DMA Form 1

DEFENSE MINERALS ADMINISTRATION Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 2884

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect

This document has been recorded as

status of the case must also be reported.

EXPLORATION ASSISTANCE Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch.

Use DMA Form 2 for submitting these reports.

One copy to USBM., USGS. & REGION III

Routing Slip

To: Code 700, Room 4640 Date 2/12/53

To: Open Com Date 3-11-53

To: Ope Com Date 3-30-53

To: _____ Date ____

To: ______ Date ______

To: _____ Date ____

To: Date _____

To: _____ Date _____

To: ____ Date ____

DO NOT DETACH

CONTROLLED DOCUMENT

Office of Minerals Exploration 345 Middlefield Road Menlo Park, California 94025

February 26, 1968

LIE WINE

o. e. F.

PRINTED

TB 28 1968

INITIALS CODE

Mr. Virgil E. Webster Mrs. Betty A. Webster Mr. Owen Byles 401 Cindy Lane Coalinga, California 93210

> Re: DMEA-2884 (Mercury) Archer Mine

> > Fresno County, Calif.

Dear Mr. and Mrs. Webster and Mr. Byles:

This office is in receipt of a request from Mr. John H. Hemphrey, 7331 W. 88th Street, Los Angeles, California 90045, for a copy of an assay map of part of the Archer Mine contained in our files for the subject DMEA docket. Mr. Humphrey furnished a copy of a statement signed by you, dated January 8, 1968, indicating your ownership of the property but the statement does not contain an authorization for us to release the map to Mr. Humphrey. Inasmuch as this was probably an oversight and you are willing for Mr. Humphrey to have the map, I am enclosing a copy with this letter so that you can give it to him. A copy of this letter is also being sent to Mr. Humphrey.

Sincerely yours,

H. K. Stager Field Officer OME, Region II

Enclosure: Assay map of Archer Mine

cc: Mr. John H. Humphrey Chief, OME, WDC Dir RF ACG RF MP RF Docket DMEA 2884 HKStager:mlb 2-26-68 MME Form 7 (2/63)

OFFICIAL FILE COPY Date Surname Code 2/20110 220

FEB 2 1 1968

Memorandum

To:

Field Officer, Region II

From:

Chief. Office of Minerals Exploration

Subject: DMRA-2884 (Mercury)

Archer Mine

Fresno County, California

This is in reference to your memorandum of February 16, 1968, enclosing the following documents:

Letter to you dated February 15, 1968, from Mr. John E. Humphrey, Statement to 'Whom it May Concern' dated January 8, 1968, concerning ownership of the Archer Mine and the Operator's interest in the property. Copy of Assay Map of the Archer Mine.

The enclosed statement is accepted as evidence of the current ownership of the property and the abandonment of all interest in the property by the Operator under the contract. We do not find any authorization in the statement of ownership, however, to furnish a copy of the Assay Map to anyone and we have no other record of such authorization.

We are returning the copy of the map to you with the suggestion that you send it to the current owners of the property who may give it to Mr. Humphrey if that is their intent.

cc: Director's reading file Division file Economic Geology file OME file

Frank E. Johnson

Frank E. Johnson

Enclosure

OME reading file

FEJohnson/bih 2/20/68



UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Chief, Office of Minerals Exploration

Memorandum

February 16,

OFFICIAL COPY 1968 M. E.

RECEIVED

FEB 19 1968

From:

To:

Field Officer

Region II

Subject:

DMEA-2884 (Mercury)

Washington, D. C.

Archer Mine

Fresno County, Calif.

INITIALS CODE

Enclosed is a letter from Mr. John H. Humphrey, present operator of the subject property, including a letter of authorization from the owners to release a copy of the assay map to him. Also enclosed is a copy of the map (made on the Bruning 2100 copier) /w that can be sent to Mr. Humphrey if you approve his request.

Mr. Lobanov, of Ydrametals Corporation, is no longer interested in the property and need not be sent a copy as originally requested.

Enclosures

JOHN H. HUMPHREY Consultant

SOURCE DATA AUTOMATION . DATA COLLECTION EQUIPMENT DEVELOPMENT . DATA PROCESSING SERVICE PACKAGES

7331 W. 88th St., Los Angeles, Calif. 90045 · Phone (213) 670-4707

February 15, 1968

Mr. H. K. Stager Field Officer OME, Region II US Dept of the Interior 345 Middlefield Road Menlo Park, CA 94025

Dear Mr. Stager:

As requested in your letter of January 9, 1968 I have obtained and have attached a statement from the present owners of the Archer mine claims, authorizing your office to issue to me the copy of the assay map discussed in my previous letter. Please advise the charges and I will send you a check forthwith.

Sincerely yours,

John H. Humphrey

enc:

JHH:evs

RECEIVED

FEB 13 1988

OFFICE OF MINERALS EXPLORATION
U.S. GEOLOGICAL SURVEY
MENLO PARK, GALIF.

401 Cindy Lane Coalinga, California 93210 January 8, 1968

TO WHOM IT MAY CONCERN:

We, VIRGIL E. WEBSTER and BETTY A. WEBSTER, husband and wife, and OWEN BYLES, are the sole owners of certain mining claims situated in Sections 2 and 3, Township 19 South, Range 13 East, M.D.B.& M., Fresno County, California, which are commonly described as ARCHER MINE CLAIM No. 1, ARCHER MINE CLAIM No. 2, ARCHER MINE CLAIM No. 3, ARCHER MINE CLAIM No. 4, ARCHER MINE CLAIM No. 5, ARCHER MINE CLAIM No. 6, and ARCHER MINE CLAIM No. 7, together with five (5) millsites. Our title thereto came from the Estate of BEN J. BYLES, Deceased, who previously owned said mining claims and who devised them to BETTY BYLES WEBSTER and OWEN BYLES, in equal shares. Thereafter BETTY BYLES WEBSTER deeded her undivided one-half interest in said mining claims to VIRGIL E. WEBSTER and BETTY A. WEBSTER (herself), husband and wife, as Joint Tenants.

We have been acquainted with the aforesaid ARCHER MINING CLAIMS for many years, and intimately acquainted with the ownership and leasehold interests therein since long prior to 1950.

Back in the early 1950's the aforesaid ARCHER MINING CLAIMS were leased by BEN J. BYLES and NORMA A. BYLES, husband and wife, then owners of said claims, to one ROBERT PRIOR, who did business under the fictitious name and style of ARCHER MINING COMPANY.

The undersigned have been advised that in about 1952 or 1953 ROBERT PRIOR made an application to the Office of Mineral Exploration for a loan and as a part of the application attached a certified sampling analysis of the lower level of the Archer Mine. ROBERT PRIOR abandoned the ARCHER MINING CLAIMS in 1953 or 1954, left the vicinity in which said mining claims are located, and to the best knowledge of each of the undersigned has never returned, and the undersigned do not know his present whereabouts or how or where to contact him.

By a Mining Lease dated January 13, 1964, BEN J. BYLES and NORMA A. BYLES, husband and wife, leased said Archer Mining Claims to ROBERT W. ALLSOP, and said mining lease is still in full force and effect, though the undersigned are informed and believe that ROBERT H. ALLSOP and RALPH W. ALLSOP sublet said mining lease to JOHN H. HUMPHREY. And the undersigned are further informed and believe that said JOHN H. HUMPHREY has further sublet said mining lease to a limited partnership under the name and style of ARCHER MINING COMPANY, of which the undersigned have been advised that JOHN H. HUMPHREY is the general partner, but the undersigned are not advised of the names of the limited partners nor whether or not there are additional general partners other than the said JOHN H. HUMPHREY. However, the undersigned do not believe that the ROBERT PRIOR who made an application for a loan from the Office of Mineral Exploration

401 Cindy Lane Coalinga, California 93210 January 8, 1968

TO WHOM IT MAY CONCERN:

We, VIRGIL E. WEBSTER and BETTY A. WEBSTER, husband and wife, and OWEN BYLES, are the sole owners of certain mining claims situated in Sections 2 and 3, Township 19 South, Range 13 East, M.D.B.& M., Fresno County, California, which are commonly described as ARCHER MINE CLAIM No. 1, ARCHER MINE CLAIM No. 2, ARCHER MINE CLAIM No. 3, ARCHER MINE CLAIM No. 4, ARCHER MINE CLAIM No. 5, ARCHER MINE CLAIM No. 6, and ARCHER MINE CLAIM No. 7, together with five (5) millsites. Our title thereto came from the Estate of BEN J. BYLES, Deceased, who previously owned said mining claims and who devised them to BETTY BYLES WEBSTER and OWEN BYLES, in equal shares. Thereafter BETTY BYLES WEBSTER deeded her undivided one-half interest in said mining claims to VIRGIL E. WEBSTER and BETTY A. WEBSTER (herself), husband and wife, as Joint Tenants.

We have been acquainted with the aforesaid ARCHER MINING CLAIMS for many years, and intimately acquainted with the ownership and leasehold interests therein since long prior to 1950.

Back in the early 1950's the aforesaid ARCHER MINING CLAIMS were leased by BEN J. BYLES and NORMA A. BYLES, husband and wife, then owners of said claims, to one ROBERT PRIOR, who did business under the fictitious name and style of ARCHER MINING COMPANY.

The undersigned have been advised that in about 1952 or 1953 ROBERT PRIOR made an application to the Office of Mineral Exploration for a loan and as a part of the application attached a certified sampling analysis of the lower level of the Archer Mine. ROBERT PRIOR abandoned the ARCHER MINING CLAIMS in 1953 or 1954, left the vicinity in which said mining claims are located, and to the best knowledge of each of the undersigned has never returned, and the undersigned do not know his present whereabouts or how or where to contact him.

By a Mining Lease dated January 13, 1964, BEN J. BYLES and NORMA A. BYLES, husband and wife, leased said Archer Mining Claims to ROBERT W. ALLSOP, and said mining lease is still in full force and effect, though the undersigned are informed and believe that ROBERT H. ALLSOP and RALPH W. ALLSOP sublet said mining lease to JOHN H. HUMPHREY. And the undersigned are further informed and believe that said JOHN H. HUMPHREY has further sublet said mining lease to a limited partnership under the name and style of ARCHER MINING COMPANY, of which the undersigned have been advised that JOHN H. HUMPHREY is the general partner, but the undersigned are not advised of the names of the limited partners nor whether or not there are additional general partners other than the said JOHN H. HUMPHREY. However, the undersigned do not believe that the ROBERT PRIOR who made an application for a loan from the Office of Mineral Exploration

in 1952 or 1953, or any other person who may ever have been an applicant for such a loan has any interest whatsoever in the said mining claims or mining lease at this time. In other words, the undersigned declare, on information and belief, which they believe to be true, that neither ROBERT PRIOR nor any other person who was the applicant for a loan in 1952 or 1953 has any present interest or right in or to the ARCHER MINING CLAIMS or the BYLES-ALLSOP Mining Lease, and none of the undersigned knows where or how to contact said ROBERT PRIOR.

VIRGIL E. WEBSTER

BETTY A. WEBSTER

OWEN BYLES

Office of Minerals Exploration 345 Middlefield Road Menlo Park, California 94025 RECEIVED
JAN 17 1968
INITIALS CODE

Sla / 30
170
170

OFFICIAL COPY
O. M. E.

Mr. John H. Eurphroy Archer Mining Company 7331 W. 88th Street Los Angeles, Calif. 90045

Re: DIRA-2884 (Morcury)
Archor Mime
Freemo County, Colif.

Dage Mr. Europhrey:

In order for the Office of Minerals Emploration to release copies of the assay map of the Archer Mine to you and to Mr. Lobanov, it will be necessary for you to obtain a latter from the present owners of the property authorizing us to do so. When we receive this authorization we will be able to send copies of the map to you.

Sincoroly yours,

Jamuary 9,

H. K. Stagor Field Officer OME, Region II

cc: Mr. Micholas Lobemov Ydramotalo Corporation 527 Medicom Avanue New York City, H. Y. 10022

Chief, OME, WDC Dir RF
ACG RF
MP RF
Docket DMEA-2884
HK\$tager:mlb 1-10-68

JOHN H. HUMPHREY Consultant

SOURCE DATA AUTOMATION DATA COLLECTION EQUIPMENT DEVELOPMENT DATA PROCESSING SERVICE PACKAGES

7331 W. 88th St., Los Angeles, Calif. 90045 · Phone (213) 670-4707

Jan. 2, 1967

DMEA-28-84

Mr. Harold K. Stager U. S. Geological Survey 345 Middlefield Rd. Menlo Park, Calif. 94025

Archer Mine

Dear Mr. Stager:

As General Partner of the Archer Mining Company I am the present Lessee of the property. I am attaching a copy of a Certificate of Limited Partnership and a copy of a Sublease under which we operate. I am also attaching a copy of Affidavit of Annual Labor, dated Aug., 1967, filed by Peter Hansen, our resident manager. Mr. Aubrey H. Seed, Attorney at Law, P. O. Box 706, Coalinga, Calif. 93210 is the attorney for the present Lessors, heirs of Ben J. and Norma A. Byles. The Lessors names are Mrs. Betty Byles Webster and Mr. Owen Byles. Should there be any question please contact Mr. Aubrey Seed.

Mr. Nicholas Lobanov of Ydrametals Corporation will be in Menlo Park to visit your office on Jan. 4, 1967. You are authorized to furnish him any information available at your office regarding the Archer mine, that would legally be available to me. I understand that some time in 1953 or before the Lessee at that time, who I understand was Robert Prior, made an application for and OME loan, and may have supplied some geological information that may be of value to us.

One condition of furnishing Mr. Lobanov with copies of any records or documents is that copies also be furnished to me at the above address. I am certain Mr. Lobanov will gladly pay the cost of any duplicating service or telephone expense calling Mr. Seed's telephone is 209-935-2746.

Your assistance will be greatly appreciated.

Sincerely,

John H. Humphrey

General Partner

Archer Mining Company

CC: Mr. Nicholas Lobanov Ydrametals Corporation 527 Madison Ave. New York, New York, 10022 RECEIVED

: 0 1968

CFFICE OF MINER VS EXPLORATION
U.S. GEOLOGICAL SURVEY
MENLO PARK, CALIF.



UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Memorandum

January 4, 1968

To:

Chief, Office of Minerals Exploration

Washington, D. C.

From:

Field Officer

Region II

Subject:

DMEA-2884 (Mercury)

Archer Mine

Fresno County, Calif.

Enclosed is a request from the Archer Mining Company, the present operator of the Archer Mine, requesting information available in our files. Specifically they wish two copies of the assay map of the Archer Mine that was contained in the subject DMEA application.

Mr. N. Lobanov, of Ydrametals Corporation, stopped in this office this morning enroute to the mine for an examination and I allowed him to look at the map. Inasmuch as the lower level of the mine is now largely inaccessible because of caving ground, the assay map is of considerable value and he wishes to obtain a copy as soon as possible. I told him I would forward the request to Washington, D. C. and would send him, and Mr. Humphrey, copies of the map as soon as I am authorized to do so.

I have tried to contact Mr. Aubrey H. Seed, attorney for the present owners of the property, but have not been able to reach him by telephone. His number in Coalinga, Calif. is (area 209) 935-2746, if you wish to try to reach him.

H. K. Stager

Enclosures

SUBLEASE

This Sublease is entered into by and between Robert H. Allsop and Ralph W. Allsop, hereinafter collectively referred to as "Allsop", and Archer Mining Company, a limited partnership, hereinafter referred to as "Archer".

WHEREAS, on or about January 13, 1964, Allsop entered into a certain Mining Lease with Ben J. Byles and Norma A. Byles, which Mining Lease was recorded on August 28, 1964 as Document 66788 in Book 5057, Page 613, of the Official Records of Fresno County, California; and

WHEREAS, on or about March 8, 1966, Allsop and John H. Humphrey entered into a written sublease of the property referred to in said Mining Lease, which sublease was recorded on March 9, 1966 as Document 18398, in Book 5284, Page 667, of the Official Records of Fresno County, California; and

WHEREAS, said John H. Humphrey thereafter assigned to Archer all of his interest in said sublease, and Archer assumed all of John H. Humphrey's obligations thereunder, and said John H. Humphrey was thereby released from all of his individual obligations under said sublease; and

WHEREAS, the parties hereto now desire to terminate said sublease and to enter into a new sublease of said property in accordance with the provision of said sublease of March 8, 1966;

NOW, THEREFORE, in consideration of the mutual promises contained herein, it is hereby agreed as follows:

1. <u>Incorporation of Mining Lease</u> The parties hereto represent and warrant that they have read said Mining Lease and said sublease of March 8, 1966 and that they are familiar with the provisions thereof. Said Mining Lease is hereby incorporated in this Sublease as though fully set forth herein.

- 2. <u>Property Subleased</u> Allsop hereby subleases to Archer, and Archer hires from Allsop, on the terms and conditions herein set forth, all of the property, real and personal, leased to Allsop in said Mining Lease including all mining claims, millsites, and equipment referred to therein.
- 3. <u>Termination of Prior Sublease</u> Said sublease of March 8, 1966 is hereby terminated as of the date of this Sublease as hereinafter set forth.
- 4. <u>Warranties of Allsop</u> Allsop represents and warrants:
 - (a) That said Mining Lease is, at the time of execution hereof, in full force and effect, that all of the terms, covenants, and conditions to be performed by Allsop under said Mining Lease have been fully performed, and that Allsop now holds all of the rights granted to Allsop under said Mining Lease free and clear of any claims of any other person or persons thereto, except the interest of Archer as provided for in said sublease of March 8, 1966.
 - (b) That all of the equipment referred to in said Mining Lease is now located on the premises leased thereby and is in good condition and repair.
 - (c) That the ore cars and skiploader referred to in paragraph 2 of said Mining Lease have been recovered and placed upon or beside the tracks referred to in said paragraph.
 - (d) That Allsop has not violated any of the terms, covenants, or conditions of said Mining Lease and has received no notice of any default thereunder from the

lessors named in said Mining Lease or from their successors in interest.

- (e) That said mining claims are in good working order and condition, except only for reasons caused or created by Act of God or beyond the control of Allsop.
- (f) That all rents and royalties provided for in said Mining Lease which became due on or before March 8, 1966 were paid by Allsop to said lessors or to their successors in interest and that, as of March 8, 1966, there were no unpaid rents or royalties due under said Mining Lease.
- (g) That, each year during which said Mining Lease was in force up to March 8, 1966, Allsop did at least \$100.00 worth of labor or improvements on each of said mining claims and recorded, or caused to be recorded, annually all Proofs of Labor or Affidavits of Assessment of Work for the joint benefit of said lessors and of Allsop necessary to keep said mining claims in good standing under the mining laws of the United States and of the State of California.
- (h) That, up to March 8, 1966, Allsop obtained and kept in force all insurance provided for in paragraph 23 of said Mining Lease and has furnished to the lessors thereunder, or to their successors in interest, certification of such insurance as required by said paragraph.
- (i) That, up to March 8, 1966, Allsop paid all taxes agreed to be paid by Allsop under the provisions of paragraph 4 of said Mining Lease and that, as of March 8, 1966, there were no taxes due and unpaid with respect to said premises.
 - (j) That there are no mechanics or other liens

upon said premises arising from any operations of Allsop thereon or from any operations of Allsop under said Mining Lease and that Allsop has not incurred any obligations or liabilities to said lessors, or to their successors in interest, by reason of any acts or omissions of Allsop in the conduct of his operations on said premises.

- 5. Rent and Royalties As rent for the property subleased hereby, Archer has paid to Allsop the sum of \$7,000.00, receipt of which is hereby acknowledged by Allsop. In addition thereto, Archer shall pay monthly royalties to Allsop's nominee Perry M. Heard in an amount equal to 10% of the excess, if any, over \$300.00 per flask, of the net proceeds collected by Archer each month for sales of mercury produced from ore extracted from the premises subleased hereby up to a maximum of a total amount of \$50,000.00. For the purposes of this Sublease, "net proceeds" shall be deemed to be the amount actually received by Archer for such sales after deducting all commissions, weighing charges, and other amounts ordinarily deducted by the buyer, less the cost of transporting the mercury from said premises to the buyer.
- 6. Performance of Obligations of Mining Lease During the continuance of this Sublease, Archer shall pay directly to the successors in interest of the lessors named in said Mining Lease all amounts required to be paid to said Lessors by Allsop under the terms thereof, and, in addition thereto, Archer shall perform, during the continuance of this Sublease, all of the obligations of Allsop under said Mining Lease except the following:
 - (a) Recovery of ore cars and skiploader and placing thereof upon or beside tracks as provided for in

paragraph 2 of said Mining Lease.

(b) Archer shall have no obligation to keep the mine tunnels, drains, vents or escape passages open for drainage or for entrance or exit as provided for in paragraph 19 of said Mining Lease except in so far as said mining tunnels, drains, vents, and escape passages were open for drainage and for entrance and exit on March 8, 1966.

During the continuance of this Sublease, Archer shall, except as otherwise provided for herein and in so far as the same are applicable hereto, be obligated to Allsop to perform all of the obligations required to be performed by Allsop for said lessors under the terms of said Mining Lease and shall have with respect to Allsop all of the rights over said premises granted to Allsop by said Mining Lease.

Term This Sublease shall become effective as of the date hereof and shall, unless terminated by a breach hereof, continue in force until the termination of said Mining Lease. If, at any time prior to January 13, 1969, Archer gives notice to Allsop that it is ready, willing, and able to pay the sum required to purchase the rights of said lessors, or their successors in interest, as provided for in paragraph 20 of said Mining Lease, Allsop shall, upon the request of Archer, forthwith exercise his option to purchase such rights from said lessors as provided for in paragraph 20 of said Mining Lease, shall allow Archer to pay said sum directly to the successors in interest of said lessors, and shall, concurrently with the conveyance to Allsop by the successors in interest of said lessors of the mining claims, millsites, and mining equipment referred to in said Mining Lease. convey the same to Archer. Allsop shall also exercise any and all options to renew said Mining Lease which he may be requested

to exercise by Archer during the continuance hereof.

- 8. Arbitration and Attorney's Fees In the event of any controversy between Allsop and Archer regarding this Sublease, or any right or obligation arising hereunder, the same need not be arbitrated but may be arbitrated if both of the parties hereafter agree to such arbitration. In the event that any suit, action, or proceeding, including arbitration, be commenced by either of the parties hereto with respect to this Sublease or to any such right or obligation, the prevailing party shall, in addition to such other relief as may be awarded, recover reasonable attorneys fees. The provisions of this paragraph shall, as between Archer and Allsop, supersede all provisions of said Mining Lease regarding disputes and/or controversies.
- 9. Assignment by Allsop Allsop may assign any of his rights hereunder; provided, however, that no such assignment shall, without the express written consent of Archer, operate to relieve Allsop of any of his obligations hereunder.
- 10. <u>Hold Harmless</u> Allsop shall protect and hold harmless Archer against any and all loss, cost, damage, and expense, including attorneys' fees, and against any and all liability therefor, sustained or incurred by Archer in connection with, or by reason of, or arising in any manner out of, any breach, or any claim of breach, of the warranties of Allsop set forth herein, or any of them, including, but not limited to, all expenses incurred by Archer in organizing a business to operate the mines leased hereby, in acquiring equipment to operate said mines, and all loss of profits sustained by Archer by reason of such breach.
- 11. <u>Successors in Interest</u> The provisions of this Agreement shall be binding upon and shall inure to the benefit

of any and all successors in interest of the parties hereto.

Entire Agreement This Sublease constitutes the entire agreement between the parties hereto relating to the subject matter hereof, and there shall be no modification or waiver of any of the terms hereof except by written agreement signed by both of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this Sublease in duplicate this 2/57 day of SEPT., 1966.

SUBLESSORS

Pobert of allsop

alph W. allsop

SUBLESSEE

ARCHER MINING COMPANY, a limited partnership

JOHN H. HUMPHRE General Partner

STATE OF NEVADA

On this ZIST day of SEPT., 1966, before me, the undersigned, a Notary Public in and for the said County and State, personally appeared ROBERT H. ALLSOP 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 of acknowledgment first above written.

LEONARD P. ROOT NOTARY PUBLIC - STATE OF NEVADA COUNTY OF CLARK My Commission Expires Sept. 22, 1969

GETING IN MINERAL

Notary Public

County and State

STATE OF) ss COUNTY OF O)

On this <u>Ttl</u>day of <u>Cletater</u>, 1966, before me, the undersigned, a Notary Public in and for the said County and State, personally appeared RALPH W. ALLSOP 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 andyear in this certificate of acknowledgment first above written.



Notary Public in and for said County and State

STATE OF

COUNTY OF

SS

On this <u>2/sf</u> day of <u>SEFF</u>, 1966, before me, the undersigned, a Notary Public in and for the said County and State, personally appeared JOHN H. HUMPHREY known to me to be a general partner in Archer Mining Company, the partnership that executed the within instrument, and acknowledged to me that said partnership executed the same.

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

Notary Public in and for said County and State

E. M. WOOLARD
My Commission Expires Oct. 1, 1968

AFFIDAVIT OF ANNUAL LABOR

STATE OF CALIFORNIA)
COUNTY OF FRESNO)

PETER HANSEN, being first duly sworn, deposes and says:

That at least One Hundred and no/100 Dollars (\$100.00) worth of labor was performed and improvements were made since 12:00 o'clock noon on the 1st day of September, 1966, upon each of the following described mining claims situate in the County of Fresno, State of California:

Name of Claim ARCHER MINE CLAIM

Location

No.	1.	Sec.	З,	Т.	19	s.,	R.13	Ε.,	M.D.M.
No.	2.	Sec.	3,	Т.	19	s.,	R.13	E.,	M.D.M.
No.	3.	Sec.	3,	T.	19	s.,	R.13	Ε.,	M.D.M.
No.	4.	Sec.	3,	Τ.	19	s.,	R.13	Ε.,	M.D.M.
No.	5.	Sec.	3,	т.	19	S.,	R.13	Ε.,	M.D.M.
No.	6.	Sec.	3,	т.	19	s.,	R.13	Ε.,	M.D.M.
No.	7.	Sec.	3,	Т.	19	S.,	R.13	Ε.,	M.D.M.

Said expenditures were made and said labor was performed by or at the expense of VIRGIL E. WEBSTER and BETTY A. WEBSTER. husband and wife, and OWEN BYLES, the owners of said mining claims, tor the purpose of complying with the federal and California mining laws pertaining to annual assessment work.

Dated: August 25, 1967.

- Colon Colon

Subscribed and sworn to before

me this 25th day of August, 1967

DONNA M. BOOTH

Notary Public in and for said County and State.

My commission expires March 16, 1970.

