MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE Contract No. _____ Docket No. 6692

Application
- [x] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [x] Owner's Consent to Lien and Subordination Agreement
- [x] Application and Attachments
  Amended Application 9/12/68
  Amended Application 9/25/68

Right Side

- [ ] Project Summary (final)
- [ ] Work Completed Analysis (final)
- All other material filed in chronological order including the following reports if checked:
- [ ] Field Team Semiannual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam. Report (Tab) 12/68
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. _____: Reports
- [ ] Analysis of Semiannual Inspection Reports
- [ ] Project Summary (Interim) by MME Engineers

Right Side

- [ ] Field Team Semiannual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with Transmittal, Narrative and Maps

Folders No. _____: Maps (Use pocket folder or envelope)

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty Material

72195-65

AREX®
Arizona Exploration Co., Inc.
2777 NORTH CAMPBELL AVE
TUCSON, ARIZONA 85719
OFFICE (602) 327-6041
NIGHT (602) 325-6162

September 25, 1968

OFFICIAL COPY
O. M. E.
RECEIVED
OCT 1 1968

INITIALS	CODE
gla	130
Pal	130
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Mr. Frank E. Johnson, Branch Chief
Office of Mineral Exploration
Room 4460, Interior Building
U. S. Geological Survey
Washington, D. C. 20242

SECOND REVISION
Third Proposal

Revised Application

Dear Mr. Johnson:

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al
Cochise County, Arizona

Reference is made to your letter of September 19, 1968 in which you discuss our revised application OME-6692 pertaining to exploration for silver and gold in, or near, the Great American Silver Mine, Cochise County, Arizona.

We wish to call attention to the fact that the revised application was not intended for the exploration of fluxing ore, but rather to delineate zones of milling grade silver and gold mineralization in silicified sediments in the prospect area. Previous mining efforts have proven commercial mineralization within the zones of silicification; it is our intention to determine whether or not sufficient values are distributed throughout the silicified zones to warrant a large-scale mining and milling operation.

We can limit our initial phase of exploration to the four patented claims of the Great American Group. Knowledge gained in the first phase could then be used for expansion of the program into other areas of silicification in nearby areas.

We expect to show the presence of at least 1,500,000 tons of potential ore. This tonnage would make it possible to plan a 500 ton per day milling operation.

In order to bring our program within the scope that you feel is justified, we shall:

1. Limit our program to hammer-drilling to explore the silicified zone outlined in our original application.

2. Reduce management charges, supervision, and consulting fees.

3. Eliminate approximately 3 miles of road preparation to diamond drilling sites.

PROPOSED DRILLING AND SAMPLING

Our second revised application (third proposal) for exploration drilling consists only of hammer drilling and collecting and assaying drill cuttings. Holes are to be drilled at locations shown on the attached sketch, Figure 3A (revised 9-25-68). The Zone to be drilled is subdivided into areas A, B, and C as shown on the sketch map and the drilling program is outlined below for each area. Please note that the starting point for our "grid" and "fence" drilling is the old shaft on the Great American claim, and all hole locations are related to the shaft as shown on the attached sketch map. (Figure 3A, revised).

Area A

Within the heart of the silicified and mineralized zone on the Great American claim we are proposing three "fences" of drill holes, each 200 feet deep and spaced 100 feet apart along north-south lines and 200 feet apart in an east-west direction. These holes are to be drilled within the area designated as "A" on the attached sketch map. Twenty-five holes are required, each 200 feet deep, thus 5,000 linear feet of hole will be required. In addition we propose to deepen three of these holes, No. 13, 33, and 48, to a depth of 500 feet to explore for other silicified limestone beds below the outcrop. Then, three holes each deepened 300 feet amount to 900 feet of hole, thus the total is 5,900 feet of drill hole in Area 1. We estimate that 80 percent of this drilling will be in silicified material which will require assaying, for which we propose to cut samples in 10-foot intervals, thus 472 samples will be collected for assay. Costs will be summarized later in this application.

Area B

Area "B" adjoins Area "A" on three sides as shown on the attached sketch map. Within this area the proposed holes are to be drilled on a 200 foot grid pattern. Six of these holes, which are located north of a control line shown on the map, are to be 250 feet deep; 11 of the holes located south of the line are to be 200 feet deep. Thus, 3700 feet of hole will be drilled in Area "B". We estimate that 60 percent of this drilling will be in silicified material which will require assaying, thus 222 samples will be cut for assaying for silver and gold.

Area C

Area "C" lies on the outer fringes of Area "B" and includes parts of the Hornsilver and Sulphuretts patented claims. We propose to explore Area "C" with six holes at locations shown on the attached sketch. The holes are located so as to fit into the "grid" and "fence" pattern of areas "A" and "B". Three of

the holes are to be 250 feet deep and three are to be 200 feet deep, thus, 1350 linear feet of hole is to be drilled in Area "C". We estimate that 40 percent of this drilling will be in material which will require assaying, therefore, 54 samples will be collected for assaying. Holes are not to be drilled within 25 feet of the outside boundary of the claims. We request the right to move the holes within a radius of 25 feet from the locations shown on the map to make it possible to avoid drilling into old mine workings, to avoid places of unusually difficult access and to allow slight modification of the program as may be warranted by more detailed geological studies to be made while drilling is in progress. Holes in Area "A" are to be drilled first, insofar as practical; otherwise, the order of drilling is not important.

SUMMARY OF REVISED COST ESTIMATES

Item 7. Estimated Costs

(a) Independent Contracts

All of our exploration work is to be hammer drilling for which we propose to accept the bid of Whatley Drilling Co., of Tucson, Arizona. This bid is $4.85 per foot to a depth of 500 feet. To this firm price we must add a cost of 25 cents per foot for moving from hole-to-hole, setting collar pipes, repairs and other periods of down-time. Then the cost of hammer drilling will be $5.10 per foot on a firm contract.

The holes to be drilled are summarized as follows:

Area	Number of holes 200 feet deep	Number of holes 250 feet deep	Number of holes 500 feet deep
"A"	22		3
"B"	11	6	
"C"	3	3	
Total number of holes	36	9	3
Total footage	7200	2250	1500

Total number of holes to be drilled - 48 holes

Grand total of linear feet of hole to be drilled - 10,950 feet.

Total cost of drilling - 10,950 feet @ $5.10 - $55,845.00

Sampling and Assaying:

Samples of hammer drill cuttings will be collected by the drill crews and this cost is included in the contract price of drilling. The samples will be cut, bagged and shipped by AREX personnel; the cost of which is given later under personal services.

Assaying for gold and silver will be by an independent assayer in Tucson, Arizona at a cost of $3.00 per sample. The estimated number of samples is as follows:

Area "A"	472	samples
" "B"	222	"
" "C"	54	"
Total	748	"

Total cost of assaying 748 samples @ $3.00 - $2244.00

Roads and drill sites

Roads must be wide enough and properly graded for ready access by truck-mounted drilling equipment. Because of the extremely hard character of the silicified outcrops on the Great American claim, some drilling and blasting will be necessary during the road construction.

About one and a half miles of access road will be required. At an estimated cost of $1750 per mile. We estimate the drill sites to average $35.00 per site.

Thus the cost of roads and drill sites will be as follows:

Roads - 1½ miles @ $1,750 per mile	-	$2,625.00
Drill sites - 48 sites @ $35.00	-	1,680.00
Total roads and drill sites		$4,305.00

This cost estimate provides for moving in and out, subsistence and mileage for the operator, use of fuel truck and related expenses. Roads and drill sites probably will be constructed by M. M. Sundt Construction Company as per bid dated September 9, 1968 or they may be constructed by AREX at the same price.

1. AREX personnel will manage the project without cost to OME. AREX will provide office facilities, bookkeeping, and secretarial services for $75.00 per month for four months, the estimated life of the project, for a total cost of $300.00.

2. A project foreman is to be assigned to the job from the time it starts until the drilling is completed, a period estimated at three months. His duties will be to take care of samples, cut and prepare samples for assaying, help with surveys of roads and drill holes and generally oversee the drilling project. He will receive $750.00 per month for approximately three months, for a total of $2250.00

3. John N. Faick, Consulting Geologist, is to act as an assistant part-time manager to assist in all phases of the project and is to be available when needed at $60.00 per day including expenses for an estimated period of about 10 days a month for three months, or a total cost of $1800.00

We estimate that this project will require about four months from the time the contract is awarded. About one month is allowed for preparation of roads and drill sites, and three months for drilling, compilation of data, interpretation, and report preparation.

The above Personal Services are summarized as follows:

1.	Manager	No charge
	Office, bookkeeping etc.	$ 300.00
2.	Project foreman	2250.00
3.	Assistant part-time manager	1800.00
	Total for Personal Services for four month period	$4350.00

The total estimated cost of this revised exploration program is summarized as follows:

Cost of Hammer Drilling	$55,845.00
Sampling and Assaying	2,244.00
Road and Drill Sites	4,305.00
Personal Services	4,350.00
Total cost of revised project	$66,744.00

Exploration sampling, geological study is presently in progress in the general area adjacent to that shown on Figure 3A attached, for the purpose of further evaluating those zones that are interesting for future expansion of the present drilling program as outlined in this application.

This revised application for financial assistance from OME was completed September 25, 1968.

Respectfully submitted,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman, President

JHF/ajg
cc: J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Building 53, Room 203
Denver Center
Denver, Colorado 80225

Dr. John N. Faick, Geo.

OME Form 4-[illegible]

Budget Bureau No. 42-R1506
Approval expires Dec. 31, 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Re: OME-6692 (Silver-Gold) SECOND REVISION, THIRD PROPOSAL

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Pursuant to Public Law 85-701 (72 Stat. 700; 30 U.S.C. 641)

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*

AREX, Arizona Exploration Co., Inc.
2238 E. Hedrick Dr.
Tucson, Arizona 85719

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER

DATE RECEIVED

REGION

DIVISION CODE

BUSINESS ORGANIZATION *(Check one)*

INDIVIDUAL [ ]
CORPORATION [X]
PARTNERSHIP [ ]
OTHER *(Specify)* [ ]

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME ADDRESS TITLE

J. Harry Fieldman, 2238 E. Hedrick Dr., President
Arthur D. Filiatrault, deceased and replaced by
Arthur C. Filiatrault, Vice President
4917 N. Camino Arenosa
Clare F. Filiatrault, Secretary-Treasurer
4901 N. Camino Arenosa

STATE IN WHICH FIRM IS ORGANIZED: All of Tucson, Arizona

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Silver and Gold

ESTIMATED COST OF PROJECT: $66,744.00

PROPERTY NAME: Great American Silver Mine

LOCATION COUNTY: Cochise County, Arizona

STATE:

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior,* ~~Washington, D.C., or with the OME Field Office.~~ Washington, D. C., 20242, or with the nearest OME Field Office.

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, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

September 25, 1968
DATED

J. Harry Fieldman
BY *(Signature)*

President, AREX, Arizona Exploration Co., Inc.
TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

AREX®
Arizona Exploration Co., Inc.
~~2777 NORTH CAMPBELL AVE~~ 2238 E. Hedrick Dr., No. 11
TUCSON, ARIZONA 85719
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~~NIGHT (602) 325-6162~~

September 12, 1968

Mr. Frank E. Johnson, Branch Chief
Office of Mineral Exploration
Room 4460, Interior Building
U. S. Geological Survey
Washington, D. C. 20242

Dear Mr. Johnson:

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co.,Inc.
Great American Claim, et al.
Cochise County, Arizona

Reference is made to the Arizona Exploration Company (AREX) application OME-6692 for financial assistance in exploring for silver and gold at the Great American Silver Mine in the northern Swisshelm Mountains, Cochise County, Arizona. The original application, which was submitted Jan. 26, 1968 was for an exploration program specifically designed to search for ore in the immediate vicinity of the Great American patented claim. After review of this application you advised by letter of February 5, 1968 that only part of the project as submitted would be considered for OME assistance and that AREX should do more work at its own expense in an attempt to justify exploration by a more comprehensive program of drilling. You also raised the question of drilling "fences" of holes across the deposit and the possibility of drilling on an expanded grid to depths greater than the 60-foot wagon drill holes as originally proposed. Pursuant to these suggestions we have increased the scope of the investigation, broadened the field of interest and now have under consideration a relatively large exploration project.

As stated in my letter of August 31, Dr. John N. Faick has been working on the project for the purpose of preparing a revised application and a new set of maps. Dr. Faick has collaborated closely with Mr. William Lundby, Exploration Geologist, and with Dr. Spencer R. Titley of the Department of Geology, University of Arizona. These three geologists will continue to collaborate on behalf of AREX as long as their services are needed on this project.

The result of these combined efforts is that the Great American exploration project has become much larger and, in our opinion, is a great deal more meritorious than we had previously

anticipated. We find indications that the geological conditions that caused the silver-bearing siliceous deposit to form on the Great American claim appear to be repeated in three other places in the area of interest. One siliceous zone located at the north end of the district, is of substantial proportions. As there are several limestone beds in the district we postulate the existence of other silicified zones exposed at the surface.

Shipping records have established that a portion of the silicified zone on the Great American claim contained significant silver values. Preliminary geochemical studies indicate that this zone as well as silicified Zone 2, which lies about a mile west of the Great American Mine contains anomalous amounts of silver, lead, copper and molybdenum. See Appendix "B"

This new information indicates the need for a larger scale exploration program. Accordingly AREX has acquired substantial additional property and now controls mineral rights on about 11 square miles of land contiguous to the Great American Silver Mine. The present AREX objective is to indicate by drilling an excess of 1,000,000 tons of ore which would be sufficient to sustain a milling operation of 500 tons or more per day. This is a substantial expansion of our original objective of establishing a small body of direct-shipping siliceous silver ore on the Great American claim.

