Defense Minerals Administration

Reference Slip

Date 6/4/51

To: 1. Mr. Nunes

2.

3.

4.

DMA 21+50X

For Action ✓

Reply

Information

Remarks:

Sender Strobel (hl)

3

Mr. Strobel DMA 21+50X

Forwarded to

Branch

Date

Sender

2

Mr. Strobel DMA 21X50X

Forwarded to

Branch

Date

Sender

COPY

FROM

TENNESSEE METALS CORPORATION

POST OFFICE BOX SIX

CHLORIDE, ARIZONA

Mar 26, 1951

Dr. James Boyd, Director
Defense Minerals Administration
Interior Department
Washington, D. C.

Re: Docket DMA 50 & 51

Dear Dr. Boyd:

We are sending you, herewith, Form MF-103 executed in quadruplicate.

The work to be done, as described herein, is all covered by our Application for Assistance - Docket DMA 50 & 51 - now being processed by your office. We are filing this "Matching Fund" form at this time in order to have it on file before the time limit stated in your directives, in case it becomes necessary or advisable, to consider this method of financing in conjunction with or separate from the application now on file.

Very truly yours,

TENNESSEE METALS CORPORATION

By

Ralph R. Langley - President

Reply To
8943 Wilshire Blvd.
Beverly Hills, Calif.
CRestview 4-0371

RRL:D

MAR 1951

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA 21 & 50 X

Date received 5-31-50

Participation

TENNESSEE METALS CORPORATION
POST OFFICE BOX SIX
CHLORIDE, ARIZONA

Name and address of applicant

Date May 25, 1951

FILL IN THIS BLOCK

Date of application Docket DMA 50 & 21 Jan. 25, 1951 Estimated cost $60,000.00

Mineral or metal Lead, Zinc, Copper, Gold, Silver Percentage of Government participation 50%

Location of mine Chloride, Arizona

Date of filing MF-100 May 7, 1951 DMA Docket Number, if available DMA 50 & 21 X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT (See attached)

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—84067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

    NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
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(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
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    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Tennessee Metals Corporation
(Name of company)

By Ralph P. Langley
(Signature of authorized official)

May 25, 1951
(Date)

President
(Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

COPY

FROM

TENNESSEE METALS CORPORATION

POST OFFICE BOX SIX

CHLORIDE, ARIZONA

May 26, 1951

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

The Applicant:

#1 to #5 inclusive: See MF-100 and Docket DMA 50 & 21

#6: Operator is Lessee.

#7: Copies of leases in Docket DMA 50 & 21 in good standing.

#8: See exhibits Docket DMA 50 & 21.

#9: $30,000.00. Yes.

The Property:

#10 (a): No real estate. Property consists of mining claims.
(b): See answer to #21 and Exhibits referred to therein.

#11 to #14 inclusive: See Docket DMA 50 & 21.

#15: Can be milled locally.

#16 to #18 inclusive: Covered fully in Docket DMA 50 & 21.

#19: Fully discussed in Docket DMA 50 & 21.

The Exploration:

#20: Primarily lead, zinc and copper.

#21: At section "B" Exhibit "A", which is the claim map of the Dunnit Alpha Group, the crosscut is to be driven to intersect the vein, a distance of about 250 feet and after intersecting, drifting on the fissure is to be done for a distance of 100 feet each way from the intersection.

At Section "C" Exhibit "A", which shows the Alpha claims on the claim map, the crosscut is to be driven to intersect the Silver-Copper vein, a distance of about 100 feet. Also, a crosscut is to be driven from the lower Alpha tunnel to intersect the Omega vein, a distance of about 100 feet.

On the 700 level of the Tennessee mine as shown on Exhibit "T-G" a crosscut is to be driven a distance of about 75 feet to get under a body of ore indicated as block "A" on said Exhibit.

On the 11 level of the Tennessee Mine a crosscut is to be driven from the shaft to get into a block of ore indicated on the map, Exhibit T-G, as Block "E", a distance of 150 feet.

All of this work, if started simultaneously when funds are made available, can be completed within six months time.

The Exploration (continued):

#22: The geological basis and other realistic phases strongly indicating the probability of opening extensive ore bodies are stated in the Exhibits included in Docket DMA 50 & 21.

The Requirements and Costs:

#23 (a): 8 Miners @ $15; 8 Helpers @ $14; 8 Tramers @ $14.

(b): 2 Supervisors; 1 at Summit-Alpha and 1 at Tennessee, $500 per month each.

(c): Estimate $2,500.00

(d): Orebins $3,000.00

(e): 1 Compressor $9,500.00

(f): Compressor $1,600.00

(g): $1,000.00

(h): $4,000.00

(i): $4,000.00

#24: Entire work can be done in six months after funds are available.

COPY

FROM

TENNESSEE METALS CORPORATION

POST OFFICE BOX SIX

CHLORIDE, ARIZONA

May 25, 1951

Dr. James Boyd, Director
Defense Minerals Administration
Interior Department
Washington, D. C.

Re: Docket DMA 50 & 21X

Dear Dr. Boyd:

We are sending you, herewith, Form MF-103 executed in quadruplicate.

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By

Ralph R. Langley - President

Reply To
9943 Wilshire Blvd.
Beverly Hills, Calif.
CRestview 5-5371

RRL:D

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA 21 & 50X

Date received 5-31-51

Participation

TENNESSEE METALS CORPORATION
POST OFFICE BOX SIX
CHLORIDE, ARIZONA

Name and address of applicant

Date May 25, 1951

FILL IN THIS BLOCK

Date of application Docket DMA 50 & 21 Jan. 25, 1951 Estimated cost $80,000.00

Mineral or metal Lead, Zinc, Copper, Gold, Silver Percentage of Government participation 50%

Location of mine Chloride, Arizona

Date of filing MF-100 May 7, 1951 DMA Docket Number, if available DMA 50 & 21X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

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16—64067-1

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Tennessee Metals Corporation
(Name of company)

By Roger P. Langley
(Signature of authorized official)

May 25, 1951
(Date)

President
(Title)

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COPY

FROM

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POST OFFICE BOX SIX

CHLORIDE, ARIZONA

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The Applicant:

#1 to #5 inclusive: See MF-100 and Docket DMA 50 & 21

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#8: See exhibits Docket DMA 50 & 21.

#9: $80,000.00. Yes.

The Property:

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By Ralph R. Langley
Ralph R. Langley - President

Reply To
8943 Wilshire Blvd.
Beverly Hills, Calif.
CRestview 5-5371

RRL:D

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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DO NOT FILL IN THIS BLOCK

Docket No. dma 21 & 50 X

Date received 5/31/51

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POST OFFICE BOX SIX
CHLORIDE, ARIZONA

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FILL IN THIS BLOCK

Date of application Docket DMA 50 & 21 Jan. 25, 1951 Estimated cost $60,000.00

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Tennessee Metals Corporation
(Name of company)

By Charles P. Faughey
(Signature of authorized official)

May 25, 1951
(Date)

President
(Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

TENNESSEE METALS CORPORATION
POST OFFICE BOX SIX
CHLORIDE, ARIZONA

May 25, 1951

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO
MINERAL ORDER 5, UNDER DEFESNE PRODUCTION ACT OF 1950

The Applicant:

#1 to #5 inclusive: See MF-100 and Docket DMA 50 & 21

#6: Operator is Lessee.

#7: Copies of leases in Docket DMA 50 & 21 in good standing.

#8: See exhibits Docket DMA 50 & 21.

#9: $30,000.00. Yes.

The Property:

#10 (a): No real estate. Property consists of mining claims.
(b): See answer to #21 and Exhibits referred to therein.

#11 to #14 inclusive: See Docket DMA 50 & 21.

#15: Can be milled locally.

#16 to #18 inclusive: Covered fully in Docket DMA 50 & 21.

#19: Fully discussed in Docket DMA 50 & 21.

The Exploration:

#20: Primarily lead, zinc and copper.

#21: At section "B" Exhibit "A", which is the claim map of the Summit Alpha Group, the crosscut is to be driven to intersect the vein, a distance of about 250 feet and after intersecting, drifting on the fissure is to be done for a distance of 100 feet each way from the intersection.

At Section "C" Exhibit "A", which shows the Alpha claims on the claim map, the crosscut is to be driven to intersect the Silver-Copper vein, a distance of about 100 feet. Also, a crosscut is to be driven from the lower Alpha Tunnel to intersect the Omega vein, a distance of about 100 feet.

On the 700 level of the Tennessee mine as shown on Exhibit "T-G" a crosscut is to be driven a distance of about 75 feet to get under a body of ore indicated as block "A" on said Exhibit.

On the 11 level of the Tennessee Mine a crosscut is to be driven from the shaft to get into a block of ore indicated on the map, Exhibit T-G, as block "E", a distance of 150 feet.

All of this work, if started simultaneously when funds are made available, can be completed within six months time.

The Exploration (continued):

#22: The geological basis and other realistic phases strongly indicating the probability of opening extensive ore bodies are stated in the Exhibits included in Docket DMA 50 & 21.

The Requirements and Costs:

#23 (a): 8 Miners @ $15; 8 Helpers @ $14; 8 Tramers @ $14.

(b): 2 Supervisors; 1 at Summit-Alpha and 1 at Tennessee, $500 per month each.

(c): Estimate $2,500.00

(d): Orebins $3,000.00

(e): 1 Compressor $9,500.00

(f): Compressor $1,800.00

(g): $1,000.00

(h): $4,000.00

(i): $4,000.00

#24: Entire work can be done in six months after funds are available.

M I N I N G L E A S E

- - - - -

L. L. ROBINSON ESTATE COMPANY

- to -

ARIZONA METALS COMPANY

- - - - -

Dated as of September 1, 1949

- - - - -

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MINING LEASE

THIS LEASE, made and entered into as of the 1st day of September, 1949, by and between L. L. ROBINSON ESTATE COMPANY, a corporation organized and existing under the laws of the State of California, with its principal place of business in Los Angeles, California, duly qualified to transact business in the State of Arizona, party of the first part, hereinafter sometimes referred to as "Lessor," and ARIZONA METALS COMPANY, a corporation organized and existing under the laws of the State of Arizona, with its principal place of business at Kingman, Arizona, party of the second part, hereinafter sometimes referred to as "Lessee."

W I T N E S S E T H :

WHEREAS, said L. L. ROBINSON ESTATE COMPANY heretofore executed and delivered to RALPH R. LANGLEY a certain agreement designated "Mining Lease Agreement," dated the 2nd day of October, 1947, covering those certain patented and unpatented mining claims hereinafter more particularly described under Group "A" of the granting clauses hereof; and

WHEREAS, said Mining Lease Agreement was thereafter supplemented by an instrument designated "Agreement of Amendment to 'Mining Lease Agreement'", dated the 2nd day of January, 1948, covering the unpatented mining claims hereinafter more particularly described under Group "B" of the granting clauses hereof; and

WHEREAS, said Mining Lease Agreement dated the 2nd day of October, 1947, by instrument designated "Agreement of Assignment of Lease" bearing date the 10th day of October A.D., 1947, and recorded on March 9, 1948, in Book 34 of Miscellaneous Records pages 500-501, Records of Mohave County, Arizona, was by said RALPH R. LANGLEY and by SELMA J. LANGLEY, his wife, assigned to said ARIZONA METALS COMPANY; and

WHEREAS, it is the desire of the parties hereto to cancel and terminate as of August 31, 1949, said Mining Lease Agreement dated the 2nd day of October, 1947, and said Agreement of Amendment dated the 2nd day of January, 1948, with the consent and approval of said RALPH R. LANGLEY and SELMA J. LANGLEY, his wife, and mutually to release and exonerate as of the date hereof any and all claims, obligations or liabilities of whatsoever nature which either party may assert or have any right to assert against the other, based upon, arising out of or in connection with said Mining Lease Agreement and said Agreement of Amendment, and for any acts committed or omitted by either party thereunder; and

WHEREAS, the parties hereto further desire to enter into this Mining Lease in lieu of and in substitution for the aforementioned Mining Lease Agreement and Agreement of Amendment thereto.

NOW, THEREFORE, for and in consideration of the sum of Ten ($10.00) Dollars in hand paid to each of the parties hereto by the other, and other valuable considerations moving between the parties, the receipt whereof is hereby acknowledged, it is hereby mutually stipulated, understood and agreed as follows:

ARTICLE I.

CANCELLATION OF PRIOR LEASE AGREEMENTS AND RELEASE FROM LIABILITY THEREUNDER

Section 1. Cancellation of Prior Leases. The parties hereto by the execution of this instrument cancel and terminate as of August 31, 1949, the Mining Lease Agreement dated the 2nd day of October, 1947, and Agreement of Amendment dated the 2nd day of January, 1948, and RALPH R. LANGLEY and SELMA J. LANGLEY, his wife, in approving this Mining Lease by their signatures at the

foot hereof, consent to such cancellation and termination, and ARIZONA METALS COMPANY and said RALPH R. LANGLEY and SELMA J. LANGLEY, his wife, have surrendered, and do hereby ratify and confirm the surrender, as of August 31, 1949, to L. L. ROBINSON ESTATE COMPANY, of possession of each and all of the mining claims covered by said Mining Lease Agreement dated the 2nd day of October, 1947, and Agreement of Amendment dated the 2nd day of January, 1948.

Section 2. Mutual Release of Claims and Liabilities Under Prior Leases. The parties hereto by the execution of this instrument, and RALPH R. LANGLEY and SELMA J. LANGLEY, his wife, in approving the same by their signatures at the foot hereof, mutually release and exonerate any and all claims, obligations or liabilities of whatsoever nature which either party hereto or said RALPH R. LANGLEY and SELMA J. LANGLEY may assert or have any right to assert against the other based upon, arising out of or in connection with the aforementioned Mining Lease Agreement and Agreement of Amendment, and for any acts committed or omitted by either party hereto or by said RALPH R. LANGLEY or SELMA J. LANGLEY in connection therewith.

ARTICLE II.

GRANTING CLAUSES

Section 1. Description of Claims and Grant. For the considerations aforesaid and the payments hereafter to be made by Lessee to Lessor, and the performance of the terms, covenants and

conditions hereof by Lessee, Lessor has granted, demised and leased, and by these presents does grant, demise and lease unto Lessee, the following described mining claims (including water and water rights as may be incident thereto) owned by Lessor, situated in the Wallapai Mining District, County of Mohave, State of Arizona:

Group "A"

Patented Claims	Book	Page	Amended
Summit	19	539 et seq.	
Silver Monster	16	531-534	
Unpatented Claims			
Savannah	D-D	594	YY 431
Tasmania	Y	523	YY 429
Normandy	W-W	271	YY 430
Miners Hope	B	728	YY 428
McCallister	W-W	272	YY 427
Coalinga	3-B	389	
Silver Copper	3-D	653	YY 417
Nora	3-G	135	

Group "B"

Patented Claims		
Eagle	16	527-531
Fountain Head	16	524-527
Unpatented Claims		
Mamie B	3-D	551
Nannie M	3-D	765
Helen	3-G	898
Hillside	3-D	654
Hillside No. 1	3-E	73
Hillside Fraction	3-G	435

Section 2. Term of Lease. The term of this Lease shall be for a period of ten (10) years from the date hereof, expiring at Noon on the 31st day of August, 1959, unless sooner terminated, in whole or in part, in the manner and under the conditions hereinafter set forth.

ARTICLE III.

COVENANTS CONCERNING ROYALTIES

Section 1. Basis of Computation. Lessee covenants and agrees to pay to Lessor at its office in Los Angeles, California, royalties on all ores extracted and sold or removed from the demised premises, which royalties shall be computed as follows:

(a) On all ores having a market value of $10.00 or less per ton, five percent (5%) of the net amount received by Lessee.

(b) On all ores having a market value in excess of $10.00 but not more than $20.00 per ton, seven and one-half percent (7½%) of the net amount received by Lessee.

(c) On all ores having a market value of $20.00 but not more than $30.00 per ton, ten percent (10%) of the net amount received by Lessee.

(d) On all ores having a market value in excess of $30.00 but not more than $35.00 per ton, twelve and one-half percent (12½%) of the net amount received by Lessee.

(e) On all ores having a market value in excess of $35.00 but not more than $50.00 per ton, fifteen percent (15%) of the net amount received by Lessee.

(f) On all ores having a market value in excess of $50.00 per ton, twenty percent (20%) of the net amount received by Lessee.