OFFICIAL SEAL

DONNA M. BOOTH

FRESNO COUNTY

AT 20MIN. PAST Jam

BOOK 5474 PAGE 328

FRESHO COUNTY RECORDER

330 M. 5th St. Carlinga 93210

BKM2244PC674

CERTIFICATE OF LIMITED PARTNERSHIP

FEE 8

The undersigned, desiring to form a limited partnership under the Uniform Limited Partnership Act, as set forth in Title 2, Chapter 2, of the California Corporations Code, hereby make the following certificate:

I. The name of the partnership is ARCHER MINING COMPANY.

The character of the business of the partnership is the acquisition of mines, mining claims, and interests therein, including the acquisition of The Archer Mine located near Coalinga, California, or some interest or interests therein, the mining of ore and minerals, the smelting, processing, and sale of ore and minerals, and any and all other business or businesses related or incidental thereto.

The location of the principal place of business of the partnership is 7331 West 88th Street, Los Angeles, California 90045.

The names and places of residence of the members IV. of the partnership are as follows:

General Partner

7331 West 88th Street John H. Humphrey Los Angeles, California 90045

Limited Partners

John H. Humphrey Los Angeles, California 90045 Daryl Von Draska ARCELES CHELL, 90045 Howard W. Wilson EDINIA (MPLS) MINIAL Richard A. Parker 10895 CHALON ROAD

7331 West 88th Street

John W. Diehl

ADISON, WISCONSIN 53705

RECORDED IN OFFICIAL RECORDS OF LOS ANGELES COUNTY, CALIF.

3 PM. JUN 3, 1968 RAY E. LEE, County Recorder

V. The partnership is to continue for an indefinite term.

VI. Each of said limited partners has contributed \$1,200.00 cash to the partnership. The limited partners have contributed no property other than cash to the partnership.

VII. Each of the limited partners has agreed to contribute an additional \$800.00 in cash to the partnership within 30 days from the date hereof, and each of the limited partners has also agreed to contribute an additional \$8,000.00 in cash to the partnership when and if a plan for the operation of The Archer Mine by the partnership is prepared and approved by the holders of a majority of the voting interests in the partnership.

In the event that such a plan of operation is so agreed upon, the general partner, John H. Humphrey, shall, in consideration of his services in organizing the partnership and in setting up the business thereof, receive the sum of \$3,333.33, in cash, which sum he shall forthwith pay to the partnership as an additional capital contribution over and above the other amounts of capital, in the sum of \$10,000.00, which he shall then have contributed or be obligated to contribute to the partnership.

In the event that such a plan of operation is so agreed upon and that Robert H. Allsop and Ralph W. Allsop, the present lessees of The Archer Mine, execute a new sublease of The Archer Mine in favor of the partnership in accordance with the provisions of paragraph 8 of that certain sublease dated March 8, 1966 between John H. Humphrey and Robert H. Allsop and Ralph W. Allsop, such new sublease executed in accordance with the provisions of said paragraph 8 shall

constitute a contribution to the capital of the partnership by the Allsops equivalent to a cash contribution in the sum of \$8,000.00, and said Robert H. Allsop and Ralph W. Allsop, or their nominees, shall be made limited partners in the partnership and shall receive an interest in the partnership proportionate to said \$8,000.00 capital contribution.

In the event that such a plan of operation is so agreed upon, and in the event that it is determined by the general partner that, in order to properly operate and finance the business of the partnership, it is necessary to give to the manufacturer of a smelting furnance or furnances an interest in the partnership, said manufacturer shall be made a limited partner in the partnership and any furnance or furnances contributed to the partnership by such manufacturer shall be considered a capital contribution and shall be evaluated at such amount as may be determined by the general partner, provided, however, that such contribution shall in no event exceed an amount greater than 25% of the total of all capital contributions to the partnership provided for herein.

In the event that such a plan of operation is so agreed upon, any geologists, attorneys, engineers and accountants who, at the request of the general partner, have performed services in the formation or organization of the partnership or in the preparation of said plan of operation or the acquisition of property to be used in the partnership may, with the approval of the holders of a majority of the voting interests in the partnership, become limited partners in the partnership and make contributions in cash to the partnership, provided, however,

that the total of all contributions by such geologists, attorneys, engineers, and accountants shall not exceed \$5,333.33.

VIII. The contribution of each limited partner is to be returned only upon the dissolution of the partnership.

- IX. Each limited partner is to share in the profits or other compensation by way of income in proportion to his capital contribution to the partnership.
- X. No limited partner has any right to substitute an assignee as contributor in his place. The assignee or other transferee of a limited partner may become a substituted limited partner only with the consent of the holders of fourfifths of the voting interests in the partnership.
- XI. Additional limited partners may be brought into the partnership upon the conditions hereinabove mentioned or with the consent of the holders of four-fifths of the voting interests in the partnership.
- XII. No limited partner has any priority over any other limited partner as to contributions or as to compensation by way of income.
- XIII. The remaining general partner or partners have the right to continue the business of the partnership on the death, retirement, or insanity of a general partner.
- XIV. No limited partner has any right to demand or receive property other than cash in return for his contribution except that, if a manufacturer of smelting furnances should become a limited partner and that such manufacturer should contribute a furnance or furnances to the partnership as his capital contribution to the partnership, such manufacturer may,

upon dissolution, have the right to demand back such furnance or furnances in kind; in such event, the furnance or furnances distributed to such partner shall be valued at their fair market value (and the determination of the partners holding a majority of the voting interests in the partnership shall be conclusive as to such fair market value) at the time of dissolution. right to demand furnances in kind shall apply whether or not the fair market value of the furnance at the time of distribution is greater than or less than the amount which would otherwise be paid to the partner receiving the same upon dissolution. the event that such fair market value is less than the total amount due such partner from the liquidation, the distribution of a furnance or furnances to such partner shall be considered as a distribution in cash of the fair market value thereof, and the remaining balance due such partner shall be paid to him in cash.

XV. All of the limited partners referred to in paragraph IV of this Certificate, the general partner, and any general partners hereafter brought into the partnership, shall have voting rights in the partnership, and all such partners with voting rights shall have equal voting rights (i.e., each voting partner shall have one vote). No limited partner hereafter brought into the partnership (whether he is expressly referred to herein or not), nor any assignee or other successor in interest of any partner, nor any substituted limited partner, shall have any voting rights in the partnership unless he is expressly given such rights by the holders of three-fifths of the voting interests in the partnership, in which event such new voting partner shall have equal voting rights with all other partners having voting rights. The matters upon

OKM2244PC67

which partners, general and limited, have the right to vote and the affirmative vote required to take action on such matters are as follows:

Matters	Vote Required						
Contribution of additional capital to the partner-ship	4/5						
Valuation of property contributed other than cash	4/5						
Admission of additional limited partners	4/5						
Granting of voting rights to limited partners hereaf brought into the partnership or to successors interest of partners or to substituted limited partners	ter n 3/5						
Making transferee of an interest in the partnership substituted limited partner	a 3/5						
Removal of general partner	3/5						
Election of additional general partner	3/5						
Dissolution of partnership	4/5						
Amendment of partnership Agreement	4/5						
Determination of fair market value of furnances contr buted as capital to the partnership	ci- majority						
Approval of plan for operation of The Archer Mine by the partnership	majority						
Determination of the salary of the general partner	majority						
IN WITNESS WHEREOF, we have executed this Certificate							
this 14 day of APRIL , 1966.							

JOHN H. HUMPHRE General Partner

HOWARD W. WILSO Limited Pagerer

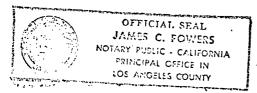
RICHALD A. PARKEL Limited Partner, PARKER

JOHN W. DIEHL Limited Partner

STATE OF Lefernia) ss.

On this day of day of , 1966, before me, the undersigned, a Notary Public in and for the said County and State, personally appeared JOHN H. HUMPHREY 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 of acknowledgment first above written.



Notary Public in and for Said County and State

> . JAMES C. POWERS My Commission Expires April 7,1968

COUNTY OF Jis ax gelia ss

On this Haday of April , 1966, before me, the undersigned, a Notary Public in and for the said County and State, personally appeared DARYL VON DRASKA 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 of acknowledgment first above written.

Notary Public in and for Said
County and State
My Commission Expires March 6th, 1970

STATE OF Calefornic) ss.

On this the day of the limit, 1966, before me, the undersigned, a Notary Public in and for the said County and State, personally appeared HOWARD W. WILSON 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 of acknowledgment first above written.

> Public in and for County and State

STATE OF Californ

COUNTY OF Los Angeles

On this 6th day of Cloud

THELMA S. BURNS NOTARY PUBLIC CALIFORNIA PRINCIPAL OFFICE IN LOS ANGELES COUNTY

My Commission Expires April 30, 1966 1966, before me,

the undersigned, a Notary Public in and for the said County and State, personally appeared RICHARD A. PARKER 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 of acknowledgment first above written.

County and State

THELMA S. BURNS NOTARY PUBLIC-CALIFORNIA PRINCIPAL OFFICE IN LOS ANGELES COUNTY

. My Commission Expires April 30, 1966

COUNTY OF Dime

On this 14th day of Boril 1966, before me, the undersigned, a Notary Public in and for the said County and State, personally appeared JOHN W. DIEHL 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 Cof acknowledgment first above written.

> Notary County and State



UNITED STATES DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION WASHINGTON 25, D. C.

Wr. Hobert D. Frior 1004 Country Clab Drive Charlele ., Callfornia JUN 2 5 1953

Res Locket No. 17-1-285% (Mercury) Archer Interprises 510 Couth Oring Street

has Angeled 13, Walifornia

Sear Mr. Priors

to explore the continued project solimated to cost 2,200.00.

request a providing the primer liberale exploration productive such in its judgment, sind doubt the provide of gradient material or acceptable grade and it countities that will significantly by one the internal sample position for the detional sections from the detional sections from the detional sections.

to make percept and an experimental of the property objectual reveal that the properties of the property objectual reveal that the properties of the properties for properties are ploredized properties not bedieved to be collisiently provising to justicity dovernment participation. Index time observationes, we regret to advice that your application for explanation aid is denied.

Year interest in the exploration program of the Defense Vinerals exploration definistration and your willingness to participate therein are appreciated.

i locardy source,

C. O. Mittendorf

Admindstre or

FIKnouse/db 6-22-53

co to: Adm. Roading File Operating Committee Docket

Meseretti M. Meyer, Pr. 3623

A.R.Kinkel, Im.-2-212A,CSA

illis

Knouse / IMEA Field Team, Region III (2)

JH 53

SURNAME:



UNITED STATES DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WASHINGTON 25, D. C.

JUNE 22, 1953

SUMMARY OF PROPOSED PROJECT

Docket No. DMEA-288h

Applicant: Archer Enterprises, by Mr. Robert D. Prior

1604 Country Club Drive Glendale 8, California

Subject: Denial of application

Commodity: Mercury

Location of property: Archer Mine

Fresno County, California

Region III

Amount of application: \$28,200.00

Date of application:

February 9, 1953

Outline of project:

The Applicant proposed to sink an inclined winze 100 feet from the present lower level of the mine, drifting each way from the bottom of the winze 100 feet to east and to the west; and 100 feet of drifting eastward from the present face of the

lower level.

Field Team Report:

Dated May 20, 1953 by E. H. Pampeyan, Geologist, U.S.G.S. Field Team, Region III, transmittal

letter May 22, 1953.

Recommendations:

Denial, as the value of the ore likely to be discovered would not be commensurate with the cost of exploration. Past production was 81h flasks.

Commodity Members' comments:

Bureau of Mines:

Miss Helena M. Meyer, dated June 9, 1953.

Concurs in the Field Team's belief that the proposed exploration could develop reserves containing 300 flasks of mercury. If this small quantity would be considered significant according to DMEA current standards, she would be willing to approve the proposed application, but believes it would be possible to reduce the cost of cross-cutting below \$70.00 per foot, as suggested in Mr. Clund's appraisal dated March 9, 1953.

JUNE 22, 1953

SUMMARY OF PROPOSED PROJECT

Geological Survey: A.R.Kinkel, Jr., June 10, 1953. Concurs with Field Team report that a limited find (estimated about 300 flasks of mercury) would be probable, but the decision as to whether there is justification in assisting exploration for such a limited objective, which can hardly be considered a significant amount of mercury, rests with DMEA.

Rare & Misc. Metals Division: Engineer: F. L. Knouse

Comments: Letter to Executive Officer, Region III, dated
June 17, 1953, and forwarded to Operating Committee, requesting recommendation
on alternate program.

Comments: Frank E. Johnson: The above letter was returned to the Division with the following comments:

"Since alternate proposal suggested in letter was included in application, obviously the Field Team considered it in making their recommendation.

Target too small for cost and possible production not significant. In view of ODM policy - all the more reason to deny."

Ernest Wm. Ellis, Chief Rare & Misc. Metals Division



UNITED STATES DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WASHINGTON 25, D. C.

JUNE 22, 1953

SUMIARY OF PROPOSED PROJECT

Docket No. DMEA-2014

Applicant: Archer Enterprises, by Mr. Pobert D. Prior

1604 Country Club Drive Glendale 8. California

Subject: Denial of application

Commodity: Mercury

Location of property: Archer Mine

Fresno County, California

Region III

Amount of application: \$28,200,00 Date of application:

February 9, 1953

Outline of project:

The Applicant proposed to sink an inclined winze 100 feet from the present lower level of the mine. drifting each way from the bottom of the winze 100 feet to east and to the west; and 100 feet of drifting eastward from the present face of the

lower level.

Field Team Report:

Dated May 20, 1953 by F. H. Pampeyan, Geologist, U.S.G.S. Field Team, Region III. transmittal

letter May 22, 1953.

Recommendations:

Denial, as the value of the ore likely to be discovered would not be commensurate with the cost of exploration. Past production was 31h flasks.

Commodity Nembers' comments:

Eureau of Mines:

Miss Helena M. Heyer, dated June 9, 1953. Concurs in the Field Team's belief that the proposed exploration could develop reserves containing 300 flasks of mercury. If this small quantity would be considered significant according to DMM current standards. she would be willing to approve the proposed application, but believes it would be possible to reduce the cost of cross-cutting below \$70.00 per foot, as suggested in Mr. Clund's appraisal dated March 9, 1953.

JUNE 22, 1953

SUMMARY OF PROPOSED PROJECT

Geological Survey: A.R.Kinkel, Jr., June 10, 1953. Concurs with Field Team report that a limited find (estimated about 300 flasks of mercury) would be probable, but the decision as to whether there is justification in assisting exploration for such a limited objective, which can hardly be considered a significant amount of mercury, rests with DMEA.

Rare & Misc. Metals Division: Engineer: F. L. Knouse

Comments: Letter to Executive Officer, Region III, dated
June 17, 1953, and forwarded to Operating Committee, requesting recommendation
on alternate program.

Comments: Frank E. Johnson: The above letter was returned to the Division with the following comments:

"Since alternate proposal suggested in letter was included in application, obviously the Field Team considered it in making their recommendation.

Target too small for cost and possible production not significant. In view of OTM policy - all the more reason to deny."

Ermest Wm. Ellis, Chief Rare & Misc. Metals Division

Office of DNEA Field Team Region III

1012 Flood Building 870 Market Street San Francisco 2. Calif.

May 22, 1953

Memorandum

To:

George C. Selfridge, Chairman, Operating Committee, DMHA. Interior Building, Washington 25, D. C.

From:

Executive Officer. IMEA Field Team, Region III

Subject: Docket NEA-2884 (Nercury) Archer Enterprises, Archer Mine

Fresno County, California

Reference is made to your letter dated March 11, 1953, requesting a field examination of the subject mine.

Attached are four copies of a report entitled "IMEA-2884. Archer Hine, (Mercury), Fresno County, California, by E. H. Pampeyan, Geologist, U. S. Geological Survey, dated May 20, 1953.

Although the work proposed by the applicant would encounter quicksilver ore, the examining geologist is of the opinion that the expected quantity of ore would be much too small to repay the requested DMEA loan. He recommends that the application be denied, which, of course, in view of mercury having been taken off the list, will occur automatically.

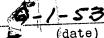
H, C, MILLER

H. C. Miller Executive Officer DMEA Field Team, Region III

Attachment

Copy to: E. H. Bailey, USGS A. C. Johnson, Reno

> Reviewed by DMEA OPERATING COMMITTEE



UNITED STATES DEPARTMENT OF THE INTERIOR SECRETARY OF THE INTERIOR, D. MCKAY

968

DRYENSE MINERALS EXPLORATION AUMINISTRATION

REPORT OF EXAMINATION BY FIELD TRAM

DMEA 2884, Archer Mine (Mercury) Fresho County, Galifornia

> E. H. Pampeyan, Geologist U. S. Geological Survey

> > May 20, 1953

Reviewed by DMEA OPERATING COMMITTEE

(date)

Summary

The Archer Mine, at the southeast edge of the New Idria Quicksilver District in Fresno County, California, consists of 2360 feet of workings on two levels. It explores a fault contact between serpentine and indurated shale. The ere-bearing shears and fractures along the contact found in the upper level were cut in the lower level, and it is believed that they continue downward and would be cut by a third drift paralleling the contact. Because it seems likely that the potential preduction from new work will be small, it is recommended that the request for Government participation in a \$25,000 exploration program be denied.

Introduction

The Archer Mine is in the MEE of sec. 3, T. 19 S., R. 13 E., MBBM, southwestern Freeno County, California. The mine is reached by traveling 22 miles on a paved county read northwest from Ceelings, then six miles northeast on a graded dart read. From Idria, in San Benito County, the property is accessible by traveling southeast shout 1h miles over fair dirt roads. The lower portal and mill are approximately 3300 feet above sea level, and the camp is about one mile south from, and 750 feet lower than, the mill.

Cinnabar was discovered on the property in 190h and has been mined intermittently since that time with a total production of more than 51h flasks. The mine was shut down on or about March 1, 1953 because all surface equipment meeded repairs and the operators were applying for a DMEA loan. The property is ewaed by B. J. Byles, et al., of Coalinga, California, and is under lease to Archer Enterprises, Los Angeles, California. R. D. Prior is general pertner and manager.

The Archer Mine was visited on April 16, 1953, by E. H. Pampeyan and D. B. Tatleck of the U. S. Geological Survey with the purpose of making a field examination and DNEA report. Maps of the underground workings were brought up to date at this time.

Development

The underground workings are on two levels 205 feet apart. The upper level, consisting of 520 feet of drift and minor crosscuts, is no longer being worked. The lower level consists of a 1000-foot drift that is parallel to the drift on the upper level, and is connected to the surface by a 640-foot crosscut. Raises totaling about 450 feet extend from the lower level; one of the raises connects with the upper level and provides ventilation.

Equipment on the property includes an 80-ton rotary furnace and Gould-type condensing system, hand tools, and about 1400 feet of track in place. Other pieces of equipment, including air compressors, an air locomotive, jack hammers, and a drifter, are owned by the applicant, and all are in need of repair.

Geology

The mine is on the southeast side of the New Idria Quicksilver District at the periphyry of an elongate mass of both serpentine and Franciscan rocks that brends northwest. The mass has been pushed up through Cretaceous and younger sediments in a manner similar to the intrusion of a salt dome. Several quicksilver mines are located along the faults that bound the mass of serpentine and Franciscan rocks — the most prominant being the New Idria mine — and have been described by Eckel and Myers /.

/ Eckel, E. B., and Myers, W. B., Quickeilver Deposits of the New Idria District, San Benito and Fresno Counties, California: Calif. Jour. Mines Geol., XLII, April 1946, pp. 81-124.

Steeply dipping Upper Cretaceous Paneche shale is found in fault contact with serpentine in the Archer Mine. The Paneche shale in fresh emposures is medium to dark gray and well bedded with beds ranging from one to six inches in thickness. In the vicinity of the mine the strike of the beds is N. 65-80° W. Hear the lewer pertal the beds dip 50-70° south and become less steep farther south. The shale beds are fractured locally, and strongly indurated for a maximum distance of 100 feet from the fault.

Serpentine forms the bulk of the elongate mass of serpentine and Franciscan rocks. It is light to dark green in color, and commonly is highly sheared. Locally, silicified serpentine crops out in bold relief compared to the weaker, sheared material. Lenses and peds of chromite in the serpentine, which roughly parallel the fault contact, are currently being mined less than one mile northeast of the Archer preperty.

Some silica-carbonate rock (hydrothermally altered serpentine) was seen underground along the contact between serpentine and shale, but appears to be of minor importance in this particular quicksilver deposit.

The indurated shale is cut by several steeply dipping and vertical shears that trend from N. 45° W. to N. 20° E. (See attached map.) The shears, ranging in thickness from one to five feet, apparently are confined to the indurated shale, as they penetrate neither the serpentine nor the unaltered shale.

Cimmabar, the principal ore mineral, occurs in the shears and a few quarts-filled fractures. Associated minerals include pyrite, markasite, calcite, and metacimmabar. Veinlets of iron sulphides are seem in the indurated shale. We mercury-bearing minerals were seen in the few exposures of silica-carbonate rock.

Reserves

Ore reserves in this type of deposit are difficult to estimate; however, it is possible that the indurated shale and shears extend below the present workings and continue to been are. Workings driven parallel to the contact below the present workings would cut the cre-bearing shears if the shearsdestended dwwwand without rinternuption vas. believed.

Available production records report that at least 300 flanks of quicksilver were produced from the lower level. It seems likely that a similar amount — more or lass — could be produced from the proposed work assuming the ere-bearing structure does continue downward.

Proposed Exploration

The applicant submitted a proposal requesting Government participation in a \$28,000 employetion program. The proposal sets forth a program that consists of: sinking a 100-feet winse down the dip of the structure at -65 from the lower level; driving 200 feet of drift from the feet of the winse; extending the present lower level 100 feet to the east. The drift from the foot of the winse would parallel the fault contact, and would be extended equally in two directions unless showings were more favorable in one direction. The work would take 12 menths to complete, and would be done by contract if found more coonsmiss and practical than by the applicant.

The method of exploring the deposit is satisfactory, inassuch as the ore is related to the shears that are confined to the indurated shale, and the indurated shale eccurs along the fault contact. Also, the leady extend downward from the upper level and are more numerous in the lower level. So far as is known, no exploratory work has been dune below the lower level.

Cost figures for drifting and sinking included in the application are too high. If a contract is to be awarded, they should be discussed with the operator and scaled down.

The proposed exploration program and subsequent development work on the new level might produce 300 flasks of metal if the conditions are the same as the present lewer level. However, under the five percent repayment schedule, seven times that amount would be necessary before the Government's share of the DMEA loan could be repayed. It is unlikely that such an amount would be discovered.

Core drilling, as an alternate method of exploration, would be less expensive but also less satisfactory. The ore in the shears is spotty and, therefore, would be a poor target. Cores are liable to give an inaccurate picture of the individual shears by showing either high or low values that would, in reality, represent only the part of the shear cut by the drill.

Recommendations

It is recommended that Archer Enterprises' request for a DMA loan be denied, as the value of the ere likely to be discovered would not be commensurate with the cost of exploration.

sam poarongod, california.

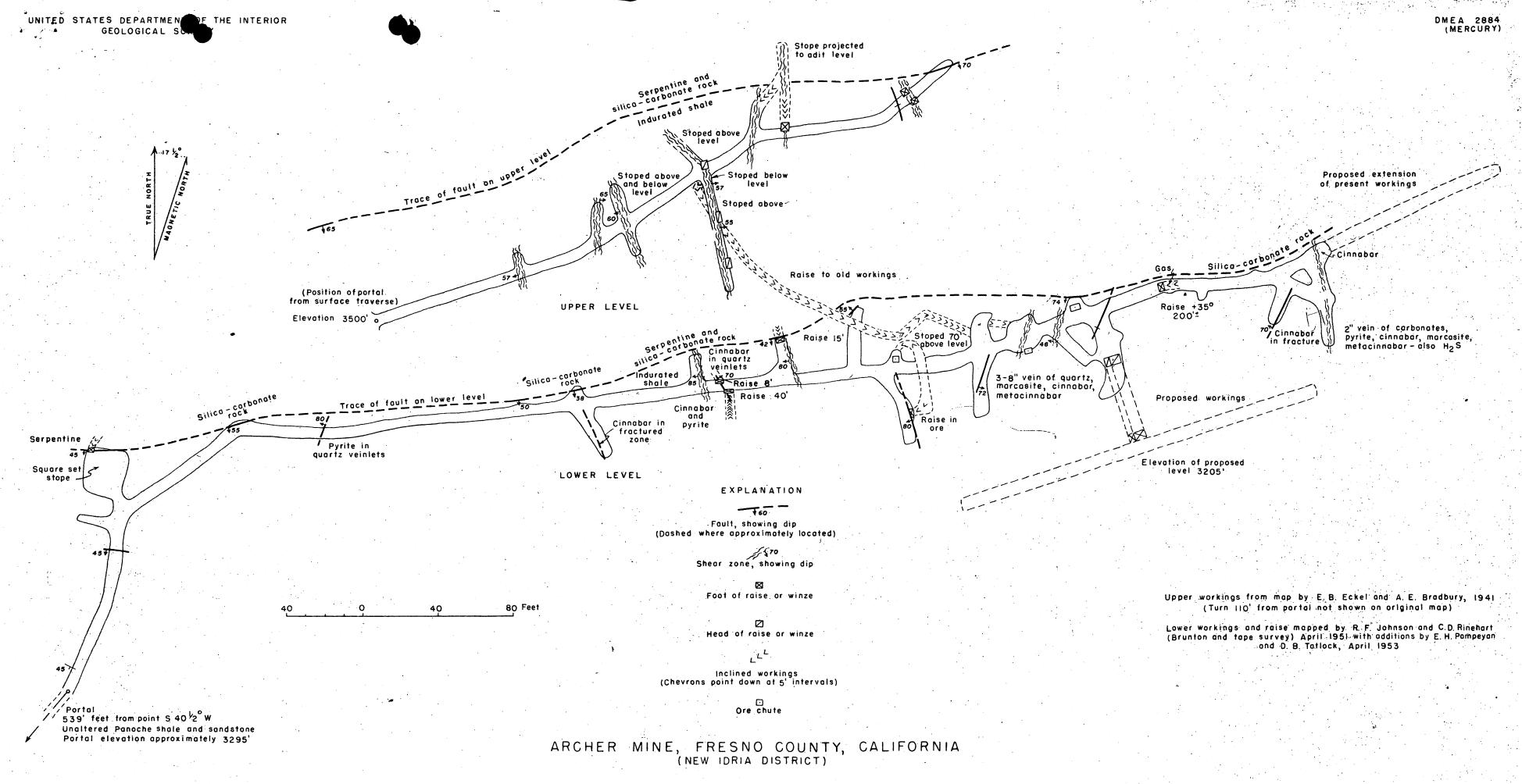
oepaethe of Hines Bullyn of Hines Region in Regionid

DEPARTMENT OF INTERIOR BUREAU OF MINES REGION III REGION III

91:6 NV WY AVEIST

SAN FRANCISCO, CALIFORNIA.

or the the Market Hill.





