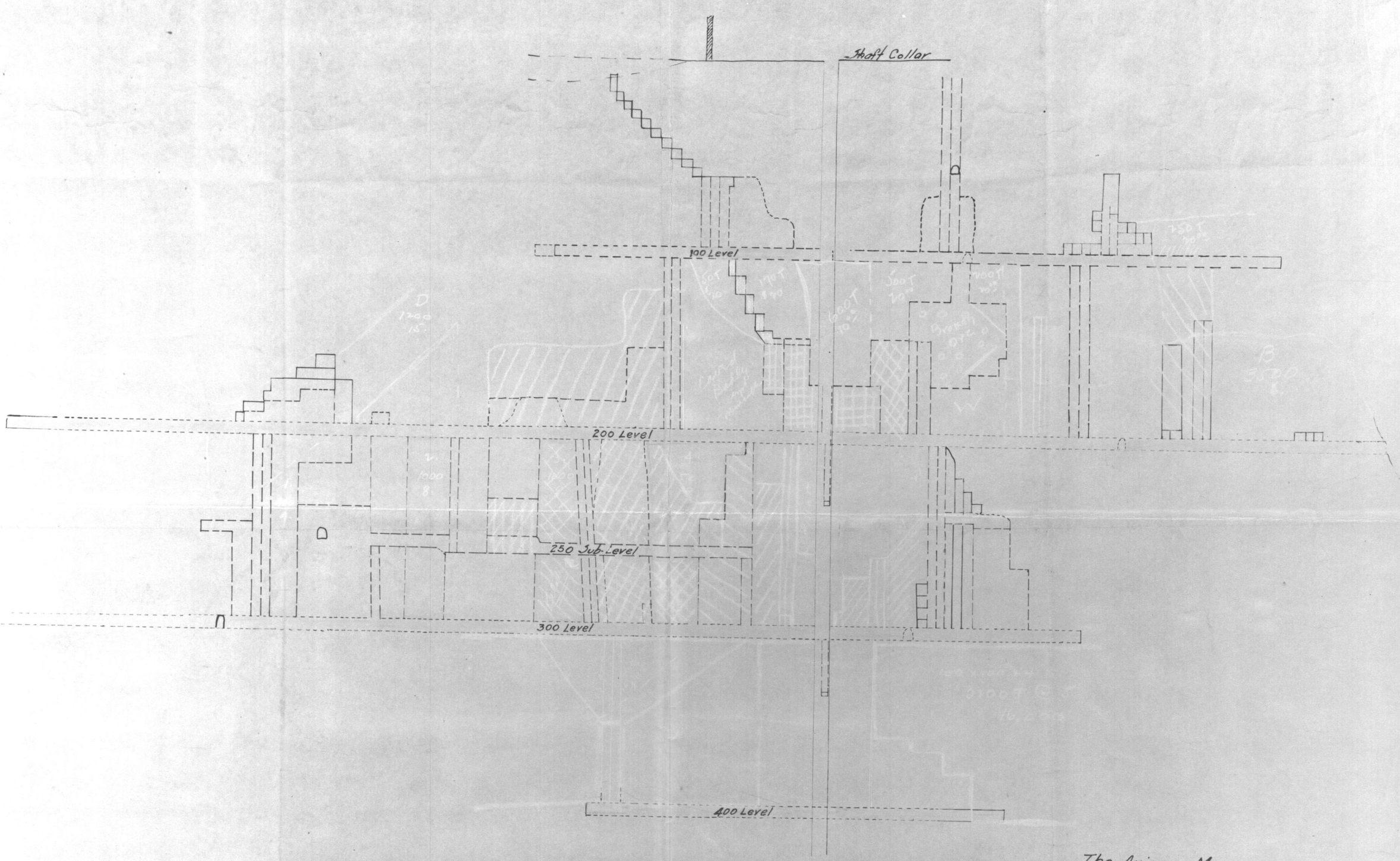
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA.

SCALE - 1" = 300'

HARRY E. JONES, SUR. No 29415
PHOENIX ARIZONA.