Section 2. Definition of "Market Value" and "Net Amount Received by Lessee." The term "market value" as used in subdivisions (a) and (f), inclusive, in the foregoing Section 1, shall be deemed to mean the value of all metals contained in each lot as shown by smelter or custom mill settlement sheets at the time and place when and where ores are milled, treated and settled for; and the term "net amount received by Lessee" shall mean the gross proceeds as shown by smelter and custom mill settlement sheets, less the deductions as specified in the following Section 3.

Section 3. Government Subsidies and Other Deductions.

(a) In computing royalties payable to Lessor under the provisions of the foregoing Section 1 of this Article III., any premiums, subsidies or bonuses which may be allowed and paid by the Federal Government on ores produced from the demised premises shall not be included in the amounts payable to Lessor.

(b) In the computation of royalties payable to Lessor, Lessee shall be entitled to deduct from the gross returns from the sale or other disposition of ores mined from the demised premises, or concentrates produced therefrom, the following:

(1) Actual transportation charges, rail and truck, as the case may be, not to exceed the going rate of charges customarily payable in the district from the mine to the place where marketed or milled by Lessee.

(2) Smelter and custom mill charges and any penalties imposed in the usual and customary practice. In the event ores are milled at a mill owned or operated by Lessee, the mill charges deductible under this subdivision (b) shall not exceed the mill charges customarily paid in the district in which such mill is located.

(3) Severance, sales or similar taxes (Federal and State) imposed upon the mining operations or ores produced and sold therefrom.

Section 4. Royalties Payable on Separate Lots. Lessee covenants and agrees that settlement for all ores shipped in railroad cars shall be made separately on each carlot in accordance with settlement sheets furnished Lessee by the smelter or custom mill. Settlements for all ores transported by truck or by other means than in railroad cars, milled and treated by local custom mills or by a mill owned or operated by Lessee, shall be made in such lots of ore as the concentrates produced therefrom will correspond as near as may be with carlot shipments of ore, each such lot to be identified, assayed and valued in the customary manner for accounting purposes, and the value thus fixed shall be used in computing the royalties to be paid under the foregoing Section 1.

Section 5. Reports to Lessor. Lessee covenants and agrees to furnish Lessor with copies of the smelter or custom mill settlement sheet for each lot mined and shipped, showing the number of tons, the market value as hereinabove defined of the ore in each such lot, and the net amount payable to the Lessee therefor. In the event Lessee crushes and treats ores in a mill owned or operated by it, Lessee shall furnish Lessor certificates executed by an officer of the Lessee showing weights and market values of each separate lot in substantially the same form furnished by smelter or custom mill settlement sheets, as hereinabove provided.

Section 6. Reports and Payments. Lessee covenants and agrees to furnish Lessor smelter and/or mill settlement sheets within ten (10) days after the same are received by Lessee, accompanied by payment of royalties due covering all ores shipped to

independent mills or smelters.

On all ores crushed and treated at a mill owned or operated by it, Lessee covenants and agrees to furnish Lessor certificates executed by one of its officers showing weights and values of each separate lot, as above in Section 4 defined, when the concentrates are produced therefrom, which certificates shall further state the date of shipment and the name of the purchaser of such concentrates; and within ten (10) days after receipt of payment therefor Lessee shall furnish Lessor with customary settlement sheets and remit the royalties payable with respect to each lot so shipped.

ARTICLE IV.

GENERAL COVENANTS OF LESSEE

Section 1. Payment of Taxes. Lessee covenants and agrees that it will, at least five (5) days prior to delinquency, pay all general or special taxes assessed against the properties, and the improvements thereon or therein, described in the granting clauses hereof as "patented claims", as well as all franchise and other governmental taxes or charges necessary to maintain its corporate existence.

Section 2, Licenses. Lessee further covenants and agrees that it will obtain and maintain all Federal and State licenses necessary to conduct its mining operations on the demised premises, and that it will in a timely manner file with the proper bureau or department of the Federal or State government all returns and reports, and will pay any sales or other taxes required under any present or future law respecting its mining operations and the income or products derived therefrom.

Section 3. Work Requirements on Crosscut Tunnel. Lessee further covenants and agrees that it will on or before January 1, 1950, resume the excavation of a crosscut tunnel on that portion of the demised premises included in Group "A" of the granting clauses hereof and generally known as the Summit workings, which excavation was commenced at an elevation of about 450 or 500 feet below the visual outcrops of the so-called Summit vein at the original shaft located on the Summit claim, and which excavation as of the date hereof has proceeded a distance of approximately 400 feet; Lessee agrees diligently to continue the excavation of said tunnel for at least the remaining distance required to intersect the Summit shaft or ore body or vein aforesaid.

Section 4. General Work Requirements. Lessee further covenants and agrees that it will operate the mining claims covered hereby in a safe and minerlike manner; that it will explore all the claims covered hereby and diligently develop and mine such of the claims as appear capable of producing ores in paying quantities, Lessee being hereby granted the option to select the location or claim upon which the operations or development work is to be performed, except as specifically required under the preceding Section 3; provided in any event Lessee shall perform all assessment work on the claims covered hereby necessary to comply with all Federal laws and regulations in order to preserve in good standing all unpatented claims covered by this Lease, and will file the required proof thereof and furnish Lessor with copies of such proof, not less than thirty (30) days before the date upon which such proofs are required to be filed for record.

Notwithstanding the foregoing provisions of this Section 4, Lessee, upon written notice to Lessor given not less than thirty

(30) days prior to July 1st of any year during the term hereof, if ore is not then being produced in paying quantities on the claims embraced within Groups "B" and "C" of the granting clauses hereof, shall have and hereby is given the right to abandon, quitclaim and surrender up to Lessor the claims embraced within said last-mentioned groups, respectively, upon the condition, however, that Lessee shall file with Lessor affidavit or affidavits showing the completion for the current fiscal year of the amount of assessment work required by law and by the rules and regulations of the Bureau of Land Management or other bureau or department of the Federal Government having jurisdiction.

Section 5. Maintenance of Roads. Lessee further covenants and agrees that it will construct and maintain at all times suitable roads providing ingress and egress to the claims being operated under the terms hereof, and that it will at all times permit Lessor, its officers, attorneys or authorized agents, to enter upon and into all parts of the demised premises for the purpose of inspection, with the free use of all passages, ropes, windlasses, ladderways, elevators and all other facilities of ingress and egress for such purpose.

Section 6. Delays Occasioned by Causes Beyond Control of Lessee. Whenever Lessee is prevented by the acts of nature and/or public enemy, strikes, riots, fires, power failure, interference with and prevention of transportation beyond the control of Lessee, or by reason of an order, judgment or decree of any court when not issued or obtained at the instance of Lessee, or for its benefit, or by governmental regulation or by act of any public officer, when not at the instance of Lessee, in the production, milling, treating and/or processing of ore or the shipping of ore from the demised

premises by Lessee, or if market prices of metals over a ninety (90) day period will not permit the mining operations hereunder to yield a reasonable profit and Lessee shall certify in writing to Lessor the existence of the particular circumstance which is precluding Lessee from complying with the covenants of this Lease relating to its mining operations, then and in that event, and for the period during which Lessee, on account of one or more of the events hereinabove specified in this Section 6, is prevented from performing its obligations under the terms hereof, the covenants to perform hereunder shall be suspended for the period, but only for the duration of the period, when Lessee is so prevented, but in no event shall such suspension remain in effect beyond the period specified in such certificate, nor shall such suspension relieve Lessee from its obligations to perform the necessary assessment work to preserve the unpatented mining claims covered by this Lease.

The term "reasonable profit" as used in this Section 6 shall be deemed to mean the net amount received by Lessee as defined in Section 2 of Article III. hereof which would yield to Lessee a fair return on each ton of ore shipped and milled over and above the deductions provided for in Section 3 of Article III.

In the event Lessee shall certify to Lessor that it has suspended mining operations under the foregoing provisions of this Section 6 by reason of the failure of such operations to yield a fair return, Lessee shall furnish Lessor with a detailed statement showing the anticipated net return on each ton of ore to be mined and shipped, based upon the then market value and the deductions as provided in Section 2 of Article III. hereof, and in the event Lessor shall disagree with such showings the parties hereto agree to submit the controversy to a board of three arbitrators, one to be selected by Lessor, one by Lessee, and a third to be chosen by

the two thus selected, and it is agreed and understood that the decision of a majority of such board shall be binding and conclusive on the parties hereto.

Section 7. Mechanics and Materialmen Claims. Lessee further covenants and agrees to pay promptly when due all charges and expenses incurred by or for Lessee in connection with its operations on the demised premises, and to protect said premises and the Lessor and hold the premises and the Lessor harmless from an against any and all claims of miners, mechanics, materialmen, contractors and others in connection with Lessee's operations, and to keep the premises free and clear from all liens and claims of whatsoever nature arising therefrom.

Section 8. Public Liability and Compensation Insurance. Lessee further covenants and agrees that it will protect, save and hold harmless Lessor from and against any and all liability arising out of personal injuries or accidents sustained by employees, licensees, agents, visitors and/or other persons upon the demised premises, and that it will provide at Lessee's own expense workmen's compensation insurance in accordance with the law, and public liability insurance to the extent available, such public liability insurance to be in such form as will protect both Lessor and Lessee. Lessee undertakes and agrees, upon written request of Lessor to furnish Lessor with a certificate executed by one of its officers giving a detailed description of the workmen's compensation and public liability insurance then in force pursuant to the provisions of this Section 8.

Section 9. Maintenance of Books and Records--Right of Inspection. Lessee covenants and agrees to maintain at all times

at its operating headquarters complete records of all ores mined and shipped, including ores broken in or upon the demised premises as of the date hereof, which records shall at all times during business hours be open to the inspection of any officer or authorized attorney or agent of Lessor; and the right is given Lessor to permit its officers, attorneys or authorized agents to make extracts from such books and records. Lessor shall have, and hereby is given, the right and authority to request of and receive from any smelter or custom mill to which ores or concentrates are shipped by Lessee from the demised premises, copies of settlement sheets or other pertinent information in relation thereto.

Section 10. Lessee's Compliance with Law, etc. Lessee agrees to conduct its mining operations on the demised premises in accordance with the prevailing mining laws and regulations of the Federal Government and of the State of Arizona, and in the carrying on of said mining operations Lessee agrees to keep all shafts, tunnels and other workings in safe condition and protected from trespassers by proper doors or other means.

ARTICLE V.

SUBLEASING, EXTENSION OF LEASE AND OPTION TO PURCHASE BY LESSEE

Section 1. Subleasing. Lessee shall have and hereby is given, the right, so long as it is not in default under any of the terms and provisions hereof, to sublease all or any part of the claims described in Groups "B" and "C" of the granting clauses hereof to such persons and upon such terms as may be fixed by Lessee; provided that such sublease shall not relieve Lessee from its obligations under Section 4 of Article IV. hereof with respect

to the performance of the necessary amount of annual assessment work to preserve the claims included in either of said groups.

Section 2. Option to Purchase Group "A" Claims. Lessor grants to Lessee the right and option to purchase all the right, title and interest of Lessor in and to the claims described in Group "A" of the granting clauses hereof for the total sum of Seventy-five Thousand ($75,000) Dollars if exercised on or before January 1, 1955, or as an alternative, for the sum of One Hundred Thousand ($100,000) Dollars if exercised after January 1, 1955, and on or before August 31, 1959, provided in either such case Lessee is not then in default under any of the terms, conditions and provisions hereof. The option prices above in this section provided shall be payable in cash on or before the dates specified in each such option, it being understood and agreed, however, that Lessee shall be given credit on the option price for all royalties paid Lessor under Section 6 of Article III. hereof, between the date hereof and the date of the exercise of the options hereby granted, either for ores mined and shipped from the claims embraced in Group "A" or for ores mined and shipped from any other claims described in the granting clauses hereof.

It is further understood and agreed that the options given with respect to Group "A" claims shall not relieve Lessee from its obligations to perform the covenants and conditions herein contained respecting claims included within Groups "B" and "C".

Section 3. Options to Purchase Group "B" or "C" Claims. Lessor grants to Lessee the right and option to purchase the right, title and interest of Lessor in and to the claims described in Group "B" or "C" of the granting clauses hereof provided the option hereby given is exercised on or before January 1, 1955, and provided

further, that at the time of the exercise of each option the Lessee is not then in default under any of the terms, conditions and provisions hereof, for the sum of Ten Thousand ($10,000) Dollars cash for the claims contained in either of said groups. Upon the exercise of the options given covering Groups "B" or "C" and the payment of the purchase price therefor, Lessor will execute and deliver to Lessee a deed or deeds of all of Lessor's right, title and interest in and to the claims covered by either of said options.

Section 4. Extension of Lease. If on the 31st day of August, 1959, Lessee shall have kept and performed all of the terms, conditions and agreements on the part of Lessee to be kept and performed hereunder, including payment of all royalties, and shall have kept and maintained the mining properties in good and miner-like manner during the term of this Lease to the satisfaction of the Mine Inspector's Office of the State of Arizona, and if, during the original term hereof and prior to the 31st day of August, 1959, Lessor has received royalties from the mining operations on the demised premises of not less than the sum of Fifteen Thousand ($15,000) Dollars in addition to amounts expended by Lessee to cover required assessment work as provided in Section 4 of Article IV. hereof or if, during the period from the date hereof to the 31st day of August, 1959, Lessee has expended a sum of not less than Twenty-five Thousand ($25,000) Dollars in permanent fixed mine improvements, then and in either of those events, Lessor agrees to extend this Lease for a further period of fifteen (15) years commencing on September 1, 1959, upon the same terms and conditions, excluding, however, the right and option to purchase as set forth in the foregoing Sections 2 and 3 of this Article V.

The term "permanent fixed mine improvements" as used in

this Section 4 shall be deemed to include buildings constructed upon and necessary in the operation of the demised premises, timbering, rails, air or water lines in place underground, ore bins, joists and other machinery and equipment used or useful in the operation of the mines.

ARTICLE VI.

DEFAULTS AND REMEDIES

Section 1. Definition of "Defaults". The following events are hereby defined for all purposes hereof as defaults:

(a) Lessee's failure to pay royalties as provided in Section 1 of Article III. hereof.

(b) Lessee's failure to furnish Lessor with reports or copies of smelter or custom mill settlement sheets as provided in Sections 5 and 6 of Article III. hereof.

(c) Lessee's failure to pay taxes or to obtain and maintain licenses as provided in Sections 1 and 2 of Article IV. hereof.

(d) Lessee's failure to perform the development and assessment work as required by Sections 3 and 4 of Article IV. hereof, subject to the provisions of Section 6 of Article IV. hereof.

(e) Lessee's failure to comply with, observe and perform all other of the covenants and agreements herein contained required to be observed and performed by it.

(f) Should Lessee assign or attempt to assign its interest under this Lease, or any part thereof, or of any of Lessee's rights hereunder for the benefit of creditors.

(g) Should Lessee be adjudicated a bankrupt, or should a

petition be filed either by Lessee or by any creditor or creditors of Lessee for reorganization under Chapter X. of the Bankruptcy Act of the United States, or any Amendment thereto.

(h) Should a writ of attachment be levied upon any of the business or assets of Lessee which would interfere with the continued possession and operation of all or any part of the demised premises, or compliance by Lessee of any of the terms, provisions and conditions of this Lease.

(i) Should a writ of execution be levied upon any of the business or assets of Lessee which would interfere with the continued possession and operation of all or any part of the demised premises, or compliance by Lessee of any of the terms, provisions and conditions of this Lease.

Section 2. Remedies in Event of Default. In case a default shall occur as defined in the foregoing Section 1 of this Article VI., Lessor reserves unto itself the right to terminate at its election all of the rights of Lessee under this Lease and all of such rights shall terminate at the expiration of thirty (30) days from the giving of written notice of default, which notice shall specify the nature of the default or defaults which have occurred, and shall be personally served upon an officer of the Lessee or mailed, postage prepaid, to the address of Lessee as provided in Section 6 of Article VII. hereof.

Unless the default or defaults specified in such notice is or are cured to the satisfaction of Lessor within the period of thirty (30) days after written notice as aforesaid, then at the expiration of said thirty (30) day period this Lease and all rights of the Lessee hereunder shall forthwith terminate, and thereupon Lessee shall surrender peaceable possession of the de-

mised premises unto Lessor, and Lessor may reenter and remove all persons therefrom, subject to the rights granted Lessee under the provisions of Section 1 of Article VII. hereof.