DEFENSE MINERALS ADMINISTRATION WASHINGTON 25, D. C.

Mr. H. C. Miller Executive Officer DMEA Field Team, Region III 1012 Flood Building 870 Market Street San Francisco 2, California

Re: Docket No. DMEA-2884 (Mercury)
Archer Enterprises
Archer Mine
Fresno County, California

Dear Mr. Miller:

Reference is made to the Field Team report by E. H. Pampeyan, dated May 20, 1953, on the proposed subject project.

We note that this report recommends that the loan be denied, as the value of the ore likely to be discovered would not be commensuprate with the cost of exploration.

However, the map attached to the report indicates a zone of cross shearing in the main lower adit level. This cross shearing occurs near the proposed winze and extends west about 200 feet. There may be a concentration of mercury mineralization in this area which will justify an exploration project. Please advise if you recommend an exploration program to consist of sinking a winze in this zone about 100 proposed location feet below the level and then from the bottom of this winze crosseut some 200 feet, approximately 10 to 20 feet from and paralleling the serpentine shale contact, to explore this zone in the hanging wall shale on the similar wall for the proposed location, but to allow drafting

If such a program has the approval of your office and the Operator, please furnish the required information to draft a contract, including maps which show the location of the work and extent and size of the workings. We will also require a detailed estimate of costs. In addition, have the Applicant submit the executed "Owner's Consent to Lien" covering the property concerned.

The cost for drifting or crosscutting submitted by the Applicant of \$70.00 per foot is extremely high. A rate not to exceed \$40.00 per foot would appear to be ample for this work unless extremely heavy ground conditions are expected.

Upon the receipt of your recommendations we will continue processing this application.

APPROVED:

Sincerely yours,

Member, Bureau of Mines

Chairman, Operating Committee

Member, Geological Survey

UNITED STATES DEPARTMENT OF THE INTERIOR DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

	DATE June 17, 1953						
REFERRED TO:	21111						
1. Op 2. Mr 3. Ma	r. Comm Rm. 4624 .Mittendorf - Rm. 4624 ils & Files - Rm. 4070 de 700 (docket)Rm. 4640						
FOR:							
Action	Recommendation						
Approval	Record						
Comment	of						
Conference	Referring						
Consideration	to						
Filing	Reply for signa-						
Instructions	ture of						
Investigation	Rewriting						
Initials	X Signature						
Mailing	Suggestions						
Previous correspon	denceYour information						
REMARKS: Please	surname						
A Comment	to alcone						
Check (X) before the items needing attention.							
	Erpest Wm. Ellis						
OPO 16-63815-1	db Initials of sender.						

Since adding and included

angle tid in State was included

and being their memoral of in

much top one of for

most of grand and for

ment of and and one of and one

modern and and an one wason of any.



DEFENSE MINERALS ADMINISTRATION WASHINGTON 25, D. C.

Pr. H. C. Filler Executive Officer 1802 Field Teen, Perion III 1012 | lood Bulliding 170 Market | Erect San Francisco P. Telifornia

			i	
	•			
	Lordet.	10. 17 A-2 01 (F	inemes.	war \
A				·3.1
		interprises		
	Archer	% 1 me		
	Fresne	County, Calliforn	de	
	-	- Anti-Cartestandral Section Constitution of Constitution	-	

FILE COPY SURNAME:

iour ir, millers

followings is made to the Field Team report by W. H. Pampeyan, dated May 20, 1953, on the proposed subject project.

Ve note that this report recommends that the loss be desied, as the value of the ore likely to be discovered would not be commented with the cost of exploration.

However, the man attached to the report indicates a some of pross shearing is the main lower edit level. This cross shearing because mear the proposed wines and extends west about 200 feet. There may be a commutation of mercury education in this area witch will justify an exploration project. Please advise if you recommed an exploration program to consist of sinking a wines in this some about 100 plant below the level and then from the bottom of this wines areasent have 200 feet, approximately 10 to 20 feet from and maralleling the because the shale contact, to explore this some in the hanging wall phale.

If each a program has the approval of poor office and the Operator, please furdah the required information to draft a contract, including maps with show the location of the work and extent and size of the workings. We will also require a detailed estimate of costs. In addition, have the applicant smill the executed "Owner's Comment to Lian" covering the property concerned.

The cost for drifting or erosesutting submitted by the Applicant of 370.00 per foot is extremely high. A rate not to exceed \$10.00 per foot would agree to be ample for this work unless extremely heavy ground possitions are expected.

Topon the rescipt of your seconsendations we will continue pro-

A N. Valle

Sincerely yours.

Marber, Arean of Mines

Chairman, Cherating Committee

H.R. Pinkel, Br. B-212A, USA

Meserre. H.

Adm. Reading File Querating Committe



UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY WASHINGTON 25, D.C.

June 10, 1953

Memorandum

Re: IMEA-2884

To:

Mr. E. Wm. Ellis

From:

A. R. Kinkel, Jr.

Subject: DMEA-2884 (Mercury)

Archer Enterprises, Archer Mine,

Fresno County, California

Edenso Minerale dministration

RECEIVED

JUHLA 1203

The field team report of May 20, 1953, indicates that if the exploration proposed by the applicant is done, a small amount of mercury will be found in the area opened by the new workings. They estimate that about 300 flasks of mercury will be found in and above the proposed new level. I concur with the field team that such a limited find appears probable, but the decision as to whether we are justified in assisting exploration for such a limited objective, which can hardly be considered a significant amount of mercury, rests with the Defense Minerals Exploration Administration.

If the project is approved, I would suggest either the location of the winze be moved farther west, or that drifting be done only to the west of the winze in its proposed location. The map indicates that most of the mercury-bearing cross shears are west of the proposed winze location.

A. R. Kinkel, Jr.



UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

WASHINGTON 25, D. C.

June 10, 1953

Memorandum

Re: IMEA-288h

Tot

Mr. E. Wm. Ellis

From:

A. R. Kinkel, Jr.

Subject: IMFA-2884 (Mercury)

Archer Enterprises, Archer Mine,

Fresno County, California

The field team report of May 20, 1953, indicates that if the exploration proposed by the applicant is done, a small amount of mercary will be found in the area opened by the new workings. They estimate that about 300 flasks of mercury will be found in and above . the proposed new level. I concur with the field team that such a limited find appears probable, but the decision as to whether we are justified in assisting exploration for such a limited objective, which can hardly be considered a significant amount of zeroury, rests with the Defense Minerals Emploration Administration.

If the project is approved, I would suggest either the location of the winze be moved farther west, or that drifting be done only to the west of the winse in its proposed location. The map indicates that most of the mercury-bearing cross shears are west of the proposed winze location.

A. R. Kinkel, Jr.



UNITED STATES DEPARTMENT OF THE INTERIOR **GEOLOGICAL SURVEY**

WASHINGTON 25. D. C.

June 10, 1953

Re: IMFA-288L

Memorandan

To:

Mr. S. Wm. Ellin

From:

A. R. Kinkel, Jr.

Subject: IMFA-2884 (Mercury)

Archer Enterprises, Archer Mine,

Freeno County, California

The field team report of May 20, 1953, indicates that if the exploration proposed by the applicant is done, a small amount of mercury will be found in the area opened by the new workings. They estimate that about 300 flasks of mercury will be found in and above the proposed new level. I concur with the field team that such a limited find appears probable, but the decision as to whether we are justified in assisting exploration for such a limited objective, which can hardly be considered a significant amount of mercury, rests with the Defense Minerals Exploration Administration.

If the project is approved, I would suggest either the location of the winze be moved farther west, or that drifting be done only to the west of the winze in its proposed location. The map indicates that most of the mercury-bearing cross shears are west of the proposed winse location.

A. R. Kinkel, Jr.

6/15/53 gla



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF MINES

WASHINGTON 25, D. C.

June 9, 1953

Memorandum

To:

E. W. Ellis

From:

Helena M. Meyer

Subject: DMEA Docket 2884, Archer Enterprises, Archer mine,

Fresno County, Calif., Field Team's Report

I have read the subject report and concur in the field team's belief that the proposed exploration could develop reserves containing 300 flasks of mercury. This is a small quantity but if it is considered significant according to DMEA current standards I would be willing to approve the proposed application. It seems to me, however, that it should be possible to reduce the cost of cross-cutting below \$70.00 per foot, as suggested in Mr. Olund's appraisal dated March 9, 1953.

For the record I want to point out that reports to the Bureau of Mines for 1935 to 1951, inclusive, credit the Archer mine with a production of 750 flasks of metal. Mr. Lyon's memorandum of February 17 quotes Minerals Yearbook as giving as production in the period 1940-47, only 274 flasks produced in 1946 and 1947. The misunderstanding resulted from the fact that production data for individual mines may not always be published, and outputs for Archer in 1940, 1941 and 1942 were not shown separately in Minerals Yearbook.

Helena M. Meyer

m. Theye

Copy to: Minerals Division

Base Metals Branch

H. M. Meyer

Files

A. R. Kinkle, Jr., Rm. 4234, GSA



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF MINES

WASHINGTON 25, D. C.

June 9, 1953

Memorandum

To:

E. W. Ellis

From:

Helens M. Meyer

Subject: IMEA Docket 2884, Archer Enterprises, Archer mine,

Fresno County, Calif., Field Team's Report

I have read the subject report and concur in the field team's belief that the proposed exploration could develop reserves containing 300 flasks of mercury. This is a small quantity but if it is considered significant according to DMEA current standards I would be willing to approve the proposed application. It seems to me, however, that it should be possible to reduce the cost of cross-cutting below \$70.00 per foot, as suggested in Mr. Clund's apprecisal dated March 9, 1953.

For the record I want to point out that reports to the Bureau of Mines for 1935 to 1951, inclusive, credit the Archer mine with a production of 750 flasks of metal. Mr. Lyon's memorandum of February 17 quotes Minerals Yearbook as giving as production in the period 1940-47, only 274 flasks produced in 1945 and 1947. The misunderstanding resulted from the fact that production data for individual mines may not always be published, and outputs for Archer in 1940, 1941 and 1942 were not shown separately in Minerals Yearbook.

Helena M. Meyer

Helena M. Meyer

HMMEYER/1b

Copy to: Minerals Division

Base Metals Branch

H. M. Meyer

Files

A. R. Kinkle, Jr., Rm. 4234, GSA



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF MINES

WASHINGTON 25, D. C.

June 9, 1953

Memorand m

To:

E. W. Ellis

From:

Helena M. Meyer

Subject: DMEA Docket 2884, Archer Enterprises, Archer mine,

Fresno County, Calif., Field Team's Report

I have read the subject report and concur in the field team's balief that the proposed exploration could develop reserves containing 300 flacks of mercury. This is a small quantity but if it is considered significant according to DMA current standards I would be willing to approve the proposed application. It seems to me, however, that it should be possible to reduce the cost of cross-cutting below \$70.00 per foot, as suggested in Mr. Olund's appraisal dated March 9, 1953.

For the record I want to point out that reports to the Bureau of Mines for 1935 to 1951, inclusive, credit the Archer mine with a production of 750 flasks of metal. Mr. Lyon's memorandum of February 17 quotes Minerals Yearbook as giving as production in the period 1940-47, only 274 flasks produced in 1945 and 1947. The misunderstanding resulted from the fact that production data for individual mines may not always be published, and outputs for Archer in 1940, 1941 and 1942 were not shown separately in Minerals Yearbook.

Relent: M. Moyer

Helena M. Meyer

HMMEYER/jb

Copy to: Minerals Division

Base Metals Branch

H. M. Meyer

Files

A. R. Kinkle, Jr., Rm. 4234, GSA





UNITED STATES

Dalaise Illimole limbiazation DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION 1 12 10 12 10 12 13 WASHINGTON 25, D. C.

nassi (SE)

Office of DMEA Field Team Region III

1012 Flood Building 870 Market Street San Francisco 2. Calif.

May 22, 1953

Memorandum

To:

George C. Selfridge, Chairman, Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From:

Executive Officer, IMEA Field Team, Region III

Subject:

Docket IMEA-2884 (Mercury)

Archer Enterprises, Archer Mine

Fresno County, California

Reference is made to your letter dated March 11, 1953, requesting a field examination of the subject mine.

Attached are four copies of a report entitled "DMEA-2884, Archer Mine, (Mercury), Fresno County, California, by E. H. Pampeyan, Geologist, U. S. Geological Survey, dated May 20, 1953.

Although the work proposed by the applicant would encounter quicksilver ore, the examining geologist is of the opinion that the expected quantity of ore would be much too small to repay the requested DMEA loan. He recommends that the application be denied, which, of course, in view of mercury having been taken off the list, will occur automatically.

Executive Officer

DMEA Field Team, Region III

Attachment

Copy to: E. H. Bailey, USGS

A. C. Johnson, Reno

UNITED STATES DEPARTMENT OF THE INTERIOR SECRETARY OF THE INTERIOR, D. MCKAY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM REGION III

DMEA 288h, Archer Mine (Mercury)
Fresno County, California

E. H. Pampeyan, Geologist U. S. Geological Survey

May 20, 1953

Summary

The Archer Mine, at the southeast edge of the New Idria Quicksilver District in Fresno County, California, consists of 2360 feet of workings on two levels. It explores a fault contact between serpentine and indurated shale. The ore-bearing shears and fractures along the contact found in the upper level were cut in the lower level, and it is believed that they continue downward and would be cut by a third drift paralleling the contact. Because it seems likely that the potential production from new work will be small, it is recommended that the request for Government participation in a \$28,000 exploration program be denied.

Introduction

The Archer Mine is in the NE_{4}^{1} of sec. 3, T. 19 S., R. 13 E., MDBM, southwestern Fresno County, California. The mine is reached by traveling 22 miles on a paved county road northwest from Coalinga, then six miles northeast on a graded dirt road. From Idria, in San Benito County, the property is accessible by traveling southeast about 14 miles over fair dirt roads. The lower portal and mill are approximately 3300 feet above sea level, and the camp is about one mile south from, and 750 feet lower than, the mill.

Cinnabar was discovered on the property in 1904 and has been mined intermittently since that time with a total production of more than 814 flasks. The mine was shut down on or about March 1, 1953 because all surface equipment needed repairs and the operators were applying for a DMEA loan. The property is owned by B. J. Byles, et al., of Coalinga, California, and is under lease to Archer Enterprises, Los Angeles, California. R. D. Prior is general partner and manager.

The Archer Mine was visited on April 16, 1953, by E. H. Pampeyan and D. B. Tatlock of the U. S. Geological Survey with the purpose of making a field examination and DMEA report. Maps of the underground workings were brought up to date at this time.

Development

The underground workings are on two levels 205 feet apart. The upper level, consisting of 520 feet of drift and minor crosscuts, is no longer being worked. The lower level consists of a 1000-foot drift that is parallel to the drift on the upper level, and is connected to the surface by a 640-foot crosscut. Raises totaling about 450 feet extend from the lower level; one of the raises connects with the upper level and provides ventilation.

Equipment on the property includes an 80-ton rotary furnace and Gould-type condensing system, hand tools, and about 1400 feet of track in place. Other pieces of equipment, including air compressors, an air locomotive, jack hammers, and a drifter, are owned by the applicant, and all are in need of repair.

Geology

The mine is on the southeast side of the New Idria Quicksilver District at the periphyry of an elongate mass of both serpentine and Franciscan rocks that trends northwest. The mass has been pushed up through Cretaceous and younger sediments in a manner similar to the intrusion of a salt dome. Several quicksilver mines are located along the faults that bound the mass of serpentine and Franciscan rocks — the most prominant being the New Idria mine — and have been described by Eckel and Myers /.

Serpentine forms the bulk of the elongate mass of serpentine and Franciscan rocks. It is light to dark green in color, and commonly is highly sheared. Locally, silicified serpentine crops out in bold relief compared to the weaker, sheared material. Lenses and pods of chromite in the serpentine, which roughly parallel the fault contact, are currently being mined less than one mile northeast of the Archer property.

Some silica-carbonate rock (hydrothermally altered serpentine) was seen underground along the contact between serpentine and shale, but appears to be of minor importance in this particular quicksilver deposit.

[/] Eckel, E. B., and Myers, W. B., Quicksilver Deposits of the New Idria District, San Benito and Fresno Counties, California: Calif. Jour. Mines Geol., XLII, April 1946, pp. 81-124.

Steeply dipping Upper Cretaceous Panoche shale is found in fault contact with serpentine in the Archer Mine. The Panoche shale in fresh exposures is medium to dark gray and well bedded with beds ranging from one to six inches in thickness. In the vicinity of the mine the strike of the beds is N. 65-80° W. Near the lower portal the beds dip 50-70° south and become less steep farther south. The shale beds are fractured locally, and strongly indurated for a maximum distance of 100 feet from the fault.

The indurated shale is cut by several steeply dipping and vertical shears that trend from N. 45° W. to N. 20° E. (See attached map.) The shears, ranging in thickness from one to five feet, apparently are confined to the indurated shale, as they penetrate neither the serpentine nor the unaltered shale.

Cinnabar, the principal ore mineral, occurs in the shears and a few quartz-filled fractures. Associated minerals include pyrite, marcasite, calcite, and metacinnabar. Veinlets of iron sulphides are common in the indurated shale. No mercury-bearing minerals were seen in the few exposures of silica-carbonate rock.

Reserves

Ore reserves in this type of deposit are difficult to estimate; however, it is possible that the indurated shale and shears extend below the present workings and continue to bear ore. Workings driven parallel to the contact below the present workings would cut the ore-bearing shears if the shears extend downward without interruption as believed.

Available production records report that at least 300 flasks of quicksilver were produced from the lower level. It seems likely that a similar amount — more or less — could be produced from the proposed work assuming the ore—bearing structure does continue downward.

Proposed Exploration

The applicant submitted a proposal requesting Government participation in a \$28,000 exploration program. The proposal sets forth a program that consists of: sinking a 100-foot winze down the dip of the structure at -65° from the lower level; driving 200 feet of drift from the foot of the winze; extending the present lower level 100 feet to the east. The drift from the foot of the winze would parallel the fault contact, and would be extended equally in two directions unless showings were more favorable in one direction. The work would take 12 months to complete, and would be done by contract if found more economical and practical than by the applicant.

The method of exploring the deposit is satisfactory, inasmuch as the ore is related to the shears that are confined to the indurated shale, and the indurated shale occurs along the fault contact. Also, the leads extend downward from the upper level and are more numerous in the lower level. So far as is known, no exploratory work has been done below the lower level.

Cost figures for drifting and sinking included in the application are too high. If a contract is to be awarded, they should be discussed with the operator and scaled down.

The proposed exploration program and subsequent development work on the new level might produce 300 flasks of metal if the conditions are the same as the present lower level. However, under the five percent repayment schedule, seven times that amount would be necessary before the Government's share of the DMEA loan could be repayed. It is unlikely that such an amount would be discovered.

Core drilling, as an alternate method of exploration, would be less expensive but also less satisfactory. The ore in the shears is spotty and, therefore, would be a poor target. Cores are liable to give an inaccurate picture of the individual shears by showing either high or low values that would, in reality, represent only the part of the shear cut by the drill.

Recommendations

It is recommended that Archer Enterprises request for a DMEA loan be denied, as the value of the ore likely to be discovered would not be commensurate with the cost of exploration.

RECEIVED RECION III BUREAU OF MINES яогяатиг 40 тиамтяачао

81:6 MA SE YAM EZET

SAN FRANCISCO, CALIFORNIA



SURNAME:

UNITED STATES DIEA DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

WASHINGTON 25, D. C.

Fund, DMEA.

ARCHER ENTERPRISES 510 SOUTH SPRING STREET LOS ANGELES, CALIFORNIA JUN 3 1953

REOURLET MAY 19 DENYING YOUR EXPLORATION APPLICATION, DUCKET NUMBER DNEA-288h. THIS IS TO ADVISE YOU THAT RESTRICTED PROGRAM DIRECTIVE DATED APRIL 15 MODIFIED ON JUNE 1 GIVING DMEA AUTHORITY TO CONTINUE PROCESSING YOUR APPLICATION WHICH WAS PENDING PRIOR TO MAY 15. KINDLY ADVISE THIS OFFICE AND EXECUTIVE OFFICER AT SAN FRANCISCO. CALIFORNIA, RHETHER OR NOT TOU DESIRE SUBJECT APPLICATION TO BE REACTIVATED.

C. O. Mittendorf

C. O. MITTINDORF. AMMINISTRATOR DEFENSE MINERALS EXPLORATION ADMINISTRATION

EWEllis/db 6-3-53 cc to: Adm. Reading File Docket Messrs: H.M.Meyer, Rm. 3623 A.R.Kinkel, Jr., Rm.B-242A, GSA

DEEA Field Team, Region III (2)

May 2 9 1952

discontinuous Drive

A.R. MI

o. London J. A. A. 2884 (vertury)
broker interprises
510 London pring street
Los Angeles 15, california
healer line, respo county, alif.

BAD IN THE STATE OF

the owner a data of the constant to the forest of the endormation and the constant of the cons

i re ret to advise your proposed project.

tion for a section to the VA winder to carries in a large and in the tion for a section in the section of the s

Limoeraly yours,

C. O. Mittendorf

Assistation the tor

co to: A w. Reading Pile
Doctot

Coars. Ref. eyer. Rm. 3/23
L.S. Intel. Jr., A. 3-2/2A

Anouse



DEFENSE MINERALS ADMINISTRATION WASHINGTON 25, D. C.

MAY 1 9 1903

· Pa	ಂದಿಕ್ಕ	rt .	ri	.r
100	: Jui	FLA .	Club	rive
HL	ndia Le	ري ر وي	1112	ornia

BV.

archer sterrings treet

Low Argeles 17, all cornis

Account loss, France outly, alif.

certain specific and the effects of catalogues and an experience to experience where the effects of catalogues and a praising the effect of th

relaces to mercury and the periods of the cate of the recorrective order, we are the boundaries of the correct
into a contract for explorate to but of a plication is
set to be merital of jour to poste project.

the utaff of sub of a bishop to express its a prolam conferentian disting the period year and lieution has one rander

stocerely yours,

C. O. Mittendorf

eddplotmsop (

5-19-53

FLKnouse/la 5-18-53 cc to: Adm

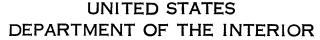
Adm. Reading File

DEMA Field Teat, Region 111 (2)

A.R. inkei, Jr., Rm. 3-2/2A 38A

Knouse





DEFENSE MINERALS EXPLORATION ADMINISTRATION

WASHINGTON 25, D.C.

Office of Executive Officer DMEA Field Team Region III CENTILLE CE TUE PUTEROR Boscott Martels Paristicalism RECENTED

A. R. 1 3 1953

1012 Flood Building 870 Market Street San Francisco 2, Calif.

April 7, 1953

Memorandum

To:

George C. Selfridge, Chairman, Operating Committee,

DMEA, Interior Building, Washington 25, D. C.

From:

Executive Officer, DMEA Field Team, Region III

Subject:

Docket DMEA-2884 (Mercury)

Archer Enterprises, Archer Mine

Fresno County, California

Reference is made to your letter, dated March 30, 1953, requesting the correct address of the above captioned applicant company.

Our records show the address of Mr. Robert D. Prior to be: 1604 Country Club Drive, Glendale 8, California.

H. C. Miller

Executive Officer

DMEA Field Team, Region III

Copy to: E. H. Bailey, USGS



DEFENSE MINERALS ADMINISTRATION WASHINGTON 25, D. C.

FILE COPY SURNAME:

MAR 3 0 1953

Mr. H. C. Hiller Executive Officer, Region III Dana Field Team 1012 Flood Building 870 Sarket Street San Francisco 2. California

> Docket No. Deca-2084 (Meroury) archer Interprises Archer Line Freens County, California

Cear ar. Miller:

Referring to our letter to you of March 11, 1953. transferring the above-captioned application to goor office for a field examination, we have received the undelivered notice of the same date which was directed to are Robert D. Frior, Archer Enterprises, 510 South Spring Street, Los Angeles 13, California, as shown in the application.

For your information, the lost office also forwarded this notice to the following addresses before returning the envelope to this office:

> 3009 Florde Road, Bakersfield Box 597. Coalinga, Calif.

Will you k ndly endeavor to obtain the correct address for the Applicant-company and advise us?

Sincerely yours.

George C. Selfridge

Chairman, Operating Committee

GLAult/FLKnouse/gla

3-30-53

cc to: Adm. Reading File Operating Committee Docket

Messrs. HMMeyer, Rm. 3623 ARKinkel, Rm. 4234 GSA Ellis **Knouse**

DMEA Field Team, Reg. III

al Provide

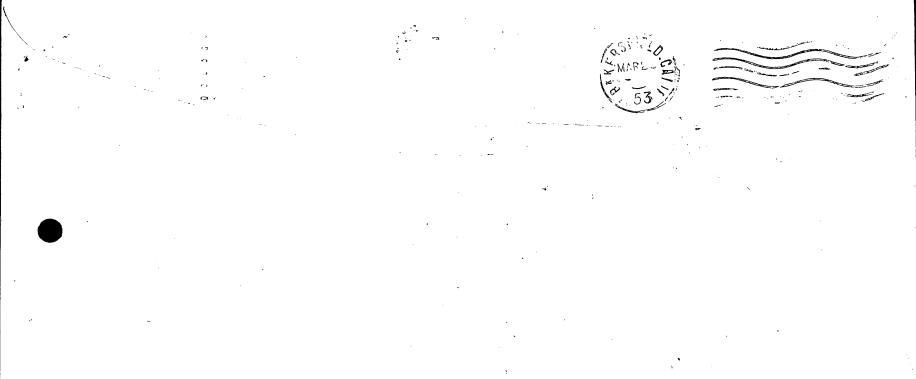
J. H. Hedges

ember. Bureau of

A. R. Kinkel, Ja-

Member. Goological

UNITED STATES DEPARTMENT OF THE INTERIOR **DEFENSE MINERALS EXPLORATION ADMINISTRATION** WASHINGTON 25, D. C. OFFICIAL BUSINESS NO SUCH NUMBER_____J. M. B. 59 Mr. Robert D. Prior Archer Enterprises 510 South Spring Street Los Angeles 13, California





DEFENSE MINERALS EXPLORATION ADMINISTRATION WASHINGTON 25, D. C.