In the area of the Great American mine our revised exploration program proposes hammer drilling 5-inch holes to depths of 200 and 250 feet on a 200-foot grid on and near the siliceous outcrop. This is designed to determine the extent of the silicified zone and the distribution of silver and gold values within it. Also within this Great American "target area" we propose to diamond drill four holes to depths of 500 feet and two holes to depths of 1,000 feet. The purpose of these deeper drill holes is to determine if silver-bearing siliceous bodies have replaced other limestone beds which are believed to lie at greater depths. We believe the drilling on the Great American Mine will provide sufficient information of an exploratory nature to indicate the existence of an ore body which AREX would prove and develop at its own expense. The information gained would be useful in guiding exploration on the other three silicified zones.

For preliminary exploration of the other three silicified zones as shown on the maps in this revised application we propose to drill to depths of 1,000 feet on Zone 2 and Zone 3, and to a depth of 2000 feet on Zone 4, the large silicified mass at the north end of the district. We believe this hole will be deep enough to pass through the favorable Abrigo limestones in the lower part of the stratigraphic section, and will pass through several other favorable limestone beds that we believe exist beneath this zone. Incidental to this program AREX will continue

at its own expense; geochemical surveys, claim validation and other work now in progress. Further geological studies will be made during the course of drilling and if these preliminary exploration efforts yield encouraging results more detailed exploration work will be undertaken.

AREX proposes to do all of this exploration work under a one-stage program costing One Hundred Eighty Nine Thousand Eight Hundred Fourteen Dollars ($189,814.00) of which AREX is prepared to pay 25 percent, and therefore requests OME to accept this application for financial assistance amounting to 75 percent of the cost. AREX will subordinate its interest in the entire property holdings to OME.

AREX plans to complete the proposed exploration within approximately six months after this application is approved. Our costs for drilling are based on two firm bids and two estimates, copies herewith submitted. We do not expect significant difference in the final bids received from different contractors, but if there is a large difference we will amend the application based on the reduced costs.

Our proposed exploration program and costs are explained in the revised application and accompanying illustrations which are attached hereto. We hope you will be able to give this application your early consideration as we are anxious to undertake this program.

At this time we wish to thank you for your suggestions which encouraged AREX to re-investigate its exploration Objectives, and which resulted in finding three additional exploration "targets". We also wish to thank you for your patience in holding the AREX application in your active files while our exploration venture was being re-evaluated.

Sincerely yours,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman

J. Harry Fieldman, President

JHF/ajg
cc: J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Building 53, Room 203
Denver Center
Denver, Colorado 80225

Dr. John N. Faick, Geo.
Dr. Spencer R. Titley, Geo.
William Lundby, Geo.

MME Form 40
Jan. 65

Budget Bureau No. 42-R1508
Approval expires Dec. 31, 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Re: OME-6692 (Silver-Gold) REVISED

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Pursuant to Public Law 85-701 (72 Stat. 700; 30 U.S.C. 641)

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*	APPLICANT DO NOT USE THIS BLOCK
AREX Arizona Exploration Co., Inc. 2238 E. Hedrick Dr. Tucson, Arizona 85719	DOCKET NUMBER DATE RECEIVED REGION DIVISION CODE

BUSINESS ORGANIZATION *(Check one)*	LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE (NAME, ADDRESS, TITLE)
INDIVIDUAL [ ] CORPORATION [X] PARTNERSHIP [ ] OTHER *(Specify)* [ ]	J. Harry Fieldman, 2238 E. Hedrick Dr., President Arthur D. Filiatrault, deceased and replaced by Arthur C. Filiatrault, Vice President 4917 N. Camino Arenosa Clare F. Filiatrault, Secretary-Treasurer 4901 N. Camino Arenosa All of Tucson, Arizona
STATE IN WHICH FIRM IS ORGANIZED: Arizona	

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE	PROPERTY NAME / LOCATION COUNTY / STATE
Silver and Gold	Great American Silver Mine et. al. Cochise County, Arizona
ESTIMATED COST OF PROJECT $ $189,814.00	

GENERAL INSTRUCTIONS

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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, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

September 12, 1968
DATED

J. Harry Fieldman
BY *(Signature)*

President, AREX, Arizona Exploration Co. Inc
TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include true copies of correspondence which show: (1) date of loan request, (2) amount and terms requested, (3) proposed use of loan funds, and (4) the replies from credit sources. If the loan was offered under terms which you consider unreasonable, state why you consider them so.

(b) List names and addresses of affiliated, parent, or controlling companies or organizations and state extent and nature of their interest.

(c) State how you propose to furnish your share of the cost of the exploration work.

2. Applicant's Rights in Land:

(a) State your interest in the land and mineral rights, whether owner, lessee, purchaser under contract, or other. If you are not the owner, submit one true copy of the lease, contract, or other document (with address of owner) under which you control the property. Describe all liens, mortgages, or other encumbrances on the land and state book and page number and official place where recorded.

(b) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all adjacent land which you own or control. Describe any part of the land or workings which should not be subject to Government royalty and liens. If the land consists of unpatented claims, state book and page number for each recorded location notice, including amended locations, and official place where recorded. State all the names by which you know the property.

(c) For all land or mineral rights encumbered or not owned, submit five copies of Lien and Subordination Agreements on MME Form 52. If the agreements cannot be obtained, state reasons and provide copies of letters of refusal.

Physical Description:

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the land. Include existing mine workings and all production facilities.

(b) State your interest, if any, in operations described in (a).

(c) State, if you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves, giving quantities and grades and sampling methods used. Support your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you have, indicating whether you require their return.

4. Accessibility of Property:

(a) To aid the OME representative who may examine the property, state name and address of person who will meet him; give directions for reaching the property; and describe accessibility of property and of any mine workings.

(b) Name the shipping and supply points and state the distances to the property.

5. Exploration Work:

(a) Describe fully the proposed exploration work giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and sections as necessary. Show location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *land boundaries* or to the closest identifiable corner.

(b) If an access road must be built, show the proposed location on the property map and state the length, type and construction methods proposed.

(c) If an OME contract is executed, state how soon thereafter work would be started and finished. State your anticipated average daily or monthly rate of progress for each type of work.

6. Experience:

State your operating experience and background to conduct this exploration work and also that of the person who will supervise the work.

7. Estimate of Costs:

Furnish detailed estimates of the necessary costs *for each item of the work proposed in 5(a)* under the headings listed below with a total for each heading and the estimated total cost of the work. Costs for any work to be performed by an independent contractor should be listed separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be listed under categories (b) through (g).

(a) Independent contracts. State the total cost of any proposed independent contract for all or any part of the work, and the number of units and the unit cost for each type of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, or per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note*—If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. The cost of supervision, engineering and geological services, outside consultants, and labor should be itemized by numbers and classes of employees; rates of wages, salaries or fees; and periods of employment. State whether these services are available.

(c) Operating materials and supplies. List items of material and supplies giving quantity and cost of each. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of equipment and tools costing $50 or more per unit. Give specifications and indicate how each item is to be acquired—i.e., rented, purchased or provided by the applicant. If rented or purchased, state the estimated rental or purchase price. If furnished by the applicant, state condition and present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant which will be used in the exploration work.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration work, stating specifications and cost including labor, materials, and supervision.

(g) Miscellaneous. Describe the type and estimate the cost of repairs and maintenance of the operating equipment listed in 7(d). Do not repeat initial repairs listed in 7(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories. [*Note*—The Government will not contribute to costs incurred before the date of the contract, or to costs of or incident to: (1) acquiring, using, or possessing land and any existing improvements, facilities, buildings, installations, and appurtenances, or the depreciation and depletion thereof; (2) general overhead, corporate management, interest and taxes (other than payroll and sales taxes); (3) insurance (other than employees' liability insurance); and (4) damages to persons or property (other than authorized repair to or replacement of equipment or other property used in the work).]

INT.-DUP. SEC., WASH., D.C

3130 East Grant Road
Tucson, Arizona 85716
September 12,1967

Mr. J. Harry Fieldman, President
AREX, Arizona Exploration Company, Inc.
2238 East Hedrick Drive
Tucson, Arizona 85719

Dear Mr. Fieldman:

Sometime ago you requested that I review the AREX, Arizona Exploration Company application OME-6692 for financial assistance in exploring the Great American Silver Mine in the northern Swisshelm Mountains in Cochise County, Arizona. You also requested that I investigate your recent property acquisitions in the vicinity of the Great American Mine and give consideration to expanding your proposed exploration program and to prepare a revised application to OME if conditions warranted. To make this investigation, as you suggested, I conferred frequently with Mr. William Lundby, Geologist, and with Dr. Spence Titley of the Department of Geology, University of Arizona, Tucson, Arizona.

The result of our combined efforts indicates that there are four outcrops of silicified limestone in the northern part of the Swisshelm district. Significant amounts of silver are known to exist at the Great American Mine and we believe that silver may also be present in the other silicified outcrops. There is a possibility that other limestone beds may be silicified and metallized at considerable depths below the known siliceous outcrops. For these reasons we believe you are justified in undertaking a large, comprehensive exploration program in the vicinity of the Great American Mine.

In order to help your exploration efforts, as you previously requested, I have prepared a revised OME application and a new set of 10 illustrations to substantiate your request for exploration assistance. Please note that the illustration numbers are followed by the suffix "A" so they will not be confused with illustrations previously submitted. As mentioned above I have prepared this application in close collaboration with Mr. Lundby and Dr. Titley. I have also taken into consideration numerous published and unpublished reports, consequently, the application incorporates the best geological information available to me at this time. I hope that results of your exploration efforts justify our present optimism for the project.

The revised application including the illustrations and cost estimates are attached herewith.

Sincerely yours,

John N. Faick

John N. Faick, Ph.D
Registered Geologist

AREX, Arizona Exploration Co., Inc.
2238 East Hedrick Dr., No. 11
Tucson, Arizona 85719

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERAL EXPLORATION

This is a revised application to supplement an application originally submitted by AREX on January 26, 1968, to which was assigned number OME-6692 (Silver-Gold); for the purpose of exploring the Great American Claim, et al., in Cochise County, Arizona.

The information given below supports the application, MME Form 40. To avoid duplication, frequent reference will be made to the original application for sections in which there has been no appreciable change.

Please refer to the attached set of illustrations, Figures 1A through 10A.

The following applies to form MME 40:

1. Financial Eligibility

(a) No change. Refer to original application
(b) " " " " " "

(c) AREX can provide funds for its 25 percent share of the exploration project. These funds will consist of an underwriting as a consideration for a certain option for the sale of AREX holdings. In event the option is exercised it will be subject to OME obligations, and subject to AREX lease and option with Stanley M. Secrist and Helen W. Secrist; said funding will be a speculative investment, not a loan, and is not repayable by AREX.

2. Applicant's Rights in Land

(a) Several changes have been made in the AREX land acquisitions in the area of interest for exploration and these will be itemized below. Please refer to figure 1A.

A. AREX still has a lease and option on the Great American Silver Mine and the lease is kept in force by regular payments of minimum royalty. The patented claims involved in this lease are fully described in Section 2b of the original application. There are no mortgages or other encumbrances on these claims and

the title is insurable.

B. When the original application was submitted last January, AREX had applied for prospecting permits on two sections of land lying from one to two miles west of the Great American Mine. These were sections 2 and 11, T. 20 S., R. 27 E. Prospecting permits on these two sections have since been granted to AREX which paid the advance rental fees amounting to $2,333.44. AREX can retain these mineral rights permanently by complying with the regulations of the Arizona State Land Department.

C. In T. 19 S., R. 27 E. AREX has applied for Prospecting Permit Leases on Arizona State Land in sections 25, 26 and 36. AREX also has applied for Prospecting Permit Leases on Arizona State Land in sections 3, 10 and 14; T. 20 S., R. 27 E.

D. AREX has staked lode claims over Federal land in Section 1, T. 20 S., R. 28 E.; and also staked lode claims over the E$\frac{1}{2}$ of section 35 in T. 19 S., R. 27 E.

E. AREX is negotiating for a lease on the W$\frac{1}{2}$ of section 6, T. 20 S., R. 28 E.

By means of the leases, applications and Prospecting Permits indicated above AREX has obtained control of mineral rights in an 11 square mile area contiguous to the Great American Mine.

2b AREX proposes to drill in four areas of which the legal description is given below:

Area 1. This will be explored by drilling almost entirely on the four patented claims forming the Great American group, as shown on figure 4. Nine holes will be drilled outside of the boundaries of the patented claims and all of these nine holes will lie in the SE$\frac{1}{2}$ of section 1, T. 20 S., R. 27 E. Numbers of the patented claims are 830, 832 and 1262. The unpatented land is held by lode claims.

Area 2. This area will be explored by a single deep drill hole placed near the center of a silicified zone in the W$\frac{1}{2}$SW$\frac{1}{4}$ of section 1, T. 20 S., R. 27 E. This is State land controlled by a Prospecting Permit.

Area 3. This area will be explored by a single deep drill drill hole placed near the west side line of the SW$\frac{1}{4}$ of Section 36, T. 19 S., R. 27 E. The area is controlled by lode claims on Federal land.

Area 4 This area will be explored by a single hole in the SE$\frac{1}{4}$ of section 26, T. 19 S., R. 27 E. This land is controlled by AREX by means of an application for a Prospecting Permit to the State of Arizona.

The unpatented claims are recorded in Bisbee, the County seat of Cochise County, Arizona. The name of each claim, book number and page were recorded as shown in Appendix A.

The property has only one name, i.e. the Great American Silver Mine.