Section 3. Additional Remedies. The rights and remedies hereunder given to Lessor are in addition to and not in lieu of or in limitation or derogation of the rights and remedies otherwise granted by law in Lessor; any waiver by Lessor of any breach or default by Lessee, whether such waiver be direct or implied, shall not be considered to be a continuing waiver or a waiver of or consent to any subsequent breach or default on the part of Lessee.

ARTICLE VII.

MISCELLANEOUS

Section 1. Construction of Ditches, etc. and Removal of Facilities by Lessee. Lessee is hereby given the right to construct all necessary ditches, dikes, canals, bridges, tunnels, roads, pipe lines, power lines, wells, tanks and other facilities and buildings necessary or desirable in connection with its operations on the premises. All removable facilities placed by Lessee on the premises shall be and remain the property of Lessee and shall not become a part of the premises, and may be removed by Lessee at any time within ninety (90) days after the expiration of this Lease or its termination under the provisions of Section 2 of Article VI. hereof; provided, however, that none of such removable facilities may be removed at any time unless all sums due from Lessee to Lessor shall have been paid and there exists no lien for mechanics, materialmen or other persons, or any liabilities incurred by the Lessee in connection with its operations which are existing against the premises or for which the Lessor may be or become liable; provided further, that no timbering, rails, air or

water lines in place underground, or power lines aboveground, shall be removed, and any such that shall have been placed therein or thereon by Lessee shall nevertheless become and remain the property of Lessor.

Section 2. Retention of Ores and Tailings by Lessor. Upon the expiration or termination of this Lease, Lessor shall have the right to keep and retain as its own property any and all ore and tailings that remain upon the demised premises.

Section 3. Lessee to Furnish Detail of Workings, etc. Upon the expiration or termination of this Lease according to its terms, Lessee shall furnish Lessor, without cost to Lessor, a map or diagram of the mine workings of the demised premises, together with pertinent assay or other data which Lessee may have with respect to the mined or unmined portions of the demised premises.

Section 4. Assignments. It is understood and agreed that Lessee shall have no right to assign this Lease or any of the Lessee's rights hereunder without the prior written consent of Lessor, and then only on condition that the assignee or assignees of this Lease or of any of Lessee's rights hereunder shall by appropriate instrument agree to observe and perform each and all of the obligations, covenants, terms and conditions hereof.

Section 5. Invalidity of Clauses. Should any court of competent jurisdiction hold any clause or clauses or provisions of this Lease invalid, such holding shall not affect or invalidate the remaining clauses of this Lease, but such remaining clauses shall continue in full force and effect during the term hereof.

Section 6. Notices. Any notice required or permitted to be given by either party hereto to the other shall be deemed

effective for all purposes if deposited in the United States mail, registered, with postage prepaid, in an envelope sealed and addressed to the party or parties to whom it is required or permitted to be given, at the last known address or addresses of such party or parties. Lessor's present address for the purposes hereof is as follows:

L. L. Robinson Estate Company
c/o Clarence C. Hogan
639 South Spring Street
Los Angeles 14, California

Lessee's present address for the purposes hereof is as follows:

Arizona Metals Company
P. O. Box 1266
Kingman, Arizona

Section 7. Successors and Assigns. This Lease shall be binding upon and shall inure to the benefit of the Lessor and the Lessee and their respective successors and assigns.

Section 8. Time is of Essence, etc. Time is of the essence of this Lease and of each of the provisions hereof.

Section 9. Titles not a Part of Lease. The titles of the several articles and sections of this Lease, and the table of contents, shall not be deemed to be a part hereof.

IN WITNESS WHEREOF, Lessor and Lessee have executed this Lease by their respective officers thereunto duly authorized as of the day and year first above written.

(SEAL) L. L. ROBINSON ESTATE COMPANY

S/ M. A. Robinson
President

S/ Clarence C. Hogan
Secretary
LESSOR

(SEAL) ARIZONA METALS COMPANY

S/ Ralph R. Langley
President

S/ Ralph R. Langley, Jr.
Secretary

STATE OF CALIFORNIA)
) ss.:
COUNTY OF LOS ANGELES)

On this 29th day of Nov., 1949, before me, a Notary Public in and for said county and state duly commissioned and sworn, personally appeared M. A. Robinson and Clarence C. Hogan, known to me to be the President and Secretary, respectively, of the L. L. Robinson Estate Company, the corporation that executed the within instrument, known to me to be the persons who executed the within instrument on behalf of said corporation, and acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

S/ Raymond V. Haun
Notary Public in and for said County and State.
My commission expires

STATE OF CALIFORNIA)
) ss.:
COUNTY OF LOS ANGELES)

On this 26th day of November, 1949, personally appeared before me, a Notary Public within and for the County of Los Angeles, State of California, Ralph R. Langley and Ralph R. Langley, Jr., known to me to be the President and Secretary, respectively, of the Arizona Metals Company, the corporation that executed the within instrument, known to me to be the persons who executed the within instrument on behalf of said corporation, and acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

S/ Minetta Miller
Notary Public in and for said County and State.
My commission expires April 18, 1953

The undersigned, RALPH R. LANGLEY and SELMA J. LANGLEY, his wife, hereby certify that they have read the foregoing Mining Lease, and hereby approve of all of the terms and provisions thereof.

S/ Ralph R. Langley
Ralph R. Langley

S/ Selma J. Langley
Selma J. Langley

STATE OF CALIFORNIA }
COUNTY OF LOS ANGELES } ss.:

On this 26 day of November, 1949, before me Minetta Miller, a Notary Public in and for said County and State, personally appeared Ralph R. Langley, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

S/ Minetta Miller
Notary Public in and for said County and State
My commission expires April 18, 1953

STATE OF CALIFORNIA }
COUNTY OF LOS ANGELES } ss.:

On this 26 day of November, 1949, before me Minetta Miller, a Notary Public in and for said County and State, personally appeared Selma J. Langley, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

S/ Minetta Miller
Notary Public in and for said County and State
My commission expires April 18, 1953

MINING LEASE

Date: January 22, 1943.

Lessor: CAROLINE DANIELS MOORE, of Hubbard Woods, State of Illinois, owner as her separate property, hereinafter called "lessor";

to

Lessee: RALPH R. LANGLEY, of 1045 South Bedford Street, Los Angeles, California, hereinafter called "lessee";

Lessor hereby leases to the lessee the mining claims and property hereinafter described, for the term and upon the covenants, conditions and provisions following:

1. PROPERTY: That certain contiguous group of four patented lode mining claims, commonly known as the "ALPHA" Group, situate in the Wallapai Mining District, Mohave County, Arizona, United States patent to which appears of record in the office of the Recorder of said Mohave County in Book 23 of Deeds, on pages 333, et seq., dated January 22, 1914, the names of which mining claims are -

   ALPHA,
   OMEGA,
   MAGNOLIA, and
   WALLAPAI QUEEN

   together with the hereinafter described equipment and improvements thereon.

2. TERM: Thirty (30) years, commencing on January 22, 1943, and ending thirty years thereafter, unless sooner terminated as hereinafter provided.

3. POSSESSION AND OPERATION: (a) Lessee shall immediately enter upon said leased premises and work the same in a minerlike fashion and in a manner necessary to good and economical mining so as to take out the greatest amount of ore possible, with due regard to the development and preservation of same as a workable mining property.

   (b) Lessee shall well and sufficiently timber the workings at all points where proper and necessary in accordance with good mining, and in compliance with the mining laws of the State and the rules

and regulations of the office of State Mine Inspector, and shall repair all old timbering where it may become necessary.

(c) Lessee may immediately extract and remove ores from said premises and mill, ship or otherwise treat the same, subject to the royalty hereinafter provided.

(d) From and after April 1, 1943, lessee shall perform, in or upon said premises, not less than thirty (30) miner's shifts of work per month; from and after October 1, 1943, and during the remainder of the life of this lease, the lessee shall perform, in and upon said premises, not less than sixty (60) miner's shifts of work per month, unless the lessee is prevented by strikes, acts of God or Government regulations, or other conditions over which lessee has no control.

4. ROYALTY: (a) All ores shipped, milled or otherwise disposed of shall be subject to the following royalty:

> 10% of net mill or smelter returns, and by "net mill or smelter returns" is meant the proceeds remaining after deducting treatment charges and railroad and trucking charges.

(b) All royalties are due and payable to the lessor within ten days from the date of receipt of mill or smelter returns by lessee, and shall be accompanied by duplicate settlement sheet.

(c) All payments of royalties shall be made to the lessor, or her order, at 1031 Fishers Lane, Hubbard Woods, Illinois, or such other place as may be directed by the lessor in writing.

5. MINIMUM MONTHLY CASH ROYALTY: As a guaranteed monthly royalty for the use and occupation of said premises, the lessee shall pay the lessor a monthly cash royalty of not less than $100.00 during the life of this lease, beginning October 1, 1943: PROVIDED, that the non-payment of monthly cash royalties between the date of this lease and October 1, 1943, shall not in anywise waive the payment of royalties required under the next preceding paragraph 4: PROVIDED FURTHER, that said monthly guaranteed cash royalty of $100.00 is required only when royalty from ores shipped or treated during any month amounts to less than $100.00: PROVIDED FURTHER, that in no event shall ore royalties in excess of $100.00 for any given month be applied on the succeeding month.

6. INSPECTION OF PREMISES: Lessor reserves the right for herself and her agents to enter upon said mining property and the workings therein and thereon at all reasonable times for the purpose of inspection, surveys or taking samples therefrom, and in that behalf the lessee shall extend proper assistance, but the lessee shall be put to no expense by reason thereof.

7. STOPING - STORING OF WASTE: Lessee shall do no underhand stoping, nor shall he stow any waste underground except with the consent and under the direction of the lessor, except in stopes.

8. TAXES: Lessee shall during the life of this lease promptly pay all State, County and Federal taxes levied or assessed against said premises or on any improvements and equipment thereon and for ores mined and treated under this lease, commencing with the second half of the tax year 1942, said second half being due and payable on the first Monday in March, 1943.

9. MACHINERY - REMOVAL: (a) All machinery, equipment and tools placed by lessee upon said premises during the life of this lease shall be subject to removal by him within sixty (60) days after the termination of this lease by default or otherwise: PROVIDED, that all buildings, headframes, underground timbering and rails in the mine shall not be so removable but shall remain on said premises as the property of the lessor: PROVIDED FURTHER, that no such machinery or tools shall be so removed, as aforesaid, while the lessee is in any manner indebted to the lessor under any obligation incurred under this lease.

(b) Lessee is granted the free use of the equipment and buildings hereinafter described now on the premises, conditioned, however, that he will keep and maintain the same in good repair and workable condition at all times at his own cost and expense, and at his own cost and expense supply such working parts and accessories that are now missing, all of which parts and accessories shall become the property of lessor. Lessee is also granted the privilege of purchasing said equipment and property from the lessor for such price and upon such terms as may be agreed upon. Said equipment and improvements consist of the following:

100 H.P. Wakashaw Gasoline Engine,
1 - Fairbanks-Morse 2-stage Compressor,
1 - 6 X 7 Air Receiver,
All track on and in said mining property, including water and air pipe lines in

the mine and outside of the mine,
1 - Ore Bin,
1 - Ten House.

10. NOTICE OF NON-LIABILITY: Lessee shall at all times during the life of this lease keep said premises free and clear of all liens, claims and debts of every kind and description, and he shall at his own cost and expense immediately record and post and keep posted during the life of this lease, in the name of the lessor, a Notice of Non-Liability in the manner and form by law provided.

11. COMPENSATION INSURANCE: Lessor shall in no event be held liable for any loss, injury or damage to lessee or his employees, or to his equipment and property used by him in connection with his operation under this lease, and lessee shall at all times during the life of this lease comply with the provisions of the Workmen's Compensation Law of the State of Arizona, and, insofar as it may apply, with the Federal Social Security and Non-Employment Insurance Acts of Congress.

12. OWNERSHIP OF PROPERTY: Lessor is the owner of said mining claims as her separate property and not as a part of the community property of the lessor and her husband.

13. REPRESENTATION: Lessee has entered into this lease relying on his own knowledge and judgment of said mining property and not upon any representation made by the lessor or her agents or representatives touching the merits, character or quality thereof.

14. ASSIGNMENT OF LEASE: This lease, or any renewal or reinstatement thereof, shall at the option of the lessor be forfeited and terminated if the term in whole or in part is assigned, transferred or set over by the act of the lessee, or by process or operation of law, or in any other manner whatsoever, or if any part of the said premises are sublet, without the written consent of the lessor.

15. NOTICE: Whenever a notice is required pursuant to or in connection with this lease by lessor to lessee, such notice shall be sufficient if given by registered letter enclosed in a sealed envelope,

postage prepaid thereon, and directed and addressed to the lessee at Kingman, Arizona, and deposited in the United States Postoffice, and the time specified in such notice shall run from the date of posting.

16. TERMINATION OF LEASE BY LESSEE: Lessee may at any time terminate this lease on thirty (30) days' written notice provided the lessee is in good standing and not in anywise indebted to the lessor at the time of such termination.

17. ESSENCE: Time is of the essence hereof, and all the terms and conditions herein contained shall extend to and be binding upon the heirs and assigns of the respective parties.

18. SURRENDER OF POSSESSION: The lessee shall deliver to the lessor quiet and peaceable possession of said premises in good order and condition, with all drifts, tunnels or other passages thoroughly drained and cleared of loose rock and rubbish, without demand or further notice, at noon on the last day of the thirtieth (30th) year from the date of this lease, or in the event of the sooner termination of this lease for any cause whatsoever, upon demand of the lessor, subject in each case to the provisions contained in Clause 9 hereinabove relating to the removal of machinery and tools, etc.

19. DEFAULT: If lessee makes default in the payment of the royalties at the times and in the amounts herein provided, or in any of the terms and conditions herein contained, then this lease shall terminate upon thirty (30) days notice from lessor to lessee of her intention to declare this lease at an end, and if lessee fails within said thirty (30) days to make the payment with respect to which said lessee has defaulted, or correct and make good any other violations of the terms and conditions of this lease on account of which such notice of default has been given, then and thereupon this lease shall become, and thereby be, null and void, and of no further force and effect, and lessee shall thereupon deliver to lessor the peaceable possession of said premises and the equipment described in P9 herein.

EXECUTED in duplicate this 22nd day of January, 1943.

/s/ Caroline Daniels Moore
Lessor

/s/ Ralph R. Langley
Lessee

STATE OF ILLINOIS)
) ss
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this 5th day of February, 1943, by CAROLINE DANIELS MOORE.

My commission expires August 13, 1943

(SEAL)

/s/ Mae A. Connon
Notary Public in and for the County of Cook, State of Illinois.

STATE OF ARIZONA)
) ss
COUNTY OF MOHAVE)

The foregoing instrument was acknowledged before me this 22 day of January, 1943, by RALPH R. LANGLEY.

My commission expires July 15, 1943.

(SEAL)

/s/ Carl G. Krook
Notary Public

MAP

BELONGS

HERE

#7

4 map's

P. O. BOX 1266
KINGMAN

1045 S. BEDFORD STREET
LOS ANGELES 35, CALIFORNIA

ARIZONA METALS COMPANY

SUMMIT ALPHA MINES

KINGMAN, ARIZONA

Los Angeles, California
November 15, 1950

Mr. John H. East, Jr.
Regional Director, Region 4
Bureau of Mines
224 New Custom House
Denver 2, Colorado

Dear Mr. East:

We are submitting herewith, in quadruplicate, an application for such mine financing as will be available under the Defense Production Act of 1950.

This application is with respect to the Summit Alpha base metal project in Mohave County, Arizona.

The project was in production from 1943 to 1948 during which period about 25,000 tons of lead, zinc, copper, gold, silver ore was produced. The operator (applicant) was unable to complete the development work necessary to continue or get into production on a permanent basis nor were we able to get brokers or investors to even consider mining financing.

The Summit Alpha is generally considered to be one of the strong and highly potential mining projects in Arizona. The values are such that, at present metal prices, no premium or subsidy payments are necessary to operate at a fair profit. What we need is development financing.

This project as a whole requires financing to the extent of $125,000. Each of the three items of development might be done independently but each of them is highly potential and the same overhead, organization and operative cost that will handle one will handle all three of the activities which make up a sound and highly effective whole.