MAR 1 1 1953

Mr. Robert D. Prior Archer Enterprises 510 South Spring Street Los Angeles 13, California

Re: Docket No. DMEA-2884 (Mercury)

Archer Mine

Fresno County, California

Dear Mr. Prior:

The application for assistance in exploring your property in Fresno County, California, under the above captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. Your application has been referred for a field examination to the Executive Officer of Region III at the following address:

Mr. H. C. Miller Executive Officer, Region III DMEA Field Team 1012 Flood Building 870 Market Street San Francisco 2, California

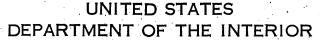
The Regional Office will contact you at the earliest opportunity in regard to your project.

Sincerely yours,

littender

Administrator





DEFENSE MINERALS EXPLORATION ADMINISTRATION WASHINGTON 25, D. C.

MAR 1 1 1953

Mr. Robert D. Prior Archer Enterprises 510 South boring Street Los Angeles 13, California

Re: Docket No. DhEA-2864 (Mercury)

Archer Mine

Fresno (ounty, California

Dear Mr. Prior:

The application for assistance in exploring your property in Fresno County, California, under the above captioned docket number, has been reviewed by the Hare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. Your application has been referred for a field examination to the Executive Officer of Region III at the following address:

> Fr. H. C. Miller Executive Officer, Region III IMM Field Team 1012 Flood Building 870 Market Street lan Francisco 2, California

The Regional ffice will contact you at the earliest opportunity in regard to your project. C. O. Mittendorf (fur) 3/1/53

FLKnouse/jem 3/9/53 cc to: Adm. Reading File Docket Messrs. Ellis Knouse Field Team, Region III (2)



DEFENSE MINERALS EXPLORATION ADMINISTRATION WASHINGTON 25, D. C.

MAR 1 1 1953

Mr. H. C. Miller Executive Officer, Region III DHE Field Team 1012 Flood Building 870 Market Street San Francisco 2, California

ke: Docket No. DMEA-288h (Mercury) Archer Enterprises

Archer Mine

Freeno County, California

Dear Mr. Miller:

The captioned application is referred to your office for a field examination.

Copies of memoranda from Mr. Erwin J. Lyons, dated February 17, 1953, Fiss H. K. Meyer, dated Earon 9, 1953, and Mr. H. E. Clund, dated farch 9, 1953, outlining questions to be covered in the reports of the examining engineers are enclosed.

If your office recommends either the proposed program as submitted, or an alternate one approved by the applicant, kindly furnish us the detailed information required to draft a contract. This information should include any property controlled by the policant that will benefit from a recommended exploration program. Also submit the recuired 7 copies signed by the property owners of Form MF-203, "Owner's Consent to lien", covering any property to be included in the contract that is not owned by the applicant. No executed "Cwnerts Consent to Lien" or mining claim maps were supplied with the application. In addition we will require a copy of the Partnership Agreement.

Under the date of February 12, 1953, a copy of the application and related data were transmitted to your office.

incerely yours,

George C. Selfridge

Chairman, Operating Committee FLKnouse/jem 3/9/53 cc to: Adm. Reading File Docket

> Messrs. Meyer, H. M., Rm. 3623 Kinkel, A. R., Rm. 4234 GSA

Ellis Knouse Opr. Com.

Field Team, Reg. III (2)

Enclosures PPINCVE 1:

J. H. Hedges

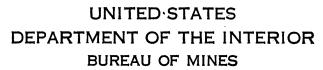
Member, Bureau of Mines
D. M. Lemmon

D. M. Lemmon

Member, Geological Surve

3/9/53 g/a





WASHINGTON 25, D. C.

March 9, 1953

Memorandum

To:

E. W. Ellis, DMEA

From:

Helena M. Meyer, Base Metals Branch

Subject: DMEA Docket 2884, Archer Enterprises, 510 So. Spring St., Los Angeles 13, Calif., exploration loan \$28,200

I have read the subject application and Mr. H. E. Olund's appraisal thereof, and concur that the application should be referred to the field team. It appears that the possibilities are good for finding limited tonnages of ore that will be commercial in times of high prices. It appears also that the supervisor of the property may be better qualified to direct operations that has been the case at many of the mercury operations that have been the subject of loan applications.

Lelean VA. Meyer

Helena M. Meyer

Attachment

Minerals Division Copy to:

Base Metals Branch

H. M. Meyer

Files

Mr. Olund Rm. 3617

Mr. A. R. Kinkle, Jr. Rm. 4234 GSA

3/9/53 gla



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF MINES

WASHINGTON 25, D. C.

March 9, 1953

Memorandum

To:

E. W. Ellis, DMEA

From:

H. E. Olund, Base Metals Branch

Subject: DMEA - 2884, Archer Enterprises, Archer Mine, Fresno,

Calif. Mercury - total amount of application - \$28,200.

"Gov't participation \$21,150

This mine was discovered in 1904 by the late Joseph Byles, of Coalinga, Calif. An adit was driven 500 ft. parallel to the Serpentine-Shale contact, crossing numerous veins of ore which were drifted on and stopedout. The ore averaged about $1\frac{1}{2}$ percent mercury. Then an adit was driven 1400 feet at a level 220 ft. below the original adit. The mineralized area at this horizon was found to be richer and larger than in the upper adit. The ore was processed at the New Idria mine about 18 miles from the property for some time and then the former operators installed a rotary furnace with a maximum capacity of 80 tons of ore per day. This furnace was operated for short periods, resulting in the production of approximately 100 flasks of mercury.

This furnace is now in operation intermittently. One test run made in October, 1952, averaged 40 tons per day (1820 tons total) and produced 83 flasks of mercury. This is an average recovery of about 3.5 pounds mercury per ton of ore. Between 1935 and 1951 a total of about 750 flasks of mercury have been produced.

The U. S. G. S. report on the New Idria district by Edwin B. Eckel and W. B. Meyers, 1946, says of the Archer mine, "It is clear that the ore is closely related to the fault and that future prospecting must be confined to shear zones in indurated shales near the fault. It is improbable that any very large deposit exists in this vicinity but maintenance of a small, comparatively regular production should be entirely possible for a number of years.

The most recent report, by Mr. Stuart H. Ingram, a consulting mining engineer, employed by the present operators, estimates the present ore reserves as follows:

Square set stope, near west end of tunnel---- 3,500 tons. Stope at stations 9 & 10-----20,000 tons.

Mr. Ingram states that a grade of 3 pounds per ton is close to the break-even average.

The property is easily accessible, and apparently is equipped with housing for the men and other facilities. At present there are about 15 men employed, plus a cook and helper. The key positions are held by permanent employees. The property is managed by a University of Montana graduate in geology with 8 years experience in mining. He has been Superintendent at the Archer mine for 8 months. The work applied for is as follows:

100 ft. of winze @ \$100 per ft.---- \$10,000 200 ft. of cross-cuts @ \$70 per ft.---- 14,000 100 ft. of drifts @ \$42 per ft.----- 4,200 Total contract----- \$28,200 Government share of cost --- \$21,150

I recommend that this application be examined by the field The item of cross-cutting at \$70.00 per foot seems rather high and should be revised to a much lower figure. Unless the owners of the property have already done so they should submit a Landlord's Subordination Agreement to the Government.

Copy to: Minerals Division

Base Metals Branch

H. M. Meyer

Files

Mr. Olund Rm. 3617

Mr. A. R. Kinkle, Jr. Rm. 4234 GSA



GEOLOGICAL SURVEY WASHINGTON 25. D. C.

February 17, 1953

Memorandum

To:

Mr. E. Wm. Ellis

From:

Erwin J. Lyons, USGS

Re: DMEA-2884
Archer Enterprises
Archer Mine, Fresno County
California
Total cost: \$28,200

Mercury

Subject: Recommendation for appeared. Fraid referral

The applicant has submitted a project consisting of sinking an inclined winze 100 feet from the present lower level of the mine, drifting from the bottom of the winze 100 feet to east and west, and 100 feet of drifting eastward from the present face of the lower level. Total estimated cost is \$28,200.

The property to be explored, the Archer mine, is in the New Idria district, Fresno County, California. The deposit is in Pinoche shale adjacent to and near a fault contact with serpentine. The fault strikes a little north of east and dips 50° to 75° south. Mineralization occurs in shear zones, 1 to 15 feet wide, in the shale. The shear zones have a northerly strike and dip 60° to 70° both east and west. The shear zones do not extend north beyond the serpentine-shale contact and do not continue south beyond the zone of altered shale which extends for distances of 40 to 100 feet from the fault.

According to the U. S. Bureau of Mines Minerals Yearbook the only production from this property during the period 1940 to 1950 was in the years 1946 and 1947 when a total of 274 flasks of mercury were produced from 1,368 tons of ore which probably was hand sorted or selected.

Past production and assays submitted by the applicant would indicate this is a rather low grade deposit and there appears to be little possibility of large tonnages being developed. E. B. Eckel and W. B. Myers in their report, "Quicksilver deposits of the New Idria district, San Benito and Fresno Counties, California", based on field work done in 1940 and 1941, state that it is improbable that any very large deposit exists in this vicinity but that a small, fairly regular production might be possible for a number of years.

It may be concluded, therefore, that exploration would disclose deposits similar to those already mined, i. e., small, rather low grade, and which probably would require selective mining.

This request for aid should be referred to E. H. Bailey, Survey member of the DMEA field team in Region III. A field examination may be unnecessary as Bailey is familiar with the California deposits and probably also with the results of the work that has been done at the Archer mine since the Survey mapped the mine in 1940-41.

Envir I lions

Erwin J. Lyons Geologist

February 12, 1953

Mr. Robert D. Prior, General Partner Archer Enterprises 510 South Spring Street Los Angeles 13, California

Subject DMEA-288h Re: Exploration Assistance Re: Archer Mine

My dear Mr. Prior:

The receipt of your application dated **February 9, 1953** for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-2884 and referred to the Rare and Miscellaneous Metals Division.

Kindly refer to DEA-2884 in any future correspondence relating to your application.

Sincerely yours,

R. E. ADAMS
Robert E. Adams
Chief, Operations Control
and Statistics Division

Form Approved
Budget Bureau
No. 42-R1035.2.

Boloase Blooms disaminated United States Department of the interior

FEB 121853 DEFENSE MINERALS EXPLORATION ADMINISTRATION

APPLICATION	FOR A	ID IN .	AN	
EXPLORATION	PROJE	CT, PU	RSUANT	TO ·
DMEA ORDER	1, UND	ER THE	DEFENS	SE
PRODUCTION	ACT OF	1950,	AS AME	ENDED

)	${f I}$ Not to be filled in by ${f e}$	applicant
1	Docket No. Imla 2884	
5	(Metal or Mineral	
1	Date Received 2-12-53	
(
Ì	Participation (Government %)	

INSTRUCTIONS

1. NAME OF APPLICANT. - (a) State here your full legal name, in the form in which you will wish to contract, and your mailing address:

ARCHER ENTERPRISES , 510 SO SPRING STREET, LOS ANGELES 13, CALIFORNIA

- (b) If other than an individual, add to your name above whether a corporation partnership, etc., and the name of the State in which incorporated or otherwise organized. ______LIMITED PARTNERSHIP
- (c) If a Corporation, add to above statement, titles, names and addresses of officers. _____NOT APPLICABLE
- (d) If a partnership, add to the above statement the names and addresses of all partners.

ROBERT D. PRIOR, 1604 Country Club Drive, Glendale 8, California, (General Partner)

FRANK B. BELCHER, 510 So. Spring St., Los Angeles 13, California, (Limited Partner)

BO. C. ROOS, 400 No. Camden St., Beverly Hills, California, (Limited Partner)

FREEMAN KEYES, Calmolen Bldg., Chicago, Illinois, (Limited Partner)

- 2. GENERAL. Read DMEA Order 1, Government Aid in Defense Exploration Projects, before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.
- 3. APPLICANT'S PROPERTY RIGHTS.- (a) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract.

"Archer Claims Nos. One (1) to Seven (7) Inclusive, Located in Sections

Two (2) and Three (3), Township Nineteen (19) South, Range Thirteen (13)

East, M.D.B.M. Unpatented."

State any mine name by which the property is known. (b)

ARCHER MINE

(c) State your interest in the land, whether owner, lessee, purcher under contract, or otherwise.

PURCHASER UNDER BOND LEASE

(d) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

COPY OF BOND LEASE AND ASSIGNMENTS ATTACHED

If you own the land, describe any liens or encumbrances on it.

NO LIENS

(f) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

Claim	#1	Book	2088		Page	343
ŶŤ	#2	if	2088		îl -	346
·	#3	11	2088		11	348
77	#4	ii.	2088	•	11	345
88	#5	f f	2088		11	347
19	#6	11	2088	*	11	349
f f	#7	rt	2088		11	350

4. PHYSICAL DESCRIPTION .- (a) Describe in detail any mining or explorations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

The Archer Mine, located in the Southwest part of Fresno County California, was discovered in 1904, by the late Joseph Byles of Coalinga, California. An adit was driven 500 feet parallel to the serpentine-shale contact, crossing numerous veins of ore which were drifted on and stoped out. The ore, after being handsorted averaged about 12% mercury and retorts were used to extract the mercury from the cinnabar. Later a winze was sunk 115 feet on an ore body.

The former operators have driven an adit 1400 feet, at a level 220 feet below and paralleling the upper adit. The mineralized area at this point was found to be richer and more abundant. There has been one raise driven between the two levels, the lower portion being in ore. This raise is now used for ventilation of the mine.

The former operators shipped their ore 18 miles by truck to the New Idria Mine for processing, producing in exess of 150 flaskof mercury. Being encouraged by the results, the former operators then installed a Rotary Furnace with a maximum capacity of 80 ton/day. The furnace was operated for short periods, resulting in the production of approximately 100 flash of mercury.

In October, 1951, a core drilling operation was initiated to prospect for ore between the two levels. Poor recovery of cores and unusually bad

weather forced the former operators to suspend operations.

4. (a) Continued

The veins of ore crosscut the main drift. The ore is removed by drifting and stoping, leaving pillars in the stopes and using timber wherever necessary. Six of the stopes have been worked and new stopes are now being developed to carry on furnace operation. Ore showings are still found with almost every round in the main drift heading eastward, and it is intended to carry the drift eastward until the end of the mineralized area is reached, or at least another 100 feet.

Except on the contact with the serpentine, the shale holds up very well and the mine workings are accessable for examination at any time.

(b) State past and current production, and ore reserves, if any, giving quantities and grades.

A program to improve the recovery from the furnace was started on October 7, 1952, by the present operators and short 4 to 5 day trial runs have been made. From an average of 1 flask of mercury per day, the recovery has been increased to 2.4 flasks per day. During this program 1,820 tons of ore was used in 45 days of furnace operation, averaging 40 tons per day and producing a total of 83 flasks of mercury. With new stopes being developed and the furnace making a reasonable recovery, the operators feel that a full time schedule can be maintained and the tonage increased as rapidly as mining operations permit.

Mr. Stuart H. Ingram, mining engineer, while doing consulting work for the former operator, said in his report, "For the present we can only regard as ore that shown by present sampling to average better than 3 pounds per ton, or that close enough to the break-oven figures to count on raising it by selective stoping. There are three such zones. The first zone is that of the old square set stope at the west end of the workings. samples taken around the walls average 6.1 pounds over an area of fifteen by twenty feet, or twenty tons per vertical foot. The tunnel at that point is about 175 feet below the surface giving a probable 3500 tons in that block. There may be much more, since the length of ore shoot is greater than the length of ore exposed by the stope. The second zone runs from 75 feet west of Survey Station 9, to Survey Station 10 a distance along the vein of 155 feet, from which average of all samples taken is 3.9 pounds. The width is not less than ten feet, which would furnish a minimum 100 tons per vertical foot, and which if it persists to the upper tunnel would supply 20,000 tons. This quantity estimate is probably ultra conservative, since there is twenty feet of material between the tunnel and the serpentine, also there are stringers that have been followed and mined for fifteen to twenty feet to the south of the drift. It is possible that this body may actually furnish good ore to three or four times twenty thousand tons. Also the grade will be somewhat higher, as low grade spots can be left as pillars in the stones. The third zone is exposed by the last forty-five feet of the east end of the tunnel, representing a volume of thirty tons per vertical foot. The average of assays from both sides of the drift and Drill hole No. 5 is 2.82 pounds per ton, or less than the three pound figure of the breaking point. However the drift in that area lies against the serpentine contact, and the northern side of the drift contains about one foot of contact gouge material that is mostly barren, good stringers of cinnabar ending abruptly on striking the gouge. A mathematical average of samples from both sides does not therefore give a true picture since samples from the north side

4. (b) Continued

are representative of only one foot, while those from the south side represent four feet of known ore plus some lying to the south of the south side, which presumably is of the same grade. Also Drill hole No. 5 does not cut the strong stringer which on the south side of the drift assayes 20 pounds per ton, hence that rich streak is not properly represented in the sampling. It is therefore my belief that this area will furnish ore of substantially the grade indicated by the series of samples from the south side, which over that area averages 4.41 pounds.

Since further selection of ore can be made in stoping, by leaving the poorer spots unmined, as stope pillars, the three areas indicated are ready for the start of stoping operations to provide furnace feed. They provide room for at least three working faces, each of which can furnish twenty five tons of ore daily, which would leave only five tons daily of the estimated furnace capacity to be supplied from development faces. With selective stoping the grade of ore mined can be held above four pounds per ton.

In addition to ore from underground mining the dumps of the upper level can be relied on to furnish additional profitable furnace feed. As mentioned, they will probably average less than three pound per ton, but the work of mining them is already done. Actual cost of reclamation and furnacing will, I estimate, lie between \$3.00 and \$5.00 per ton. They should be held as an ore reserve on which to operate the furnace in case of interruptions to mining.

Summing up, present sampling indicates probable ore as follows:

Square set stope 3500 tons

Stope at Stations 9 and 10 20,000 "

4. (b) Continued

Stope near tunnel face

6,000 tons

Surface dump, sampled

1,500 "

total

31,000 tons. "

At present at least a 4 lbs/ton average is being maintained and as the furnace recovery is increased then the mining average will be lowered to include a larger reserve of ore.

(c) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.) and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

The cinnabar at the Archer is found in shear zones in the Panoche Shale (Cretaceous). The zones strike northward and dip at angles from 60° to 70°, about half dipping to the east and the other half to the west.

The shale contacts the serpentine (Jurassic) along a fault which trends north of east and dips from 50° to 70° south. The shale beds strike northwest and dip 70° southwest. There is from 5 to 20 feet of sheared serventine and shale along the fault, and the shale is altered from 50 to 100 feet from the contact.

The ore in the shear zones varies in that some of the zones are richer near the contact while others become richer going away from the contact.

Recently, one small vein of solid cinnabar measuring from 2 to 4 inches in thickness was found over 40 feet from the serpentine contact.

No cinnabar has been found in the serpentine at the Archer. The accessory minerals, pyrite, marcacito, calcite and quartz are found in large quanties. Being a low temperature deposit, the metamorphic effects are of a low degree.

The ore veins on the bottom of the lower level are wider, richer

4. (c) Continued

and more numerous than above the level, indicating that the ore zone continues below. Cinnabar deposits are known to be shallow but the Archer has not yet been prospected to any appreciable depth and every known fact about the deposit indicates that the workings are still above the main deposit.

(d) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

The Archer mine is reached from Coalinga, California, by 22 miles of blacktop county road and 6 miles of private road. Within the last six months over \$5,000 has been spent on re-routing and graveling the private road by the Archer Company and a crome mining company operating within 2 miles of the Archer mine. The road is now usable the year around.

For supplies not obtainable in Coalinga, one may ship by truck or railroad from Los Angeles and San Francisco, and receive supplies within 24 hours.

The Archer Camp is at an elevation of 3000 feet and the mine is located 500 feet higher and three quarters of a mile from the camp.

(e) State the availability of manpower, materials, supplies, equipment, water, and power.

There is an average of 15 men employed at the Archer besides the cook and helper, but it is expected to increase the employment when the proposed winze work begins. The key positions are held by permanent employees and although there is the usual turnover of miners, they are available.

Nearly all supplies for the mine can be purchased within a 250 mile radius of Coalinga. Timber for the mine must be purchased in Coalinga and hauled to the mine.

Water is supplied by two springs, one above and one below the mine. The upper spring supplying water for mining operations; the lower spring supplying the camp.

4. (e) Continued.

The power is supplied for the mine by two gasoline driven air compressors and for the furnace plant by gasoline driven electric generator.

Other equipment necessary to carry on the work is owned by the present operators.

5. THE EXPLORATION PROJECT .- (a) State the mineral or minerals for which you wish to explore.

CINNABAR IS THE MINERAL TO BE EXPLORED FOR.

(b) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

It is proposed to sink a winze 100 feet in depth. The winze is to be located in the lower drift, 35 feet from the serpentine contact in the crosscut drift south of survey station No. 10 as shown on the assay map of the Archer Mine.

This location is close to the richer mineralized area of the mine and will be reasonably close to any ore found by developing the lower drift eastward.

The winze is to be timbered 5 feet by 10 feet and divided into two compartments, one for hoisting ore and the other for manway and service. It is to be sunk at an angle of 65° as the serpentine contact dips at 55° near the site but increases to 75° going east. It is hoped to maintain the angle of 65° because of the rapid loss in vertical distance of angles less than 65° .

From the 100 feet depth of the winze it is proposed to drive 200 feet of drift paralleling the lower tunnel. It is planned to divide the 200 feet by going 100 feet eastward and 100 feet westward unless ore indica-

5. (b) Continued

tions are such that a different division is advisable. The present drift is to be driven ahead for at least 100 feet more.

- (c) The work will start within 60 days and be completed within 12 months from the date of an exploration project contract.
- (d) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

The supervisor of the Archer Mine holds a B. A. degree in Geology from the University of Montana and has been in mining for the past eight years, with over three years employed as a miner in the Butte Mines.

He has been employed by the Archer for over eight months, and is thoroughly familiar with every phase of the furnace and mine and also performs the assay work which is done on the property.

- 6. ESTIMATE OF COSTS.- Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:
- (a) INDEPENDENT CONTRACTS (Note.- If the applicant does not intend to let any of the work to contractors, write "None" after this Item. To the extent that the work is to be contracted, do not repeat the cost of the contractwork in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

Operator will, if found more economical and practical, contract the work proposed. Due to the small amount of work proposed, contract could be made with five or six good miners to carry out the project. Negotiating such a contract would dependent on conditions at time of loan being granted.

(b) LABOR, SUPERVISION, CONSULTANTS. Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

WINZE & CROSSCUTS

Miners at \$13.06 per day Hoist Man at \$12.24 per day Trammer at \$12.24 per day Total

6. (b) Continued:

DRIVING PRESENT HEADING

Miners at
13.06 per day
12.24 " "
SUPERVISIOR & CONSULTANT at

MECHANIC & TRUCK DRIVER at

12.24 " "

(c) OPERATING MATERIALS AND SUPPLIES. Furnish an itemized list of any items of equipment costing less than \$50.00 each, and power, water and fuel.

Present equipment owned by operator will, with some repairs carry out project.

(d) OPERATING EQUIPMENT. Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

2 -210 CFM Compressors - rental	8.00 per day each
1 - Compressed air locomotive rental	5.00 per day
2 - Jack hammers - rental	3.00 per day each
l - Drifter- rental	3.00 per day
Hoist- rental	1.00 per day

(e) REHABILITATION AND REPAIRS.- Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

Present buildings adequate. Compressors to be overhauled, estimated Cost of \$500.00 each.

(f) NEW BUILDINGS, IMPROVEMENTS, INSTALLATIONS. - Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

No new improvements contemplated, unless new developments warrants same.

(g)MISCELLANEOUS. - Furnish a detailed list showing the cost of repairs

(g) Continued

to and maintenance of operating equipment (not including initial rehabilitation or repairs of Operator's equipment) analytical work, accounting, workmon's compensation and employer's liability insurance, and payroll taxes.

- Maintenance of equipment and repairs to same during program estimated at \$500 per month, which includes compensation for one mechanic; Compensation Insurance of approximately \$11 per \$100 of payroll; Payroll Taxes of 4.2% of payroll.
- (h) Contingencies. Give an estimate of any necessary allowances for contingencies not included in the costs stated above.
 - NOTE.- No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

While the Operator has a reasonable supply of drill steel, air and water hoses, bits, etc. on hand, replacements of same will have to be made as worn out.

ESTIMATED COSTS PER FOOT OF WINZE 1. Labor per foot (mining, hoisting, tramming)	\$100.00 \$50.00
2. Consultant, Mechanic & Truck Driver	15.00
3. Gasoline & Oil	2.50
4. Dynamite, Caps, Fuse	5.00
5. Drill steel - bits	2.00
6. Timber	6.00
7. Equipment Rental	7.50
8. Air & water lines	1.00
9. Insurance & Taxes	4.00
10. Repairs & Maintenance	2.00
ll. Transportation & Lodging	3.00
12. Contingencies	2.00
	100.00
•	

100 Feet Winze at \$100

\$10,000.00

ESTIMATED COST PER FOOT OF CROSS CUTS	70.00
Labor per foot	40.00 %
Mining, Hoisting, Tramming	•
Consulting & Mechanics	8.00 🟃
Truck Driver	
Gasoline- oil	2.50
Dynamite, Caps, Fuse	2.00
Drill Steel- Bits	1.50
Rail, Ties, Etc.	5.00 🍹
-10 -	_

	6.	(h)	Continued
--	----	-----	-----------

Timber	2.00
Equipment Rental	2.50
Air, Water Lines	1.00
Insurance & Taxes	2.00
Repairs, Maintenance	1.00
Transportation & Lodging	1.50
Contingencies	1.00
TOTAL	\$70.00

200 Feet of Cross Cuts

\$14,000.00

ESTIMATED COST PER FOOT OF DRIFT		42.00
Labor per foot	16.00	
Mining, Tramming		
Consulting, Mechanics	8.00	
Truck Driver		
Gasoline- Oil	2.00	
Dynamite- caps- fuse	2.00	•
Drill Steel- Bits	1.50	
Rail- Ties Etc.	5.00	
${\tt Timber}$	2.00	
Equipment Rental	1.50	
Air- Water Lines	1.00	
Insurance & Taxes_	1.00	
Transportation - Lodging	1.00	
Contingencies	1.00	
TOT AL	\$42.00	

100 Feet Drift at \$42.00

4,200.00

TOTAL LOAN REQUESTED

\$28,200.00

7. (a) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

YES

(b) How do you propose to furnish your share of the costs?

MONEY AND USE OF EQUIPMENT

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is cofrect and complete, to the best of his knowledge and belief.