All of the land controlled by AREX is subject to the Government lien.

3c. Subordination agreements were previously provided with the first application for the Great American claim group which is owned by Stanley M. Secrist and Helen W. Secrist. At this time none of the other property is subject to subordination. However, when the lease is concluded on the Kuykendall Ranch land, a subordination agreement will be provided for a portion of the W$\frac{1}{2}$ of section 6 amounting to 316.73 acres.

3. Physical Description

(a) The only significant workings known in the area are at the Great American Mine. This was fully described in the original application and there has been no change in the mine since then.

(b) No change. Refer to original application.
(c) " " " " " "
(d) " " " " " "

(e) The Great American Silver Mine was fully described in the original application. There has been no change in our concept of the geology of this property.

In areas containing the silicified zones 2, 3, and 4, which we propose to explore, we think the geology is similar to that of the Great American Mine area. The siliceous deposits have formed by replacement of favorable limestone beds in structurally deformed areas. There is some evidence (see fig. 2A) that siliceous zone 2 formed where a low anticline was cut obliquely by a high angle fault. Zones 3 and 4 appear to be localized along the same anticline. Geological features of the area of interest are illustrated on figures 2A, 4A, 5A, 7A, 8A, 9A, 10A.

In the 11 square mile area of interest to AREX the Paleozoic formations are relatively thick and it is believed that about 6,000 feet of sediments of Pennsylvanian age or older are resting on the Precambrian basement. The oldest formation with which we are concerned is the Bolsa quartzite and the youngest is the Pennsylvanian Earp (limestone) The Earp is about 500 feet thick and beneath it is the Horquillo which is about 3000 feet thick, and beneath this is the Mississippian Escabrosa which is about 600 feet thick. We have little information on the relatively thick section between the Escabrosa and the Bolsa quartzite.

Silica has replaced limestone beds in the Horquillo formation at the Great American Mine and it probably replaced limestone beds in the same formation in silicified zones 3 and 4. (See figure 2) Silicified zone 2 has formed in the Earp formation and elsewhere in the district the Escabrosa beds reportedly have been silicified. We believe these same beds may be silicified in zones that do not crop out and we believe other silicified zones may exist in other limestone beds deep in the Paleozoic section. Thus, there probably are other silicified limestone beds to be explored below the known silicified limestone outcrops in Zones 1, 2, 3, and 4.

(f) Our reasons for conducting an extensive exploration program in the northern part of the Swisshelm district is because of our knowledge of the Great American Mine which contains a significant amount of silver and gold in a deposit of silicified limestone. Similar siliceous deposits crop out at three other places on the AREX property and we think they may also contain silver and gold.

Preliminary geochemical tests indicate that the siliceous outcrops contain anomalous amounts of silver, copper, lead and molybdenum, thus, there is justification for further testing.

We believe concealed silver deposits may also exist below the siliceous outcrops because there are other favorable limestone beds deeper in the Paleozoic section. For example, the Abrigo limestone is an important host rock for ore at Johnson Camp and other places in southern Arizona, and we believe it may be mineralized beneath the large siliceous outcrop in the northern part of the area. We believe these siliceous deposits are significant because nearly similar deposits are associated with ore in some important districts such as Tintic, Utah; Aspen and Leadville, Colorado. It is for this reason that we are proposing the deep diamond drill holes to explore for concealed siliceous replacement bodies in limestone beds of the Horquillo (Pennsylvanian) and older formations.

(g) Two copies of this revised application are being submitted and each is accompanied by one set of illustrations figures 1A through 10A. This material need not be returned.

4. Accessibility

(a) For guides to the property or for additional information contact the following:

1.	J. Harry Fieldman	2238 E. Hedrick Dr., No. 11 Tucson, Arizona 85719 (602) 327-6041
2.	William Lundby	8840 Wrightstown Road Tucson, Arizona (602) 885-0941
3.	John N. Faick	2238 E. Grant Rd. (Residence) Tucson, Arizona 85719 3130 E. Grant Rd., (Office) (602) 325-2312 or 325-7123

(b) No change. See original application

5. Exploration work

The proposed exploration work is divided into four areas covering the silicified zones, 1, 2, 3 and 4 as illustrated in figure 2A. Other details concerning the exploration project are illustrated by figures 3A through 10A. The main exploration items consist of construction of roads and drill sites, hammer drilling, diamond drilling, logging and splitting core, assaying samples, technical supervision and administration. The proposed exploratory drilling by zones or areas is briefly summarized below.

Zone 1

(A) Drill 57 hammer drill holes on and near the siliceous outcrop at the Great American Mine, at the locations shown on figure 3A. These holes are to be drilled with a standard down-the-hole percussion machine and will be approximately five inches in diameter. Holes drilled north of a curved line shown on the map, figure 5, are to be 250 feet deep and those shown south of the map are to be 200 feet deep. The holes will be drilled according to the driller's convenience and not in the order shown, except that the fence of holes to be drilled along Section A - A' (figure 6) should be drilled first. North of the dividing line there will be 29 holes drilled to depths of 250 feet, for a total of 7250 feet. We estimate that 50 percent of the drilled footage will be in siliceous material requiring assaying, for which we propose to cut samples in 10-foot intervals, thus 362 samples will be collected for assay.

(B) South of the drill line shown on figure 3A there will be 28 hammer drill holes drilled to depths of 200 feet each, thus 5600 linear feet of hole will be drilled. Most of

this drilling will be in silica, therefore we estimate that 80 percent of these drill holes should be sampled and assayed. Thus, 448 samples are to be cut and assayed.

(C) Also in Zone 1 we propose to drill six diamond drill holes at locations shown on figure 3A. Refer also to section A - A', figure 6A, and to section B - B', figure 7A for an illustration of geological conditions in the area we propose to drill. Diamond drill holes 1 and 4 are to be 1,000 feet deep, the other four holes are to be 500 feet deep. Holes are to be drilled NX and BX size (or equivalent) and every effort is to be made to complete the holes at not less than BX size.

We expect about 40 percent of these diamond drill holes to be in silicified material for which the core must be split and assayed. Thus, 1600 feet of core would be split in 10 foot sample intervals to produce 160 samples for assay.

Zone 2

In Zone 2 we propose to drill, at this time, only one diamond drill hole to be drilled to a depth of 1,000 feet. This is designed to test the siliceous outcrop and determine if siliceous deposits exist at greater depths. We anticipate that 30 percent of this hole may be in silicified and mineralized zones that will require splitting core for samples to be assayed, thus, 300 feet of core will be split to obtain 30 samples.

Zone 3

Exploration of Zone 3 is to be exactly the same as for Zone 2 described above, except for the location of the hole. The approximate location of the proposed hole is shown on figure 5A and the expected geological conditions are illustrated by section C-C' and D-D' on figures 8A and 9A respectively.

Zone 4

We propose to drill one 2,000 foot deep diamond drill hole in Zone 4. The approximate location of this hole is shown on figure 5A and the probable geological conditions are illustrated by sections C-C' and E-E' on figures 8A and 10A respectively. This hole is expected to start low in the Horquillo formation and should pass through the calcareous units of the lower Paleozoic and is expected to stop in the Bolsa quartzite. The objective of this hole is two-fold: (1) to test the siliceous outcrop and determine its thickness (2) to test the Abrigo limestone and other calcareous units of the lower Paleozoic that lie directly below the siliceous outcrop.

We estimate that 20 percent of this hole may be in silicified or mineralized beds for which the core would have to be split

and assayed. Thus, we would split 400 feet of core to produce 40 samples on 10-foot intervals.

5(a) Access roads must be provided to all of the proposed holes, and drill sites must be prepared at the same time. We are submitting a firm bid on the unit cost for these roads and drill sites by M. M. Sundt Construction Co., General Contractors of Tucson, and if you desire additional bids we will request them, however we have checked by telephone and have found that this cost is more or less standard. The work will consist of approximately 4½ miles of access road to all the drill locations, and the preparation of 66 drill sites for the complete program. The contract price from M. M. Sundt is $5,069.00 total for this phase of the program.

5 (C) If an OME contract is executed AREX will start immediately on preparation of roads and drill sites and estimates this work would require one month for completion. Drilling would start as soon as the first drill sites are ready and as soon as a drill contract can be awarded. We estimate that drilling will require four months and assaying and compilation and interpretation will require one month. We expect the entire project to be completed within six months from the date of awarding the contract.

6. Experience

Operating experience of Mr. J. Harry Fieldman and Dr. John N. Faick was given on page 14 and page 15 of the original application. Dr. Faick will remain as Consultant on the project and will devote considerable time to it if necessary, but the exploration project will be under direct field supervision of Mr. William Lundby, Exploration Geologist. Mr. Lundby was trained in Mining and Geology at the University of Nevada and has had many years experience in the industry with such firms as Anaconda, Standard Copper, Congdon and Carey and others. Dr. Spencer R. Titley has kindly consented to act in an advisory capacity on complex geological problems that might arise in connection with the program. These four people will be in close collaboration throughout the entire project and have the combined knowledge and experience to provide adequate supervision.

7. Estimated Costs

Exploration costs are subdivided for each item of work proposed. These costs are for items described above for items 5a through 5c, and are itemized below:

	Feet drilled	Cost
(a) Independent Contracts		
Zone 1 Hammer Drilling		
(A) 29 holes to be drilled to depths of 250 feet for a total of 7250 feet	7,250	
(B) 28 holes to be drilled to depths of 200 feet for a total of 5600 feet	5,600	
Total footage of hammer drill holes	12,850	
For hammer drilling we have a bid from Whatley Drilling Co. for $4.85 per foot to which we must add a cost of 25 cents per foot for moving from hole-to-hole, setting collar pipes, breakage and down time. Then the cost of hammer drilling is 12,850 feet @ $5.10		$65,535.00
Zone 1 Diamond Drilling		
All six holes to be drilled to a depth of 500 feet, size NSWL, @ $9.80 per ft. by Boyles bid. Then, 3000 ft. drilling @ $9.80		$29,400.00
Two holes, D1 and D4 are to be deepened to depths of 1,000 feet by NXWL size Then: 2 x 500 - 1,000 ft. of NXWL hole at a direct cost of $10.30		$10,300.00
Thus, the total direct contract cost of diamond drilling in Zone 1 is		$39,700.00
To this must be added the following costs: Extra costs for core boxes, drilling mud, reaming, cementing, casing loss, extra diamond costs and hauling water; these costs will average about $2.00 per foot of hole drilled: Then, 3,000 x $2.00		6,000.00
Add cost of mobilizing one rig @ $300		300.00
Total cost of diamond drilling Zone 1		$46,000.00
Grand total of all drilling in Zone 1		$111,535.00

Zone 2 Diamond Drilling	Feet Drilled	Cost
Drill one hole NXWL size to a depth of 1,000 feet with costs based on Boyles bid		
Then: 0 - 500 ft. @ $9.80	500	$4,900.00
500 - 1,000 @ $10.30	500	5,150.00
Thus, the total direct cost of contract diamond drilling in Zone 2 is		$10,050.00
To this must be added the following costs: Extra costs for core boxes, drilling mud, reaming, cementing, casing loss, extra diamond costs and hauling water; these costs will average about $2.00 per foot of hole drilled: Then, 1,000 x $2.00		2,000.00
Total cost of drilling Zone 2		$12,050.00

Zone 3 Diamond Drilling		
Drill one hole NXWL size to a depth of 1,000 feet with costs based on Boyles bid. This will be exactly the same as for Zone 2 above.		
Total cost of drilling Zone 3	1,000	$12,050.00

Zone 4 Diamond Drilling		
Drill one hole to a depth of 2,000 feet. This is to be NXWL size to 1,000 feet thence BXWL from 1,000 to 2,000 feet. Then:		
0 - 5-- 500 ft. @ $9.80		$4,900.00
500 - 1,000 500 " @ 10.30		5,150.00
1,000 - 1,500 500 " @ 10.30		5,150.00
1,500 - 2,000 500 " @ 10.90		5,450.00
Thus, the total direct contract cost of diamond drilling Zone 4 is		$20,650.00
To this must be added the following costs: Extra costs for core boxes, drilling mud, reaming, cementing, casing loss, extra diamond costs and hauling water: These costs will average about $2.00 per foot of hole drilled. Then 2,000 ft x $2.00		4,000.00
Total cost of drilling Zone 4		$24,650.00

Sampling and assaying:

All holes drilled are to be sampled and assayed as previously estimated in 5a. Samples of the cuttings from the hammer drill holes are to be cut by an automatic cone-type sampler operated by the drillers at no extra cost. Diamond drill core is to be logged and split where mineralized by the supervisor's staff for wages or fees to be given below. Samples that appear to be mineralized will be shipped to a Tucson assayer for assaying for gold and silver. We estimate the cost of assaying each sample at $3.00. The number of samples to be collected is given in 5a under the description of the drilling project. These are summarized below.

		No. of Samples
Zone 1	Hammer drill holes north of the dividing line	362
	Hammer drill holes south of the dividing line	448
	Diamond drilling 3000 feet in six holes	160
Zone 2	Diamond drilling one hole 1,000 feet deep	30
Zone 3	" " " " " " "	30
Zone 4	Diamond drilling one hole 2,000 feet deep	40
	Total samples from drilling 66 holes	1070

Cost of assays: 1070 x $3.00 $3,210.00

7 b. Personal Services

Supervision, engineering, geology, outside consultants etc., will be furnished by AREX at costs summarized below.