Kuja

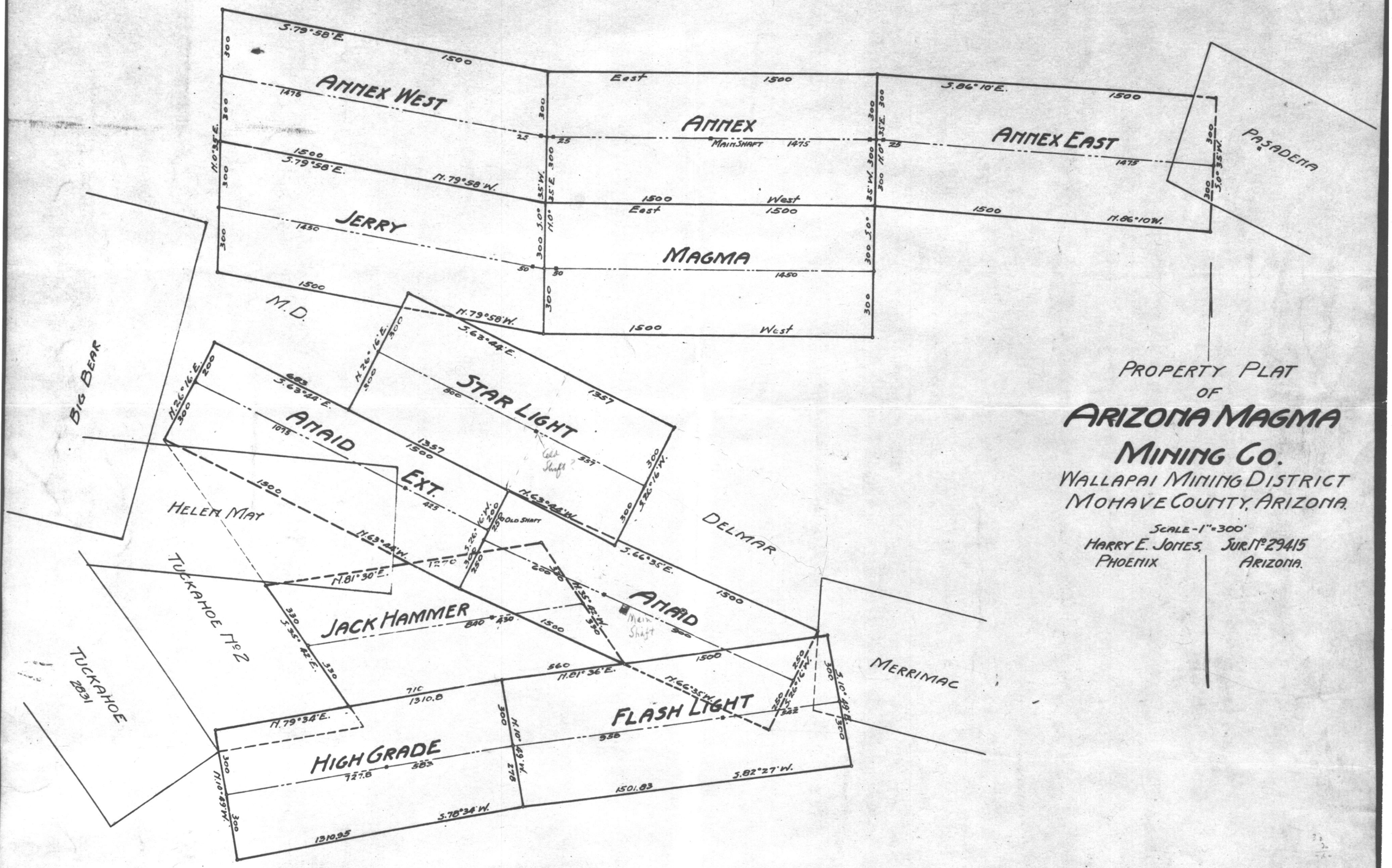
Ariz Magma



The Arizona Magma
Mining Co.
N.50W
Scale about 1" = 40'
1937

Ex. C.

MAGMA



PROPERTY PLAT OF ARIZONA MAGMA MINING CO.

WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA.

SCALE - 1" = 300'

HARRY E. JONES, SUR. Nº 29415
PHOENIX ARIZONA.

Ex. 7

MAGMA

PROPERTY PLAT OF ARIZONA MAGMA MINING CO.

WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA.

SCALE - 1" = 300'

HARRY E. JONES, PHOENIX — SUR. Nº 29415 ARIZONA.

ANNEX WEST
ANNEX
ANNEX EAST
PASADENA
JERRY
MAGMA
M. D.
BIG BEAR
AMAID
EXT.
STAR LIGHT
HELEN MAR
DELMAR
TUCKAHOE Nº 2
TUCKAHOE 2831
JACK HAMMER
AMAID
MERRIMAC
FLASH LIGHT
HIGH GRADE