DATED_____

1953

ARCHER ENTERPRISES

BY.:

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.

BOND AND LEASE

THIS AGREEMENT, made and entered into this day of 1943, by and between PENJAMIN J. FYLLS and NORMA A.

BYLES, his wife, JAMES H. BYLES and ETHEL BYLES, his wife, SIDNEY

W. BYLES and NETTIE BYLES, his wife, EDWARD L. BYLES and BYLES, his wife, and GEORGE R. BYLES AND JENETTA BYLES, his Wife, parties of the First Part, hereinafter referred to as "Lessors" and ARCHER MINING COMPANY, a California corporation, party of the Second Part, hereinafter referred to as "Lessee",

WITNESSETH:

WHEREAS, the lessors are the owners of six certain lode mining claims located on the Northeast Quarter (NE₂) of Section Three (3) and the Northwest Quarter (NW₂) of Section Two (8), Township Nineteen (19) South, Range Thirteen (13) West M.D.B.& N., Fresno County, California, and containing one hundred twenty acres, more or less, the names and location notices of such lode mining claims being more particularly described in Exhibit "A" hereto attached, and which said six lode mining claims are sometimes known and herein referred to as the "Archer Mine"; and

WHIREAS, the leases herein named desires to operate said.
Archer Mine and acquire title thereto:

NOW, THEREFORE, IT IS MUTUALLY UNDERSTOOD AND AGRIED by and between the parties hereto as follows:

- l. That lessors warrant they are the sole owners of said Archer Mine, consisting of six (6) lode mining claims, all unpatented, and there are no liens or encumbrances against the same, and that the lessors and their predecessors in interest have been in the exclusive possession of said Archer Mine for more than thirty-eight years last past and have duly performed any and all required annual assessment work required prior to July 1, 1943.
 - 2. That the lessors are the sole owners of all that

certain personal property located in and about said Archer Mine, and more particularly described in Exhibit "B" hereto attached, which said personal property is for convenience hereinafter referred to as "Archer Mine equipment".

- 3. That the lessors shall forthwith execute and deliver into escrow with the Security-First National Bank of Los Angeles, Coalinga Branch, Coalinga, California, a good and sufficient bill of sale to the lessee of said Archer Mine equipment, warranting title free and clear of liens and encumbrances, together with a deed from the lessors to the lessee of said Archer Mine, and at the same time instruct said bank to obtain a title report from a reliable title company in Fresno County as to the title to said Archer Mine and as to any chattel mortgages or other encumbrances against said Archer Mine equipment.
- 4. Lessee shall forthwith deposit in escrow with said bank the sum of \$5,000.00, with instructions to said bank to deliver the same to Benjamin J. Byles and/or Norma A. Byles when said bank shows title in said Archer Mine vested in the lessors, free and clear of all encumbrances other than this agreement, and said bank shall hold said deed and bill of sale subject to the payment by the lessee to the lessors of the sum of \$75,000.00 as hereinafter provided.
- 5. That the lesses will pay to the lessors, in the manner hereinefter provided and as the purchase price of said mine, in addition to said sum of \$5,000.00 to be paid through escrow as aforesaid, the sum of \$70,000.00 which said sum shall be in full and complete payment of said mine as in paragraph 4 above set forth. That said \$70,000.00 shall be payable in the manner following, towit: 10% of the amount received from any and all quicksilver and other minerals which may be produced and sold from said premises, less only the deductions herein provided; provided, however, that said lesses shall pay to lessors an advance minimum monthly royalty

of \$200.00, commencing on the 1st day of November, 1943, and continuing thereafter each month until the additional sum of 32,500.00 has been paid; and provided further that, if the total of said advance minimum monthly payments together with the payments on account of the 10% royalty have not totaled the sum of \$5,000.00 on or before November 1, 1944, then and in such event lessee shall pay lessors any difference between the amount of advance monthly minimum and 10% royalty payments during said period and the sum of \$5,000.00 That, when the total sum of \$37,500.00 including payment of \$5,000.00 into escrow has been paid, lessee shall not be obligated to make further advance minimum monthly payments of \$200.00, or any other sum, but will continue to pay lessors the royalty of 10% as herein provided. That lessee may at any time pay any additional sum or the whole of the belance of said purchase In determining the amount of the 10% royalty to be paid in any calendar month there shall be credited upon such payment the \$200.00 minimum royalty paid by the lessee to the lessor for the month in which the quicksilver was produced and on which the royalty was to be paid.

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

6. That, upon said sum of \$5,000.00 being paid to lessors through escrow as hereinabove provided, the lessee shall within thirty days from date hereof, enter upon said Archer kine and occupy and work the same in a good and minerlike fashion and in the manner necessary or proper for good and economical mining of said property so as to take out the largest amount of commercial ore possible with due regard to development and preservation of the property as a workable mine, and to retort, process or otherwise treat said one for the purpose of removing mercury and/or other minerals therefrom, and to market in its own name such mercury or other minerals, and the lessee shall be entitled to retain possession of said Archer Mine so long as it shall perform the terms, conditions and covenants of this agreement, and, in that

connection the lessee shall occupy and hold all cross or parallel lodes, spurs or mineral deposits of any kind which may be discovered by the lessee or any person as his agent or employee upon the premises, with the agreement and understanding that the same shall in all instances be part and parcel of said Archer Mine. the lessee herein named shall be entitled to use each and all of the items of personal property described in said bill of sale in and about Archer Mine in the ordinary and customary manner but shall not use said personal property elsewhere. Said lessee shall not be liable for any breakage, loss or damage to said personal property so long as said personal property is so used. Said lessee shall not sell or dispose of said personal property except as herein provided. Should said lessee desire to apply any items of said personal property as a part of the purchase price of similar personal property, to be similarly used, the lessee may so apply said personal property provided the full balance of the purchase price of said new personal property shall be paid. to the new personal property shall at once vest in the lessors but said new personal property shall be deemed included in said bill of sale.

1

5

7

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31.

32

7. That upon taking possession of the Archer Mine said lessee shall without delay commence operations for driving a drift at a level approximately 225 feet below the lowest existing drift on said property, which said drift shall be of a height and width sufficient to comply at all times with all rules and regulations of all governmental agencies and the statutes and ordinances applicable thereto, and shall be continued by the lessee until a distance of 1200 feet has been driven, or an ore body in commercial quantities has been encountered at a lesser distance, such work to be suspended only by reason of unforeseen mechanical difficulties or other reasons as hereinafter set forth or, in the opinion of competent reclogists of the parties hereto, the further driving of

said drift would in all probability not result in the discovery of any further commercial ore. 2 That, so long as the price of quicksilver at Los 3 Angeles, California, is not less than \$75.00 per flask, said 4 lessee will continue to operate said property and produce ore 5 Should the price of mercury at Los Angeles drop be-6 therefrom. 7 low \$75.00 a flask, said lessee may suspend operations during 8 such time as the price is below \$75.00 per flask but shall, never-9 theless, do all work necessary, or required by reason of any statutes 10 of the United States of America as annual labor and/or improvements, to hold title to such "Archer Mine." 11 12 That the lessee shall pay to the lessors on account of the purchase price of said property an amount equal to 10% of 13 all amounts received by the lessee from the sale of quicksilver 14 or any other minerals that may be produced from said premises, 15 without deduction except the cost of transportation from the mine 16 to the point of sale, including insurance against theft or other 17 loss, which said payments shall continue until the full purchase 18 price is paid and which said amount shall be paid by the lessee 19 20 to the lessors on or before the 10th day of the calendar month 21. following the month in which said quicksilver or other minerals 22 have been sold or disposed of, said payment to be made to the **23** . lessors through the Security-First National Bank of Los Angeles, 24 Coalinga, Branch, Coalinga, California; it being understood that 25 the provisions hereof are subject to paragraph 5 above. 26 10. That said lessee shall pay all taxes levied and 27 charged against said premises, together with any and all install-28 ments on assessments for local improvements, which said payments 29 shall be made by the lessee before said taxes or payments foe local improvement shall become delinquent. **30** . 31 11. That lessee shall keep true, complete and accurate books of account showing all quicksilver and other minerals produc-32

ed by it under the terms and provisions of this agreement and all amounts of quicksilver and other minerals sold and disposed of by it, the persons to whom such minerals were sold, place at which same was sold, the amount received by the lessee from said minerals, the cost of transportation and insurance in connection with the transporting of said quicksilver and other minerals from the mine to point of sale or disposal, and said books of account or records shall be open at all times during reasonable business hours to the lessors or their duly authorized agent.

That the lessors, or their agent, may from time to time, during reasonable working hours, enter upon said Archer Mine for the purpose of inspection.

12. That all work done in and about said premises by the lessee shall be at its sole cost and excense, and the lessee shall keep said premises, and every part thereof, at all times free above the lesses and premises, and every part thereof, at all times free

.3

the lessee shall be at its sole cost and expense, and the lessee shall keep said premises, and every part thereof, at all times free and clear of all mechanics miners and/or other liens and encumbrances of every nature and description, and shall pay all indebtedness and liabilities incurred by the lessee which may or might become a lien on said premises before said indebtedness or liabilities shall become such lien, and shall permit the lessors to go upon the Archer Mine to post, and at all times keep posted, in some conspicuous place upon said premises such notices as the lessors may desire to the effect that the interests of the lessors shall not be subject to any lien for service, labor or materials furnished upon or used in connection with said premises.

13. That the lessee shall assume all responsibility for and save the lessors harmless from any and all liability and claims for liability which may arise by reason of lessee's operations upon or about said Archer Mine.

14. That the said lessee shall, at its own cost and expense, provide Workmen's Compensation insurance at once upon the commencement of operations hereunder so as to protect the interests

of the lessors in said premises from the lien of any judgment obtained in any action brought by reason of any injury of any work-man in or about said premises, and said lessee shall furthermore conduct all operations in and about said premises in such respect as will fully comply with the laws of the State of California and all safety regulations prescribed by any duly authorized body.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

That no equipment, tolls, machinery and moveable structures and improvements and personal property of any naute or description brought or placed upon said premises by the lessee for use in and about said Archer Mine shall become fixtures but shall remain the property of the lessee and shall be subject to removal by the lessee and, in the event this agreement shall be terminated, for any reason, said lessee shall be entitled to remove all such machinery, tools, equipment, movable structures, improvements and personal property from said Archer Line within sixty days after the termination of this agreement. Provided, however, that in the event lessee is in default in the payment of any amount to the lessors by reason of any quicksilver or other minerals theretofore sold, lessors shall have a lien upon said equipment or improvements to the extent of any amount due to the lessors by reason of any such quicksilver or other minerals produced and sold and on which soid lessors shall not have received said 10% as provided herein, and, in such event, lessee shall not remove any such equipment or improvements until said payment shall have been made in full, and in no event shall lessee remove any timbers placed in and about said Archer Mine.

strikes, riots, acts of God, processes or orders of Court or other government agency, or act of the common enemy, from entering upon said premises and working the same, or transporting supplies to said premises in the usual and customery manner, or removing ore therefrom or processing or retorting said ore, or selling said

quicksilver, then and in that event the lessee shall not be deemed to be in default by reason of any failure to perform any of the terms or provisions of this agreement because of any of the conditions above stated. 17. Lessee may at any time, upon 30 days written notice 5 to the lessors, cuitclaim any and all right, title or interest 6 which it might or could have under this agreement in and to said 7 8 Archer Mine to the lessors, and lessee shall thereafter be relieved of all obligations to make any further payment of any kind here-9 under, or otherwise perform any act under the terms and provisions 10 of this agreement, but the giving of such quitclaim deed shall not 11 relieve lessee from any previously accrued obligation to make any 12 payment or perform any other accrued obligation under the terms and 13 14 provisions hereof. That, in the event any action at law or in equity be 15 brought by either party hereto against the other in or about any 16 17 matter connected with this agreement, the party against whom judgment shall be obtained shall pay to the other party hereto the 18 casts of such party and a reasonable attorney's fee to be fixed 19 20 in said action by the court before whom said action may be heard. 21 19. Time is expressly made of the essence of this agreement but the lessee shall not be deemed to be in default 22 23 under the terms and provisions of this agreement as the result of 24 any failure or alleged failure on its part to comply with the torms and provisions hereof untill and unless the lessors shall have 25 first given to said lessee notice in writing by mailing the same to 26 lessee as herein provided, of the existence of said default and 27 the lessee shall fail for a period of thirty days thereafter to 28 correct such failure or default. Upon the failure of lessee to so 29 30 correct such default or failure within said period of thirty days, then the lessors may, at their option, terminate this agreement 31

without further notice to lessee and may remove said deed and

32

and bill of sale from escrow with said bank, and lessee's right hereunder and in said premises and equipment covered by said bill of sale shall end and all sums theretofore paid by lessee to lessors hereunder shall be forfeited to lessors for the use and occupancy of said premises. In the event of any default on the part of the lessee hereunder, lessors shall have no right to recover from the lessee any minimum of royalty, or other sum hereunder, except such portion of the 10% royalty for quicksilver produced and sold by the lessee and for which it shall not have accounted to the lessors.

20. That any notice to be given by the lessors to

. 9

20. That any notice to be given by the lessors to lessee may be given by mailing a copy of said notice in an envelope on which the postage has been prepaid addressed to lessee at Los Angeles, California, or to such

other person or place as lessee shall from time to time designate in writing.

Any notice to be given y lessee to the lessors may be given by mailing same in an envelope upon which the postage has been prepaid and addressed to lessors at 612 Van Ness Avenue, Coalinga, California, or to such other person or place as the lessors may from time to time in writing designate, and deposited in the Post Office in Los Angeles, California

21. That this agreement shall be binding upon and inure to the benefit of the successors and assigns of each of the parties hereto but this agreement shall not, nor shall any interest therein, be transferred or assigned or granted, either in the form of a sub-lease or otherwise, without the written consent of the lessors being first had and obtained. That lessors will consent to such an assignment and sub-lease if the assignee or sub-lease is of suitable financial standing and responsibility; nor shall this agreement or any interest in said Archer Mine become an asset in any bankruptcy or insolvency proceeding.

1	IN WITNESS WHEREOF, the parties hereto have hereunto se
2	their hands the day and year first hereinabove set forth.
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	By Attorney-in-fact,
20	LISSINS.
21	ARCHUR MINING COMPANY
22	
23	BYPresident,
24	
25	BY Secretary,
26	LESSEE.
27	
28	
29	
30	
31	

ASSIGNMENT

FOR VALUE RECEIVED, the undersigned, ARCHER MINING COMPANY, hereby sells and transfers to BO C. ROOS, FREEMAN KEYES and FRANK B. BEICHER, as their interests may be determined between them, all the right, title and interest in and to and under the Bond and Lease attached hereto dated July 19, 1943, by and between BENJAMIN J. BYLES and others, as Lessors, and ARCHER MINING COMPANY, as Lessee.

All payments heretofore made under said Bond and Lease to Lessors shall inure to the benefit of assignees herein named.

Assignees by the acceptance of this assignment do not thereby assume any liability for any obligations under said bond and lease which have accrued to date hereof but do assume all obligations which hereafter accrue under said Bond and Lease as the same may be modified by consent of Assignment by Lessors named herein, which Consent is attached hereto and made a part hereof.

Dated, June 16th, 1952.

ARCHER MINING COMPANY

R. D. PRIOR

BY R. Morgan Jr. Secv.

CONSENT TO ASSIGNMENT

The undersigned, BFNJAMIN J. BYLES and NORMA A. BYLES, his wife, JAMES H. BYLES and ETHEL BYLES, his wife, SIDNEY W. BYLES and NETTIE BYLES, his wife, EDWARD L. BYLES and BESS BYLES, his wife, and GEORGE R. BYLES and JENETTA BYLES, his wife, being Lessors under a certain Bond and Lease dated July 19, 1943, with ARCHER MINING COMPANY, as Lessee, do hereby consent to the foregoing assignment of said Bond and Lease by Archer Mining Company to Bo C. Roos, Frank B. Belcher and Freeman Keyes on the following terms and conditions:

- 1. That the balance due to Lessors under said Bond and Lease is determined to be the sum of \$57,962.08.
- 2. That such balance of \$57,962.08 shall be payable to Lessors only from the amount received from the sale of quicksilver and other minerals which may be produced and sold from said premises on the following royalty basis:
 - (a) Five per cent (5%) of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day period less than seven (7) pounds of mercury per ton of ore;
 - (b) Seven and one-half per cent $(7\frac{1}{2}\%)$ of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day period more than seven (7) pounds but less than ten (10) pounds of mercury per ton of ore.
 - (c) Ten (10) percent of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day

period more than ten (10) pounds of mercury per ton of ore.

- (d) Provided, however, that a minimum royalty shall be paid of Two Hundred Dollars (\$200.00) per month for each calendar month, which said sum shall be credited against future royalties not in excess of Two Hundred Dollars (\$200.00) per month. Receipt is hereby acknowledged by Lessors of the sum of One Thousand Dollars (\$1,000.00) which shall represent payment in advance of the minimum royalties for the months of July, August, September, October and November of 1952.
- 3. Any notice by assignor to said assigness of said Bond and Lease shall be sent to Room Bl8 Security Building, Los Angeles 13, California.
- 4. Said assignees shall abide by and conform to all other conditions of said Bond and Lease except as herein modified.
- 5. Consent is further given that BO C. ROOS, FREEMAN KEYES and FRANK B. BELCHER may assign said Bond and Lease dated July 19, 1943, to a partnership of which they are members, such assignment shall be subject to the terms hereinabove set forth. Upon such assignment to said Partnership, BO C. ROOS, FREEMAN KEYES and FRANK B. BEICHER shall be relieved of any personal liability hereunder or under said Bond and Lease.

Dated this 8th day of August, 1952.

.21

8

9

(signed) Benjamin J. Byles
Benjamin J. Byles

(signed) Benjamin J. Byles
Benjamin J. Byles
Attorney in Fact

Lessors

Benjamin J. Byles hereby represents and warrants that he is the Attorney-in-Fact for all of the above named Lessors under a presently existing Power of Attorney with full power to execute this assignment of their behalf.

Dated this 8th day of August, 1952.

Benjamin J. Byles (signed)
Benjamin J. Byles

ASSIGNMENT

For a good and valuable consideration, the undersigned, FREMAN KEYES, BO C. ROOS, and FRANK B. BELCHER hereby sell, assign, and transfer to ARCHER ENTERPRISES, a Limited Partnership, all of their right, title, and interest in, to and under that certain Bond and Lease dated July 19, 1943 by and between Benjamin Byles, et al. as Lessors and Archer Mining Company as Lessee, together with all their right, title, and interest in and to all equipment, personal property, and mining machinery located at and used in connection with said Archer Mine, which said Mine is located in Fresno County, State of California.

Dated: June 30, 1953.

Freema	an l	Keyes (signed)
Freem	an I	Кеуез	
 Bo C.	Roc	os (sigr	ied)
Bo C.	Roo	o s ·	
Frank	В.	Belcher	(signed)
		Belcher	

STATE OF CALIFORNIA) ss. COUNTY OF LOS ANGELES)

On June 30, 1952, before me, the undersigned, a Notary Public in and for said County and State, personally appeared FREEMAN KEYES, BO C. ROOS, and FRANK B. BELCHER, known to me to be the persons who executed the within Instrument and acknowledged to me that they executed the same.

WITNESS my hand and official seal.

SEAL

CAROLYN HULL (signed)
Notary Public in and for said County and State.

Form Approved Budget Bureau No. 42-R1035.2.

FEB 12 1953

UNITED STATES DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

APPLICATION	FOR AID IN A	AN
EXPLORATION	PROJECT, PUR	RSUANT TO
	1, UNDER THE	
PRODUCTION	ACT OF 1950,	AS AMENDED

Not to be fi	llled in by applicant
Docket No. dn	NA/ 2884
[Metal or Minera]	
Date Received	1-12-53
Estimated Cost	
Participation (lovernment %)

INSTRUCTIONS

1. NAME OF APPLICANT. - (a) State here your full legal name, in the form in which you will wish to contract, and your mailing address:

ARCHER ENTERPRISES , 510 SO SPRING STREET, LOS ANGELES 13, CALIFORNIA

- (b) If other than an individual, add to your name above whether a corporation partnership, etc., and the name of the State in which incorporated or otherwise organized. LIMITED PARTNERSHIP
- (c) If a Corporation, add to above statement, titles, names and addresses of officers. NOT APPLICABLE
- (d) If a partnership, add to the above statement the names and addresses of all partners.

ROBERT D. PRIOR, 1604 Country Club Drive, Glendale 8, California, (General Partner)

FRANK B. BELCHER, 510 Sc. Spring St., Los Angeles 13, California, (Limited Partner)

BO. C. ROOS, 400 No. Camden St., Beverly Hills, California, (Limited Partner)

FREEMAN KEYES, Calmolen Bldg., Chicago, Illinois, (Limited Partner)

- 2. GENERAL.— Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and or all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.
- 3. APPLICANT'S PROPERTY RIGHTS.- (a) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract.

"Archer Claims Nos. One (1) to Seven (7) Inclusive, Located in Sections

Two (2) and Three (3), Township Nineteen (19) South, Range Thirteen (13)

East, M.D.B.M. Unpatented."

(b) State any mine name by which the property is known.

ARCHER MINE

(c) State your interest in the land, whether owner, lessee, purcher under contract, or otherwise.

PURCHASER UNDER BOND LEASE

(d) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

COPY OF BOND LEASE AND ASSIGNMENTS ATTACHED

(e) If you own the land, describe any liens or encumbrances on it.

NO LIENS

(f) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

Claim	#1	Book	2088	Page	343
21	#2	11	2088		346
11	#3	49	2088	11	348
11	#4	11	2088	77	345
17	# 5	£\$	2088	11 -	347
11	#6	11	2088	17	349
88	∦7	. 11	2088	, ff	350

4. PHYSICAL DESCRIPTION.- (a) Describe in detail any mining or explorations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

The Archer Mine, located in the Southwest part of Fresno County California, was discovered in 1904, by the late Joseph Byles of Coalinga, California. An adit was driven 500 feet parallel to the serpentine-shale contact, crossing numerous veins of ore which were drifted on and stoped out. The ore, after being handsorted averaged about 12% mercury and retorts were used to extract the mercury from the cinnabar. Later a winze was sunk 115 feet on an ore body.

The former operators have driven an adit 1400 feet, at a level 220 feet below and paralleling the upper adit. The mineralized area at this point was found to be richer and more abundant. There has been one raise driven between the two levels, the lower portion being in ore. This raise is now used for ventilation of the mine.

The former operators shipped their ore 18 miles by truck to the New Idria Mine for processing, producing in exess of 150 flaskof mercury. Being encouraged by the results, the former operators then installed a Rotary Furnace with a maximum capacity of 80 ton/day. The furnace was operated for short periods, resulting in the production of approximately 100 flash of mercury.

In October, 1951, a core drilling operation was initiated to prospect for ore between the two levels. Poor recovery of cores and unusually bad weather forced the former operators to suspend operations.

4. (a) Continued

The veins of ore crosscut the main drift. The ore is removed by drifting and stoping, leaving pillars in the stopes and using timber wherever necessary. Six of the stopes have been worked and new stopes are now being developed to carry on furnace operation. Ore showings are still found with almost every round in the main drift heading eastward, and it is intended to carry the drift eastward until the end of the mineralized area is reached, or at least another 100 feet.

Except on the contact with the serpentine, the shale holds up very well and the mine workings are accessable for examination at any time.

(b) State past and current production, and ore reserves, if any, giving quantities and grades.

A program to improve the recovery from the furnace was started on October 7, 1952, by the present operators and short 4 to 5 day trial runs have been made. From an average of 1 flask of mercury per day, the recovery has been increased to 2.4 flasks per day. During this program 1,820 tons of ore was used in 45 days of furnace operation, averaging 40 tons per day and producing a total of 83 flasks of mercury. With new stopes being developed and the furnace making a reasonable recovery, the operators feel that a full time schedule can be maintained and the tonage increased as rapidly as mining operations permit.

Mr. Stuart H. Ingram, mining engineer, while doing consulting work for the former operator, said in his report, "For the present we can only regard as ore that shown by present sampling to average better than 3 pounds per ton, or that close enough to the break-even figures to count on raising it by selective stoping. There are three such zones. The first zone is that of the old square set stope at the west end of the workings. Eleven samples taken around the walls average 6.1 pounds over an area of fifteen by twenty feet, or twenty tons per vertical foot. The tunnel at that point is about 175 feet below the surface giving a probable 3500 tons in that block. There may be much more, since the length of ore shoot is greater than the length of ore exposed by the stope. The second zone runs from 75 feet west of Survey Station 9, to Survey Station 10 a distance along the vein of 155 feet, from which average of all samples taken is 3.9 pounds. The width is not less than ten feet, which would furnish a minimum 100 tons per vertical foot, and which if it persists to the upper tunnel would supply 20,000 tons. This quantity estimate is probably ultra conservative, since there is twenty feet of material between the tunnel and the serpentine, also there are stringers that have been followed and mined for fifteen to twenty feet to the south of the drift. It is possible that this body may actually furnish good ore to three or four times twenty thousand tons. Also the grade will be somewhat higher, as low grade spots can be left as pillars in the stopes. third zone is exposed by the last forty-five feet of the east end of the tunnel, representing a volume of thirty tons per vertical foot. The average of assays from both sides of the drift and Drill hole No. 5 is 2.82 pounds per ton, or less than the three pound figure of the breaking point. ever the drift in that area lies against the serpentine contact, and the northern side of the drift contains about one foot of contact gouge material that is mostly barren, good stringers of cinnabar ending abruptly on striking the gouge. A mathematical average of samples from both sides does not therefore give a true picture since samples from the north side

4. (b) Continued

sent four feet of known ore plus some lying to the south of the south side, which presumably is of the same grade. Also Drill hole No. 5 does not cut the strong stringer which on the south side of the drift assayes 20 pounds per ton, hence that rich streak is not properly represented in the sampling. It is therefore my belief that this area will furnish ore of substantially the grade indicated by the series of samples from the south side, which over that area averages 4.41 pounds.

Since further selection of ore can be made in stoping, by leaving the poorer spots unmined, as stope pillars, the three areas indicated are ready for the start of stoping operations to provide furnace feed. They provide room for at least three working faces, each of which can furnish twenty five tons of ore daily, which would leave only five tons daily of the estimated furnace capacity to be supplied from development faces. With selective stoping the grade of ore mined can be held above four pounds per ton.

In addition to ore from underground mining the dumps of the upper level can be relied on to furnish additional profitable furnace feed. As mentioned, they will probably average less than three pound per ton, but the work of mining them is already done. Actual cost of reclamation and furnacing will, I estimate, lie between \$3.00 and \$5.00 per ton. They should be held as an ore reserve on which to operate the furnace in case of interruptions to mining.