1. AREX is to provide office facilities, accounting, secretarial and related services for a monthly fee of $1500 per month	$1,500.00
2. William Lundby is to be Project Manager and will also perform certain duties in engineering and geology. He will receive a monthly fee of $1,000	1,000.0
3. An Assistant for Mr. Lundby (his choice) is to split and store the core, handle the samples, help with field work etc. He will receive $750.00 per month	750.00
4. John N. Faick, Consulting Geologist, will assist with geological aspects of the project, particularly in compilation and interpretation of the exploration results. He is to receive $1,000 per month	1,000.00
Total cost for administration, supervision, engineering, geology etc., per month	$4,250.00

From the time the drills start operating it is estimated that five months will be required to complete the project;

Thus, 5 months @ $4,250.00 $21,250.00

Items 7c, d, e, f, and g do not apply to this application as all special and miscellaneous costs are included in the above estimates insofar as possible.

The total estimated cost of this exploration project is summarized as follows:

Cost of Hammer Drilling in Zone 1	$65,535.00
Cost of Diamond Drilling in Zone 1	46,000.00
Cost of Diamond Drilling in Zone 2	12,050.00
Cost of Diamond Drilling in Zone 3	12,050.00
Cost of Diamond Drilling in Zone 4	24,650.00
Assaying cuttings and core samples	3,210.00
Building roads and drill sites	5,069.00
Personal Services for administration, engineering, geology, office facilities, secretarial services, etc.	21,250.00
Total estimated cost of entire project	$189,814.00

This revised application for financial assistance from OME was prepared for AREX by John N. Faick with the assistance of William Lundby and J. Harry Fieldman, and was completed September 12, 1968

Respectfully submitted

J. Harry Fieldman

J. Harry Fieldman, President
AREX, Arizona Exploration Co., Inc.

cc: J. William Hasler

Tucson, Arizona
September 12, 1968

APPENDIX "A"

U. S. Federal Lode Claims Arex #1 through Arex #31 and AREX #35 through AREX #44, a total of 41 claims are recorded in the County Recorder's Office in Bisbee, Cochise County, Arizona, in Docket #546, pages 341 through 421.

Note: Arex #32, #33 and #34 have been abandoned. The reason for the number of pages indicated in the recording is that the County Recorder used an additional page to show the recording of each claim.

APPENDIX "B"

Geochemical Analyses of Preliminary Samples submitted to AREX, Arizona Exploration Co., Inc.

Sample No.	ppm Cu	ppm Ag	ppm Pb	ppm Mo
Gag 1	-5	2	10	4
2	10	-1	140	-1
3	-5	-1	20	-1
4	10	10	200	17
5	-5	1	60	-1
6	-5	2	30	-1
7	90	+100	+1000	96
8	-5	2	100	22
9	-5	2	30	4
10	-5	1	-5	-1
11	-5	-1	-5	1
12	-5	-1	-5	14
13	20	-1	10	-1
14	-5	-1	30	4
15	10	-1	10	20
16	10	-1	-5	10
17	-5	2	-5	3
18	-5	2	10	-1
19	-5	-1	40	-1
20	-5	6	40	6
22	340	28	+1000	13

GEOCHEMICAL ASSAY

Sample No.	ppm Ag	% Pb
Gag 7	156	.15
22		1.40

By Nancy Bulzomi

Nancy Bulzomi, Analysist
Rocky Mt. Geochemical Corp.
Tucson, Arizona

APPENDIX "C"

LIST OF ILLUSTRATIONS ACCOMPANYING REVISED OME APPLICATION

<u>Figure</u>

1A Property Map

2A General Geology Map

3A Sketch Map of Great American Claims, Silicified Zone 1 and locations of proposed drill holes

4A Sketch map of Silicified Zone 2 and location of proposed drill hole

5A Sketch map of Silicified Zones 3 and 4, and locations of proposed drill holes

6A N - S Vertical Projection through Great American Mine and Silicified Zone 1

7A E - W Projection through Siliceous Zones 1 and 2

8A N - S Vertical projection through Silicified Zones 1, 2 and 3

9A E - W Vertical Projection through Silicified Zone 3

10A E - W Vertical Projection through Silicified Zone No. 4

Whatley DRILLING CO

1512 WEST PRINCE ROAD
TUCSON, ARIZONA 85705

AREA CODE 602
PHONE 887-5742

September 12, 1968

J. Harry Fieldman, Pres.
AREX Arizona, Exploration Co. Inc.
2238 E. Hedrick Drive
Tucson, Arizona

Dear Sir:

In Reply to your request for bid on drilling your proposed prospect in the Swisshelm Mts. near Elfrida, Arizona, known as Great American Silver Prospect , we submit the following:

1. Equipment:
   1 - Mayhew HD 1000 Rig W/ 5 x 6 Mud pump, 23' Kelly, 2 7/8" drill pipe, 3½" drill collars, injection pump, 500 CFM low pressure Compressor, mounted on 190 tandem IHC Truck.

   1 - 2000 gallon Water Truck.
   1 - Model 275 Ingersoll-Rand Down-the-hole Hammer-drill.
   1 - Model RP 600 Gardner Denver 600 CFM 150psi compressor.
   1 - Geolograph Recorder.

2. We will drill on your locations, holes to depths as designated by you or your field representative and collect samples at intervals as required by you.

3. Roads and drill sites will be prepared by you to accomodate contractors equipment.

4. Prices: (Hammerdrill or Rotary)
   0 - 500 feet.....$4.85 per ft.
   500 - 1000 feet..... 5.75 per ft.

5. Certificates of insurance will be furnished as required.

Sincerely yours

Wilson Whatley
Whatley Drilling Company

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
MINING
QUARRYING
SHAFT SINKING
TUNNEL DRIVING
MINE PLANT DESIGN
AND FABRICATION

Boyles Bros.
DRILLING COMPANY
CONTRACTORS - ENGINEERS - GEOLOGISTS
10801 North 21st Avenue
PHOENIX 21, ARIZONA
Phones: Office 944-1731
Home 947-0637

General Offices and Plant
1624 Pioneer Road P. O. Box 58
SALT LAKE CITY 10, UTAH
HUnter 7-7595

BRANCH OFFICES
PHOENIX
RENO
SPOKANE
DENVER
SACRAMENTO
ST. LOUIS

September 5, 1968

Mr. J. Harry Fieldman-President
Arizona Exploration Company
2238 East Hedrick Drive
Tucson, Arizona 85719

Dear Mr. Fieldman:

For your drilling of some 10,000 feet of hammer drilling in 45 holes and 4,000 feet of core drilling in five holes we submit the following prices.

1. Mobilization --- $600.00 for both rigs.

Hammer Drilling

2. Drilling with down the hole hammer not to exceed 400 feet in depth the charge will be 4.90 per foot.

3. If necessary to set collar pipe in overburden and cementing in same a charge of $25.00 dollars per hour will be made plus cost of materials used.

4. Standby time at your request a charge of $20.00 per hour will be made.

Core Drilling

1.

Drilling	BXWL	NXWL	NC or Collar Pipe
0 to 500 ft.	9.30	9.80	10.30
500 to 1000 ft.	9.80	10.30	
1000 to 1500 ft.	10.30		
1500 to 2000 ft.	10.90		

2. Cementing, if necessary, $15.00 per hour plus cost of cement or cement substitutes including drilling mud and additives.

3. Water truck rental of 190.00 per month plus 15¢ a mile. Water to be hauled from your source of supply.

4. Casing lost in hole to be charged for at list price F.O.B. jobsite.

5. Suitable access roads and drill stations are to be furnished at no cost to us, for both hammer drilling and core drilling.

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
MINING
QUARRYING
SHAFT SINKING
TUNNEL DRIVING
MINE PLANT DESIGN
AND FABRICATION

Boyles Bros.
DRILLING COMPANY
CONTRACTORS - ENGINEERS - GEOLOGISTS
10801 North 21st Avenue
PHOENIX 21, ARIZONA
Phones: Office 944-1731
Home 947-0637

General Offices and Plant
1624 Pioneer Road P. O. Box 58
SALT LAKE CITY 10, UTAH
HUnter 7-7595

BRANCH OFFICES
PHOENIX
RENO
SPOKANE
DENVER
SACRAMENTO
ST. LOUIS

6. Diamond costs in excess of 1.50 per foot will be for your account.

Thanks for asking for our prices. I'm sure you will be pleased with our work.

Sincerely yours,

J. E. Roberts

J. E. Roberts
District Manager

JER/tk

(219) 872-7221

JOY MANUFACTURING COMPANY
900 WOODLAND AVENUE • MICHIGAN CITY, INDIANA 46360

September 6, 1968

Arizona Exploration Company
2238 East Hedrick Drive
Tucson, Arizona 85719

Attention: Mr. J. H. Fieldman, President

Gentlemen:

Thank you for contacting JOY representative, Mr. Jack Lloyd, for an estimate on your proposed core drilling program near Elfrieda, Arizona.

The drilling program will consist of drilling one hole to an approximate depth of 2,000 feet and four additional holes to approximate depths of 500 feet each. The work is to be performed using NX and BX wire line fittings.

Our estimate for performing this work follows.

Mobilization		$200.00.
Drilling	NX Wire Line	BX Wire Line
0. to 500. feet	$7.45/ft.	$7.25/ft.
500. to 1000. feet	$7.95/ft.	$7.75/ft.
1000. to 1500. feet	$8.70/ft.	$8.45/ft.
1500. to 2000. feet	$9.70/ft.	$9.45/ft.
Delays		$12.00 per hour.
Cementing		$15.00 per hour.
Reaming		$4.00 per foot.
Drilling Mud		$2.00 per 50-lb. bag.
Drilling Mud Additives		At job site cost.
Water Truck Rental		$300.00 per month plus 15¢ per mile.
Casing lost or left in place	NX	$3.00 per foot.
	BX	$2.00 per foot.

Sheet No. 2 to Arizona Exploration Company
September 6, 1968

Our price estimates are based on Arizona Exploration Company constructing necessary access roads, drill sites, digging mud pits and furnishing a source of water, on surface, free of cost to JOY.

The foregoing prices are submitted as estimates only. We will be in a position to submit firm prices on this project upon receipt of more detailed information and after having had a chance to examine the drilling area.

Yours truly,

JOY MANUFACTURING COMPANY

W. B. Smith

W. B. Smith, General Superintendent

WBS:rh

PROJECT
ANALYSIS
CONTROL
EVALUATION
THE TOTAL CONCEPT

M. M. SUNDT CONSTRUCTION CO.
GENERAL CONTRACTORS

P. O. BOX 2592 · 440 SOUTH PARK AVENUE · TUCSON, ARIZONA 85702 · AREA CODE 602 623-7531

Sept. 9, 1968

AREX, Arizona Exploration Co., Inc.
2238 East Hedrick Drive No. 11
Tucson, Arizona 85719

Attn: Mr. J. Harry Fieldman, President

Dear Mr. Fieldman:

Pursuant to our telephone conversation of today concerning D-9 Dozer rental for constructing access roads and drill sites in the Swisshelm Mountains near Elfrida, Arizona; we propose the following:

1.	Move in & out $3.00/Mile for 270 Miles	= $	810.
2.	D-9 Dozer Rental $41/Hour for 96 Hours	=	3,936.
3.	Subsistence $8/Day for 12 Days	=	96.
4.	Pick-up Truck for Fueling $12/Day for 12 Days	=	144.
5.	Mileage for Operator 270 Miles @ 0.10	=	27.
6.	Travel Time for Operator 8 Hours @ $7/Hour	=	56.
	TOTAL	= $	5,069.

The above is our estimated cost for constructing 4.5 miles of access road and 66 drill sites.

The above mileage and time required to do this work is only a rough estimate and is not a firm bid. Cost per unit is of course a firm price.

We sincerely hope that we may have the pleasure of doing this work for you.

Very truly yours,

M. A. Hustad

M.A. Hustad, Manager, Mining Dept.
Heavy Engineering Division.

MAH/dh

BID ESTIMATE

For: Arizona Exploration Co., Inc.

Project: Great American Silver Mine, Cochise County, Arizona

1. Mobilization & Demobilization			$ 400.00
2. Moving & setting up from hole to hole			$ N/C
3. Overburden drilling			$ N/A
4. Drilling (wireline)	NX	BX	
0 to 500 feet	9.60 /ft.	9.10 /ft.	
500 to 1000 feet	10.10 "	9.60 "	
1000 to 1500 feet		10.10 "	
5. Reaming			$ 4.00 /ft.
6. Casing lost or ordered in place (f.o.b. jobsite)			$ COST
7. Cementing & drilling cement			$ 13.50 /hr.
8. Delays or Standby Time			$ 12.50 /hr.
9. Drill Mud			$ 2.50 /bag
10. Mud Additives and Cement			$ AT COST
11. Installing and retrieving casing			$ 10.00 /hr

12. Water Charges: $10.00 per shift for the use of the water truck + .10 cents permile.

Remarks:

Hammer Drilling, 0 to 400 feet @ $4.80 per ft.

Diamond costs in excess of $1.50 per ft. will be for your account.

Above prices maybe revised upon inspection of the proposed project.

Submitted by: METLER BROS. DRILLING CORPORATION

Dated, 11 September, 1968

SUPPLEMENT 9-12-1968

OME-6692 (Silver-Gold)

GREAT AMERICAN SILVER MINE

AREX, Arizona Exploration Co.,Inc.

AREX®
Arizona Exploration Co., Inc.
2777 NORTH CAMPBELL AVE.
TUCSON, ARIZONA 85719
OFFICE (602) 327-6041
NIGHT (602) 325-6162

OFFICIAL COPY
O. M. FILED
29 1968
INITIALS CODE

January 26, 1968

Mr. Frank E. Johnson, Branch Chief
Office of Mineral Exploration
Room 4460, Interior Building
U. S. Geological Survey
Washington, D. C. 20242

Dear Mr. Johnson:

Enclosed herewith is our application for financial assistance for exploration of the Great American Silver Mine, Cochise County, Arizona.