The applicant, when in production, will be in position to repay the financing out of production on some basis to be agreed upon. We suggest some flat amount per ton of ore mined and marketed, as marketed. We are confident this project can be developed for a production of 300 tons daily with the development financing applied for herein.

While considerable financing is required for the work proposed the amount of production to be developed is proportionately large.

Awaiting your reactions, we are

Sincerely,

ARIZONA METALS COMPANY

By Ralph R. Langley
Ralph R. Langley, President

RRL:M

APPLICATION FOR BASE METAL MINE FINANCING

NAME: The project is known as the SUMMIT ALPHA MINES.

LOCATION: The project is located on Stockton Hill, in the Cerbat Range, Wallapia Mining District, eighteen miles Northwest of Kingman, Mohave County, Arizona.

LESSEE AND OPERATOR: Arizona Metals Company, an Arizona Corporation., 1045 South Bedford Street, Los Angeles 35, California. Operating address -- Box 1266, Kingman, Arizona.

HISTORY: Originally developed as gold-silver mine probably 60 years ago. Several chutes of gold-silver ore were mined out to 160 foot depth where values turned to lead, zinc and some copper. Except for periodic surface high grading for gold-silver, the project lay dormant until 1943, when Eldorado Rover Mining Company obtained an RFC loan, cleaned out old workings and produced 27 car lots of lead, zinc. copper, gold, silver ore. That operator was succeeded, in 1944, by present lessee and operator who developed and produced about 25,000 tons of lead, zinc, copper, gold, silver ore under premium price plan, and also started driving crosscut to get into Summit vein at lower elevation.

Except some work on crosscut and assessment work, the project has been inactive since termination of premium price plan.

THE PROJECT: The project consists of three different ownership groups of claims -- The Old Colony Group (Summit and Silver Legion Workings) of 29 claims; the Alpha Group of 4 claims and the Cashier Group of 5 claims -- a total of 38 contiguous claims making up one operating unit which, because of the topography, is divided into two camps -- the Summit-Alpha-Cashier workings and the Silver Legion workings.
Exhibit "A"

The Old Colony, Alpha and Cashier groups extend from the west foothill of Stockton Hill mountain over the crest and down to the east foothill, the Summit Alpha group lying on the west slope and the Silver Legion group on the east slope.
Exhibit "A"

DEVELOPMENT: The "Summit Vein" workings consist of a 300-foot shaft, a 400-foot adit intersecting the Summit vein at the 160' level, 1000 feet of drift on the 160 foot level, 500 feet of drift on the 300 level, one large ore chute, stoped out from the 300' level to the surface and some smaller chutes partly stoped out. These workings were abandoned in 1948 in favor of a crosscut, now partly completed, designed to intersect

the Summit vein at a location 500 feet lower than the collar of the shaft. The abandoned workings are now filled with water nearly up to the 160' level. Exhibit "A" Section (a) and Exhibit "B"

THE SUMMIT CROSSCUT: The workings (Exhibit "A" Section (b) and Exhibit "B") thus described are at the top of the mountain, difficult accessability, and costly to operate; therefore a crosscut from an elevation 500 feet lower on the mountainside has been driven about 700 feet out of a total of 950 feet, to intersect the same vein and same ore bodies at such lower elevation thus insuring a much more economical and orderly operation.

ALPHA VEIN WORKINGS: Exhibits "A" and "C". These consist of a lower tunnel, 1200 feet long; an upper tunnel 500 feet long, 200 feet above the lower tunnel; a 100' shaft, now filled with water, one large stoped out ore chute and some smaller chute stoping, all in the Alpha vein. About 4,000 tons of lead-zinc, copper, silver, gold ore was stoped out of these workings. A crosscut designed to intersect the Silver Copper vein about 350 feet under the outcrops was driven 400 feet to within about 100 feet of intersecting the vein, from a point 650 feet inside the lower Alpha tunnel. The Silver Copper vein is a bold, wide dyke crossing the Alpha Group lengthwise and continuing on the Old Colony Group to the east and on the Cashier Group to the west. It is expected to develop a large volume of base metal ore.

A third vein known as the Omega runs parallel to the Alpha vein about 100 feet to the north thereof. Enough prospecting has been done on this vein to indicate profitable lead-zinc values and to justify driving a crosscut from the lower Alpha tunnel about 100 feet to intersect this vein.

SILVER LEGION WORKINGS: Exhibit "A" Section (e). The Silver Legion shaft is 200 feet deep. Some drifting has been done and considerable production of lead-zinc-silver-gold ore has been had from the Silver Legion and Fountainhead veins. The Blue Bell workings shown on maps are a part of this group. Some prospect workings on the Eagle and other claims of this group have developed some high grade lead-zinc ore.

The Silver Legion shaft and workings are filled with water. The shaft is in good condition.

The water should be taken out, appropriate equipment installed and 500 to 1,000 feet of crosscutting and drifting done to open up the ore bodies for volume production.

CHARACTER OF ORE AND VALUES: The average values of about 25,000 tons of ore taken out of the Summit workings are calculated to be:
PB 6.0% ZN 7.0% Cu 0.75% AU 0.07 Oz. AG 6.0 oz.
See Exhibits "E", "F", "G"

It is expected that similar values will prevail throughout the Summit vein.

The Silver Legion Group values have been somewhat higher in lead and zinc than the Summit Group but the record of values are not available.

The Alpha Group values are about the same as the Summit vein except that silver and gold values are higher.

DEVELOPMENT WORK REQUIRED:

For Summit Vein: Exhibit "A" Section (a) and Exhibit "B"
(a) Finish the crosscut. A distance of 250 to 300 feet depending on dip of vein.
(b) Drift west on vein 300' and east 1200' -- total 1500 feet.
(c) Raise to surface near west endline 315' and from crosscut drift up to 300 drift 200'.
(d) Build a large ore bin at portal of crosscut.
(e) ALTERNATE: Do some sinking in lieu of some of the drifting and raising indicated.

These proposed developments are indicated on Exhibits "A", "B" and "C"

COSTS:

To finish crosscut	$ 6,000.00
Drift 1500 feet @ $25.00 per ft	37,500.00
Two raises-500' @ $25.00 " "	12,500.00
Orebin	2,500.00
Contingencies	1,500.00
Total for Summit Vein	$60,000.00

EXPECTATIONS AND COMMENTS: With respect to Summit Vein, Exhibits "A" and "B", it is believed, from experience and information gained in former production, and from character of outcrops, that the crosscut will intersect the Summit fissure in or near an ore chute in which event drifting on the vein will produce enough ore of such value as will repay a large part of the cost of the drifting -- and at the same time provide base metals for the National defense requirements while development progresses. Raises should be made in ore chutes -- for usual economical reasons.

Assuming the same general character of ore, width of vein and character of walls as prevailed in previous operations in same vein, operator can use shrinkage and also cut and fill stoping methods. The stopes should be 125 feet long, including manway raises. In order to allow for shifting rock drill crews from one chute to another and for the blasting, timbering and repair crews to follow the rock drill miners without interfering with steady drilling for production, a minimum of five such stopes should be currently active in order to produce 300 tons of ore daily and for a well organized operation. In addition, development drifting, raising and sinking must be carried on continuously.

The rate of production while drifting and raising on the Summit Vein can be expected as follows:

Drift two directions -- two faces -- two shifts. Assume five feet of width (Summit vein has averaged 6' wide in former workings) and five feet advance each shift, two faces, by 7' high from past experience:

$$\frac{20' \times 5' \times 7'}{12 \text{ CUF per ton}} = 58 \text{ tons of ore daily while drifting.}$$

Add one raise in ore at a time

$$\frac{6' \times 4' \times 8'}{12} = 16 \text{ tons each, 2 shifts, -- 32 tons daily.}$$

58 tons plus 32 tons equals 90 tons daily while doing development work, 60 days after funds available.

After room is available for efficient stoping the result from each stope should be: by shrinkage stoping:

$$\frac{125' \times 5' \times 6'}{12} = 312 \text{ tons per each stope round.}$$

With respect to Alpha Vein, Exhibit "A" Section (c) and Exhibit "C". Clean off and rrepair tracks in lower tunnel, repair air and water lines, spile through cave at portal of crosscut (about 12 feet), clean out and catch up other small caves and breaks in tunnel timbers, finish crosscut to intersect Silver Copper dyke, drive crosscut from lower tunnel to intersect Omaga vein, drive through fault at end of lower tunnel to pick up vein beyond fault, rent engine to drive 420 CUF compressor now on premises... Total cost.....$12,500.00.

It is expected that this development willopen up large ore reserves for independent production or for alternate or concurrent production with Summit vein.

With respect to Silver Legion Development -- Exhibit "A" Section (e). Repair hoist, unwater shaft and lateral workings, rent or otherwise obtain unwatering equipment, install mine rails, ventilation, clean up drifts, continue drifts and start production at "X" on Exhibit "A" Section (e). Drive an estimated 750 feet of crosscut to get up new ore reserves.

Total cost estimated at $25,000.00

Should be in production at 30 tons daily after sixty days.

ORDER OF IMPORTANCE OF DEVELOPMENTS: The order of importance of these development programs, in order to get into substantial production as soon as possible would be:

First -- Summit vein crosscut, drifting and raises.
Second -- Alpha cleanup and crosscuts.
Third -- Silver Legion Development.

MILLING AND MARKETING FACILITIES: During the development stages, for production up to perhaps 80 tons daily, milling arrangements can be had at either of two local mills -- the Tennessee or Keystone, the former 12 miles and the latter 10 miles from the Summit crosscut. Neither mill is now working. By spending perhaps $5,000 in one case or $10,000 in the other, for reconditioning the facilities either mill can be put in operation in 30 days' time. A third mill can be put in condition at a somewhat larger cost, if that would seem preferable.

When sufficient development is accomplished for production of 150 tons or more daily, milling and treating facilities must be provided on or near the premises.

It is believed that after sufficient ore for a capacity of from 150 to 300 tons daily is developed, ample financing for the erection and operation of suitable milling facilities can be had from either private or Government sources.

Milling charges, when milled at a mill belonging to others, will be about $5.00 per ton of ore. When milling in a project owned mill, in volume of 100 to 150 tons or more, the cost will be somewhere between $3.00 and $3.50 per ton of ore.

ROADS: The longest haul is 18 miles -- from the project to Kingman. Of that distance 13 miles are over paved roads and 5 miles over good mine roads which are maintained by Mohave County Road Department at ho cost to the operator. The ore will be hauled to mill, and concentrates hauled to railroad in dump trucks.

TIME ELEMENT FOR PRODUCTION: From the time funds are available, the Summit crosscut can be completed in 45 to 60 days. If the intersection is made within an ore chute, as is expected, development production can then commence at once, at the rate of about 58 tons daily, as indicated under the heading "Expectations and comments". If it is necessary to drift some distance on the vein to pick up a pay chute, as is usual, the time element within which production can start may be an additional three or four months. The time element at the Alpha and Silver Copper Vein is about the same as at the Summit Vein. The lower Alpha tunnel should be cleaned up and the two short crosscuts driven in 45 to 60 days. This should result in substantial production -- 30 to 60 tons of development work production daily -- while drifting on the veins. It is believed if Summit and Alpha work is started and carried on concurrently, that 58 or 60 tons from Summit and 30 to 60 tons from Alpha Silver Copper can be had after 60 days, with an ultimate objective of 300 tons daily.

LABOR AVAILABILITY: A skeleton organization of key men who are now or who have been employed by the operator are available for commencing work. Those key men will be able to recruit miners and muckers of their acquaintance in required numbers. We have comfortable camp and living quarters available for all the men needed at resumption of activities and will increase such facilities as needed -- such facilities being the key to getting and retaining competent and dependable employees.

The labor required to do the development work and development work production indicated herein will be approximately: 8 miners, 16 unskilled and 3 working foremen or a total of 27 men -- assuming that the three proposed developments are carried on concurrently. Probably double that many men will be required after the development work is finished and production is had in volume.

CAMP FACILITIES: The operator is equipped with comfortable camp facilities for development work employees and will expand such facilities as numbers of employees increase.

EQUIPMENT NOW ON PREMISES:

At Summit Crosscut Portal: Diesel driven 315 cuf air compressor, air and water lines, track, vent pipe and blower fan, mucking machine, rock drills, water and oil tanks, and hand tools are available, in place and ready for use. Machine shop, tool room, change room are all in order for immediate use.

At Alpha and Silver Copper Veins Workings: A 420 cuf air compressor, air and water lines, water and oil tanks, track, mine cars, ore bin, all installed and ready for use. Change room and camp facilities are in service.

At Silver Legion Workings: Diesel driven 315 cuf compressor, 25 H.P. hoist and ore bin.

EQUIPMENT REQUIRED:

At Summit Vein Workings: Three new, free rolling, mine cars and a mechanical trammer.

Cost, estimated $ 5,000.00

At Alpha Vein Workings: A motor to drive compressor, and a mucking machine is required.

Cost, estimated $ 7,500.00

At Silver Legion Workings: Air and water lines, water tanks, tool and change rooms, rails, mine cars, ventilating pipe and blower fan, engine for ventilator, pumps for mine, mine cage, rock drills, mucking machine, mine tols, repair ore bin.

Cost, estimated $10,000.00

RESUME OF FINANCING REQUIRED:

For Summit Vein Development:		
Equipment	$ 5,000.00	
Development	60,000.00	$ 65,000.00
For Alpha Workings Development:		
Equipment	$ 7,500.00	
Development	12,500.00	20,000.00
For Summit and Alpha Workings		$ 85,000.00
For Silver Legion Development:		
Equipment	$10,000.00	
Development	25,000.00	35,000.00
For entire project development as progressively required.....		$120,000.00

This would be the requirement for fast economical progress if each of the three separate but allied developments on this extensive project are undertaken. The amount should be raised to $125,000 for safety.

To this should be added the cost of reconditioning either the Tennessee or Keystone mill -- in case the owners thereof do not do so on their own account. It is likely however that they will do so.

SUBSEQUENT REQUIREMENTS: After getting into permanent production, considerable additional equipment, such as an appropriate supply of rock drills of various types, additional mine cars, loading machines, battery trammers and dump trucks will be required for efficiency. Such items will be financed without difficulty as production progresses.

ORE RESERVES TO BE DEVELOPED UNDER PROPOSED DEVELOPMENT PROGRAM:

Summit Vein: The most immediate and definate ore reserve to be developed under the program proposed is a block of ore within the length of the Summit claim, to a depth of 500 feet below the crosscut level, as indicated on sectional map "B". Allowing only 60% of the area as pay ore, there would be available for immediate production an estimated 350,000 tons.

By extending the drifts to the east, on the crosscut level, through the Silver Monster claim (Exhibit "A" Section (a)) and to the west through the Fortunatis claim (Exhibit A Section (b-b)) it is logical to assume an additional 700,000 tons of ore reserve to be developed by the crosscut and drifts available to a depth of 500 feet below the crosscut level.

These estimates are for a depth of 500 feet under the crosscut level (Exhibit "A" Section (a), and Exhibit "B"), whereas judging from depths attained in the district, it is expected that at least another 1,000 feet of depth is expected beneath the above stated workings.

Alpha Group Veins: The three veins crossing the four Alpha claims lengthwise (Exhibit "A" Section (d) and (d-d)) and extending both east and west of those claims across other claims held by the Lessee, are well defined and partly proven. Those veins should be capable of volume production perhaps far in excess of the Summit Vein.

Silver Legion Workings: (Exhibit "A" Section (c)) At the Silver Legion workings there is a block of ore in the Banner vein, carrying lead and zinc values similar or higher than the Summit Vein values, estimated at 10,000 tons or more, which will be made available for mining when the water is taken out of those workings.

To set up estimated ton reserves in figures would run into astronomical figures -- and would be just that -- estimates. The development work proposed is expected to develop a very great, immediately available (and future) reserve, of pay-off ore.

EXHIBITS: Attached hereto, are exhibits as follows:

"A" Surface map of all claims covered by this proposal. The various developments are indicated thereon, in colored lines and words for each development.

"B" Sectional map of Summit claim workings indicating past production area and area to be opened up by Summit vein crosscut and development. This map indicates thearea where an estimated 350,000 tons of ore will be opened up for production.

"C" Surface and sectional map of Alpha development showing proposed development -- emphasized in colored pencil.

"D" Copy of report of E. Ross Housholder with respect to the Summit Group of claims.