Summing up, present sampling indicates probable ore as follows:

Square set stope 3500 tons

Stope at Stations 9 and 10 20,000 "

4. (b) Continued

Stope near tunnel face

6,000 tons

Surface dump, sampled

1,500 "

total

31,000 tons. "

At present at least a 4 lbs/ton average is being maintained and as the furnace recovery is increased then the mining average will be lowered to include a larger reserve of ore.

(c) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.) and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

The cinnabar at the Archer is found in shear zones in the Panoche Shale (Cretaceous). The zones strike northward and dip at angles from 60° to 70°, about half dipping to the east and the other half to the west.

The shale contacts the serpentine (Jurassic) along a fault which trends north of east and dips from 50° to 70° south. The shale beds strike northwest and dip 70° southwest. There is from 5 to 20 feet of sheared serpentine and shale along the fault, and the shale is altered from 50 to 100 feet from the contact.

The ore in the shear zones varies in that some of the zones are richer near the contact while others become richer going away from the contact.

Recently, one small vein of solid cinnabar measuring from 2 to 4 inches in thickness was found over 40 feet from the serpentine contact.

No cinnabar has been found in the serpentine at the Archer. The accessory minerals, pyrite, marcacito, calcite and quartz are found in large quanties. Being a low temperature deposit, the metamorphic effects are of a low degree.

The ore veins on the bottom of the lower level are wider, richer

4. (c) Continued

and more numerous than above the level, indicating that the ore zone continues below. Cinnabar deposits are known to be shallow but the Archer has not yet been prospected to any appreciable depth and every known fact about the deposit indicates that the workings are still above the main deposit.

(d) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

The Archer mine is reached from Coalinga, California, by 22 miles of blacktop county road and 6 miles of private road. Within the last six months over \$5,000 has been spent on re-routing and graveling the private road by the Archer Company and a crome mining company operating within 2 miles of the Archer mine. The road is now usable the year around.

For supplies not obtainable in Coalinga, one may ship by truck or railroad from Los Angeles and San Francisco, and receive supplies within 24 hours.

The Archer Camp is at an elevation of 3000 feet and the mine is located 500 feet higher and three quarters of a mile from the camp.

(e) State the availability of manpower, materials, supplies, equipment, water, and power.

There is an average of 15 men employed at the Archer besides the cook and helper, but it is expected to increase the employment when the proposed winze work begins. The key positions are held by permanent employees and although there is the usual turnover of miners, they are available.

Nearly all supplies for the mine can be purchased within a 250 mile radius of Coalinga. Timber for the mine must be purchased in Coalinga and hauled to the mine.

Water is supplied by two springs, one above and one below the mine. The upper spring supplying water for mining operations; the lower spring supplying the camp.

4. (e) Continued.

The power is supplied for the mine by two gasoline driven air compressors and for the furnace plant by gasoline driven electric generator.

Other equipment necessary to carry on the work is owned by the present operators.

5. THE EXPLORATION PROJECT.- (a) State the mineral or minerals for which you wish to explore.

CINNABAR IS THE MINERAL TO BE EXPLORED FOR.

(b) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

It is proposed to sink a winze 100 feet in depth. The winze is to be located in the lower drift, 35 feet from the serpentine contact in the cross-cut drift south of survey station No. 10 as shown on the assay map of the Archer Mine.

This location is close to the richer mineralized area of the mine and will be reasonably close to any ore found by developing the lower drift eastward.

The winze is to be timbered 5 feet by 10 feet and divided into two compartments, one for hoisting ore and the other for manway and service. It is to be sunk at an angle of 65° as the serpentine contact dips at 55° near the site but increases to 75° going east. It is hoped to maintain the angle of 65° because of the rapid loss in vertical distance of angles less than 65°.

From the 100 feet depth of the winze it is proposed to drive 200 feet of drift paralleling the lower tunnel. It is planned to divide the 200 feet by going 100 feet eastward and 100 feet westward unless ore indica-

5. (b) Continued

tions are such that a different division is advisable. The present drift is to be driven ahead for at least 100 feet more.

- (c) The work will start within 60 days and be completed within 12 months from the date of an exploration project contract.
- (d) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

The supervisor of the Archer Mine holds a B. A. degree in Geology from the University of Montana and has been in mining for the past eight years, with over three years employed as a miner in the Butte Mines.

He has been employed by the Archer for over eight months, and is thoroughly familiar with every phase of the furnace and mine and also performs the assay work which is done on the property.

- 6. ESTIMATE OF COSTS.- Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:
- (a) INDEPENDENT CONTRACTS (Note.- If the applicant does not intend to let any of the work to contractors, write "None" after this Item. To the extent that the work is to be contracted, do not repeat the cost of the contractwork in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

Operator will, if found more economical and practical, contract the work proposed. Due to the small amount of work proposed, contract could be made with five or six good miners to carry out the project. Negotiating such a contract would dependent on conditions at time of loan being granted.

(b) LABOR, SUPERVISION, CONSULTANTS. - Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

WINZE & CROSSCUTS

Miners at \$13.06 per day Hoist Man at \$12.24 per day Trammer at \$12.24 per day Total

(b) Continued:

DRIVING PRESENT HEADING

Miners at Trammer at 13.06 per day

SUPERVISIOR & CONSULTANT at

12.24 15.00

12.24

MECHANIC & TRUCK DRIVER at

OPERATING MATERIALS AND SUPPLIES .- Furnish an itemized list of any items of equipment costing less than \$50.00 each, and power, water and fuel.

Present equipment owned by operator will, with some repairs carry out project.

(d) OPERATING EQUIPMENT .- Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

2 -210 CFM Compressors - rental

8.00 per day each

1 - Compressed air locomotive rental

5.00 per day

2 - Jack hammers - rental

3.00 per day each

1 - Drifter- rental

3.00 per day

Hoist- rental

1.00 per day

(e) REHABILITATION AND REPAIRS. - Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

Present buildings adequate. Compressors to be overhauled, estimated Cost of \$500.00 each.

(f) NEW BUILDINGS, IMPROVEMENTS, INSTALLATIONS .- Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

No new improvements contemplated, unless new developments warrants same.

(g) MISCELLANEOUS. - Furnish a detailed list showing the cost of repairs

6. (g) Continued

to and maintenance of operating equipment (not including initial rehabilitation or repairs of Operator's equipment) analytical work, accounting, workmen's compensation and employer's liability insurance, and payroll taxes.

Maintenance of equipment and repairs to same during program estimated at \$500 per month, which includes compensation for one mechanic; Compensation Insurance of approximately \$11 per \$100 of payroll; Payroll Taxes of 4.2% of payroll.

- (h) Contingencies. Give an estimate of any necessary allowances for contingencies not included in the costs stated above.
 - NOTE.- No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

While the Operator has a reasonable supply of drill steel, air and water hoses, bits, etc. on hand, replacements of same will have to be made as worn out.

ESTIMATED COSTS PER FOOT OF WINZE		\$100 . 00
1. Labor per foot (mining, hoisting, tr	emming) \$50,00	7/200 (00
2. Consultant, Mechanic & Truck Driver	15.00	
3. Gasoline & Oil	2.50	
4. Dynamite, Caps, Fuse	5.00	
5. Drill steel - bits	2.00	
6. Timber	6.00	
7. Equipment Rental	7.50	
8. Air & water lines	1.00	
9. Insurance & Taxes	4.00	
10: Repairs & Maintenance	2.00	
11. Transportation & Lodging	3.00	
12. Contingencies	2.00	
70. 00110711201107.0P	\$100.00	
·		.,
100 Feet Winze at \$100		\$10,000.00
ESTIMATED COST PER FOOT OF CROSS CUTS	40.00	70:00
ESTIMATED COST PER FOOT OF CROSS CUTS Labor per foot Mining, Hoisting, Tramming	#0,000	•
Consulting & Mechanics	8,00	
Truck Driver	·	
Gasoline- oil	2.50	•
Dynamite, Caps, Fuse	2.00	
Drill Steel- Bits	1.50	
Rail, Tios, Etc.	5.00	

-10-

A :	11-1	M = 4	
6.	(11)	CONG	inued

Timber	2.00
Equipment Rental	2.50
Air, Water Lines	1.00
Insurance & Taxes	2.00
Repairs, Maintenance	1.00
Transportation & Lodging	1.50
Contingencies	1.00
TOTAL	\$70.00

200 Feet of Cross Cuts

\$14,000.00

42.00

ESTIMATED COST PER FOOT OF DRIFT	
Labor per foot	16.00
Mining, Tramming	
Consulting, Mechanics	8,00
Truck Driver	
Gasoline- Oil	2.00
Dynamite- caps- fuse	2.00
Drill Steel- Bits	1.50
Rail- Ties Etc.	5.00
Timber	2.00
Equipment Rental	1.50
Air- Water Lines	1.00
Insurance & Taxes	1.00
Transportation - Lodging	1.00
Contingencies	1.00
TOT AL	\$42.00

100 Feet Drift at \$42.00

4,200.00

TOTAL LOAN REQUESTED

00.00\$,8\$\$

7. (a) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

YES

(b) How do you propose to furnish your share of the costs?

MONEY AND USE OF EQUIPMENT

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

DATED Jet 9 1953

ARCHER ENTERPRISES

BY:

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.

BOND AND LEASE

2

3

4

5

7

8

9

10

1

THIS AGREEMENT, made and entered into this day of 1943, by and between BENJAMIN J. BYLES and NORMA A. EYLES, his wife, JAMES H. BYLES and ETHEL EYLES, his wife, SIDNEY W. BYLES and NETTIE BYLES, his wife, EDWARD L. BYLES and BESS BYLES, his wife, and GEORGE R. BYLES and JENETTA BYLES, his wife, parties of the First Part, hereinafterreferred to as "Lessors" and ARCHER MINING COMPANY, a California corporation, party of the Second Part, hereinafter referred to as "Lessee",

11

WITNESSETH:

12

13

14

15

16

17

18

WHEREAS, the lessors are the owners of six certain lode mining claims located on the Northeast Quarter (NE2) of Section Three (3) and the Northwest Quarter (NW1) of Section Two (2), Township Nineteen (19) South, Range Thirteen (13) West M.D.B. & M. Fresno County, California, and containing one hundred twenty acres, more or less, the names and location notices of such lode mining claims being more particularly described in Exhibit "A" hereto attached, and which said six lode mining claims are sometimes known and herein referred to as the "Archer Mine"; and

19

WHEREAS, the lessee herein named desires to operate said

21

20

NOW, THEREFORE, IT IS MUTUALLY UNDERSTOOD AND AGREED BY

said Archer Mine, consisting of six (6) lode mining claims, all

unpatented, and that there are no liens or encumbrances against

the same, and that the lessors and their predecessors in interest

have been in the exclusive possession of said Archer Mine for more

than thirty-eight years last past and have duly performed any and

all required annual assessment work required prior to July 1, 1943.

23

24

25

22

and between the parties hereto as follows:

Archer Mine and acquire title thereto:

26

27

28

29

30

31

32

That the lessors are the sole owners of all that

That lessors warrant they are the sole owners of

more particularly described in Exhibit "B" hereto attached, which said personal property is for convenience hereinafter referred to as "Archer Mine equipment".

2.

13.

. 18

21.

8

- 3. That the lessors shall forthwith execute and deliver into escrow with the Security-First National Bank of Los Angeles, Coalinga Branch, Coalin a, California, a good and sufficient bill of Sale to the lessee of said Archer Mine equipment, warranting title free and clear of liens and encumbrances, together with a deed from the lessors to the lessee of said Archer Mine, and at the same time instruct said bank to obtain a title report from a reliable title company in Fresno County as to the title to said Archer Mine and as to any chattel mortgages or other encumbrances against said Archer Mine equipment.
- 4. Lesses shall forthwith deposit in escrow with said bank the sum of \$5,000.00, with instructions to said bank to deliver the same to Benjamin J. Byles and/or Norma A. Byles when said bank shows title in said Archer Mine vested in the lessors, free and clear of all encumbrances other than this agreement, and said bank shall hold said deed and bill of sale subject to the payment by the lessee to the lessors of the sum of \$75,000.00 as hereinafter provided.
- 5. That the lessee will pay to the lessors, in the manner hereinsiter provided and as the purchase price of said mine, in addition to said sum of \$5,000.00 to be paid through escrow as aforesaid, the sum of \$70,000.00, which said sum small be in full and complete payment of said mine as in paragraph 4 above set forth. That said \$70,000.00 shall be payable in the manner following, towit: 10% of the amount received from any and all quicksilver and other minerals which may be produced and sold from said premises, less only the deductions herein provided; provided, however, that said lessee shall pay to lessors an advance minimum monthly royalty

of \$200.00, commencing on the 1st day of November, 1943, and continuing thereafter each month until the additional sum of \$32,500.00 has been paid; and provided further that, if the total of said advance minimum monthly payments together with the payments on account of the 10% royalty have not totaled the sum of \$5,000.00 on or before November 1, 1944, then and in such event lesses shall pay lessors any difference between the amount of advance monthly minimum and 10% royalty payments during said period and the sum of \$5,000.00. That, when the total sum of \$37,500.00 including payment of \$5,000.00 into escrow has been paid, lessee shall not be obligated to make further advance minimum monthly payments of \$200.00, or any other sum, but will continue to pay lessors the royalty of 10% as herein provided. That lessee may at any time pay any additional sum or the whole of the balance of said purchase In determining the amount of the 10% royalty to be paid in any calendar month; there shall be credited upon such payment the \$200.00 minimum royalty paid by the lessee to the lessor for the month in which the quicksilver was produced and on which the royalty was to be paid.

1

2

3

4

5

6

7

. 8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

6. That, upon said sum of \$5,000.00 being paid to lessors through escrow as hereinabove provided, the lessee shall, within thirty days from date hereof, enter upon said Archer Mine and occupy and work the same in a good and minerlike fashion and in the manner necessary or proper for good and economical mining of said property so as to take out the largest amount of commercial ore possible with due regard to development and preservation of the property as a workable mine, and to retort, process or otherwise treat said ore for the purpose of removing mercury and/or other minerals therefrom, and to market in its own name such mercury or other minerals, and the lessee shall be entitled to retain possession of said Archer Mine so long as it shall perform the terms, conditions and covenants of this agreement, and in that

connection the lessee shall occupy and hold all cross or parallel lodes, spurs or mineral deposits of any kind which may be discovered by the lessee or any person as his agent or employee upon the premises, with the agreement and understanding that the same shall in all instances be part and parcel of said Archer Mine. That the lessed herein named shall be entitled to use each and all of the items of personal property described in said bill of sale in and about Archer Mine in the ordinary and customary manner but shall not use said property elsewhere. Said lessee shall not be liable for any breakage, loss or damage to said personal property so long as said personal property is so used. Said lessee shall not sell or dispose of said personal property except as herein provided. should said lessee desire to apply any items of said personal property as a part of the purchase price of similar personal property, to be similarly used, the lessee may so apply said personal property provided the full balance of the purchase price of said new personal property shall be paid. Title to the new personal property shall at once yest in the lessors but said new personal property shall be deemed included in said bill of sale.

5

6

8

9.

10

11

12

13

14

15

16

17

18

19.

20

21

22

23

24

25

26

27

28

29

30

31

32

7. That upon taking possession of the Archer Mine said lessee shall without delay commence operations for driving a drift at a level approximately 225 feet below the lowest existing drift on said property, which said deift shall be of a height and width sufficient to comply at all times with all rules and regulations of all governmental agencies and the statutes and ordinances applicable thereto, and shall be continued by the lessee until a distance of 1200 feet has been driven, or an ore body in commercial quantities has been encountered at a lesser distance, such work to be suspended only by reason of unforeseen mechanical difficulties or other reasons as hereinefter set forth on in the opinion of competent geologists of the parties hereto, the further driving of said drift would in all probability not result in the discovery

-4-

of any further commercial ore.

8

Angeles, California, is not less than \$75.00 per flask, said lessee will continue to operate said property and produce ore therefrom. Should the price of mercury at Los Angeles drop below \$75.00 a flask, said lessee may suspend operations during such time as the price is below \$75.00 per flask but shall, neverthe less, do all work necessary, or required by reason of any statutes of the United State of America as annual labor and/or improvements, to hold title to such "Archer Mine."

- 9. That the lessee shall pay to the lessors on account of the purchase price of said property an amount equal to 10% of all amounts received by the lessee from the sale or quicksilver or any other minerals that may be produced from said premises, without deduction except the cost of transportation from the mine to the point of sale, including insurance against theft or other loss, which said payments shall continue until the full purchase price is paid and which said amount shall be paid by the lessee to the lessors on or before the 10th day of the calendar month following the month in which said quicksilver or other minerals have been sold or disposed of, said payment to be made to the lessors through the Security-First National Bank of Los Angeles, Coalings Branch, Coalinga, California; it being understood that the provisions hereof are subject to paragraph 5 above.
- 10. That said lesses shall pay all taxes levied and charged against said premises, together with any and all installments on assessments for local improvements, which said payments shall be made by the lessee before said taxes or payments for local improvement shall become delinquent.
- ll. That lesse shall keep true, complete and accurate books of account showing all quicksilver and other minerals produced by it under the terms and provisions of this agreement and all

-5-

amounts of quicksilver and other minerals sold and disposed of by it, the persons to whom such minerals were sold, place at which same was sold, the amount received by the lessee from said minerals, the cost of transportation and insurance in connection with the transporting of said quicksilver and other minerals from the mine to point of sale or disposal, and said books of account or records shall be open at all times during reasonable business hours to the lessors or their duly authorized agent.

2

4

5

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

That the lessors, or their agent, may from time to time, during reasonable working hours, enter upon said Archer Mine for the purpose of inspection.

That all work done in and about said premises by 12. the lessee shall be at its sole cost and expense, and the lessee shall keep said premises, and every part thereof, at all times free and clear of all mechanics, miners and/or other liens and encumbrances of every nature and description, and shall pay all indebtedness and liabilities incurred by the lessee which may or might become a lien on said premises before said indebtedness or liabilities shall become such lien, and shall permit the lessors to go upon the Archer Mine to post, and at all times keep posted, in some conspicuous place upon said premises such notices as the lessors may desire to the effect that the interests of the lessors shall not be subject to any lien for service, labor or materials furnished upon or used in connection with said premises.

That the lesses shall assume all responsibility for and save the lessors harmless from any and all liability and claims for liability which may arise by reason of lessee's operations upon or about said Archer Mine.

That the said lesses shall, at its own cost and expense, provide Workmen's Compensation insurance at once upon the commencement of operations hereunder so as to protect the interests of the lessors in said premises from the lien of any judgment obtained in any action brought by reason of any injury of any workman in or about said premises, and said lessee shall furthermore conduct all operations in and about said premises in such respect aswill fully comply with the laws of the State of California and all safety regulations prescribed by any duly authorized body.

3

5

6

7

8

10

11

12

13

14.

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

15. That no equipment, tools, machinery and moveable structures and improvements and personal property of any nature or description brought or placed upon said premises by the lessee for use in and about said Archer Mine shall become fixtures but shall remain the property of the lessee and shall be subject to removal by the lessee and, in the event this agreement shall be terminated, for any reason, said lessee shall be entitled to remove all such machinery, tools, equipment, movable structures, improvements and personal property from said Archer Mine within sixty days after the termination of this agreement. Provided, however, that in the event lessee is in default in the payment of any amount to the lessors by reason of any quicksilver or other minerals theretofore sold, lessors shall have a lien upon said equipment or improvements to the extent of any amount due to the lessors by reason of any such quicksilver or other minerals produced and sold and on which said lessors shall not have received said 10% as provided herein, and, in such event, lessee shall not remove any such equipment or improvements until said payment shall have been made in full, and in no event shall lessee remove any timbers placed in and about said Archer Mine.

16. That, should the lessee be prevented by reason of strikes, riots, acts of God, processes or orders of Court or other government agency, or act of the common enemy, from entering upon said premises and working the same, or transporting supplies to said premises in the usual and customary manner, or removing ore therefrom or processing or retorting said ore, or selling said quicksilver, then, and in that event the lessee shall not be deemed

to be in default by reason of any failure to perform any of the terms or provisions of this agreement because of any of the conditions above stated.

17. Lessee may at any time, upon 30 days written notice to the lessors, quitclaim any and all right, title or interest which it migh or could have under this agreement in and to said Archer Mine to the lessors, and lessee shall thereafter be relieved of all obligations to make any further payment of any kind hereunder, or otherwise perform any act under the terms and provisions of this agreement, but the giving of such quitclaim deed shall not relieve lessee from any previously accrued obligation to make any payment or perform any other accrued obligation under the terms and provisions hereof.

18. That, in the event any action at law or in equity be brought by either party hereto against the other in or about any matter connected with this agreement, the party against whom judgment shall be obtained shall pay to the other party hereto the costs of such party and a reasonable attorney's fee to be fixed in said action by the court before whom said action may be heard.

ment but the lessee shall not be deemed to be in default under the terms and provisions of this agreement as the result of any failure or alleged failure on its part to comply with the terms and provisions hereof until and unless the lessors shall have first given to said lessee notice in writing by mailing the same to lessee as herein provided, of the existence of said default and the lessee shall fail for a period of thirty days thereafter to correct such failure or default. Upon the failure of lessee to so correct such default or failure within said period of thirty days, then the lessors may, at their option, terminate this agreement without further notice to lessee and may remove said deed and bill of sale from escrow with said bank, and lessee's right hereunder and in

said premises and equipment covered by said bill of sale shall end and all sums theretofore paid by lessee to lessors hereunder shall be forfeited to lessors for the use and occupancy of said premises. In the event of any default on the part of the lessee hereunder, lessors shall have no right to recover from the lessee any minimum of royalty, or other sum hereunder, except such portion of the 10% royalty for quicksilver produced and sold by the lessee and for which it shall not have accounted to the lessors.

20. That any notice to be given by the lessors to lessee may be given by mailing a copy of said notice in an envelope on which the postage has been prepaid addressed to lessee at

Los Angeles, California, or to such other person or place as lessee shall from time to time designate in writing.

Any notice to be given by lessee to the lessors may be given by mailing same in an envelope upon which the postage has been prepaid and addressed to lessors at 612 Van Ness Avenue, Coalinga, California, or to such other person or place as the Lessors may from time to time in writing designate, and deposited in the Post Office in Los Angeles, California.

21. That this agreement shall be binding upon and inure to the benefit of the successors and assigns of each of the perties hereto but this agreement shall not, nor shall any interest therein be transferred or assigned or granted, either in the form of a sub-lease or otherwise, without the written consent of the lessors being first had and obtained. That lessors will consent to such an assignment and sub-lease if the assignee or sub-lease is of suitable financial standing and responsibility; nor shall this agreement or any interest in said Archer Mine become an asset in any bankruptcy or insolvency proceeding.

IN WITNESS WHEREOF, the parties hereto have herounto

1	their hands the day and year	r first hereinabove set forth.
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		BY
18		Attorney-in-fact
19		LESSORS.
20		ARCHER MINING COMPANY
21	利	
22		BY President,
23		
24		BYSecretary,
25		LESSEE.
26		
27		
28		
29		
30		
31		
32		

ASSIGNMENT

FOR VALUE RECEIVED, the undersigned, ARCHER MINING COMPANY, hereby sells and transfers to BO C. ROOS, FREEMAN KEYES and FRANK B. BELCHER, as their interests may be determined between them, all the right, title and interest in and to and under the Bond and Lease attached hereto dated July 19, 1943, by and between BENJAMIN J. BYLES and others, as Lessors, and ARCHER MINING COMPANY, as Lessee.

All payments heretofore made under said Bond and Lease to Lessors shall inure to the benefit of assignees herein named.

Assignees by the acceptance of this assignment do not thereby assume any liability for any obligations under said bond and lease which have accrued to date hereof but do assume all obligations which hereafter accrue under said Bond and Lease as the same may be modified by consent of Assignment by Lessors named herein, which Consent is attached hereto and made a part hereof.

Dated, June 16th, 1952.

22 ARCHER MINING COMPANY

24 Pres.

BY R. Morgan Jr. Secy.

CONSENT TO ASSIGNMENT

.

The undersigned, BENJAMIN J. BYLES and NORMA A. BYLES, his wife, JAMES H. BYLES and ETHEL BYLES, his wife, SIDNEY W. BYLES and NETTIE BYLES, his wife, EDWARD L. BYLES and BESS BYLES, his wife, and GEORGE R. BYLES and JENETTA BYLES, his wife, being Lessors under a certain Bond and Lease dated July 19, 1943, with ARCHER MINING COMPANY, as Lessee, do hereby consent to the foregoing assignment of said Bond and Lease by Archer Mining Company to Bo C. Roos, Frank B. Belcher and Freeman Keyes on the following terms and condi-tions:

- 1. That the balance due to Lessors under said Bond and Lease is determined to be the sum of \$57,962.08.
- 2. That such balance of \$57,962.08 shall be payable to Lessors only from the amount received from the sale of quicksilver and other minerals which may be produced and sold from said premises on the following royalty basis:
 - (a) Five per cent (5%) of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day period less than seven (7) pounds of mercury per ton of ore;
 - (b) Seven and one-half per cent $(7\frac{1}{8}\%)$ of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day period more than seven (7) pounds but less than ten (10) pounds of mercury per ton of ore.
 - (c) Ten (10) percent of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day

period more than ten (10) pounds of mercury per ton of 1 2 ore. (d) Provided, however, that a minimum royalty shall 3 be paid of Two Hundred Dollars (\$200.00) per month for each calendar month, which said sum shall be credited 5 against future royalties not in excess of Two Hundred 6 Dollars (\$200.00) per month. Receipt is hereby acknowledged by Lessors of the sum of One Thousand Dollars 8 (\$1,000.00) which shall represent payment in advance of 9 the minimum royalties for the months of July, August, 10 September, October and November of 1952. 11 3. Any notice by assignor to said assignees of said Bond 12and Lease shall be sent to Room B18 Security Building, Los 13 Angeles 13, California. 14 4. Said assignees shall abide by and conform to all other 15 conditions of said Bond and Lease except as herein modified. 16 Consent is further given that BO C. ROOS, FREEMAN KEYES 17 and FRANK B. BELCHER may assign said Bond and Lease dated July 18 19, 1943, to a partnership of which they are members, such 19 20 assignment shall be subject to the terms hereinabove set forth. Upon such assignment to said Partnership, BO C. ROOS, FREEMAN 21 **22**. KEYES and FRANK B. BEICHER shall be relieved of any personal liab-23 ility hereunder or under said Bond and Lease. Dated this 8th day of August, 1952. 24

(signed) Benjamin J. Byles
Benjamin J. Byles

(signed) Benjamin J. Byles
Benjamin J. Byles
Attorney in Fact

Lessors

30

31

32

25

26

27

28

Benjamin J. Byles hereby represents and warrants that he is the Attorney-in-Fact for all of the above named Lessors under a presently existing Power of Attorney with full power to execute this assignment of their behalf.