We propose a two-stage program of percussion drilling to obtain quantities of samples of siliceous silver ore that can be mined by open pit methods. We are proposing to drill and sample 3300 linear feet of hole in Stage I and 1800 feet in Stage II in order to determine the occurrence and distribution of silver in a relatively large body of quartz or jasperoid. We also propose to do a small amount of rehabilitation, and to extend our geological studies of the silver deposit. The estimated total cost of the proposed exploration project is $38,023, of which our Company is prepared to pay 25 percent as required by OME. Our proposed exploration program and related costs are explained in the application and supporting exhibits.

We have been especially fortunate in securing considerable documentary material concerning the Great American Silver Mine. Two sets of these documents and other materials supporting this application are being submitted; one enclosed herewith, the other , together with a copy of the application and of this letter to Mr. J. William Hasler in Denver. It is not necessary to return any of this material unless our application is rejected, in which case we would ask for its return as we consider it to be confidential and of considerable value.

Enclosed are five copies of the lien and subordination agreements as required.

Today, January 26, 1968, AREX deposited $10,000 in the Valley National Bank to pay the AREX portion of the exploration

costs. AREX is prepared to start work immediately, but the starting date will be determined by the OME contract and the availability of contractors.

We hope you will be able to give this application your prompt consideration as we are anxious to explore the Great American silver deposit.

Sincerely yours,

J. Harry Fieldman
President
AREX, Arizona Exploration Co.

cc: J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Building 53, Room 203
Denver Federal Center
Denver, Colorado 80225

MME Form 40
Jan. 65

Budget Bureau No. 42-R1508
Approval expires Dec. 31, 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED JAN 29 1968 O. M. E. OFFICIAL COPY INITIALS CODE

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Pursuant to Public Law 85–701 (72 Stat. 700; 30 U.S.C. 641)

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*

AREX
Arizona Exploration Co., Inc.
2777 N. Campbell Ave.
Tucson, Arizona 85719

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER 6692

DATE RECEIVED 1/29/68

REGION 111

DIVISION CODE

BUSINESS ORGANIZATION *(Check one)*

- INDIVIDUAL [ ]
- CORPORATION [X]
- PARTNERSHIP [ ]
- OTHER *(Specify)* [ ]

STATE IN WHICH FIRM IS ORGANIZED Arizona

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
J. Harry Fieldman	2777 N. Campbell Ave.,	President
Arthur D. Filiatrault	4901 N. Camino Arenosa,	Vice-President
Clare F. Filiatrault	4901 N. Camino Arenosa,	Secretary-Treasurer

All of Tucson, Arizona

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE
Silver

ESTIMATED COST OF PROJECT
$ 38,023

PROPERTY NAME: Great American Silver Mine
LOCATION: Cochise County, Arizona

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior,* ~~Washington, D.C., or the OME Field Office~~ Washington, D. C., 20242, or with the nearest OME Field Office.

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, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

January 26, 1968
DATED

J. Harry Fieldman
BY *(Signature)*

President
TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include true copies of correspondence which show: (1) date of loan request, (2) amount and terms requested, (3) proposed use of loan funds, and (4) the replies from credit sources. If the loan was offered under terms which you consider unreasonable, state why you consider them so.

(b) List names and addresses of affiliated, parent, or controlling companies or organizations and state extent and nature of their interest.

(c) State how you propose to furnish your share of the cost of the exploration work.

2. Applicant's Rights in Land:

(a) State your interest in the land and mineral rights, whether owner, lessee, purchaser under contract, or other. If you are not the owner, submit one true copy of the lease, contract, or other document (with address of owner) under which you control the property. Describe all liens, mortgages, or other encumbrances on the land and state book and page number and official place where recorded.

(b) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all adjacent land which you own or control. Describe any part of the land or workings which should not be subject to Government royalty and liens. If the land consists of unpatented claims, state book and page number for each recorded location notice, including amended locations, and official place where recorded. State all the names by which you know the property.

(c) For all land or mineral rights encumbered or not owned, submit five copies of Lien and Subordination Agreements on MME Form 52. If the agreements cannot be obtained, state reasons and provide copies of letters of refusal.

3. Physical Description:

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the land. Include existing mine workings and all production facilities.

(b) State your interest, if any, in operations described in (a).

(c) State, if you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves, giving quantities and grades and sampling methods used. Support your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you have, indicating whether you require their return.

4. Accessibility of Property:

(a) To aid the OME representative who may examine the property, state name and address of person who will meet him; give directions for reaching the property; and describe accessibility of property and of any mine workings.

(b) Name the shipping and supply points and state the distances to the property.

5. Exploration Work:

(a) Describe fully the proposed exploration work giving individual footages and sizes of ope[illegible]gs *for each item of work.* Use narrative, maps, plans, and sections as necessary. Show location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *land boundaries* or to the closest identifiable corner.

(b) If an access road must be built, show the proposed location on the property map and state the length, type and construction methods proposed.

(c) If an OME contract is executed, state how soon thereafter work would be started and finished. State your anticipated average daily or monthly rate of progress for each type of work.

6. Experience:

State your operating experience and background to conduct this exploration work and also that of the person who will supervise the work.

7. Estimate of Costs:

Furnish detailed estimates of the necessary costs *for each item of the work proposed in 5(a)* under the headings listed below with a total for each heading and the estimated total cost of the work. Costs for any work to be performed by an independent contractor should be listed separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be listed under categories (b) through (g).

(a) Independent contracts. State the total cost of any proposed independent contract for all or any part of the work, and the number of units and the unit cost for each type of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, or per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note*—If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. The cost of supervision, engineering and geological services, outside consultants, and labor should be itemized by numbers and classes of employees; rates of wages, salaries or fees; and periods of employment. State whether these services are available.

(c) Operating materials and supplies. List items of material and supplies giving quantity and cost of each. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of equipment and tools costing $50 or more per unit. Give specifications and indicate how each item is to be acquired—i.e., rented, purchased or provided by the applicant. If rented or purchased, state the estimated rental or purchase price. If furnished by the applicant, state condition and present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant which will be used in the exploration work.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration work, stating specifications and cost including labor, materials, and supervision.

(g) Miscellaneous. Describe the type and estimate the cost of repairs and maintenance of the operating equipment listed in 7(d). Do not repeat initial repairs listed in 7(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories. [*Note*—The Government will not contribute to costs incurred before the date of the contract, or to costs of or incident to: (1) acquiring, using, or possessing land and any existing improvements, facilities, buildings, installations, and appurtenances, or the depreciation and depletion thereof; (2) general overhead, corporate management, interest and taxes (other than payroll and sales taxes); (3) insurance (other than employees' liability insurance); and (4) damages to persons or property (other than authorized repair to or replacement of equipment or other property used in the work).]

[illegible].-DUP. SEC., WASH., D.C

AREX
2777 N. Campbell Ave.
Tucson, Arizona 85719

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Information to support application, MME Form 40
Please refer to Exhibits A through S at the end of this application

1. FINANCIAL ELIGIBILITY

(a) AREX, Arizona Exploration Company, in the opinion of its officers is financially eligible for OME assistance for exploration of the Great American Silver mine. AREX has sufficient capital that is available from associates in the form of loans on unsecured notes, for only nominal exploration work, consulting fees and wages for part time help; it has no regular full-time employees and no major direct expenses. Mr. J. Harry Fieldman, President of AREX, applied for credit at two well established banking and lending institutions where he has made deposits and borrowed money at different times over a period of many years. Loan officers of both institutions refused to loan money for this exploration project because they are not permitted to make loans secured only by a lease on a third party's property, and (2) they can not engage in the high risk mineral exploration business. Copies of AREX's applications for loans and letters of rejection from the lending institutions are attached herewith as Exhibits M and N.

(b) AREX, a registered trade name for Arizona Exploration Co., Inc., is a closed "Small Business Corporation" organized under the laws of Arizona May 10th, 1967. There are no affiliated parent or controlling companies or other organizations associated with AREX.

(c) AREX can provide funds for its 25 percent share of the exploration project. These funds will consist of unsecured notes as loans to AREX from individuals, rather than from usual established sources of credit.

2. APPLICANT'S RIGHTS IN LAND

(a) AREX has a lease with option to purchase the property to be explored. The lease is for a period of 10 years, and is renewable for 10 years. A copy of the lease is attached herewith as Exhibit R. The owners of the property are Stanley M.

Secrist and Helen W. Secrist, 250 South Cottonwood Blvd., Tucson, Arizona, 85711. The owners have subordinated their rights to the Government with lien and subordination agreements attached herewith as Exhibit S. There are no mortgages or other encumbrances on the land and the title is insurable. The lease is recorded in the Pima County Recorder's Office in Book 3119, pages No. 503 to 505, in Tucson, Pima County, Arizona.

(b) The area AREX proposes to explore is the northeast part of the Great American claim, which is one of a group of four patented claims in the Swisshelm district of Cochise County, Arizona. The four patented mining claims are in section 1, T. 20 S., R. 27 E., and section 6, T. 20 S., R. 28 E., G&SRM as shown on Figure 3, Exhibit A. The claims are recorded in the Recorder's Office of Cochise County, Arizona, as follows:

Name of claim	Deed of Mines Book	Page	M. S. No.
Great American	14	152	830
Horn Silver	14	155	831
Sulphuretts	14	157	1262
Alice	14	157	1262

In addition to the above AREX has applied for Arizona State Land Prospecting Permit Leases on two sections of nearby State land, but the applications have not been processed as of Jan. 15, 1968, therefore, AREX is not yet in possession of the land. This land consists of sections 2 and 11, T. 20 S., R. 27 E. At this time exploration is not being proposed for this State land.

(c) Five copies of the Lien and Subordination Agreement, MME Form 52 have been executed by the Lessor and are attached herewith as Exhibit S.

3. PHYSICAL DESCRIPTION

(a) The property is fully described in Exhibit A, a report entitled "The Great American Silver Mine" by John N. Faick, Ph.D., Consulting Geologist for AREX. The property has been discussed in older reports included herewith as Exhibits B through I, inclusive.

The Great American silver deposit was developed by several small open pits, glory holes, stopes and by several short adits. The Main Adit, about 600 feet long and about 150 feet below the surface passes under the deposit. There are several stopes in the ore body but only one can be entered. Nearly all of the other

workings except underground stopes are open for inspection. A small mill was placed on the property about 1936 but was removed shortly thereafter. There is no usable pipe, track or ladders in the mine.

(b) The AREX interest in the operation listed under 3(a) consists of a lease and option to purchase all of four patented mining claims in the Great American group; including all of the workings or operations thereon. The lease is for 10 years and may be extended another 10 years providing certain conditions are met as specified in the lease which is attached herewith as Exhibit R.

(c) All known past production records are listed in Table 2, in the geology report by John N. Faick, Exhibit A. There are records of 19 cars of ore shipped; a total of 719.54 tons. Copies of 18 smelter settlement sheets are on file in the AREX office, but are not being submitted with this application in order to save space and weight.

(d) Ore reserves include both indicated and geologically inferred ore. Considerable material that may contain silver is excluded from the reserve estimate because of the lack of information. Ore reserve blocks are shown on the plan map of proposed exploration drill holes, Exhibit J. Ore reserves are estimated only for Block 1 and for Block 2 because these are the two blocks we propose to explore by Stage I and Stage II of this program. If Stages I and II yield satisfactory results AREX may apply for exploration assistance on Block 3 and 4 at a later date, and may also apply for assistance to explore beyond the boundaries of these blocks if the need of additional work is indicated by future geological studies.

650 100
65000
60
12) 3 900 000
325 000 tons

Ag Au SiO_2
5.0 0.05 75%
@ 1.91 35 0.08
9.55 1.75 3.00
= $14.30/ton

Block 1 is estimated to contain approximately 500,000 tons of silver-bearing silica of which we think a little more than one-half is recoverable under present economic conditions, but we propose to explore it only to a depth of 60 feet by Stage I, Part 1, which will be described below. The block is about 650 feet long, has an average width of about 100 feet. Thus, if found to be mineralized to a depth of 60 feet, Block 1 would contain 325,000 tons of low-grade siliceous silver ore, all of which can be recovered by open pit mining providing a suitable market can be found for this type of low-grade ore. We estimate the ore in place to have a factor of 12 cubic feet per ton. We expect the ore to average about five ounces of silver per ton and 0.05 ounces of gold per ton, and about 75 percent silica. If a commercial market is not available for this low-grade ore it may be necessary to selectively mine smaller tonnages of higher-grade ore. Deep mining, or underground mining is not being considered at this time as we are seeking only large amounts of siliceous silver ore suitable for direct shipping to one or more smelters as possible flux. ? Not commercially re

Ore reserves in Block 1 are regarded as indicated because of the large amount of information available. All past operations, including open pits and underground stopes are in this block. The grade of ore is suggested by two assay maps Exhibit H and Exhibit I, and a transverse section through some of the stopes, which is Figure 6 in the geology report Exhibit A. About 120 assays of separate samples are shown on these maps, however, a few of them report only the calculated gross value of the contained metal at 1937 prices. Settlement sheets for 19 carload lots of ore shipped prior to 1937 are also available. These are shown on Table 2 in the geology report Exhibit A. The arithmetic average of 102 samples is 10.98 ounces of silver and 0.177 ounces of gold per ton, as shown on Carpenter's assay map Exhibit I. For our estimates we reduced this average grade to 5.0 ounces of silver and 0.05 ounces of gold per ton to allow for dilution that will result from bulk mining. The change in the silver-gold ratio was made to allow for slight to moderate supergene enrichment of silver which we believe has taken place on the Great American deposit.