"E" Copy of report (letter) of Shattuck Den Mining Company, with respect to ore values and metal recoveries on Summit Ore.

"F" Sample copies of settlement sheets on Summit ore marketed.

Many similar mill and smelter sheets covering several hundred shipment lots of ore are available for inspection.

"G" Statement showing average ore values as calculated from the records of 25,000 tons of ore produced from Summit workings by the applicant, reflecting what the results of operations based on 150 tons daily operation after all operating costs and tax deductions would be.

"H" Miscellaneous pictures of workings and improvements.

PRICES OF METALS REQUIRED TO OPERATE: No premiums or subsidies above quoted prices of metals as of this date are necessary. However, the applicant would like protection against any lower prices until the financing obtained hereunder is liquidated in full, on terms to be agreed upon.

MANAGEMENT EXPERIENCE: The operator has been in the mining business for more than fifteen years, and has developed and operated the subject properties. References will be submitted if requested.

The applicant has made usual efforts to obtain financing through usual banking and lending agencies and has also made some effort to do public financing, without success.

Respectfully submitted,

ARIZONA METALS COMPANY

By Ralph R. Langley
Ralph R. Langley, President

RRL:M

November 15, 1950

E. ROSS HOUSHOLDER, E. M.
Registered Engineer

Kingman, Arizona

Residence-Office
429 E. Spring Street
Telephone Green 87

Mr. Ralph R. Langley
Box 1266
Kingman, Arizona

Dear Mr. Langley:

I have your request for a brief realistic report on the Summit-Alpha mining project operated by the Arizona Metals Company. I am well acquainted with the geological conditions, production records and mining and milling practices in the area in which the Summit Alpha properties are located. I submit the following facts and opinions:

The usual formalities with respect to geology and history will be here omitted except to say that existing geological conditions are typical of the district's production areas, presenting no adverse conditions.

LOCATION: The project is located in the Walapai mining district on Stockton Hill Mountain about eighteen miles Northwest of Kingman and ten miles Southeast of Chloride, Mohave County, Arizona.

TOPOGRAPHY: The crest line of the mountain range in which the project is located ranges from 5400 to 6000 feet elevation. The claims lie at the top of the mountain and extend down the Southwest slope. The present workings are located near the top. The immediate foot of the mountain lies more than 2000 feet below the crest. Thus, affording opportunity to operate the property through drifts and cross cuts rather than by hoisting ore and pumping water through deep shafts.

Six miles of good gravel road, maintained by the County Highway Department, connects the project with paved U. S. Highway #93, which highway connects Kingman, Arizona, and Las Vegas, Nevada, passing over the Hoover Dam near Boulder City, Nevada.

THE MINING PROPERTY: The Summit-Alpha project consists of fourteen claims. They are in two groups, the Summit group consisting of two patented and eight unpatented claims and the Alpha group of four patented claims. The location of the two groups with respect to each other is such that they constitute one contiguous operative unit.

INDICATIONS OF DEPTH: A base metal mine at Chloride, ten miles Northwest, is operating at a depth of approximately 3,600 feet below the Summit Alpha workings. One and one-half miles Southeast of the Summit-Alpha project is the Golconda Mine, which when it discontinued operations on account of a fire was producing from a depth 1400 feet below the collar of its shaft or 3000 feet below the present workings of the Summit-Alpha project. A winz was sunk a depth of 300 feet, in high grade lead zinc ore, in the Jemison drift which is located near the base of Stockton Hill Mountain. The bottom of that winz is 1800 feet below the Summit-Alpha workings. These deeper ore occurences are not conclusive proof that the Summit-Alpha vein system and ore content extend to the same depth, but those facts together with the known character of the Summit-Alpha formations and favorable geologic conditions offer rather conclusive evidence that economically recoverable ore bodies do extend to a great depth in the Summit-Alpha vein system.

VEIN SYSTEM AND DEVELOPMENT: The several claims form a contiguous group, three claims (4500 feet) long and three claims (1800 feet) wide. The Summit vein which is the farthest Northeast is a bold strong fissure, the vein matter of which averages about 6 feet in width. The dip is 85°. The walls are firm and hard. Very little timber is required.

The main workings on the Summit vein consist of a shaft located 50 feet from the Southeast end line of the Summit claim, 300 feet deep. A working adit 395 feet long intersects a drift 900 feet long on the vein at an elevation 160 feet below the collar of the shaft. On the 300 foot level a drift 600 feet long has been driven. Some stoping was done immediately west of the shaft on the 300 foot level and on a 200 foot sub-level. At the Northwest end of the 300 foot drift a chute of ore, 200 feet long has been stoped from that foot level to the surface. Above the 160 foot level on each side of the shaft a chute of ore has been stoped out to the surface. There are several other minor stopes and developments between the shaft and the Northwest end of the present workings.

A lateral faulting action occurred beginning approximately 150 feet east of the shaft and extending west 500 feet. The vein or fissure shows up clearly and strongly on the surface in both directions immediately beyond the fault. Considerable prospecting has been done with some resulting production from surface workings which extend several hundred feet along the vein.

The 160 foot level drift extends through the fault northwest a distance of 250 feet. 65 feet Northwest of the fault a streak of ore was picked up in the fissure. It widened out in a short distance to from 4 to 6 feet in width. A few hundred tons of good grade ore was produced from that chute, before operations were

discontinued in favor of driving a cross cut to reach the ore at a lower elevation. Judging from the outcrops and the prospecting work done on the surface, it is believed that this chute of ore extends to the Northwest end line of the Summit claim, and beyond.

Crosscut to Summit Vein

The slope of the mountain is such that by driving a cross cut approximately 900 feet long from the side of the mountain, the Summit vein can be intersected at an elevation of 306 feet below the survace at the point of intersection, or 500 feet below the collar of the shaft. That cross cut is now being driven. It has advanced about 550 feet from the starting point.

Mary Ann Vein

615 feet Southwest of the Summit vein and parallel to it another fissure known as the Mary Ann vein extends across the Summit claim. This vein was cut by the crosscut headed for the Summit Vein 165 feet within the crosscut from the portal about 100 feet under the surface. At that point the fissure is 8 feet wide and contains a streak of ore in place, 10 inches wide. This streak has widened to 24 inches of ore in place Southwest of the crosscut. Another fissure cut further in the crosscut will intersect the Mary Ann vein about 65 feet east of the crosscut where the surface shows a juncture and a continuation of the vein to the Southeast. It is probable that a considerable body of ore and probably a well-defined vein will be found at the juncture and beyond. The assays of ore thus far produced in the Mary Ann Vein show these values --
Au. o.4loz -- Ag. 38.8oz -- Cu. 2.98% -- Pb. 20.50% -- Zn 2.70%

Alpha, Omega and Silver Copper Vein

Approximately paralleling the Summit and Mary Ann veins about 800 feet to the Southeast lies the Omega vein and 10 to 20 feet further Southeast the Alpha vein. The Silver Copper vein or dyke lies about 500 feet Southeast of the Alpha. These veins are located in the Alpha group of claims and extend beyond those claims across claims of the Summit group held by the Arizona Metals Company.

Omega Vein

The development on the Omega vein consists of some work done through a shaft and crosscut from the Alpha vein, 100 feet under the surface. A face of solid lead sulphide ore about 2 feet wide was found in the Omega vein at that point. Some diamond drill holes were driven into the vein from the Alpha lower tunnel. The cores from those drill holes indicated an 8 foot fissure with commercial values in gold and silver as well as approximately the same values in lead and zinc as are customary in the district. The outcrops of the Omega vein are bold and persistent the full length of the Alpha group of claims.

Alpha Vein

The Alpha Vein development consists of a drift or tunnel a distance of 1200 feet, and another drift 200 feet higher in elevation on the vein 500 feet long. The two drifts are connected by a raise which extends on above the upper drift, to the surface. Several thousand tons of ore carrying high values in gold, silver and lead were produced from several stopes above and below these drifts a few years ago.

Silver Copper Vein

The Silver Copper vein or dyke crosses the Alpha group of claims lengthwise and extends beyond those claims over a part of one of the Summit group claims held by the Arizona Metals Company. The dyke lies nearly parallel with the Alpha vein. It is a wide, bold fissure ranging from 10 to 40 feet on width on the surface. The outcrops strongly resemble veins that have produced good grades of silver, lead, copper ore, at usual depths beneath the surface. A cross cut was started from a point 650 feet within the Alpha lower tunnel to intersect the Silver Copper vein about 350 feet under the surface at the point of intersection.

METALLURGY AND VALUES: The predominating metals in this vein system are lead and zinc with substantial values in gold and silver and a nominal amount of copper.

The average values of all of the 18,215 tons of ore produced from these properties the past four years, including development ore which was considerably diluted, are:

AU 0.067 -- AG 4.18 -- CU 0.55 -- PB 4.02 -- ZN 5.90

Excluding the diluted development ore from the calculations will raise the averages of the remaining 15,900 tons to

AU 0.068 -- AG 4.48 -- CU 0.58 -- PB 4.22 -- ZN 6.22

By applying the schedule of payments for lead and zinc concentrates made by the American Smelting & Refining Company to a mill in this district in 1947, I find the sale value of the metals in such ore to be $25.06 per ton of ore, if mined and milled on the premises in economical volume. The cost of marketing such concentrates would be approximately $6.75 per ton of ore thus leaving $18.31 per ton of ore, at present prices, to cover mining costs and profits.

By having room, as a result of doing the contemplated development work, to do more selective mining and to diversify mining methods, it is my opinion that the above stated margin would be increased $2.00 to $3.00 per ton of ore. And judging from the limited amount of ore thus far produced and the sampling done west of the area in which the 18,215 tons were produced, I expect future average values to run somewhat higher than those reported above.

ORE RESERVES: There is no question as to the continuity both in lateral extent and depth of the well defined veins on this estate, judging from the similarity of the geological conditions already exposed, to those of the deeper developed mines existing in similar formations.

There are five veins extending over the 4500 feet length of the mine group. Estimated tonnages of expectant ore from all these veins would be large.

The Summit vein itself averages six feet in width. The mill grade ore in the ore chutes of this vein have the same average width. In drifting along this vein from the intersection with the crosscut now being driven, for the length of the claim (a distance of 1500 feet), the average vertical depth above the crosscut level would be approximately 300 feet. Should the ore contained in this portion of the vein have an average of 6 feet in width, and should 60% of the 1500 feet of length carry mill grade ore, it would represent 135,000 tons of possible ore above the crosscut level.

By installing high speed and large capacity hoisting and other deep mining equipment and facilities ore can be economically hoisted and taken out through the crosscut to whatever depths the values continue, but such deep mining equipment is not necessary for economical production to a depth of as much as 500 feet. Therefore using the same width, length and percentage of mill grade ore content, I calculate 216,000 tons in the first 500 feet of depth below the crosscut tunnel or a total of 351,000 of possible ore economically available through the crosscut tunnel in the Summit claim without having to install deep mining equipment; such volume might be trebled by continuing to drift the full length of the other two endlining claims.

Should the values continue to greater depth, as is fully expected, it would be better economy to drive another crosscut into the ore from another available location about 1000 feet lower down the mountain side than to sink suitable shafts and install deep mining hoists and supporting equipment.

The same facts apply to the method of production below 500 feet from the Mary Ann, Omega, Alpha and Silver Copper veins. All of these veins would be reached from the same working crosscut at the lower elevation, as would serve the Summit vein.

MINE EQUIPMENT: The project is well equipped for development and mining operations. The principal equipment consists of four gasoline-driven air compressors ranging from 210 CUF to 420 CUF capacity and two new diesel-driven 315 CUF compressors; a loading machine, a sufficient number of mine cars and a numerous assortment of modern jack hammers, drifters and stopers, a steel sharpener, bit grinders,

blacksmith shop, change rooms and tool rooms at three locations on the premises. Twenty pound rails, 2½" air lines, 1" water lines and 10" ventilating pipe are being laid in the crosscut. The operator has his own dump truck, pick-up truck and other miscellaneous tools and items of equipment customarily used in a well organized mining operation.

CAMP: A modern mining camp consisting of a cook-house and dining room with a number of cabins ample for taking care of the workmen, is located on the premises. The camp is amply supplied with good water for domestic purposes.

PROGRAM: The immediate program as outlined to me by the management is, with respect to the Summit vein, to complete the crosscut to intersect the vein and then drift several hundred feet on the vein and raise for ventilation, which in itself should open up a large volume of ore to be extracted. At the same time, it is planned to continue drifting on the Mary Ann vein and perhaps sink a winz on that vein.

On the Alpha group the program as outlined is to finish the crosscut to the Silver Copper vein, crosscut from the lower Alpha tunnel to the Omega vein and drift forward on the Alpha vein in the lower tunnel through the fault and pick up the vein, which is strongly exposed on the surface, beyond the fault line.

While doing development work, market the ore as produced either at a local mill or by shipping to a smelter. After sufficient volume of ore has been opened for mining in volume, arrange for milling and treating facilities and reduce the ore to concentrates on or near the premises. Such a program is sound mining practice.

MANAGEMENT: The President of ARIZONA METALS COMPANY has developed and operated these properties for the past five years. He is a competent operator proven ability. He enjoys an excellent reputation in this district.

CONCLUSIONS: The favorable geological and topographical conditions, character and values of the ore as proven by the extensive development work now done justify my belief that with the required financing made available and a continuation of competent management, the Summit Alpha project will develop into one of the important base metal mining projects in Arizona.

REGISTERED ENGINEER
CERTIFICATE EXPIRES
E. Ross Householder
#257
DEC. 31, 19
ARIZONA, U. S. A.

Respectfully submitted,

E. Ross Householder

E. Ross Householder, E. M.
Registered Professional
Mining Engineer No. 257.

SHATTUCK DENN MINING CORPORATION

DENN BRANCH

BISBEE, ARIZONA

September 24, 1947.

Mr. Ralph R. Langley
P.O. Box 455
Kingman, Arizona

Dear Mr. Langley:

With reference to the visit to your Summit property on June 26th by Mr. Mills and myself, your foreman was very courteous in showing us underground and also permitted us to take a sample of ore from your loading bin. This sample was to be assayed and tested in our laboratory and, since this work has been completed, I would like to supply you with all information acquired.

This ore is a very nice milling ore and responded well to treatment. A copy of the assay report on the sample is enclosed. Testing of this ore produced the following results:

Product	Gold	Silver	Copper	Lead	Zinc	Iron	Insol
			Assay Grade				
Lead Conc.	.25	29.3	2.5	65.0	6.0	4.0	1.0
Zinc " .	.03	6.6	1.5	3.2	50.0	9.2	1.2
			Percent Recovery "Gross"				
Lead Conc.	65.0	64.8	52.0	93.0	11.9	- -	- -
Zinc Conc.	5.7	10.8	22.8	3.4	73.1	- -	- -

			Net Smelter Recovery	
Gold	69.5 % @	$32.35	Per Oz. - - - - - - - - - - - - -	.90
Silver	69.5 % @	.885	" " - - - - - - - - - - - - -	2.89
Copper	55.9 % @	.153	" Lb. - - - - - - - - - - - - -	.86
Lead	81.7 % @	.1329	" " - - - - - - - - - - - - -	15.64
Zinc	62.1 % @	.10145	" " - - - - - - - - - - - - -	6.55
Total Value				26.84
Less Conc. Frt.& Smelting - - - - - - - - -			5.06	
" Milling Charge - - - - - - - - - - - - -			5.00 - - - - - - - - -	10.06
Net Smelter Value -				16.78

This ore, based on our schedule, would be worth $16.78 per ton less R.R. freight and trucking. Assuming $2.00 per ton for trucking and the rail freight of $4.77 per dry ton, the value would be reduced to $10.01 net.

This same grade of ore, if milled in that area on our schedule, should increase by the ratio of increased freight on concentrates to rail freight and trucking cost.

It was our purpose, while in the district, to gather some information and data for our company. This is for the possibility of the Shattuck Denn acquiring some property in that area and installing a custom mill later.

If you would care to submit to us some tentative proposition along this line, I can assure you it would be given due consideration.

Very truly yours,
H.R. Hendricks
H.R. Hendricks
Chief Metallurgist

HRH:ld

FORM C.O. 77-2 ®

UNITED STATES SMELTING REFINING AND MINING COMPANY

NINTH FLOOR NEWHOUSE BUILDING

Final Settlement
3175-A

Salt Lake City, Utah, May 17, 1944

Purchased From RALPH R. LANGLEY

Pay RALPH R. LANGLEY, Box 455, Kingman, Arizona

RP: Kingman, Arizona

Ore Crude - Summit Mine Lot No. 7 Gold License No.