Dated this 8th day of August, 1952.

Benjamin J. Byles (signed) Benjamin J. Byles

ASSIGNMENT

For a good and valuable consideration, the undersigned, FREEMAN KEYES, BO C. ROOS, and FRANK B. BELCHER hereby sell, assign, and transfer to ARCHER ENTERPRISES, a Limited Partnership, all of their right, title, and interest in, to and under that certain Bond and Lease dated July 19, 1943 by and between Benjamin Byles, et al. as Lessors and Archer Mining Company as Lessee, together with all their right, title, and interest in and to all equipment, personal property, and mining machinery located at and used in connection with said Archer Mine, which said Mine is located in Fresno County, State of California.

Dated: June 30, 1953.

 Freema	an	Key	res (signed)
Freen				
Bo C.	Ro	os	(sigr	ned)
Bo C.	Ro	os		
Frank	В.	Be	lcher	(signed)
Frank	В.	Be	lcher	

STATE OF CALIFORNIA) as. COUNTY OF LOS ANGELES)

On June 30, 1952, before me, the undersigned, a Notary Public in and for said County and State, personally appeared FREEMAN KEYES, BO C. ROOS, and FRANK B. BELCHER, known to me to be the persons who executed the within Instrument and acknowledged to me that they executed the same.

WITNESS my hand and official seal.

SEAL

Motary Public in and for said County and State.

DEPARTMENT OF THE ITEMS.

UNITED STATES DEPARTMENT OF THE INTERIOR

Form androve Budgot Dureau No. 42-R1035. :.

FEB 12 1153. DEFENSE MINERALS EXPLORATION ADMINISTRATION

A TO TO THE PORT OF THE PORT O	Not to be filled in by applicant
APPLICATION FOR AID IN AN	Docket No. Amela/ 2884
EXPLORATION PROJECT, PURSUANT TO	Metal or Mineral
DEFENSE OF THE DEFENSE	Date Received 2-12-5.3
PRODUCTION ACT OF 1950, AS AMENDED	Estimated Cost
	[Participation (Government %)

INSTRUCTIONS

1. WARRE OF APPLICANT. - (a) State here your full legal name, in the form in which you will wish to contract, and your mailing address:

ARCHER ENTERPRISES . 510 SO SPRING STREET, LOS ANGREES 13. CALTFORNIA

- (b) If other then an individual, add to your name above whether a corporation martnership, etc., and the name of the State in which incorporated or otherwise organized. LIMITED PARTNERSHIP
- (c) If a Corporation, add to above statement, titles, names and addresses of officers. NOT APPLICABLE
- (d) If a partnership, add to the above statement the names and addresses of all partners.

ROBERT D. PRIOR, 1604 Country Club Drive, Glendale 8, California, (General Partner)

FRANK B. BELCHER, 510 So. Spring St., Los Angeles 13, California, (Limited Partner)

BO. C. ROOS, 400 No. Camden St., Beverly Hills, California, (Limited Partner)

FRE MAN KEYES, Calmolon Bldg., Chicago, Illinois, (Limited Partner)

- 2. GENERAL. Read DAMA Order 1, Government Aid in Defense Exploration Projects, Defore completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.
- 3. APPLICANT'S PROPERTY RIGHTS.- (a) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract.

"Archer Claims Nos. One (1) to Seven (7) Inclusive, Located in Sections

Two (2) and Three (3). Township Nineteen (13) South, Range Thirteen (13)

Rast, M.D.B.M. Unpatented."

(b) State any mine name by which the property is known.

ARCHER MINE

(c) State your interest in the land, whether owner, lessee, purcher under contract, or otherwise.

PURCHASER UNDER BOND LEASE

(d) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

COPY OF BOND LEASE AND ASSIGNMENTS ATTACHED

(e) If you own the land, describe any liens or encumbrances on it.

NO LIENS

(f) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

Claim	# 1	Book	2088	Pago	343
81	3/3	51	8088	\$	346
28	3	99	8802	67	348
8 8 -	#4	Ħ	2088	68	345
79	<i></i> ∳5	t#	2088	#8 *	347
13	#6	#	2088	9	349
{#	#7	19	2088	₹*	350

4. PHYSICAL DESCRIPTION. - (a) Describe in detail any mining or explorations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

The Archer Mine, located in the Southwest part of Fresno County California, was discovered in 1904, by the late Joseph Byles of Coalinga, California. An adit was driven 500 feet parallel to the serpentine-shale contact, crossing numerous veins of ore which were drifted on and stoped out. The ore, after being handsorted averaged about life more and retorts were used to extract the mercury from the cinnabar. Later a winze was sunk 115 feet on an ore body.

The former operators have driven an adit 1400 feet, at a level 220 feet below and paralleling the upper adit. The mineralized area at this point was found to be richer and more abundant. There has been one raise driven between the two levels, the lower portion being in ore. This raise

is now used for ventilation of the mine.

The former operators shipped their ore 18 miles by truck to the New Idria Mine for processing, producing in exess of 150 flaskof mercury. Being encouraged by the results, the former operators then installed a Rotary Furnace with a maximum capacity of 80 ton/day. The furnace was operated for short periods, resulting in the production of approximately 100 flash of mercury.

In October, 1951, a core drilling operation was initiated to prospect for ore between the two levels. Poor recovery of cores and unusually bad

weather forced the former operators to suspend operations.

4. (a) Continued

The veins of ore crosscut the main drift. The ore is removed by drifting and stoping, leaving pillars in the stopes and using timber wherever necessary. Six of the stopes have been worked and new stopes are now being developed to carry on furnace operation. Ore showings are still found with almost every round in the main drift heading eastward, and it is intended to carry the drift eastward until the end of the mineralized area is reached, or at least another 100 feet.

Except on the contact with the serpentine, the shale holds up very well and the mine workings are accessable for examination at any time.

(b) State past and current production, and ore reserves, if any, giving quantities and grades.

A program to improve the recovery from the furnace was started on October 7, 1952, by the present operators and short 4 to 5 day trial runs have been made. From an average of 1 flask of mercury per day, the recovery has been increased to 2.4 flasks per day. During this program 1,820 tons of ore was used in 45 days of furnace operation, averaging 40 tons per day and producing a total of 83 flasks of mercury. With new stopes being developed and the furnace making a reasonable recovery, the operators feel that a full time schedule can be maintained and the tonage increased as rapidly as mining operations permit.

Mr. Stuart H. Ingram, mining engineer, while doing consulting work for the former operator, said in his report, "For the present we can only regard as ore that shown by present sampling to average better than 3 pounds per ton, or that close enough to the break-even figures to count on raising it by selective stoping. There are three such zones. The first zone is that of the old square set stone at the west end of the workings. samples taken around the walls average 5.1 pounds over an area of fifteen by twenty feet, or twenty tons per vertical foot. The tunnel at that point is about 175 feet below the surface giving a probable 3500 tons in that block. There may be much more, since the length of ore shoot is greater than the length of ore exposed by the stope. The second zone runs from 75 feet west of Survey Station 9, to Survey Station 10 a distance along the vein of 155 feet, from which average of all samples taken is 3.9 pounds. The width is not less than ten feet, which would furnish a minimum 100 tens per vertical foot, and which if it persists to the upper tunnel would supply 20,000 tons. This quantity estimate is probably ultra conservative, since there is twenty feet of material between the tunnel and the serpentine, also there are stringers that have been followed and mined for fifteen to twenty feet to the south of the drift. It is possible that this body may actually furnish good ore to three or four times twenty thousand tons. Also the grade will be somewhat higher, as low grade spots can be left as pillars in the stopes. third zone is exposed by the last forty-five feet of the east end of the tunnel, representing a volume of thirty tons per vertical foot. The average of assays from both sides of the drift and Drill hole No. 5 is 2.82 pounds per ton, or less than the three pound figure of the breaking point. However the drift in that area lies against the serpentine contact, and the northern side of the drift contains about one foot of contact gouge material that is mostly barren, good stringers of cinnabar ending abruptly on striking the gouge. A mathematical average of samples from both sides does not therefore give a true picture since samples from the north side

4. (b) Continued

are representative of only one foot, while those from the south side represent four feet of known ore plus some lying to the south of the south side, which presumably is of the same grade. Also Drill hole No. 5 does not cut the strong stringer which on the south side of the drift assayes 20 pounds per ton, hence that rich streak is not properly represented in the sampling. It is therefore my belief that this area will furnish ore of substantially the grade indicated by the series of samples from the south side, which over that area averages 4.41 pounds.

Since further selection of ore can be made in stoning, by leaving the poorer spots unmined, as stope pillars, the three areas indicated are ready for the start of stoping operations to provide furnace feed. They provide room for at least three working faces, each of which can furnish twenty five tons of ore daily, which would leave only five tons daily of the estimated furnace capacity to be supplied from development faces. With selective stoping the grade of ore mined can be held above four pounds per ton.

In addition to one from underground mining the dumps of the upper level can be relied on to furnish additional profitable furnace food. As mentioned, they will probably average less than three pound per ton, but the work of mining them is already done. Actual cost of reclamation and furnacing will, I estimate, lie between \$3.00 and \$5.00 per ton. They should be held as an one reserve on which to operate the furnace in case of interruptions to mining.

Summing up, present sampling indicates probable ore as follows:

Square set stope 3500 tons

Stope at Stations 9 and 10 20,000 "

4. (b) Continued

Stope near tunnel face

6,000 tons

Surface dump, sampled

1,500 "

total

31,000 tons. "

At present at least a 4 lbs/ton average is being maintained and as the furnace recovery is increased then the mining average will be lowered to include a larger reserve of ore.

(c) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.) and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

The cinnabar at the Archer is found in shear zones in the Panoche Shale (Cretaceous). The zones strike northward and dip at angles from 60° to 70°, about half dipping to the east and the other half to the sest.

The shale contacts the serpentine (Jurassic) along a fault which trends north of east and dips from 50° to 70° south. The shale beds strike northwest and dip 70° southwest. There is from 5 to 20 feet of sheared serpentine and shale along the fault, and the shale is altered from 50 to 100 feet from the contact.

The ore in the shear zones varies in that some of the zones are richer near the contact while others become richer going away from the contact.

Recently, one small vein of solid cinnabar measuring from 2 to 4 inches in thickness was found over 40 feet from the serpentine contact.

No cinnabar has been found in the serpentine at the Archer. The accessory minerals, pyrite, marcacito, calcite and quartz are found in large quanties. Being a low temperature deposit, the metamorphic effects are of a low degree.

The ore veins on the bottom of the lower level are wider, richer

4. (c) Continued

and more numerous than above the level, indicating that the ore zone continues below. Cinnabar deposits are known to be shallow but the Archer has not yet been prospected to any appreciable depth and every known fact about the deposit indicates that the workings are still above the main deposit.

(d) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

The Archer mine is reached from Coalinga, California, by 32 miles of blacktop county road and 6 miles of private road. Within the last six months over \$5,000 has been spent on re-routing and graveling the private road by the Archer Company and a crome mining company operating within 2 miles of the Archer mine. The road is now usable the year around.

For supplies not obtainable in Coalinga, one may ship by truck or railroad from Los Angeles and San Francisco, and receive supplies within 24 hours.

The Archer Camp is at an elevation of 3000 feet and the mine is located 500 feet higher and three quarters of a mile from the camp.

(e) State the availability of manpower, materials, supplies, equipment, water, and power.

There is an average of 15 men employed at the Archer besides the cook and helper, but it is expected to increase the employment when the proposed winze work begins. The key positions are hold by permanent employees and although there is the usual turnover of minors, they are available.

Nearly all supplies for the mine can be purchased within a 250 mile radius of Coalings. Timber for the mine must be purchased in Coalings and hauled to the mine.

Water is supplied by two springs, one above and one below the mine. The upper spring supplying water for mining operations; the lower spring supplying the camp.

4. (e) Continued.

The power is supplied for the mine by two gasoline driven air compressors and for the furnace plant by gasoline driven electric generator.

Other equipment necessary to carry on the work is owned by the present operators.

5. THE EXPLORATION PROJECT .- (a) State the mineral or minerals for which you wish to explore.

CIMMABAR IS THE MINERAL TO BE EXPLORED FOR.

(b) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

It is proposed to sink a winze 100 feet in depth. The winze is to be located in the lower drift, 35 feet from the serpentine contact in the crosscut drift south of survey station No. 10 as shown on the assay map of the Archer Mine.

This location is close to the richer mineralized area of the mine and will be reasonably close to any ore found by developing the lower drift eastward.

The winze is to be timbered 5 feet by 10 feet and divided into two compartments, one for hoisting ore and the other for manway and service. It is to be sunk at an angle of 65° as the sorpentine contact dips at 55° near the site but increases to 75° going east. It is hoped to maintain the angle of 65° because of the rapid loss in vertical distance of angles less than 65°.

From the 100 feet depth of the winze it is proposed to drive 200 feet of drift paralleling the lower tunnel. It is planned to divide the 200 feet by going 100 feet eastward and 100 feet westward unless ore indica-

5. (b) Continued

tions are such that a different division is advisable. The present drift is to be driven ahead for at least 100 feet more.

- (c) The work will start within 60 days and be completed within 12 months from the date of an exploration project contract.
- (d) State the operating experience and background of the amplicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

The supervisor of the Archer Mine holds a B. A. degree in Geology from the University of Hontana and has been in mining for the past eight years, with over three years employed as a miner in the Butte Mines.

He has been employed by the Archer for over eight months, and is thoroughly familiar with every phase of the furnece and mine and also performs the assay work which is done on the property.

- 6. ESTIMATE OF COSTS. Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:
- (a) INDEPENDENT CONTRACTS (Note.- If the applicant does not intend to let any of the work to contractors, write "None" after this Item. To the extent that the work is to be contracted, do not repeat the cost of the contractwork in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

Operator will, if found more economical and practical, contract the work proposed. Due to the small amount of work proposed, contract could be made with five or six good miners to carry out the project. Negotiating such a contract would dependent on conditions at time of loan being granted.

(b) LABOR, SUPERVISION, CONSULTANCS.- Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

UINZE & CROSSOUTS

Miners at \$13.06 per day Hoist Man at \$12.24 per day Trasmer at \$12.24 per day Total.

6. (b) Continued:

DRIVING PRESENT HEADING Minors at 13.00 per day 12.34 " " 15.00 " " EECHANIC & TRUCK DRIVER at 13.24 " "

(c) OPERATING MATERIALS AND SUPPLIES. - Furnish an itemized list of any items of equipment costing less than \$50.00 each, and power, water end fuel.

Present equipment owned by operator will, with some repairs carry out project.

(d) OPERATING EQUIPMENT. - Furnish en itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

2 -210 CFM Compressors - rental	8.00 per day each
1 - Compressed air locomotive rental	5.00 per day
2 - Jack hammers - rental	3.00 per day cach
1 - Drifter- rental	3.00 per day
Hoist- rental	1.00 per day

(e) REHABILITATION AND REPAIRS. - Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

Present buildings adequate. Compressors to be overhauled, estimated Cost of \$500.00 each.

(f) NEW BUILDINGS, IMPROVEMENTS, INSTALLATIONS. - Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

No new improvements contemplated, unless new developments warrants same.

(g)MISCELLANEOUS.- Furnish a detailed list showing the cost of repairs

6. (g) Continued

to and maintenance of operating equipment (not including initial rehabilitation or repairs of Operator's equipment) analytical work, accounting, workmen's compensation and employer's liability insurance, and payroll taxes.

Maintenance of equipment and repairs to same during program estimated at \$500 per month, which includes compensation for one mechanic; Compensation Insurance of approximately \$11 per \$100 of payroll; Payroll Taxes of 4.2% of payroll.

- (h) Contingencies. Give an estimate of any necessary allowances for contingencies not included in the costs stated above.
 - NOTE.- No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

While the Operator has a reasonable supply of drill steel, air and water hoses, bits, etc. on hand, replacements of same will have to be made as worn out.

ESTEMATED COSTS PER FOOT OF WINZE 1. Labor per foot (mining, hoisting, 2. Consultant, Mechanic & Truck Drive 3. Gasoline & Oil 4. Dynamite, Caps, Fuse 5. Drill steel - bits 6. Timber 7. Equipment Rental 8. Air & water lines 9. Insurance & Taxes 10. Repairs & Maintenance 11. Transportation & Lodging 12. Contingencies		\$100,00
100 Feet Winze at \$100	\$ 100.0 0	(10,000.00
ESTIMATED COST PAR FOOT OF CROSS CUTS Labor per foot Mining, Hoisting, Tramming Consulting & Mechanics	40.00 8.00	70.00
Truck Driver Gasoline- oil Dynamite, Caps, Fuse Drill Steel- Bits Rail, Ties, Etc.	2.50 2.00 1.50 5.00	

ARCHER ENTERPRISES

510 So Spring Street Los Angeles 13, California

6. (h) Continu	red
----------------	-----

Timber	2.00
Equipment Rental	2.50
Air, Water Lines	1.00
Insurance & Taxes	2.00
Ropairs, Maintenance	1.00
Transportation & Lodging	1.50
Contingencies	1.00
Total	\$70.00

200 Feet of Gross Cuts

\$14,000.00

42.00

ESTINATED COST PER FOOT OF DRIFT	
Labor per foot	16.00
Mining, Tramming Consulting, Mechanics	8.00
Truck Driver Gasoline- Oil	2 ,0 0
Dynamite- caps- fuse	8.00
Drill Steel- Bits	1.50
Reil- Ties Etc.	5.00
Timber	2.00
Equipment Rental	1.50
Afir- Water Lines	1.00
Insurance & Taxes	1.00
Transportation - Lodging	1.00
Contingencies	1.00
AL DT	ૄ4 ≥.00

100 Feet Drift at \$42.00

4,200.00

TOTAL LOAN REQUESTED

\$28,200.00

7. (a) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

YES

(b) How do you propose to furnish your share of the costs?

HONEY AND USE OF EQUIPMENT

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

DATED 14 9 1953

ARCHER ENTERPRISES

Son autru

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.

BOND AND LEASE

 $\mathbf{2}$

-5

THIS AGREEMENT, made and entered into this day of 1943, by and between BENJAMIN J. FYLES and NORMA A.

EYLES, his wife, JAMES H. EYLES and ETHEL EYLES, his wife, SIDNEY

W. EYLES and NETTIE EYLES, his wife, EDWARD L. EYLES and BESS EYLES, his wife, and GEORGE R. EYLES and JENETTA EYLES, his wife, parties of the First Part, hereinafterreferred to as "Lessors" and ARCHER MINING COMPANY, a California corporation, party of the Second Part, hereinafter referred to as "Lessee",

WITHESSETH:

WHEREAS, the lessors are the owners of six certain lode mining claims located on the Northeast Quarter (NE2) of Section Three (5) and the Northwest Quarter (NW2) of Section Two (2), Township Nineteen (19) South, Range Thirteen (13) West M.D.B. & M., Fresno County, California, and containing one hundred twenty acres, more or less, the names and location notices of such lode mining claims being more particularly described in Exhibit "A" hereto attached, and which said six lode mining claims are sometimes known and herein referred to as the "Archer Mine"; and

WHEREAS, the lessee herein named desires to operate said Archer Mine and acquire title thereto:

NOW, THEREFORE, IT IS MUTUALLY UNDERSTOOD AND AGREED BY and between the parties hereto as follows:

.

1. That lessors warrant they are the sole owners of said Archer Mine, consisting of six (6) lode mining claims, all unpatented, and that there are no liens or encumbrances against the same, and that the lessors and their predecessors in interest have been in the exclusive possession of said Archer Mine for more than thirty-eight years last past and have duly performed any and all required annual assessment work required prior to July 1, 1943.

2. That the lessors are the sole owners of all that

certain personal property located in and about said Archer Mine, and more particularly described in Exhibit "B" hereto attached, which said personal property is for convenience hereinafter referred to as "Archer Mine equipment".

- into escrow with the Security-First National Bank of Los Angeles, Coalinga Branch, Coalin a, California, a good and sufficient bill of Sale to the lessee of said Archer Mine equipment, warranting title free and clear of liens and encumbrances, together with a deed from the lessors to the lessee of said Archer Mine, and at the same time instruct said bank to obtain a title report from a reliable title company in Fresno County as to the title to said Archer Mine and as to any chattel mortgages or other encumbrances against said Archer Mine equipment.
- 4. Lessee shall fortswith deposit in escrow with said bank the sum of \$5,000.00, with instructions to said bank to deliver the same to Benjamin J. Byles and/or Norma A. Byles when said bank shows title in said Archer Mine vested in the lessors, free and clear of all encumbrances other than this agreement, and said bank shall hold said deed and bill of sale subject to the payment by the lessee to the lessors of the sum of \$75,000.00 as hereinafter provided.
- 5. That the lessee will pay to the lessors, in the manner hereinsfter provided and as the purchase price of said mine, in addition to said sum of \$5,000.00 to be paid through escrow as aforesaid, the sum of \$70,000.00, which said sum shall be in full and complete payment of said mine as in paragraph 4 above set forth. That said \$70,000.00 shall be payable in the manner following, towit: 10% of the amount received from any and all quicksilver and other minerals which may be produced and sold from said premises, less only the deductions herein provided; provided, however, that said lessee shall pay to lessors an advance minimum monthly royalty

of \$200.00, commencing on the 1st day of November, 1943, and continuing thereafter each month until the additional sum of \$32,500.00 has been paid; and provided further that, if the total of said advance minimum monthly payments together with the payments on account of the 10% royalty have not totaled the sum of \$5,000.00 on or before November 1, 1944, then and in such event lessee shall pay lessers any difference between the amount of advance monthly minimum and 10% royalty payments during said period and the sum of \$5,000.00. That, when the total sum of \$37,500.00 including payment of \$5,000.00 into esorow has been paid, lessee shall not be obligated to make further advance minimum monthly payments of \$200.00, or any other sum, but will continue to pay lessors the royalty of 10% as herein provided. That lessee may at any time pay any additional sum or the whole of the balance of said purchase In determining the amount of the 10% royalty to be paid in any calendar month there shall be credited upon such payment the \$200.00 minimum royalty paid by the lessee to the lessor for the menta in which the quicksilver was produced and on which the royalty was to be paid.

2

3

4

5

6

7

8

9

10

11

12

13

14

15

- 16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

lessors through escrow as hereinabove provided, the lessee shall, within thirty days from date hereof, enter upon said Archer Mine and occupy and work the same in a good and minerlike fashion and in the manner necessary or proper for good and economical mining of said property so as to take out the largest amount of commercial ore possible with due regard to development and preservation of the property as a workable mine, and to retort, process or otherwise treat said ore for the purpose of removing mercury and/or other minerals therefrom, and to market in its own name such mercury or other minerals, and the lessee shall be entitled to retain possession of said Archer Mine so long as it shall perform the terms, conditions and covenants of this agreement, and in that

connection the lesses shall occupy and hold all cross or parallel lodes, spurs or mineral deposits of any kind which may be discovered by the lessee or any person as his agent or employee upon the premises, with the agreement and understanding that the same shall in all instances be part and parcel of said Archer Mine. That the lessee herein named shall be entitled to use each and all of the items of personal property described in said bill of sale in and about Archer Mine in the ordinary and customary manner but shall not use said property elsewhere. Said lessee shall not be liable for any breakage, loss or damage to said personal property so long as said personal property is so used. Said lessee shall not sell or dispose of said personal property except as herein provided. should said lessee desire to apply any items of said personal property as a part of the purchase price of similar personal property, to be similarly used, the lessee may so apply said personal property provided the full balance of the purchase price of said new personal property shall be paid. Title to the new personal property shall at once vest in the lessors but said new personal property shall be deemed included in said bill of sale.

1

 $\mathbf{2}$

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

7. That upon taking possession of the Archer Mine said lessee shall without delay commence operations for driving a drift at a level approximately 225 feet below the lowest existing drift on said property, which said deift shall be of a height and width sufficient to comply at all times with all rules and regulations of all governmental agencies and the statutes and ordinances applicable thereto, and shall be continued by the lessee until a distance of 1200 feet has been driven, or an ore body in commercial quantities has been encountered at a lesser distance, such work to be suspended only by reason of unforeseen mechanical difficulties or other reasons as hereinsfter set forth on in the opinion of competent geologists of the parties hereto, the further driving of said drift would in all probability not result in the discovery

of any further commercial ore.
8. That, so long as

. 18

Angeles, California, is not less then \$75.00 per flask, said lesses will continue to operate said property and produce ore therefrom. Should the price of mercury at Los Angeles drop below \$75.00 a flask, said lesses may suspend operations during such time as the price is below \$75.00 per flask but shall, neverthe less, do all work necessary, or required by reason of any statutes of the United State of America as annual labor and/or improvements, to hold title to such "Archer Mine."

of the purchase price of said property an amount equal to 10% of all amounts received by the lessee from the sale of quicksilver or any other minerals that may be produced from said premises, without deduction except the cost of transportation from the mine to the point of sale, including insurence against theft or other loss, which said payments shall continue until the full purchase price is paid and which said amount shall be paid by the lessee to the lessors on or before the 10th day of the calendar month following the month in which said quicksilver or other minerals have been sold or disposed of, said payment to be made to the lessors through the Security-First National Bank of Los Angeles, Coalinga Branch, Coalinga, California; it being understood that the provisions hereof are subject to paragraph 5 above.

10. That said lessee shall pay all taxes levied and charged against said premises, together with any and all installments on assessments for local improvements, which said payments shall be made by the lessee before said taxes or payments for local improvement shall become delinquent.

ll. That lessee shall keep true, complete and accurate books of account showing all quicksilver and other minerals produced by it under the terms and provisions of this agreement and all

-5-

amounts of quicksilver and other minerals sold and disposed of by it, the persons to whom such minerals were sold, place at which same was sold, the amount received by the lessee from said minerals, the cost of transportation and insurance in connection with the transporting of said quicksilver and other minerals from the mine to point of sale or disposal, and said books of account or records shall be open at all times during reasonable business hours to the lessors or their duly authorized agent. 8 That the lessors, or their agent, may from time to time, during reasonable working hours, enter upon said Archer Mine for the purpose of inspection. That all work done in and about said premises by 12. the lessee shall be at its sole cost and expense, and the lessee

2

3

5

7

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

shall keep said premises, and every part thereof, at all times free and clear of all mechanics, miners and/or other liens and encumbrances of every nature and description, and shall pay all indebtedness and liabilities incurred by the lessee which may or might become a lien on said premises before said indebtedness or liabilities shall become such lien, and shall permit the lessors to go upon the Archer Mine to post, and at all times keep posted, in some conspicuous place upon said premises such notices as the lessors may desire to the effect that the interests of the lessors shall not be subject to any lien for service, labor or materials furnished upon or used in connection with said premises.