In Block 1, below 60' depth underlying the 325,000 tons of ore discussed above, there is a possibility of an additional 175,000 tons of similar ore about which little is known except for a few assays of samples from underground workings. At this time we are not considering this as part of our reserves of Block 1 because too little is known about it, and we do not know to what depth the ore extends below the surface. We do not propose to explore this deeper ore at the present time.

300
140
42000
60
12/2520000
210,000 tons

Ag Au SiO2
2.0

In Block 2 we consider reserves only to the depth of the exploration holes, i.e., 60 feet, although beds from 100 to 300 feet thick may be mineralized, as is suggested by Section C-C', Figure 9 in the geology report Exhibit A. Block 2, which we propose to explore by drilling, has an average length of 300 feet, and a width of 140 feet, thus to a depth of 60 feet the block would contain about 210,000 tons of ore, using 12 cubic feet per ton of ore in place. Block 2 is regarded as geologically inferred ore because no assay data is available, the block has not been drilled, and there are no mine workings in it. We propose to drill Block 2 because geological conditions are essentially the same as in the formerly productive Block 1, and because reports by Gracey (1923), Orem (1923 & 1937) and the Stockdale assay map, Exhibit H, indicate that the zone included in Block 2 contains gold and silver.

Our grade estimates are based entirely on the old records of ore shipped to smelters and on old assay records made between 1922 and 1937. We do not know the exact source of the ore shipped, nor do we know how the samples were taken, consequently we are unable to properly evaluate the information.

(e) For a narrative description of the deposit with maps, assay data and production records the reader is referred to the

geologic reports by John N. Faick, Exhibit A, and to reports by Gracey and Orem, Exhibits C, D and E.

The deposit consists of a bedded siliceous replacement deposit formed when siliceous fluids invaded and replaced limestone. Small amounts of silver and gold apparently were deposited from the siliceous fluids. According to Gracey, most of the silver occurs as the chloride whereas the gold is native. Distribution of values and gold-silver ratios suggest some secondary enrichment of the deposit has taken place at relatively shallow depths.

(f) Old workings, shipping records and assay maps prove that Block 1 contains significant values in gold and silver. Block 2 is geologically similar to Block 1, therefore, we believe it also contains silver and gold. Information to support our conclusions pertaining to the existence of ore in Block 1 is given in Parts 3a, 3c, 3d, 3e, 3g and other parts of this application. We have no assays in Block 2 but believe it contains ore because old reports and maps indicate that it is mineralized, and our preliminary geological observations suggest that it should be mineralized.

(g) Two copies of each of our significant records are being submitted with this application as unattached exhibits. The records being submitted are Exhibits A through S, and are listed separately at the end of this application.

4. ACCESSIBILITY

(a) Either of the following will serve as guide to the property.

1.	J. Harry Fieldman	2777 North Campbell Avenue Tucson, Arizona 85719 (602) 327-6041 or 325-6162
2.	John N. Faick	2238 East Grant Road Tucson, Arizona 85719 or 2777 North Campbell Avenue (602) 325-2312 or 327-6041

During good weather the property is accessible by automobile, however, during or after storms a pickup truck or 4-wheel drive vehicle may be necessary over the last three miles of road through Rucker Canyon. Exact directions for reaching the property are on page two of the report by John N. Faick, Exhibit A.

Arrangements will be made for either John N. Faick or J. Harry Fieldman to meet the representative in Tucson, Benson, Elfrida or Douglas so as to take him to the property. The Government representative should plan to stay in Douglas if it is necessary to

stay overnight, however, one day is probably sufficient for the examination. All of the open cuts may be visited and all adits except one may be entered, but only one underground stope is accessible. The surface and proposed drill sites are easily accessible.

(b) The nearest shipping and supply point is Douglas, Arizona, which is about 50 miles by road, of which about 35 miles are paved. Cochise, Arizona could serve as a supply point but is not as convenient as Douglas. Major mine supplies will have to be obtained in Tucson or Phoenix, but most operating supplies can be obtained in Bisbee or Douglas.

5. EXPLORATION WORK

(a) The map, Exhibit J, is intended to serve as an overlay for the geology map, Figure 4, included with the geology report, Exhibit A, and the map shows the proposed exploration work with respect to known geological conditions. The map shows boundaries of the outcrop of the main siliceous zone which we believe contains small but significant amounts of gold and silver. The zone has been arbitrarily subdivided into four ore reserve blocks having vertical boundaries, but exploration is proposed for only two blocks, and these are numbered in order of probability of discovering ore within each block. Estimated ore reserves in those two blocks are described in Section 3d, above. We propose to do the exploration work in two stages. Stage I will explore Block 1 and Stage II will explore Block 2.

It is proposed to explore that part of the deposit enclosed in Blocks 1 and 2 with closely spaced wagon drill holes to depths of 60 feet below the surface. At some future time we may drill a few 60-foot long holes with a percussion machine from the main adit to explore the bottom of the ore zone. The objective of the drilling program is to get as many samples of the mineralized zone as possible at the lowest possible cost, and to expand our knowledge of the geology as much as possible at the same time.

Wagon drill or air-trac holes from the surface are to be drilled on a rectangular grid pattern with 40-foot centers. Holes are to be vertical or steeply inclined and 60 feet deep unless unusually difficult conditions are encountered by the drill, in which case the hole may be stopped short of its objective. If a hole happens to encounter barren diorite or limestone or other unmineralized rock the operator reserves the right to stop the hole short of its objective or omit it entirely, if in the opinion of the project supervisor, drilling of the hole would be an unnecessary waste of time and money.

Some latitude in the choice of drill sites and substitution of inclined holes for vertical holes must be allowed so these can be changed at the discretion of the project supervisor. The reason for this is that the surface is rough, locally the slopes are steep and, at some places, the surface has been modified by mining activities, hence, some proposed drill sites can not be occupied. At drill sites which can not easily be occupied we propose changing the location of the hole and drilling either vertical or inclined holes. If local conditions prevent drilling at the proposed location, then the location of the hole shall be moved, but not more than 25 feet from the original proposed location, and either a vertical or inclined hole is to be drilled at the discretion of the operator. In event inclined holes are necessary to test a certain piece of ground, these holes are to be drilled in a north-south trending vertical plane so they will be easy to correlate with other holes in the grid. A few holes will be collared from 10 to 25 feet outside of the ore reserve blocks, but this is necessary because of geological conditions and accessibility.

Access roads and drill sites probably will be built by a licensed contractor, however, AREX may elect to build them. Ponderosa Mining and Development Company has bid $6062.00 (See Exhibit Q) for construction of all roads and drill sites in Stages I and II combined, but the other contractors did not bid for this construction. These two items for both Stage I and Stage II exploration are placed together as part of Stage I because it is easier and cheaper to do them this way than it would be to do them as separate units. The area to be explored by Stage II is reasonably accessible so roads and drill sites would be inexpensive, whereas they will be expensive to build in the area of Stage I drilling. Preparation of roads and drill sites will require bulldozing about 5,000 feet in Stage I area and 2,500 feet in Stage 2 area. This item is high because drilling and blasting of hard rock is required. Holes are to be collared with pipe and plugged. If a suitable drill and compressor can be rented the applicant reserves the right to do the drilling, or AREX may hire a contractor to do the drilling on an hourly rate. In any case, the cost including surveying, sampling, assaying, road building, supervision etc. will be about the same, i.e. $38,023 for the project.

should precede drilling

It is also proposed that careful geological mapping of both the surface and the mine workings, some of which was done in November and December 1967, be continued as it will provide significant information pertaining to the distribution of the silver and gold. Additional geological information will be required to correlate and evaluate the results of drilling. However, it is to be understood that the principal purpose of the proposed drilling is to obtain samples, and only secondarily to obtain geological information. The geological work is to be done by John N. Faick, Ph. D., Registered Geologist No. 6352, Arizona, who will also be the project supervisor for AREX, and who will make

additional geological studies concurrently with the drilling. In order to do the underground geology and sampling it will be necessary to repair or replace the old ladders so the workings can be entered. Except for the absence of ladders the old workings seem to be in very good condition, and require only a minimum amount of cleaning as far as we know. This will be done as Stage I, Part 2. The Main Adit is in good condition and the geology has been mapped, but a few samples should be cut from the last 100 feet to determine if any of the mineralized rock contains gold and silver. It is probable that Stage I and Stage II work will be done in consecutive order to expedite the entire project and make it large enough to be attractive to licensed contractors. However, if Stage I drilling fails to obtain encouraging values in gold and silver the project may be terminated without Stage II drilling.

All holes must be closely spaced for adequate sampling, as we believe the ore consists of very small, but relatively rich silver-bearing pods, lenses and veinlets scattered erratically through barren jasperoid host rock. Probably the only way the deposit can be profitably worked is by bulk mining very low grade ore on a relatively large scale, therefore a great many samples will be required to determine the average grade of the entire ore body. Holes will be located by the project supervisor by tape and compass, plane-table or transit-stadia surveys. Also, the project supervisor will be responsible for supervising sampling and delivery of samples to the assayer, will log cuttings, and will continue with geologic studies, both on the surface and in the old mine. These duties will be performed concurrently with the drilling. The drilling will require a crew of three; consisting of one driller, one helper and a sample man. The sample man will be responsible for collecting and splitting samples and placing them in storage. The sampling will be an additional cost, over and above the contract cost of drilling, but is provided in our cost estimates.

Drill cuttings for samples are to be trapped with a cyclone collector. The sample interval is to be five feet except in cases where longer or shorter interval may be required by local conditions such as changes in formation, existence of caves, or unforseeable conditions which may prevent drilling the hole at reasonable cost. Each completed hole will require 12 samples. All samples are to be assayed for gold and silver and, in event these contain sufficient amounts of gold and silver to indicate that the ore can be mined commercially, the samples will then be analyzed for silica or total insoluble, in order to establish the silica content for negotiation of a smelter contract. We anticipate that silica analyses may be at the sole expense of the applicant, as silica may not be eligible for OME assistance. Duplicate samples are to be cut so as to have one for the assayer and another for the operator to keep as long as there may be a need for it.

assays allowable if Au Ag is principal value

PROPOSED EXPLORATION, Stage I, Part 1. Exploration and sampling Block 1 by drilling.

In Stage I, Part 1 it is proposed to explore Block 1 by drilling from the surface with an air-trac or wagon drill, as explained on preceeding pages 6, 7 and 8. Holes are to be drilled within Block 1, or not more than 25 feet from the boundary if drilled outside the block at locations shown on Exhibit J. All holes are to be drilled to a depth of 60 feet if possible to drill to this depth, however a few holes, especially at the northeast end of Block 1, will pass into waste rock at less than 60 feet, and the project supervisor must have authority to stop these holes when waste rock is encountered.

Holes are to be drilled on a grid pattern having 40 foot spacing as shown on Exhibit J, and drilling will start at the northwest end of Block 1. A total of 55 holes, having a depth of about 60 feet, making a total of 3300 linear feet of drill hole, is proposed for Block 1. These proposed holes are shown on Exhibit J, and the proposed locations are shown by row and column numbers as follows:

Row	Columns											Total number of holes by rows
16	C	D										2
15	C	D	E									3
14	C	D	E	F								4
13	C	D	E	F	G							5
12		D	E	F	G	H						5
11			E	F	G	H	I					5
10			E	F	G	H	I	J				6
9					G	H	I	J	K	L		6
8						H	I	J	K	L	M	6
7							I	J	K	L	M	N	6
6									K	L	M	N	4
5											M	N	2
4												N	1
Total proposed holes in or near Block 1													55

Dw.

The proposed 3300 feet of drill hole will require cutting and assaying 660 samples. Our cost estimates follow:

For Stage I, Part 1 exploration the applicant's estimated costs are as follows:

1. Preparation of roads and drill sites with bulldozer, compressor, jackhammer drill and dynamite, for blasting and scraping; for both Stage I and Stage II, by Ponderosa's bid.....$ 6,062.00

2. Drilling 0 - 60 feet at $3.40 per foot by contract for 3300 feet of hole, by Ponderosa's bid..... 11,220.00

3. Moving costs from hole to hole; 54 moves at $15.00 per move by Ponderosa's bid..... 810.00

4. Mobilization and demobilization..... 330.00

5. Sample man at $3.00 per hour, including overtime, industrial insurance, etc. for an estimated drilling rate of 150 feet per day for an estimated 22 days..... 528.00

6. Sample bags (in duplicate), splitter, labels, packaging and shipping costs, etc., for sample interval of five feet for 3300 feet of hole..... 495.00

7. Assaying for gold and silver in samples of five-foot intervals for 3300 feet of hole or 660 samples at $3.00 each..... 1,980.00

8. Project supervision at $50.00 per day plus $12.50 per day expense allowance and $12.50 per day for use of project supervisor's pickup for estimated 22 days of drilling. Project supervision is to include an extension of geological studies made in November and December 1967. Thus the cost of this item is 22 days at $75.00 per day..... 1,650.00

9. Compilation, interpretation and evaluation of results of Stage I exploration, to be done by project supervisor and geologist. Estimated requirement 10 days at $50.00 plus $10.00 per day costs. Thus: 10 x $60.00 = $600.00..... 600.00

10. Assaying drill cuttings from random holes drilled during construction of roads and drill sites, estimated 150 samples at $3.00. No charge for sampling or handling..... 450.00

Total cost Stage I, Part 1..... $24,125.00

Stage I, Part 2. Examination of old mine workings. We propose to examine and map the geology, and cut some samples in the old mine workings as part of the exploration work in Block I. As nearly as can be determined the workings are in excellent condition, but the ladders are missing or rotten. Manways will have to be cleaned and ladders and landings replaced to make the mine safe for examination. As we cannot see most of the old workings we cannot accurately estimate the cost, but propose to make the mine safe to enter for $2,500. For this amount we would bar down or otherwise remove the loose rock, replace or repair the ladders so the workings would be safe. Then we propose to study the geology carefully and cut samples where sample information is not available. The work probably will have to be done either before drilling starts or after both Stage I and Stage II drilling is completed. These items for Stage I, Part 2 are listed below:

Costs of Stage I, Part 2

Item	Cost
1. Rehabilitation of old manways, ladders and landings by applicant or by contract	$2,500.00
2. Geological mapping of presently inaccessible workings; 6 days @ $75.00. (Same cost as Item 8, Page 10)	450.00
3. Selective sampling of underground workings where sample information is not available; estimated 4 days @ $25.00	100.00
4. Assaying, estimated 40 samples @ $3.00	120.00
5. Compilation, drafting and interpretation; 4 days @ $50.00 per day plus costs at $10.00 per day, total $60.00 per day	240.00
Total	$3,410.00

Cost Summary

Total Exploration cost of Block 1

Total for Stage I, Part 1	$24,125.00
Stage I, Part 2	3,410.00
Total for Stage I	$27,535.00

Stage II. Exploration of Block 2 by wagon drilling.