Sampled by Midvale Received 5-11-44 Sampled 5-13-44 Assayed 5-15-44

Metal Quotations—Gold 34.9125 Silver 70.625 Copper, N. Y. and Lead, N. Y. 6.50 Zinc 8.25

ASSAYS	GOLD OZS. PER TON	SILVER OZS. PER TON	PER CENT COPPER WET	PER CENT LEAD	PER CENT INSOLUBLE	PER CENT IRON	PER CENT ZINC	PER CENT SULPHUR	PER CENT LIME	PER CENT
U. S. S. R. & M. Co.	.055	4.2	.50	4.6			8.3			
Union	.06	4.5	.51	4.9			8.8			
Umpire										
Settlement Assay	.0575	4.35	.51	4.75	43.5	16.8	8.55	20.5	.6	

CAR NOS.	WET WEIGHT
A. T. & S. F.	171300

METAL VALUE		
Gold 100% @25.6734	1	48
Silver 100% @70.625	3	07
Copper		
Lead	3	49
Zinc	3	39
Total Metal Value	11	43
Less 25% of value of silver		77

WORKING CHARGE		
Treatment Base 30% Lead		
Credit Acc't Over 30% Pb.		
Debit Acc't Under 30% Pb.		
Insoluble		
Zinc Charge, excess over 6%		
Sulphur Charge, excess over 2%		
Arsenic Charge, excess over 2%		
Total Debit		
Iron Credit		
Net Working Charge		

Total Wet Weight			
Sacks			
Net Weight	122440	Gross Value	10 66
Less H_2O	0.4 % 490	Less Working Charge	3 00

Dry Weight, lbs. 121950 Payment for 60.975 tons @ 7 65 per ton 467.07

Freight advanced @ $4.95 per ton	303.04		
Federal Tax 3%	5.09		
Handling Charge Acct. Less Than 10 Tons			
Assay Charges	4.00		
Matching Charge	4.00		
Hauling Charges: $2.00 per ton	122.44		
Federal Tax 3%	3.67		
Fred Freuminger, Box 345, Chloride, Arizona			
Assignment 5% of $20.83 - Reconstruction Finance Corporation,	1.04	447	28
c/o W. B. Gohring, Supervising Engineer, 325 Heard Building,			
Phoenix, Arizona			
Checked by	Amount Withheld Pending Receipt of Silver Affidavit		
Approved by	Net Payment	19	79

FORM C.O. 77-2

UNITED STATES SMELTING REFINING AND MINING COMPANY

NINTH FLOOR NEWHOUSE BUILDING

FINAL SETTLEMENT ADJUSTMENT ACCOUNT PERIS 1245 Salt Lake City, Utah, January 21, 1949

Purchased From ARIZONA PERLS COMPANY

Pay ARIZONA PERLS COMPANY, c/o RALPH R. LANGLEY, P.O. BOX 1266, KINGMAN, ARIZONA

C/: KINGMAN, ARIZONA

Ore CRUDE Lot No. 121 Gold License No.

Sampled by [illegible] Received 12/16/48 Sampled 12/18/48 Assayed 12/20/48

Metal Quotations—Gold 34.9125 Silver 90.00 Copper, N. Y. and Lead, N. Y. 21.50 Zinc 17.50

ASSAYS	GOLD OZS. PER TON	SILVER OZS. PER TON	PER CENT COPPER WET	PER CENT LEAD	PER CENT INSOLUBLE	PER CENT IRON	PER CENT ZINC	PER CENT SULPHUR	PER CENT LIME	PER CENT
U. S. S. R. & M. Co.	.045	6.00	.70	5.8			6.90			
[illegible]	.05	6.10	.72	5.6			6.84			
Umpire										
Non-Sulphide										
Settlement Assay	.0475	6.05	.71	5.7	45.10	17.20	6.57	20.90	.30	

CAR NOS.	WET WEIGHT	METAL VALUE			WORKING CHARGE		
UP 89827		Gold 100% @ 25.6734	1	22	Treatment Base 30% Lead		
		Silver 75% @ 90.00	4	08	Credit Acc't Over 30% Pb.		
		Copper (			Debit Acc't Under 30% Pb.		
		Lead (	18	36	Insoluble		
		Zinc	5	52	Zinc Charge, excess over 6%		
					Sulphur Charge, excess over 2%		
					Arsenic Charge, excess over 2%		
Total Wet Weight							
Sacks					Total Debit		
Net Weight	125700	Gross Value	29	18	Iron Credit		
H_2O 1.20 %	1508	Less Working Charge	4	05	Net Working Charge		

Dry Weight, lbs. 124192 Payment for 62.096 tons @ 24 53 per ton 1523.21

Freight advanced @ 6.90 per ton	433.67	
Federal Tax 3%	13.01	
Assay Charges	9.00	
~~Sampler~~ Watching Charges	4.00	
Hauling Charges @ 2.00 ton	125.70	
Federal Tax 3%	3.77	553 15
TOTAL NET PROCEEDS		970 06
FOR FOR SETTLEMENT ~~Amount Withheld Pending Receipt of Silver Affidavit~~		836 85
NET PROCEEDS FINAL ~~Payment~~		101 21

FORM G.O. 77-2

UNITED STATES SMELTING REFINING AND MINING COMPANY

NINTH FLOOR NEWHOUSE BUILDING

[illegible] ADJUSTMENT PERIOD 1965 Salt Lake City, Utah, January 1, [illegible]

Purchased From [illegible] CO.

Pay [illegible], c/o [illegible], [illegible], P.O. Box [illegible], [illegible], [illegible]

[illegible], ARIZONA

Ore [illegible] Lot No. 12 Gold License No.

Sampled by [illegible] Received 12/21/[illegible] Sampled 12/20/[illegible] Assayed 12/[illegible]/[illegible]

Metal Quotations—Gold 34.9145 Silver 90.00 Copper, N. Y. and Lead, N. Y. 21.50 Zinc 17.50

ASSAYS	GOLD OZS. PER TON	SILVER OZS. PER TON	PER CENT COPPER WET	PER CENT LEAD	PER CENT INSOLUBLE	PER CENT IRON	PER CENT ZINC	PER CENT SULPHUR	PER CENT LIME	PER CENT
U. S. S. R. & M. Co.	.015	5.20	.68	5.90			6.3			
[illegible]	.010	5.50	.69	5.30			6.32			
Umpire										
Non-Sulphide										
Settlement Assay	.015	5.35	.67	5.59	16.10	17.00	6.31	20.00	.30	

CAR NOS.	WET WEIGHT
[illegible] 172479	
Total Wet Weight	
Sacks	
Net Weight	[illegible]
less H_2O 1.5 %	1750

METAL VALUE		
Gold 100% @ 35.5734	1	09
Silver 75% @ 0.50	9	01
Copper (		
Lead (	17	31
Zinc	5	30
Gross Value	27	71
Less Working Charge	4	69

WORKING CHARGE		
Treatment Base 30% Lead		
Credit Acc't Over 30% Pb.		
Debit Acc't Under 30% Pb.		
Insoluble		
Zinc Charge, excess over 6%		
Sulphur Charge, excess over 2%		
Arsenic Charge, excess over 2%		
Total Debit		
Iron Credit		
Net Working Charge		

Dry Weight, lbs. [illegible] Payment for 92.250 tons @ 23 16 per ton [illegible]

Freight advanced @ 6.90 per ton	[illegible]	
Federal Tax [illegible]	11.[illegible]	
Assay Charges	5.00	
~~Sampling~~ Watching Charges	4.00	
Hauling Charges @ 2.00 ~~ton~~	105.25	
Federal Tax [illegible]	3.19	496 05
TOTAL NET PAYMENT		71[illegible] 75
~~TRANSPORTATION~~		8[illegible] 47
~~NET PROCEEDS TOTAL~~ ~~Net Payment~~		6[illegible] 45

GENERAL PARTNERS
F. J. McENTEE, JR.
D. F. ZLATNIK

MINERAL PARK MILLING CO.

P. O. BOX 4
CHLORIDE, ARIZONA

MILL AND OFFICE
AT
MINERAL PARK, ARIZONA

~~1948~~ February 27, 1947

FINAL SETTLEMENT: Mill Lot No. 165 Mine Lot No. 161

Bought of: Ralph R. Langley, Box 1266, Kingman, Arizona

Mine: Summit, Mohave County, Arizona

Weighed: 1-27-47 Sampled: 10 27-47

ASSAYS:	OZ. AU	OZ. AG	% CU	% PB	% ZN	Fe.			
M. P. M. CO.	.043	4.7	.51	3.42	8.06	13.1			
MINING CO.	.040	4.6							
UMPIRE									
OFFICIAL ASSAY	.043	4.65	.51	3.42	8.06	13.1			
OXIDE ASSAY			.01	.01	.52				
SULPHIDE ASSAY			.50	3.41	7.74				
SETTLEMENT ASSAY	.013	3.65	.25	2.91	7.06				

MILL SETTLEMENT:	GOLD	SILVER	COPPER-LEAD	ZINC		TOTAL
METAL QUOTATIONS	$35.00	90.5¢	19.5¢	13.0¢	10.5¢	
METAL PAYMENTS	.31	2.46	.13	3.71	1.78	$ 8.39
LESS WORKING CHARGE						4.50
NET VALUE PER DRY TON						3.89

WEIGHTS: 132.115 WET TONS AT 2.1 % MOISTURE = DRY TONS

NET SETTLEMENT 129.341 DRY TONS AT $ 3.89 = $ 503.14

Trucking Allowed @ $1.50 ($ 204.12)

R.P.C.- 5% of $ 299.02 14.95

AMOUNT PAYABLE $ 488.19

PREMIUMS		COPPER $	COPPER LBS.	LEAD $	LEAD LBS.	ZINC $	ZINC LBS.
A PREMIUM	Reg.	86.10	1,148	209.22	7,608	1,123.85	16,066
B PREMIUM							
C PREMIUM	Xpler.	11.48	1,148	76.08	7,608	160.55	16,065
SPECIAL AT ____ c							
TOTAL		97.58		285.30		1,284.40	

SHIPPER'S MEMO:

	$	$/DRY TON
MINERAL PARK MILLING CO. PAYMENT	$ 503.14	
GROSS PREMIUM PAYMENTS	$ 1,667.28	
TOTAL	$ 2,170.42	16.78

EARNINGS EXEMPT FROM TAXATION

An amount equal to 15% of the gross operating income, not exceeding an amount equal to one half of the net income, is exempt from taxation in the mining business.

An example of the effect of that exemption on an operation of 150 tons of ore per day, based upon metal prices quoted in the Engineering and Mining Journal record for the first week of October, 1950, at current smelter contract settlement rates, freight rates and operating costs, is illustrated below:

	Metal Content	Mill Recovery	Market Quotation	Smelter Payoff	Gross Return
Gold	0.07 oz.	65%	35.00	91% x $35	1.450
Silver	6.00 oz.	80%	.905	95% x 90¢	4.104
Copper	0.75 %	85%	.245	-20# x 18½	2.358
Lead	6.00 %	90%	.16	-1½U 90% x 14	13.608
Zinc	7.00 %	85%	.17½	85% x 13	13.149
Gross return per ton of ore					34.67

Deductions:

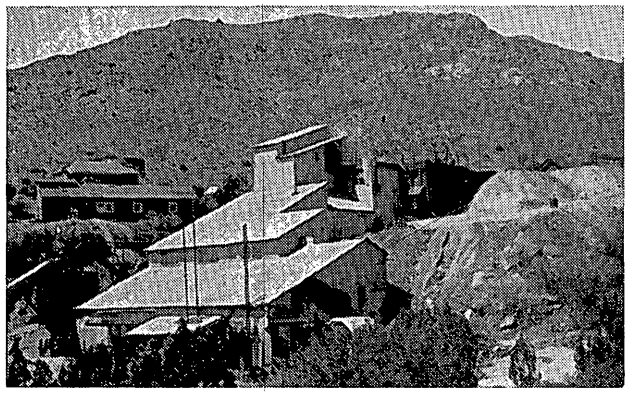
Marketing cost, calculated from shipments		8.00
		26.67
Milling cost	3.50	
Mining & Development cost	6.50	10.00
Operating Margin		16.67
Royalty at 10% of net return		2.66
Before overhead and Tax - per ton		$14.01

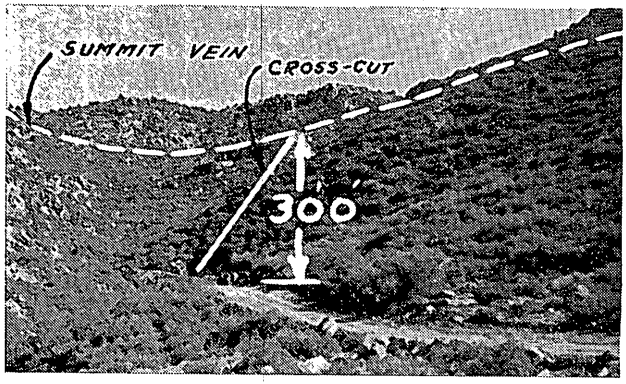
150 tons daily for 360 days	54,000
54,000 tons at $34.67 (gross income)	$1,872,180.00
54,000 tons at $14.01	756,540.00
Less estimated Overhead & Depreciation	85,000.00
Net Before Tax	$ 671,540.00
Exempted - 15% of gross ($1,872,180.00)	280,827.00
Taxable Income	$ 390,713.00
45% corporation tax	175,820.85
New Income above Exemption	$ 214,892.15
Amount Exempted	280,827.00
Spendable Income for one year	$ 495,719.15

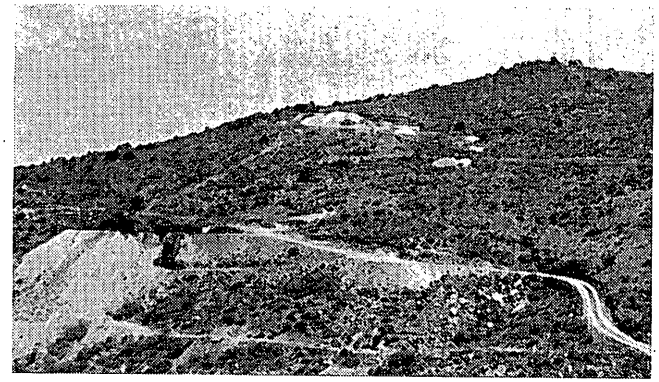
Net above all Costs and Taxes, per ton of ore $9.18

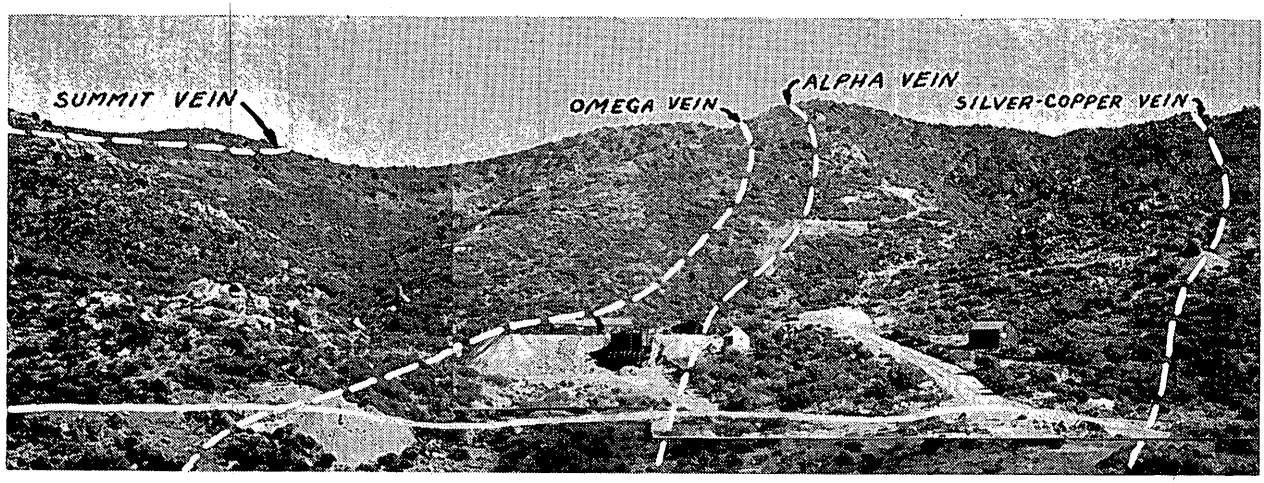
The metal content figures used above are considered estimates based upon experience gained in the production of nearly 25,000 tons of ore.