13. That the lessee shall assume all responsibility for and save the lessors harmless from any and all liability and claims for liability which may arise by reason of lessee's operations upon or about said Archer Mine.

That the said lessee shall, at its own cost and expense, provide Workmen's Compensation insurance at once upon the commencement of operations hereunder so as to protect the interests of the lessors in said premises from the lien of any judgment obtained in any action brought by reason of any injury of any workman in or about said premises, and said lesses shall furthermore conduct all operations in and about said premises in such respect aswill fully comply with the laws of the State of California and all safety regulations prescribed by any duly authorized body.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

15. That no equipment, tools, machinery and moveable structures and improvements and personal property of any nature or description brought or placed upon said premises by the lessee for use in and about said Archer Mine shall become fixtures but shall remain the property of the lessee and shall be subject to removal by the lessee and, in the event this agreement shall be terminated, for any reason, said lessee shall be entitled to remove all such machinery, tools, equipment, moveble structures, improvements and personal property from said Archer Mine within sixty days after the termination of this agreement. Provided, however, that in the event lessee is in default in the payment of any amount to the lessors by reason of any quicksilver or other minerals theretofore sold, lossors shall have a lien upon said equipment or improvements to the extent of any amount due to the lessors by reason of any such quicksilver or other minerals produced and sold and on which said lessors shall not have received said 10% as provided herein, and, in such event, lessee shall not remove any such equipment or improvements until said payment shall have been made in full, and in no event shall lessee remove any timbers placed in and about said Archer Mine.

16. That, should the lessee be prevented by reason of strikes, riots, acts of God, processes or orders of Court or other government agency, or act of the common enemy, from entering upon said premises and working the same, or transporting supplies to said premises in the usual and customary manner, or removing ore therefrom or processing or retorting said ore, or selling said quicksilver, then, and in that event the lessee shall not be deemed

to be in default by reason of any failure to perform any of the terms or provisions of this agreement because of any of the conditions above stated.

17. Lessee may at any time, upon 30 days written notice to the lessors, quitclaim any and all right, title or interest which it migh or could have under this agreement in and to said Archer Mine to the lessors, and lessee shall thereafter be relieved of all obligations to make any further payment of any kind hereunder, or otherwise perform any act under the terms and provisions of this agreement, but the giving of such quitclaim deed shall not relieve lessee from any previously accrued obligation to make any payment or perform any other accrued obligation under the terms and provisions hereof.

18. That, in the event any action at law or in equity be brought by either party hereto against the other in or about any matter connected with this agreement, the party against whom judgment shall be obtained shall pay to the other party hereto the costs of such party and a reasonable attorney's fee to be fixed in said action by the court before whom said action may be heard.

ment but the lessee shall not be deemed to be in default under the terms and provisions of this agreement as the result of any failure or alleged failure on its part to comply with the terms and provisions hereof until and unless the lessors shall have first given to said lessee notice in writing by mailing the same to lessee as herein provided, of the existence of said default and the lessee shall fail for a period of thirty days thereafter to correct such failure or default. Upon the failure of lessee to so correct such default or failure within said period of thirty days, then the lessors may, at their option, terminate this agreement without further notice to lessee and may remove said deed and bill of sale from escrow with said bank, and lessee's right hereunder and in

said premises and equipment covered by said bill of sale shall end and all sums theretofore paid by lessee to lessors hereunder shall be forfeited to lessors for the use and occupancy of said premises. In the event of any default on the part of the lessee hereunder, lessors shall have no right to recover from the lessee any minimum of royalty, or other sum hereunder, except such portion of the 10% royalty for quicksilver produced and sold by the lessee and for which it shall not have accounted to the lessors.

20. That any notice to be given by the lessors to lessee may be given by mailing a copy of said notice in an envelope on which the postage has been prepaid addressed to lessee at

Los Angeles, California, or to such other person or place as lessee shall from time to time designate in writing.

Any notice to be given by lessed to the lessors may be given by mailing same in an envelope upon which the postage has been prepaid and addressed to lessors at 612 Van Ness Avenue, Coalinga, California, or to such other person or place as the Lessors may from time to time in writing designate, and deposited in the Post Office in Los Angeles, California.

21. That this agreement shall be binding upon and inure to the benefit of the successors and assigns of each of the parties hereto but this agreement shall not, nor shall any interest therein be transferred or assigned or granted, either in the form of a sub-lease or otherwise, without the written consent of the lessors being first had and obtained. That lessors will consent to such an assignment and sub-lease if the assignee or sub-lease is of suitable financial standing and responsibility; nor shall this agreement or any interest in said Archer Mine become an asset in any bankruptcy or insolvency proceeding.

IN WITNESS WHEREOF, the parties hereto have hereunto

. 9

1	their hands the day and year first hereinabove set forth.
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	BY
18	Attorney-in-fact
19	LESSORS.
20	ARCHER MINING COMPANY
21	THATMA COMPANT
22	BYPresident,
23	Frestant
24	BYSecretary,"
25	LESSEE.
26	
27	
28	
29	
3 0	
31	
32	

ASSIGNMENT

. 8

. 1

FOR VALUE RECEIVED, the undersigned, ARCHER MINING COMPANY, hereby sells and transfers to BO C. ROOS, FREEMAN KEYES and FRANK B. BELCHER, as their interests may be determined between them, all the right, title and interest in and to and under the Bond and Lease attached hereto dated July 19, 1943, by and between BENJAMIN J. BYLES and others, as Lessors, and ARCHER MINING COMPANY, as Lessee.

All payments heretofore made under said Bond and Lease to Lessors shall inure to the benefit of assignees herein named.

Assignees by the acceptance of this assignment do not thereby assume any liability for any obligations under said bond and lease which have accrued to date hereof but do assume all obligations which hereafter accrue under said Bond and Lease as the same may be modified by consent of Assignment by Lessors named herein, which Consent is attached hereto and made a part hereof.

Dated, June 16th, 1952.

22 ARCHER MINING COMPANY

EY R. D. PRIOR
Pres.

BY R. Morgan Jr. Secv.

0

CONSENT TO ASSIGNMENT

The undersigned, BENJAMIN J. BYLFS and NORMA A. BYIES, his wife, JAMES H. EYLPS and ETHEL BYLES, his wife, SIDNEY W. BYLES and NETTIL BYLES, his wife, EDWARD L. BYLES 5. and BESS BYLES, his wife, and GEORGE R. BYLES and JENETTA BYLES, his wife, being Lessors under a certain Bond and Lease 7. dated July 19, 1943, with ARCHER MINING COMPANY, as Lessee, do hereby consent to the foregoing assignment of said Bond . and Lease by Archer Mining Company to Bo C. Roos, Frank B. Belcher and Freeman Keyes on the following terms and condi-tions:

- 1. That the balance due to Lessors under said Bond and Lease is determined to be the sum of \$57,962.08.
- 2. That such balance of \$57,968.08 shall be payable to Lessors only from the amount received from the sale of quicksilver and other minerals which may be produced and sold from said premises on the following royalty basis:
 - (a) Five per cent (5%) of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day period less than seven (7) pounds of mercury per ton of ore;
 - (b) Seven and one-half per cent (7%) of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day period more than seven (7) pounds but less than ten (10) pounds of mercury per ton of ore.
 - (c) Ten (10) percent of all sums received from the sale of such minerals when the ore from which such minerals is extracted averages over any twelve-day

period more than ten (10) pounds of mercury per ton of ore.

- (d) Provided, however, that a minimum royalty shall be paid of Two Hundred Dollars (\$200.00) per month for each calendar month, which said sum shall be credited against future royalties not in excess of Two Hundred Bollars (\$200.00) per month. Receipt is hereby acknowledged by Lessors of the sum of One Thousand Dollars (\$1,000.00) which shall represent payment in advance of the minimum royalties for the months of July, August, September, October and November of 1952.
- 5. Any notice by assignor to said assignees of said Bond and Lease shall be sent to Room Bl8 Security Building, Los Angeles 13, California.
- 4. Said assigness shall abide by and conform to all other conditions of said Bond and Lease except as herein modified.
- 5. Consent is further given that BO C. ROOS, FREEMAN KEYES and FRANK B. BELCHER may assign said Bond and Lease dated July 19, 1943, to a partnership of which they are members, such assignment shall be subject to the terms hereinabove set forth. Upon such assignment to said Partnership, BO C. ROOS, FREEMAN KEYES and FRANK B. BEICHER shall be relieved of any personal liability hereunder or under said Bond and Lease.

Dated this 8th day of August, 1952.

0 ·

(signed) Benjamin J. Byles
Benjamin J. Byles

(signed) Benjamin J. Byles
Benjamin J. Byles
Attorney in Fact

Lessors

0

Benjamin J. Byles hereby represents and warrants that he is the Attorney-in-Fact for all of the above named Lessors under a presently existing Power of Attorney with full power to execute this assignment of their behalf.

Dated this 8th day of August, 1952.

Benjamin J. Byles (signed)
Benjamin J. Byles

ASSIGNARNT

For a good and valuable consideration, the undersigned, PREMIAN KEYES, BO C. ROOS, and FRANK B. DELONER hereby sell, assign, and transfer to ARCHER MATERIALISES, a Limited Partnership, all of the eight, title, and interest in, to and under that certain Bond and Lease dated July 19, 1943 by and between Benjamin Byles, et al. as Lessors and Archer Mining Company as Lessoe, together with all their right, title, and interest in and to all equipment, personal property, and mining machinery located at and used in connection with said Archer Mine, which said Mine is located in Fresno County, State of California.

Dated: June 30, 1953.

Market and the state of the same of the sa	Producti		Rayas	(aignad	(signed)	
	Freem	233	Royes		· (400:200)	
	Ro C.	Po	<u>08 (82</u>	med)		
	Bo C.	ar Ó	03			
	Prank	Ð.	Bolok	er (sign	ed)	
	Frank	В.	Colci	er		

STARE OF CALIFORNIA) ss. COUNTY OF LOS AUGELES)

On June 30, 1953, before me, the undersigned, a Motory Public in and for said County and State, personally appeared of MANA KEYRO, BO C. NOOS, and F ANA B. BALCHEM, known to me to be the persons who executed the within Instrument and acknowledged to me that they executed the same.

WITHESS my hand and official scal.

STAL

MOTERY Fublic in and for said County and State.

OF THE UNITED STATES

The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62.500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

- 1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{51,650}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.
- 2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62.500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.
- 3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{800,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62.500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{63.500}$.

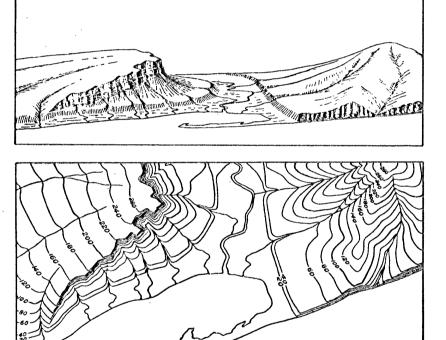
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{30,000}$.

The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to \$5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

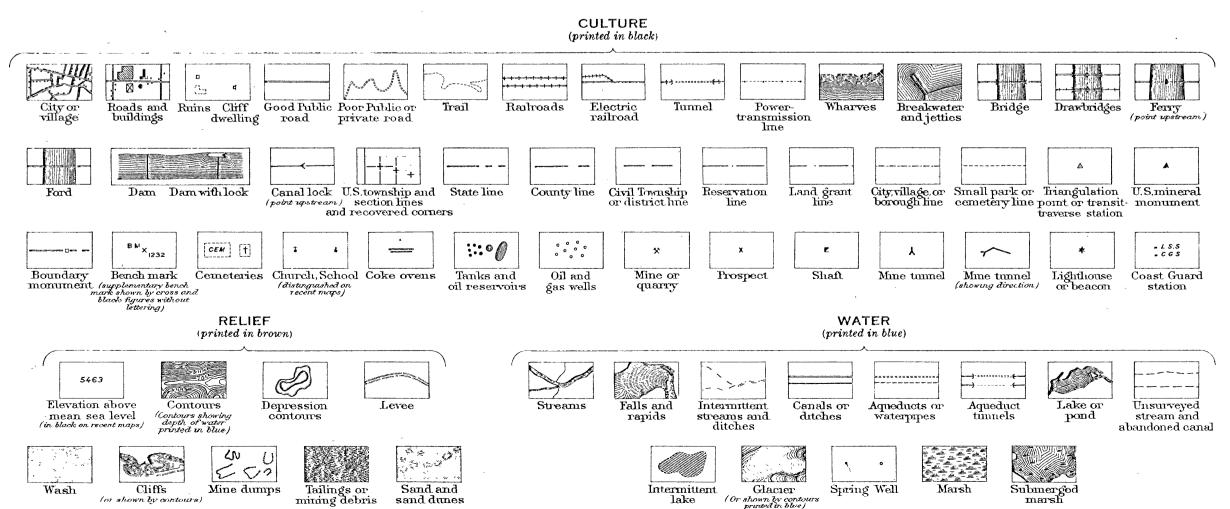
THE DIRECTOR,

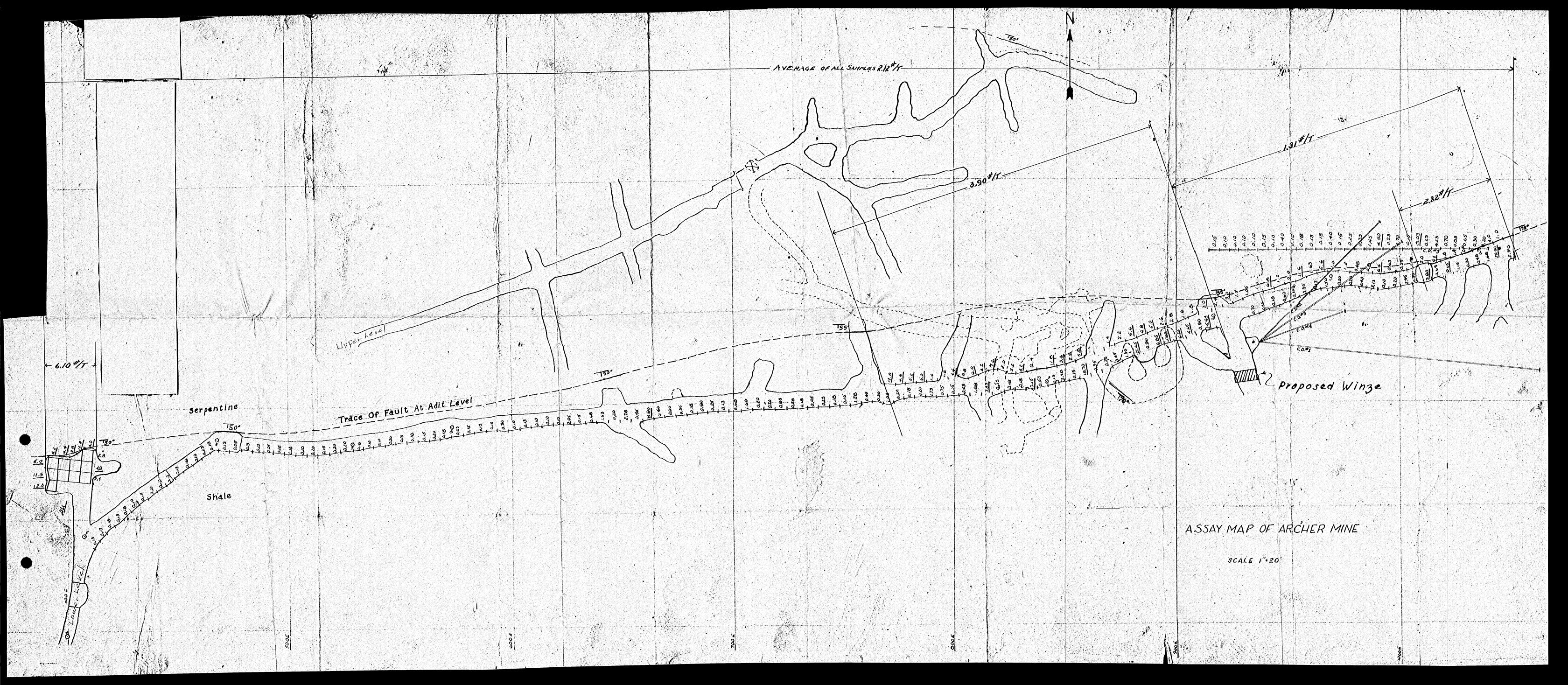
United States Geological Survey,

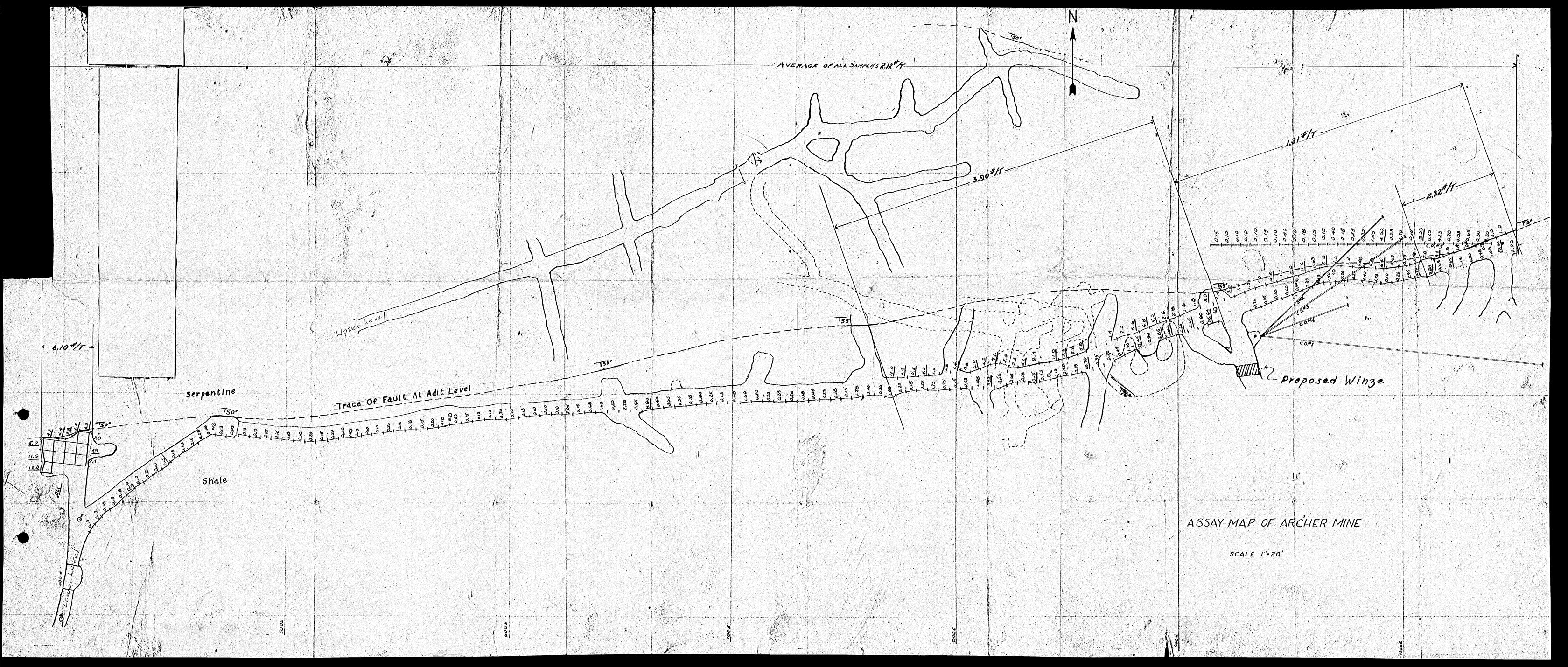
November 1937.

Washington, D. C.

STANDARD SYMBOLS







The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about $16\frac{1}{2}$ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance-relating, for example, to mineral development, irrigation, or reclamation of swamp areas-are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,600}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{800,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62.500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62.500}$.

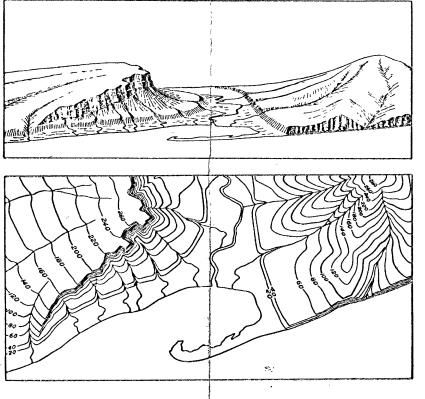
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{30.000}$.

The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slopé, lines that are close together indicate a steep slope, and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently slop- November 1937. Washington, D. C.

ing spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

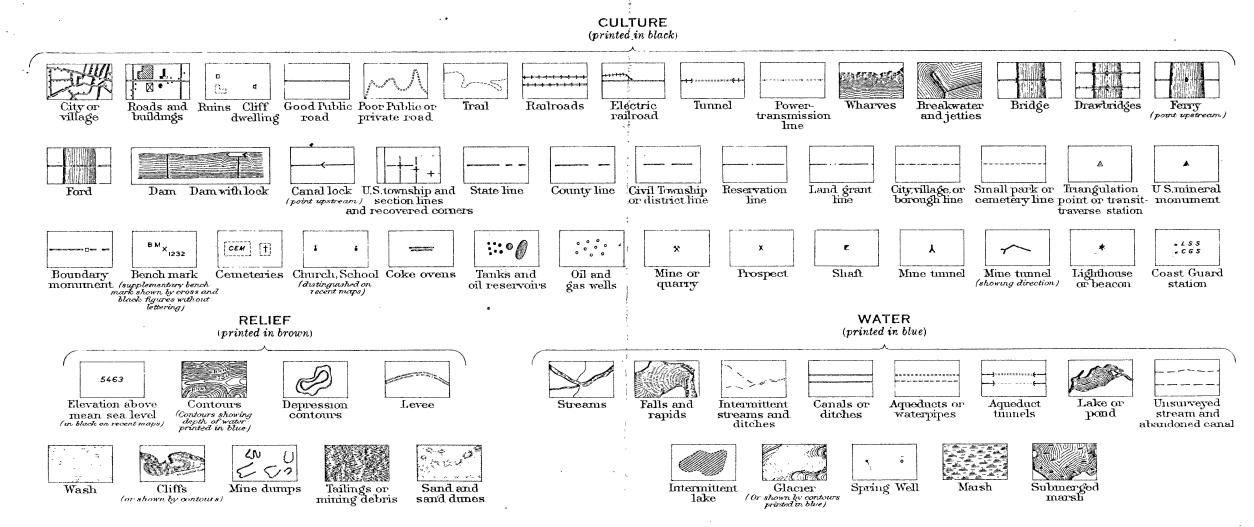
Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to \$5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,

United States Geological Survey,

STANDARD SYMBOLS



WOODS (when shown, printed in green)

		AVER	AGE OF ALL SAMPLES R.IR #15		
		A. A.			
			3.90		2.82*
				20000000000000000000000000000000000000	
6.10*/7.	HPRet Level		755f		
	Trace Of Fault At Adit Level	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Proposed Win	32
19 19 19 19 19 19 19 19 19 19 19 19 19 1					
Shale of 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				ASSAY MAP OF ARCHER MINE	
				SCALE /"•20"	
\$ 700g	7000	8			

standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62.500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

- 1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,600}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.
- 2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.
- 3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{500,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62.500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62500}$.

Mine dumps

Cliffs

Wash

Tailings or muting debris

Sand and

sand dunes

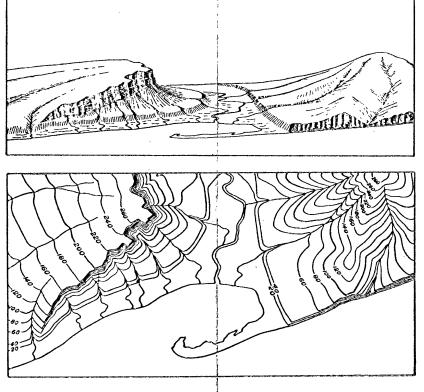
, and a recours now in progress. The scale of the published maps is $\frac{1}{30,000}$.

The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently slop- November 1937. Washington, D. C.

ing spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

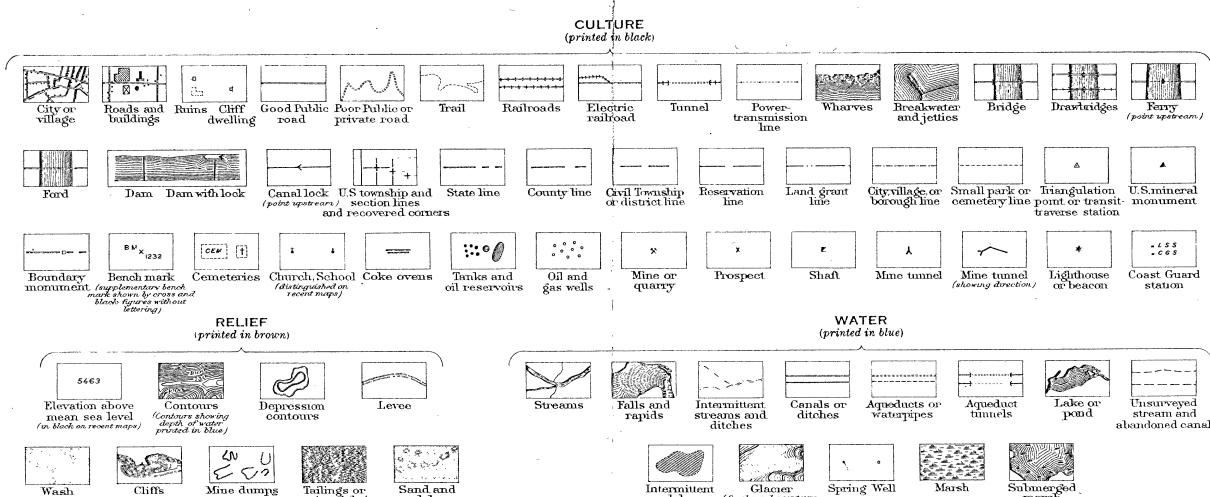
Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to \$5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,

United States Geological Survey,

STANDARD SYMBOLS



Intermittent

Glacier

1 Or she

shown by contours printed in blue)