Proposed exploration of Block 2 is by same methods as employed in Block 1, Part 1, except that only 30 holes are to be drilled, and there will be no mine rehabilitation work. Each hole will be drilled to a depth of 60 feet and cuttings will be assayed at five-foot intervals, providing this can be done at reasonable cost. Estimates are the same as in Stage I, Part 1. Locations of the holes are shown on Exhibit J, and the locations by rows and columns are given below:

Row	Column									Total number of holes by rows
16	E	F	G	H	I					5
15		F	G	H	I	J				5
14			G	H	I	J	K			5
13				H	I	J	K	L		5
12					I	J	K	L	M	5
11						J	K	L		3
10							K	L		2

Here, as in Stage I, Part 1, some latitude must be allowed the project supervisor to change the locations of the holes within a radius of 25 feet of the original location, or stop the hole short of its objective, or drill inclined holes in event abnormally difficult conditions are encountered, or if barren waste rock is encountered.

Applicant's estimated cost of Stage II drilling:

1. No charge for Stage II roads and drill sites as these are to be constructed under Stage I, Part 1, Item 1.

2. Drilling cost 0 - 60 feet at $3.40 per foot by contract for 1800 feet of hole, by Ponderosa bid.....$6,120.00

3. Moving cost from hole to hole for 30 holes at $15.00 per move by Ponderosa bid..... 450.00

4. Mobilization and demobilization. No charge for Stage II drilling

5. Sample man at $3.00 per hour, including overtime, industrial insurance etc. for an estimated drilling rate of 150 feet per day for an estimated 12 days..... 288.00

6. Sample bags (in duplicate), splitter, labels, packaging and shipping costs, etc., for sample interval of 5 feet for 1800 feet of hole..... 270.00

7. Assaying for gold and silver in samples of 5-foot intervals for 1800 feet of hole or 360 samples at $3.00 each.....1,080.00

8. Project supervision at $50.00 per day plus $12.50 per day expense allowance and $12.50 per day for use of project supervisor's pickup for estimated 12 days of drilling. Project supervision is to include an extension of geological studies made in November and December, 1967. Thus, the cost of this item is 12 days @ $75.00 per day..... 900.00

9. Compilation, interpretation and evaluation of results of Stage II exploration to be done by project supervisor and geologist. Estimated requirement 5 days at $50.00 per day plus costs of $10.00 per day. Thus: 10 x $60.00 = $600.00..... 600.00

Total cost Stage II drilling..... $9,708.00

Final Windup or Completion Costs.

In addition to the exploration costs outlined on the preceeding pages, other costs will be incurred in order to complete the project in a satisfactory manner. These costs will be for the preparation of a final report and accounting at the end of the project. These costs are as follows:

1. Final report to be prepared by the Project Supervisor and Geologist. Cost is $50.00 per day plus $10.00 expenses for an estimated eight days.
Thus: 8 days @ $60.00 = $480.00.....$480.00

2. Final cost accounting 4 days @ $75.00..... 300.00
Total completion costs.....$780.00

Summary of all costs

Total cost for Stage I, Part 1	$24,125.00
" " " " I, Part 2	3,410.00
" " " " II	9,708.00
Total for exploration	$37,243.00
Final completion costs	780.00
Total exploration costs	$38,023.00

(b) There is a good unpaved road to the property so the only roads to be built are to the drill sites. The applicant estimates 7500 feet of drill road, more or less, to cost $6062.00 by contract to Ponderosa for both Stage I and Stage II roads and drill sites.

(c) Starting date after the contract is granted depends upon the availability of a qualified, licensed contractor and/or equipment, and the availability of the project supervisor. We expect to start work in less than 60 days after the contract is granted, and we expect to complete the exploration work within 60 days.

6. EXPERIENCE OF THE OPERATOR

J. Harry Fieldman, President and General Manager, Arizona Exploration Co., Inc.

Mr. Fieldman has had about 20 years practical supervisory experience, mostly as an operator of small mines in Mexico, and as an independent land-man for the acquisition of mineral lands for exploration. This experience is summarized as follows:

1947-1948 Operation of cyanide mill to recover gold from tailings; Sonora, Mexico.

1948-1951 Underground mining of lead, silver and gold in Sonora, Mexico.

1952-1957 Mine operator in Sonora, Mexico. General Manager for Mineral Materials Co., holding a General Services Administration contract for production and export to the Federal Stockpile of about 6500 units of plus 70 percent tungsten concentrate valued at about $400,000.

1958-1960 Mineral exploration in Sonora, Mexico.

1961-1966 Acquisition and exploration of potential mineral lands, mostly in Pima County, Arizona.

1967-1968 President and General Manager of Arizona Exploration Co., Inc., Tucson, Arizona.

John N. Faick, Ph.D. Consulting Geologist.

The project will be under the immediate supervision of this writer, John N. Faick, Ph. D., Consulting Geologist. I have three degrees in geology from three western universities, and have had about 30 years experience in mining and exploration geology. For about 13 years I was a mining geologist for New Jersey Zinc Company, principally in New Jersey, Pennsylvania, Colorado and New Mexico. Then, for the next seven years I was in DMEA for the U. S. Geological Survey in Tucson, Arizona for mine examination assignments in Arizona, New Mexico and West Texas. Following this I was with the American Exploration and Mining Company for eight years, during which I conducted mineral exploration work in most of the western states and a few foreign countries for a period of eight years. For the last 2½ years I have been a consulting geologist with headquarters in Tucson.

7. ESTIMATE OF COSTS

Estimated costs are given in 5a and summarized below under items 7a through 7g.

(a) Under our proposed program all road and drill site construction, drilling, sampling and assaying is to be done by independent contractors, providing suitable contracts can be arranged. Mine rehabilitation also will be done by a contractor, and $2,500 was allowed for this item. The applicant reserves the right to do all or any part of the work with rented equipment and hired operators if an acceptable, licensed contractor is not available. In this event, costs outlined on pages 10 through 14 will apply.

Contract costs are as follows:

Stage I, Part 1		
Road and drill site construction for Stage I and Stage II	$ 6,062.00	
Drilling and collecting cuttings, 3300 feet of hole @ $3.40	11,220.00	
Moving from hole to hole 54 moves @ $15.00	810.00	
Mobilization and demobilization	330.00	
Roads, sites and drilling by contract		$18,422.00
Stage I, Part 2		
Rehabilitation	2,500.00	2,500.00
Stage II		
Drilling and collecting cuttings 1800 feet @ $3.40	6,120.00	
Moving from hole to hole	450.00	
		6,570.00

ASSAYING

Stage I, Part 1		
Assaying 660 samples from 3300 feet of drill hole @ $3.00	1,980.00	
Assaying 150 samples from random holes from roads and drill sites @ $3.00	450.00	
Stage I, Part 2		
Assaying 40 samples @ $3.00 from underground	120.00	
Stage II		
Assaying 360 samples from 1800 feet of hole @ $3.00	1,080.00	
Total assaying cost		3,630.00
Total cost of all work to be performed by contractors		$31,122.00

(b) The Great American exploration project is to be under supervision of this writer, John N. Faick, Geologist. I expect to mark and survey the holes, log the cuttings, extend my geologic mapping, compile and interpret the results of exploration, see to it that the contract is completed to our satisfaction, and prepare all necessary reports on the project.

The project supervisor is to receive $50.00 per day for services plus $12.50 per day personal expenses, plus $12.50 per day for the use of his own field vehicle, a 1963 Dodge ½ ton truck, for the estimated drilling period of 22 days for Stage I and 12 days for Stage II. The supervisor will also be paid $50.00 per day plus $10.00 per day expenses for compilation, interpretation and evaluation.

We have received only one bid to construct roads and drill sites. In event the contractor is not available it may be necessary for the applicant to build the roads and drill sites. The applicant prefers to contract as much as possible of the exploration work, but wishes to reserve the right to do the entire project for its own account by use of rented equipment and hired operators if satisfactory contract arrangements can not be made. It will be necessary for the applicant to employ a sample man to split and package the samples and prepare them for shipment, as well as to cut samples in the mine and to collect special, near-surface samples during road and drill site construction. This is provided by Item 5, Stages I and II.

All final windup and completion costs including a final report, but excluding accounting, will be done by the project supervisor. Accounting will be done by an independent Public Accountant. Both of these items are regarded as Personal Service costs, as follows:

Final report; 8 days @ $60.00.....$480.00

Final cost accounting; 4 days @ $75.00....$300.00

Thus, the cost of supervision and/or personal services will be about as summarized below:

Costs of Personal Services are as follows:

Stage I, Part 1

Project supervision (item 8, page 10) 22 days @ $75.00 including expenses.....	$1,650.00	
Compilation, interpretation and evaluation (item 9, page 10) 10 days @ $60.00 including expenses.....	600.00	
Sample man.....	528.00	
Sample bags, shipping, handling etc. (item 6, page 10).....	495.00	
Total Stage I, Part 1.....		$3,273.00

Stage I, Part 2

Geological mapping in mine (Item 2, page 11) 6 days @ $75.00 including expenses.....	$450.00	
Sampling (item 3, Page 11).....	100.00	
Compilation, drafting, interpretation (item 5, page 11) 4 days @ $60.00 including expenses.....	240.00	
Total Stage I, Part 2.....		790.00

Stage II

Project supervision (item 8, Page 13) 12 days @ $75.00 including expenses.....	$900.00	
Compilation, interpretation and evaluation (item 9, page 13) 10 days @ $60.00 including expenses.....	600.00	
Sample man.....	288.00	
Sample bags, shipping, handling of samples etc. (item 6, page 13).....	270.00	
Total Stage II.....		$2,058.00

Completion Costs

Final report preparation by project supervisor (item 1, page 14) 8 days @ $60.00 including expenses.....	$480.00	
Final cost accounting (item 2, page 14) 4 days @ $75.00.....	300.00	
Total completion cost.....		780.00

Total cost of all personal services Stage I and II..... $6,901.00

(c) Operating Materials and Supplies. These costs are included in unit costs given in Sections 5a and 5b and 7a, or as personal service 7b.

(d) Does not apply

(e) Does not apply

(f) Does not apply

(g) Analytical work is provided as a unit cost item and will be done at a custom assay office. The operator will assume the cost of accounting, workmen's compensation and liability insurance, payroll taxes for his own employees and other required costs not included in previous categories. All final windup and completion reports, including a final report, but excepting accounting, will be done by the project supervisor. Accounting will be done by an independent public accountant. Both of these are regarded as a personal service as shown in 7b above. Other costs such as repairs, depreciation, land acquisition etc. do not apply.

This application for financial assistance from OME was prepared by John N. Faick, Ph.D and J. Harry Fieldman, and was completed January 25, 1968.

Respectfully submitted,

J. Harry Fieldman

J. Harry Fieldman, President
Arizona Exploration Co., Inc.

EXHIBITS

This list of exhibits A through S is being submitted with an application for financial assistance in exploration of the Great American Silver Mine.

Exhibit A. The Great American Silver Mine, Cochise County, Arizona, by John N. Faick, Ph.D. A report prepared for Arizona Exploration Company, Inc. dated Dec. 20, 1967.

Exhibit B. A summary report on the Great American Mine prepared by Axel L. Johnson for the Department of Mineral Resources, Dated Sept. 19, 1963.

Exhibit C. A report on the Great American Mine by A. H. Gracey, November 1, 1922, including a list of 22 samples and a resume of Gracey's experience.

Exhibit D. Letter report by C. L. Orem to A. H. Gracey Feb. 14, 1923. This includes 9 assays and a letter by G. M. Butler regarding Orem's qualifications as a young engineer.

Exhibit E. Letter to J. T. Stockdale from C. L. Orem Dec. 22, 1935 with two-page report on Arizona Gold and Silver Property, including 15 assays of Series A & B samples.

Exhibit F. Letter to Axel L. Johnson from Mark Gemmill dated Sept. 23, 1963, regarding Great American mill and grade of ore produced from the mine.

Exhibit G. Summary report (two pages) on visit to mine by Lewis A. Smith with owner, Stanley M. Secrist, for Arizona Department of Mineral Resources, dated 4/29/64.

Exhibit H. Assay map by J. T. Stockdale, March 1936.

Exhibit I. Assay map by M. M. Carpenter, Nov. 12, 1936

Exhibit J. Map of proposed exploration.

Exhibit K. Smelter schedule from ASARCO at El Paso, Texas.