EXHIBIT "G"




SUMMIT VEIN
CROSS-CUT
300'




SUMMIT VEIN
OMEGA VEIN
ALPHA VEIN
SILVER-COPPER VEIN

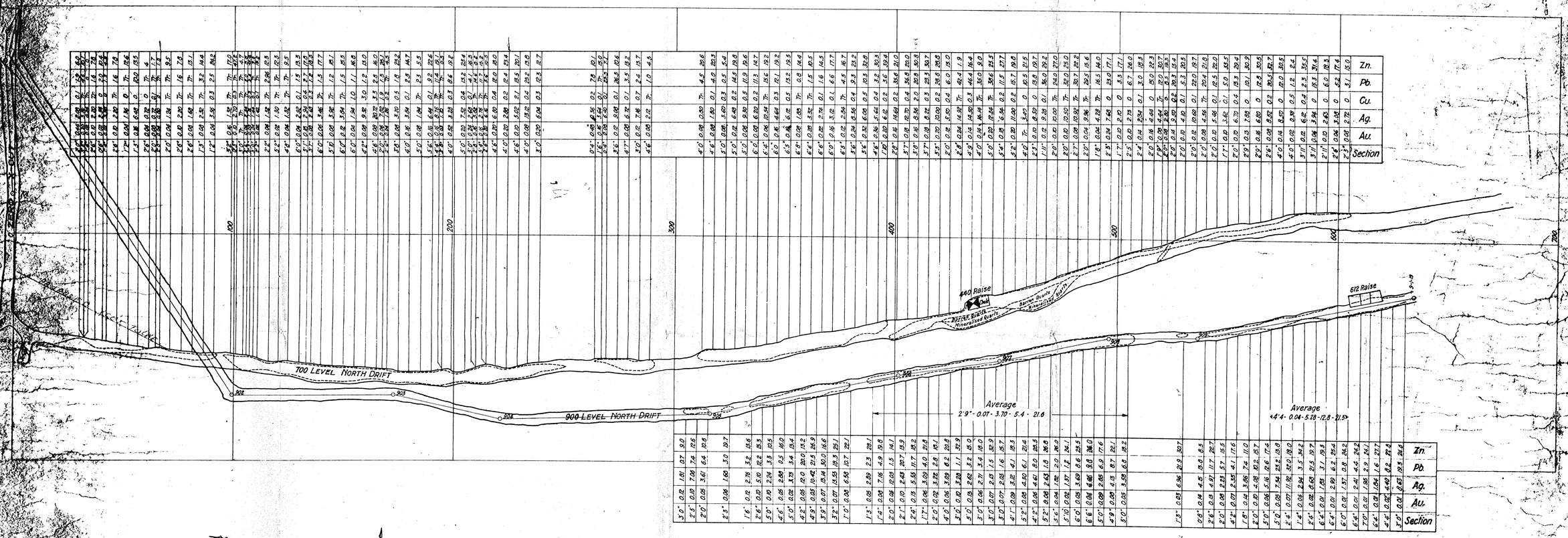
#2

3 maps.

MAP

BELONGS

HERE



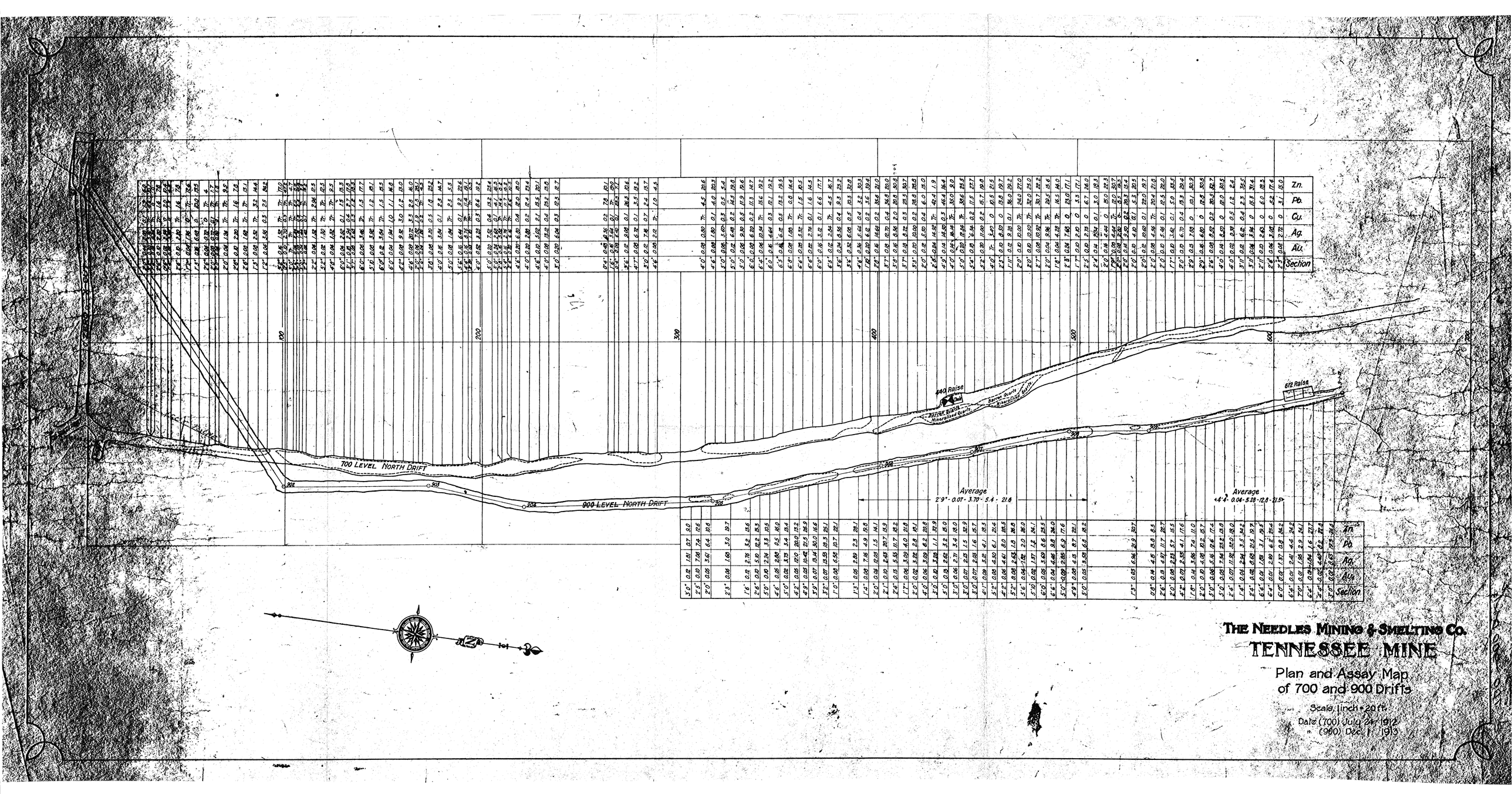
THE NEEDLES MINING & SMELTING CO.

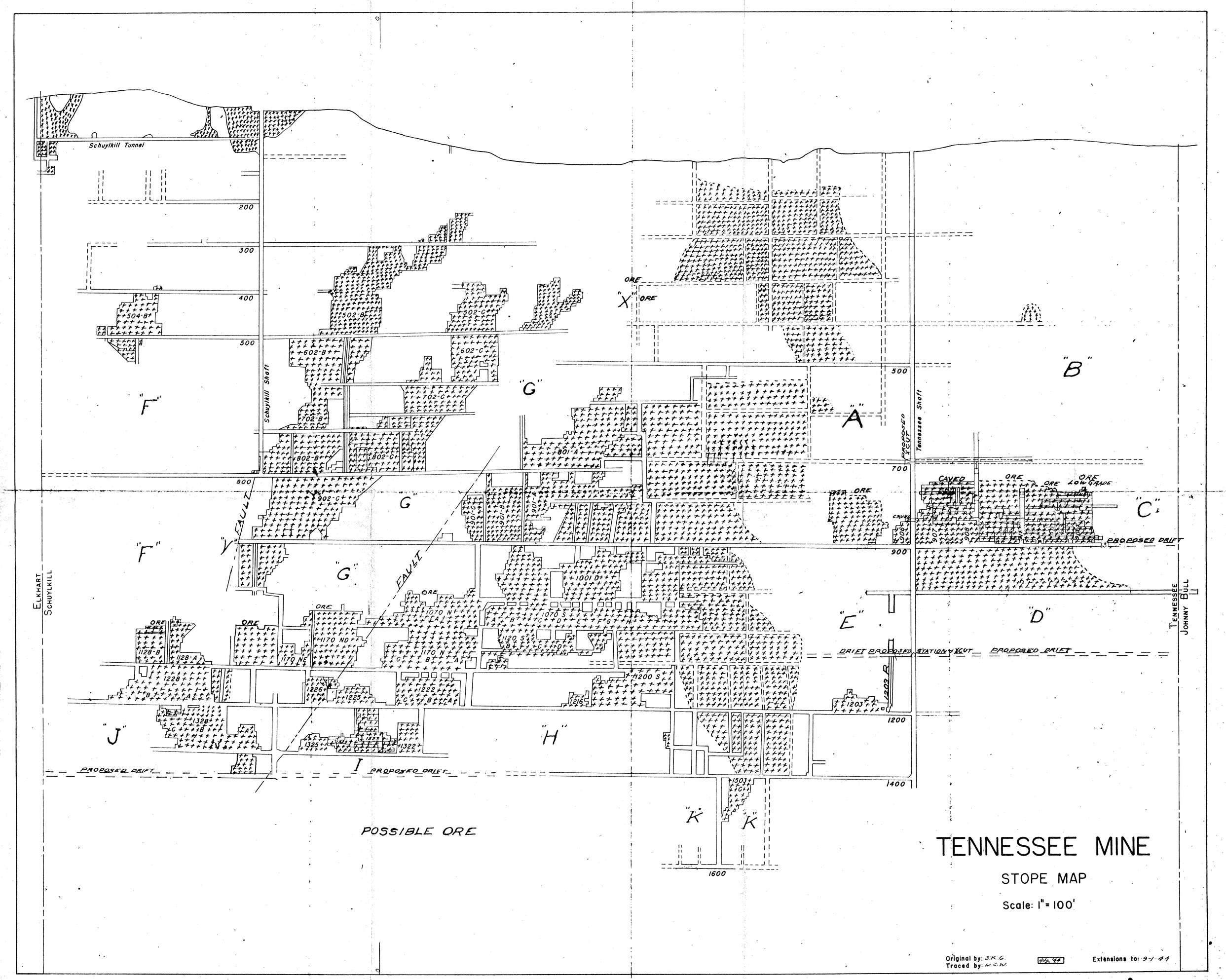
TENNESSEE MINE

Plan and Assay Map of 700 and 900 Drifts

Scale, 1 inch = 20 ft.

Date (700) July 24, 1912
" (900) Dec. 1, 1913


THE NEEDLES MINING & SMELTING CO.
TENNESSEE MINE
Plan and Assay Map
of 700 and 900 Drifts
Scale, 1 inch = 20 ft.
Date (700) July 24, 1912
" (900) Dec. 1, 1913
700 LEVEL NORTH DRIFT
900 LEVEL NORTH DRIFT
440 Raise
612 Raise
Average
2'9" - 0.07 - 3.70 - 5.4 - 21.8
Average
4'4" - 0.04 - 5.28 - 12.8 - 21.5
Zn.
Pb.
Cu.
Ag.
Au.
Section



TENNESSEE MINE

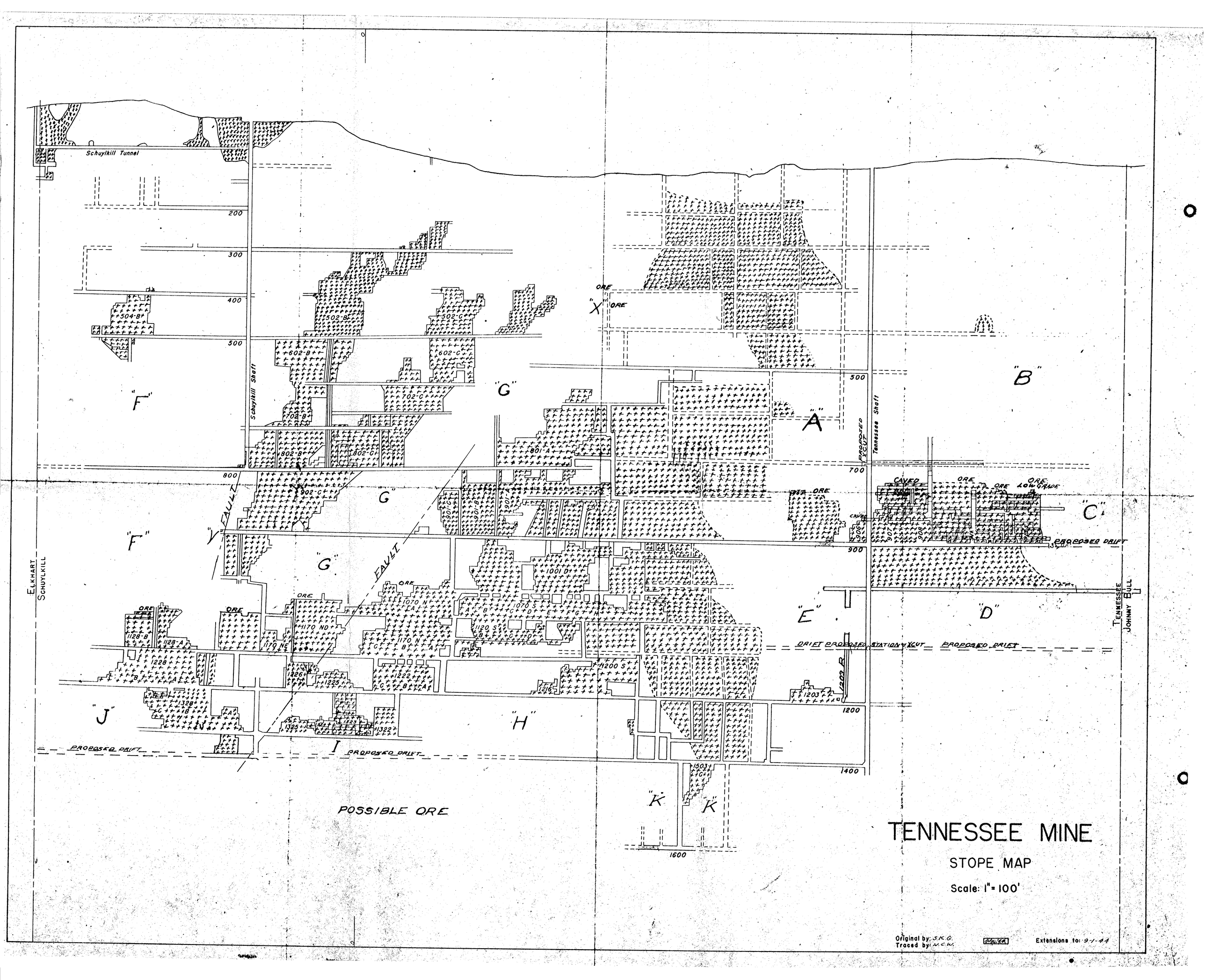
STOPE MAP

Scale: 1" = 100'

Original by: S.K.G.
Traced by: W.C.W.

July, '44

Extensions to: 9-1-44



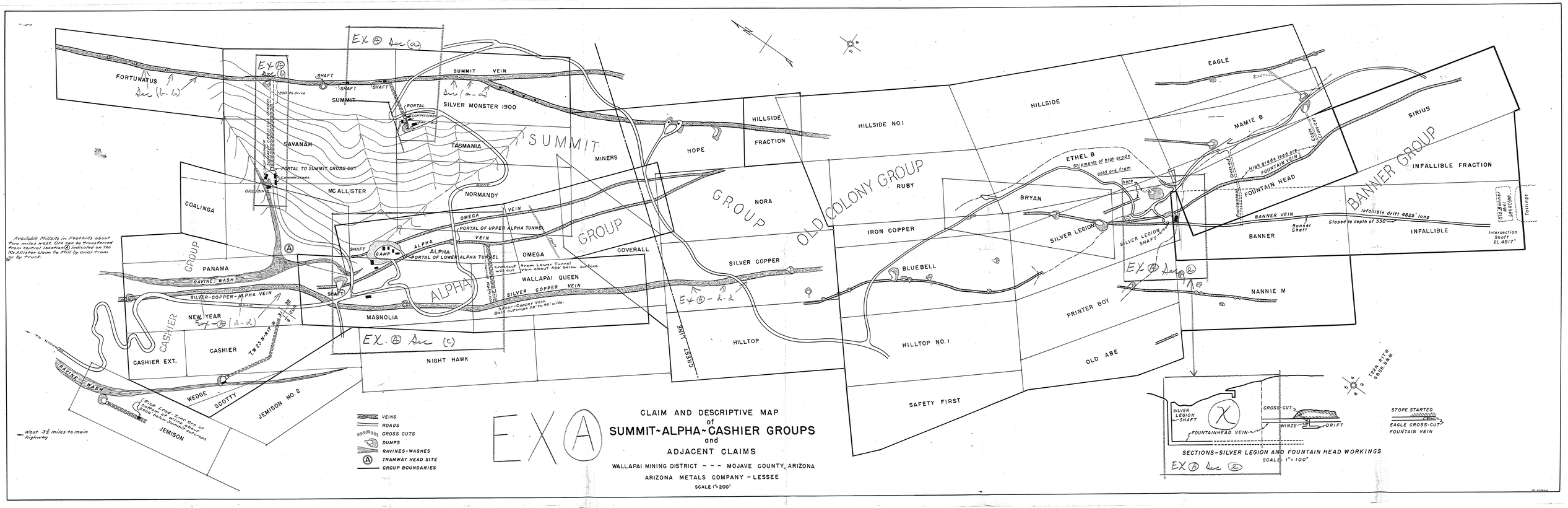
TENNESSEE MINE

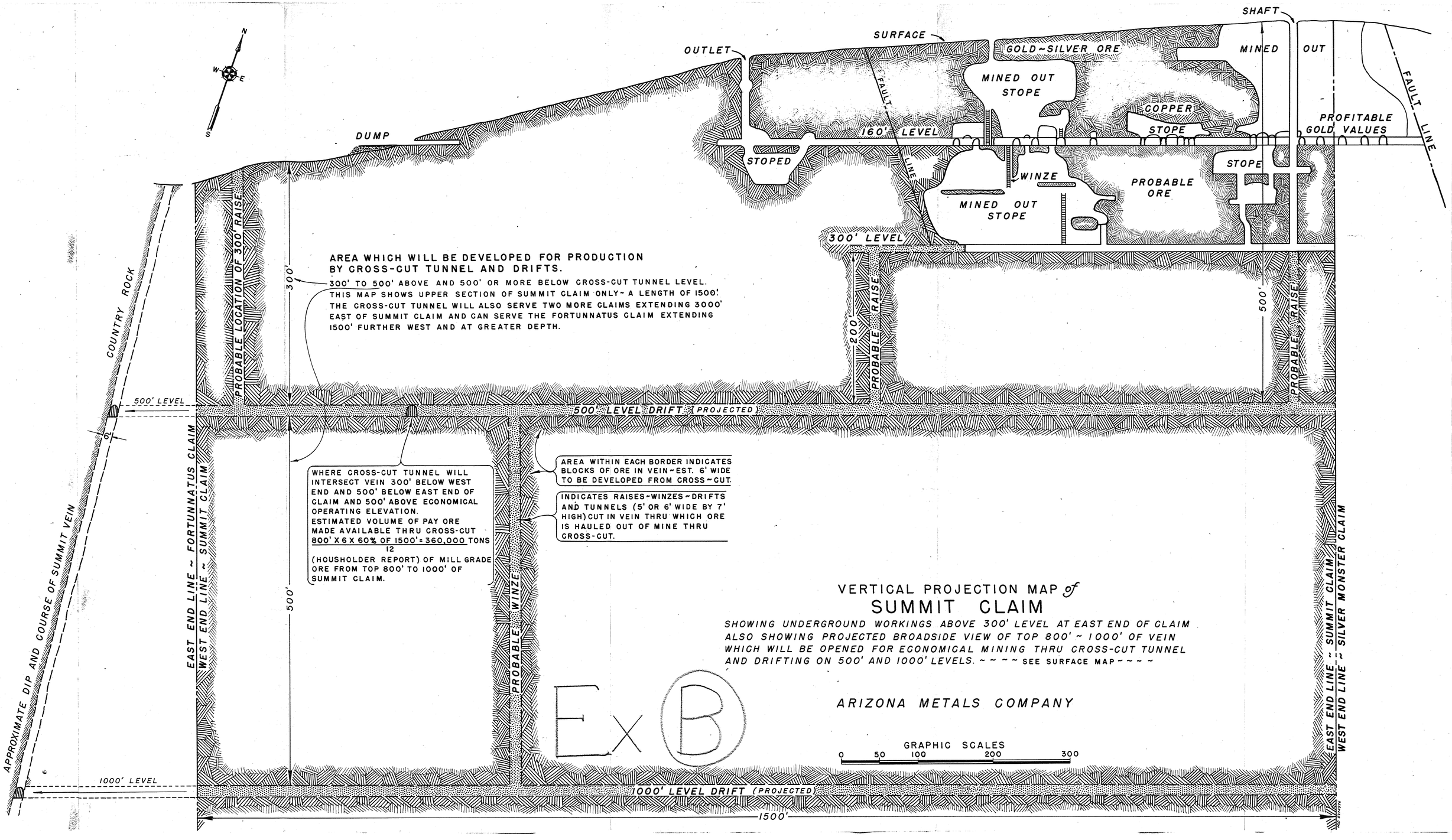
STOPE MAP

Scale: 1" = 100'

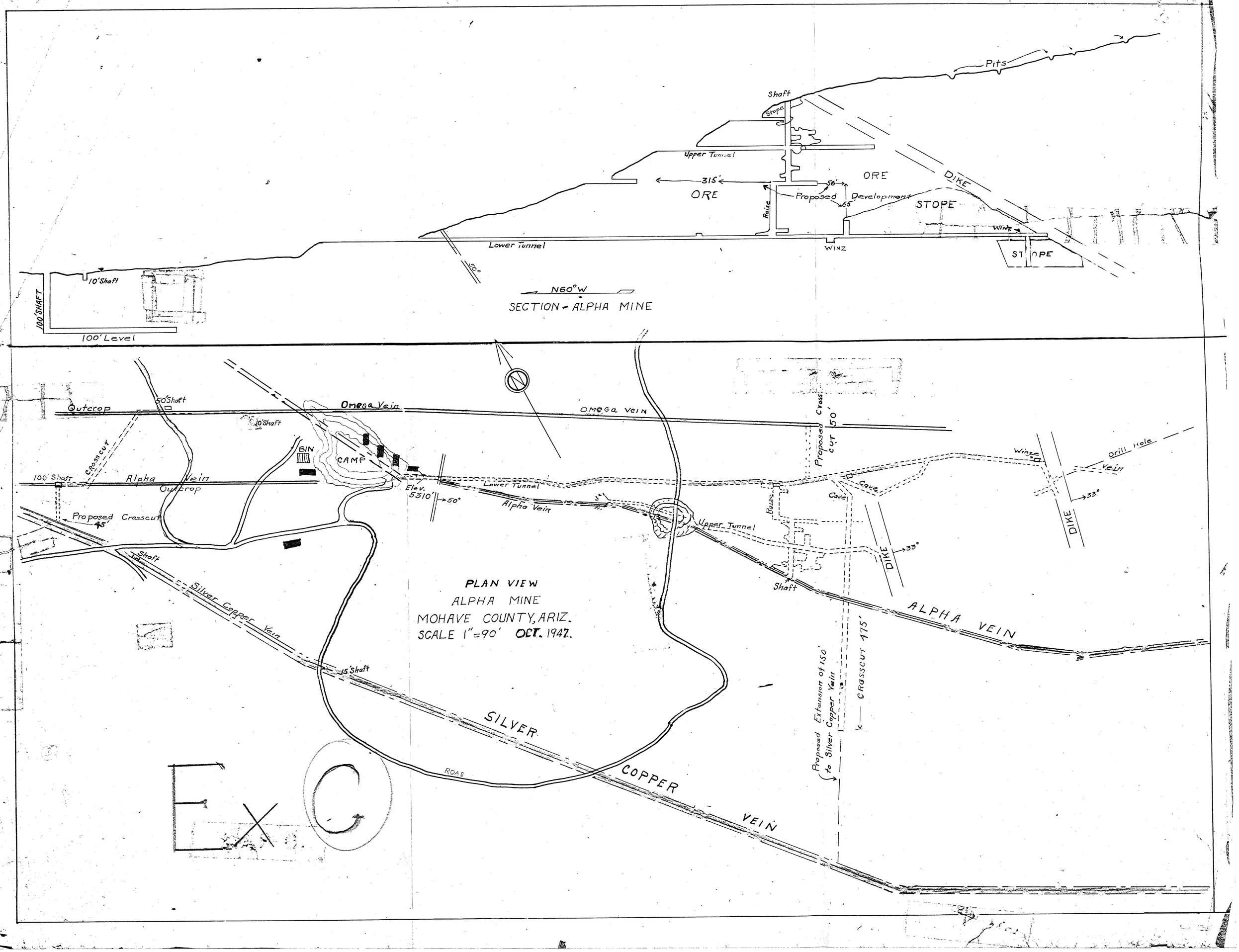
Original by: S.K.G.
Traced by: M.C.H.

Extensions to: 9-1-44


EX A
CLAIM AND DESCRIPTIVE MAP
of
SUMMIT-ALPHA-CASHIER GROUPS
and
ADJACENT CLAIMS
WALLAPAI MINING DISTRICT ~ - - - MOJAVE COUNTY, ARIZONA
ARIZONA METALS COMPANY ~ LESSEE
SCALE 1"=200'
VEINS
ROADS
CROSS CUTS
DUMPS
RAVINES-WASHES
TRAMWAY HEAD SITE
GROUP BOUNDARIES
SUMMIT GROUP
ALPHA GROUP
OLD COLONY GROUP
BANNER GROUP
CASHIER GROUP
FORTUNATUS
SUMMIT
SUMMIT VEIN
SILVER MONSTER 1900
SAVANAH
TASMANIA
MINERS
HOPE
HILLSIDE FRACTION
HILLSIDE NO.1
HILLSIDE
EAGLE
MAMIE B
SIRIUS
INFALLIBLE FRACTION
COALINGA
MC ALLISTER
NORMANDY
NORA
RUBY
ETHEL B
BRYAN
FOUNTAIN HEAD
BANNER
INFALLIBLE
PANAMA
ALPHA
OMEGA
COVERALL
WALLAPAI QUEEN
SILVER COPPER
IRON COPPER
SILVER LEGION
BLUEBELL
NANNIE M
PRINTER BOY
OLD ABE
HILLTOP
HILLTOP NO.1
SAFETY FIRST
NEW YEAR
CASHIER
CASHIER EXT.
MAGNOLIA
NIGHT HAWK
WEDGE
SCOTTY
JEMISON NO. 2
JEMISON
Available Millsite in Foothills about Two miles west. Ore can be transferred from central location (A) indicated on the McAllister claim to Mill by aerial tram or by truck.
West 3½ miles to main highway
SILVER LEGION SHAFT
FOUNTAINHEAD VEIN
CROSS-CUT
WINZE
DRIFT
SECTIONS-SILVER LEGION AND FOUNTAIN HEAD WORKINGS
SCALE 1"=100'
STOPE STARTED
EAGLE CROSS-CUT
FOUNTAIN VEIN


N
W
E
S
SHAFT
SURFACE
OUTLET
GOLD~SILVER ORE
MINED OUT
STOPE
MINED
OUT
FAULT LINE
COPPER
STOPE
PROFITABLE
GOLD VALUES
FAULT LINE
DUMP
160' LEVEL
STOPED
WINZE
STOPE
PROBABLE
ORE
MINED OUT
STOPE
300' LEVEL
AREA WHICH WILL BE DEVELOPED FOR PRODUCTION
BY CROSS-CUT TUNNEL AND DRIFTS.
300' TO 500' ABOVE AND 500' OR MORE BELOW CROSS-CUT TUNNEL LEVEL.
THIS MAP SHOWS UPPER SECTION OF SUMMIT CLAIM ONLY~ A LENGTH OF 1500'.
THE CROSS-CUT TUNNEL WILL ALSO SERVE TWO MORE CLAIMS EXTENDING 3000'
EAST OF SUMMIT CLAIM AND CAN SERVE THE FORTUNNATUS CLAIM EXTENDING
1500' FURTHER WEST AND AT GREATER DEPTH.
COUNTRY ROCK
PROBABLE LOCATION OF 300' RAISE
300'
200'
PROBABLE RAISE
500'
PROBABLE RAISE
500' LEVEL
500' LEVEL DRIFT (PROJECTED)
6'
EAST END LINE ~ FORTUNNATUS CLAIM
WEST END LINE ~ SUMMIT CLAIM
WHERE CROSS-CUT TUNNEL WILL
INTERSECT VEIN 300' BELOW WEST
END AND 500' BELOW EAST END OF
CLAIM AND 500' ABOVE ECONOMICAL
OPERATING ELEVATION.
ESTIMATED VOLUME OF PAY ORE
MADE AVAILABLE THRU CROSS-CUT
800' X 6 X 60% OF 1500' = 360,000 TONS
12
(HOUSHOLDER REPORT) OF MILL GRADE
ORE FROM TOP 800' TO 1000' OF
SUMMIT CLAIM.
AREA WITHIN EACH BORDER INDICATES
BLOCKS OF ORE IN VEIN~EST. 6' WIDE
TO BE DEVELOPED FROM CROSS~CUT.
INDICATES RAISES~WINZES~DRIFTS
AND TUNNELS (5' OR 6' WIDE BY 7'
HIGH) CUT IN VEIN THRU WHICH ORE
IS HAULED OUT OF MINE THRU
CROSS-CUT.
500'
PROBABLE WINZE
APPROXIMATE DIP AND COURSE OF SUMMIT VEIN
VERTICAL PROJECTION MAP of
SUMMIT CLAIM
SHOWING UNDERGROUND WORKINGS ABOVE 300' LEVEL AT EAST END OF CLAIM
ALSO SHOWING PROJECTED BROADSIDE VIEW OF TOP 800' ~ 1000' OF VEIN
WHICH WILL BE OPENED FOR ECONOMICAL MINING THRU CROSS-CUT TUNNEL
AND DRIFTING ON 500' AND 1000' LEVELS. ~ ~ ~ ~ SEE SURFACE MAP ~ ~ ~ ~
ARIZONA METALS COMPANY
GRAPHIC SCALES
0 50 100 200 300
EAST END LINE ~ SUMMIT CLAIM
WEST END LINE ~ SILVER MONSTER CLAIM
1000' LEVEL
1000' LEVEL DRIFT (PROJECTED)
1500'

Ex B


Pits
Shaft
Stope
Upper Tunnel
315'
ORE
ORE
56'
Proposed Development
65'
Raise
DIKE
STOPE
Winz
Lower Tunnel
WINZ
STOPE
50°
10' Shaft
100' SHAFT
100' Level
N60°W
SECTION - ALPHA MINE
Outcrop
50' Shaft
Omega Vein
OMEGA VEIN
10' Shaft
Proposed Crosscut 50'
BIN
CAMP
Crosscut
100' Shaft
Alpha Vein
Outcrop
Elev. 5310'
50°
Lower Tunnel
Alpha Vein
Winze
Drill Hole
Vein
Cave
Cave
33°
DIKE
Proposed Crosscut 45'
Upper Tunnel
Raise
Shaft
DIKE
33°
Shaft
Silver Copper Vein
PLAN VIEW
ALPHA MINE
MOHAVE COUNTY, ARIZ.
SCALE 1"=90' OCT. 1947.
ALPHA VEIN
15' Shaft
Proposed Extension of 150' to Silver Copper Vein
CROSSCUT 475'
SILVER
ROAD
COPPER
VEIN
EXC