Exhibit L. Smelter schedule from Inspiration Copper Co. at Miami, Arizona.

Exhibit M. Letters of application and rejection for an exploration loan at Valley National Bank, Tucson, Arizona.

Exhibit N. Letters of application and rejection for an exploration loan at Arizona Trust Co., Tucson, Arizona.

Exhibit O. Bids for drilling submitted by Metler Brothers Drilling Company.

Exhibit P. Bids for drilling submitted by Sundt Construction Company.

Exhibit Q. Bids for drilling and mining submitted by Ponderosa Mining and Development Co., Inc.

Exhibit R. A copy of the lease between Arizona Exploration Company and the property owners, Stanley M. and Helen W. Secrist.

Exhibit S. Lien and Subordination Agreements. One copy is attached herewith and five copies are with the letter of application.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

EXHIBIT B

Mine: Great American — Date: Sept. 19, 1963

District: Swisshelm District, Cochise Co. — Engineer: Axel L. Johnson

Subject: Field Engineers Report. Information from Stanley Secrist, et. al. & personal visit.

References
(1) Report on Great American Mine by A. H. Gracey, dated Nov. 1, 1922.
(2) Report by C. L. Orem in the form of a letter to A. H. Gracey, dated Feb. 14, 1923.
(3) Report by C. L. Orem, accompanied by a letter to J. T. Stockdale, dated Dec. 22, 1935.
(4) Copies of Great American shipments to smelters --- 1912 to 1935 (with '35 report).
(5) Sketch by C. L. Orem, showing assays of samples in old workings (with '35 report).
(6) Plat of Great American Mining Co. claims --- Mineral Survey No. 1262 --- Dec. 6, 1897.

Location: Sec. 1 - T 20 S - R 27 E and Sec. 6 - T 20 S - R 28 E.
In the Swisshelm Mts., about 30 miles N. of Douglas, & 18 miles E. of Elfrida.

Number of Claims: 4 patented claims -- Horn Silver, Great American, Alice, & Sulphuretts.

Owner: Stanley M. Secrist, 15 Calle Conquista, Tucson, Ariz.

Principal Minerals: Gold, Silver, and a small amount of Lead.

Present Mining Activity: None. Owner will sell or lease.

Geology and Mineralization

(1) From report by A. H. Gracey, dated Nov. 1, 1922: (Ref. (1))

"The outstanding feature is the intrusion of a dike of rhyolite porphyry into and through limestone. In the fractured and altered zone along the contact between these formations occurs the ore deposit.

"The mineralized area ------ is over 1,000 ft. long and from 50 to 100 ft. wide. It is well exposed by present workings for a length of 500 ft. and a width of 100 ft. The general strike of the deposit is NE - SW. The values contained are silver and gold, ----- accompanied with some iron pyrites and lead carbonates. The exposed ore is, almost entirely oxidized. A portion of the gold is free and some native silver is shown, but the latter occurs chiefly in the chloride form. High grade ore is irregularly distributed throughout the deposit."

(2) From report by C. L. Orem, dated Feb. 14, 1923: (Ref. (2))

"In the altered and fractured zones, along the contact of the porphyry and limestone, which composes the mineralized area of this deposit, the mineralizing solutions have replaced certain strata in the limestone more extensively than others and have followed the fractures and seams.

"The present workings do not determine the lateral extent of the ore body nor the distances along the strike. The mineralized area southwest beyond the present workings is well altered and silicified the full length of the property."

(3) From report by C. L. Orem, dated Dec. 22, 1935: (Ref. (3))

"The mineral area is composed of beds of limestone and quartzite underlain on the dip by a large porphyry sill which makes up into the sedimentary series in the form of tongues and dykes.

"The mineralization may extend thru a thickness of 200 feet or more of these beds, judging from surface exposures and the present workings. However, if it will hold up to a 100 ft. in thickness for a distance of k 1,000 ft., each 200 ft. on the dip it extends would make a tonnage of better than 1,500,000 tons."

(4) From sketch by C. L. Orem, showing assays of samples: (Ref. (5))

"Altered Limestone Beds dip about 20 degrees to North"

(5) Several quartzite outcrops are found on the Horn Silver claim. One such outcrop is about 40' wide x 120' long. Dip of limestone & quartzite beds are 20 deg. to N.

Great American Mine (continued) Sept. 19, 1963,

Swisshelm District, Cochise Co. Axel L. Johnson

Ore Values

(1) From report by A. H. Gracey --Nov. 1, 1922, pp. 4-6: (Ref. (1))

(a) NE end workings --- samples showing average of 14 ft. & a tonnage of 2,000 tons ----- $ 10.00 per ton of gold and silver based on 1922 prices.

(b) SE end workings --- samples showing average width of 11 ft. and a tonnage of 10,000 tons over a length of 150 ft. ---- $ 13.75 per ton gold & silver.

(c) Dumps ---- samples representing tonnage of 2,000 tons ---- $ 13.20 per ton.

Total of above ---- 14,000 tons with average of $ 13.20 per ton at 1922 prices

(2) From report of C. L. Orem --- Feb. 14, 1923, pp 2-3: (Ref. (2))

(a) Drift samples -- 42 ft. in length x heigth of drift-- Gold -- 0.22 oz. Silver -- 16.0 oz.

(b) Across 12 ft. on side & 4 ft. on face of cross cut -- Gold -- 0.16 oz. Silver -- 6.9 oz.

(c) In open cut, above 105 ft. adit portal -- Gold -- 0.16 oz.; Silver - 5.5 oz.

(d) In open cut, below 105 ft. adit portal -- Gold -- 0.20 oz.; Silver -- 16.0 oz.

(3) Report of Dec. 22, 1935 lists 46 samples, the first 9 of these being copies of samples taken previous to the Feb. 14, 1923 report, described above; and the remaining 37 being samples taken Nov. 24, 1935. From these samples, C. L. Orem comes to the following conclusions: (Ref. (3))

(a) "6 to 15 feet thicknesses of these beds exposed 60 feet deep by the present workings will hold up to 15 oz. silver and $ 5.00 to $ 11.00 gold per ton.

"The average of the ore is highly silicious -----

"In regard to direct shipping ore it is conservatively estimated that 20,000 tons could be produced that would average 16 oz. silver and 0.20 oz gold, which would be $ 20.00 per ton present prices.

(4) Shipments to smelters from 1912 to 1935: (Ref. (4))

Average of 16 shipments show Gold -- 0.293 oz. & Silver -- 28.62 oz.

Average of 2 shipments of lead ore shows --- Lead-- 24.35 % -- Silver -- 11.10 oz.

Ore in Sight and Probable

(a) From report by A. H. Gracey -- Nov. 1, 1922, pp 4 - 6; (Ref. (1))

Mr. Gracey lists the available tonnage that can be milled as 14,000 tons (this includes 2,000 tons in the dumps), and adds "The inclusion of probable and possible ore would greatly increase the tonnage estimates."

(b) From report by C. L. Orem, dated Dec. 22, 1935: (Ref. (3))

Mr. Orem estimates the direct shipping ore to be 20,000 tons, averaging $ 20.00 per ton, as shown above under "Ore Values" ((3) - (a))

In regard to probable & possible ore, he states --- "The mineralized zone, where exposed on the surface, is prominent for 1,500 ft. and may be considerable longer under the surface. In places, it reaches a maximum width of from 200 to 300 feet."

He then suggests a possible tonnage of 1,500,000, as shown on page 1 under Geology and Mineralization, par. (3).

Milling & Marketing Facilities

Both Mr. Gracey and Orem, in their reports, recommend a mill. Both cyanidation and concentration-flotation methods were recommended. A mill, evidently, was built, as is shown by concrete footings still remaining and was operated for a short time, as is shown by a small tailings dump nearby. Mr. Dale Sherman, Elfrida, Ariz. informed the field engineer that he worked in the mine in 1937 putting up raises, that there was a mill there, the lower grade ore being milled and the higher grade trucked to El Paso smelter. He said Mr. Ben Heney (now deceased) was the superintendent. He said that flotation was used and that the mill operated about 6 months, capy. not known.

Great American Mine (continued) Sept. 19, 1963

Swisshelm District, Cochise Co. Axel L. Johnson

Past History

(1) Located Jan. 4, 1884. Approved for patent Dec. 6, 1897. Patent date -- 4/4/1899.
(2) Records show 2 shipments of 30.72 & 32.07 tons were made in Oct. & Dec. 1912.
(3) Clipping from Tombstone Epitaph on Aug. 3, 1920, citing a rich silver strike at the Great American Mine in Swisshelm Mts. owned by a Colorado corporation.
(4) Smelter records of 6 shipments by Great American Mining Co., Ben Heney, Manager, from Aug. 21, 1920 to Jan. 3, 1921.
(5) Smelter records of 5 shipments by Old Dominion Commercial Co., Globe, Ariz., being shipped from Webb, Ariz. from Oct. 15 to Oct. 24, 1925.
(6) Smelter records of 5 shipments by Four Horse Mining Co., Elfrida, Ariz. from Nov. 6, 1934 to Mar. 19, 1935.
(7) Clipping from Mining Journal under date of June 30, 1937, stating "The Great American Mining Company of Elfrida, Ariz. is operating steadily with a crew of 15 to 20 men employed."
(8) As reported by Dale Sherman, Elfrida, Ariz., who worked in the mine in 1937: The mine was operated about 6 months by 3 operators from Phoenix. A mill was built and operated a few months, using flotation, with Ben Heney, ~~Mgr~~ Supt. The high grade ore was trucked to the El Paso smelter, and the lower grade ore was milled. At one time they worked 2 shifts, with 8 men on each shift at the mine and 2 men in the mill. The ore was mucked by hand from a large stope, and dropped to the bottom level, where it was trammed down a long drift and dumped into an ore bin, from where it was trucked to the mill, or to the El Paso smelter. Mr. Sherman states that the operators had to close down on account of going bankrupt. This, he said, was caused by poor management, and not due to lack of ore of sufficient grade for shipping and milling.

Production

(1) Before 1935 ----- Mr. Orem reports in 1935viz. "Better than 2,000 tons of ore have been shipped during the past from these old workings. Records of part of this tonnage are given below. The rest of the old records are not at hand, but probably could be obtained from the smelters". The records, included with his report, show shipments of 687.77 tons of gold-silver ore, aver. 0.293 oz. gold & 28.62 oz. silver, and shipments of 50.41 tons of lead-silver ore, aver 24.35 % lead & 11.10 oz. silver.
(2) After 1935 ----Writer has no definite figures on smelter shipments or ore production The mine was evidently operated for about 6 months in 1937, at which time a mill was built, a 675 ft. adit completed and two raises driven to the upper levels. The mill may have operated about 4 months, with not over 50 tons per day milled, and some additional ore was trucked direct to the smelter. The large stope, which was worked, is about 10 ft. high and 80 ft. in diameter. Production of 4,000 to 5,000 tons is indicated from this operation.

Old Mine Workings

(1) On Horn Silver Claim
(a) 1 vertical shaft --- 25'-30' deep with red, oxidized material last 15 ft.
(b) 1 vertical shaft --- 15 ft. deep, with red oxidized material entire distance.
There is a large quartzite outcrop, about 40 ft. wide, and 120 ft. long in the center of the claim. Limestone and quartzite beds appear to dip 15 to 20 degrees to the north.
(2) On Great American Claim, prior to 1935 (from report by A. H. Gracey & personal visit
(a) 4 open cuts, ranging from 15 to 50 ft. in diameter, with faces 10 to 20 ft. on the upper sides --- all in payable milling grade ore.
(b) 6 adits, from 20 to 105 ft. in length, and totaling 325 ft. driven in limestone, low grade ore, and highly altered and highly siliceous gangue.
(c) 1 winze -- 70+ ft. deep, with 130 ft. of drifts, and 1 -- 12 ft. cross cut.

Great American Mine (continued) Sept. 19, 1963

Swisshelm District, Cochise Co. Axel L. Johnson

Old Mine Workings (con't)

(3) On Great American Claim, subsequent to 1935 (from personal visit)

(a) One large stope, very irregular, but roughly 80 ft. in diameter by about 10 ft. in height, with 2 raises entering same from a lower adit. The ore excavated, from 4,000 to 5,000 tons, was dropped to the adit below through these raises.

(b) One main adit, about 675 ft. long and approximately 125 to 150 ft. below the large stope described above. This adit may have been started in 1935, since Mr. Orem on Dec. 22, 1935 writes "The lower tunnel we are driving ----". Mr. Dale Sherman, Elfrida, believes, however, that most of the long adit was driven by the 1937 operators. The adit is open for the entire distance, and no caving or sloughing has occurred. The adit is not timbered, except for 2 sets of timber at each ore chute.

Ore was exposed in the back and sides of this adit in several places in the last 350 ft., amounting to a linear distance of from 100 to 150 feet. No samples or measurements were taken, however.

From the adit, the following raises were put up:

1 inclined raise about 50 ft. high. Top of raise appears to be in ore.
1 -- two compartment raise, with chute and ladderway.
1 -- single compartment raise (ore chute)

(c) Higher up on the hillside there was 1 adit about 125 ft. long with a raise from same about 50 ft. in height which appears to be post 1935.

(d) Another adit, about 80 ft. long, mostly in ore, should probably also be incl.

Observations by the field engineer

(1) The field engineer covered only a small part of the 4 claims, his visit including a small area on the Horn Silver claim, and an area, including the old workings, about 300' x 400' on the Great American. The Alice and Sulphuretts claims were not visite

(2) During his visit, the field engineer noticed several places that looked favorable for open pit operations for mining of gold-silver-silica flux ore. The relatively narrow mineralized area will necessitate making rather narrow cuts. However, since the ground stands very well without caving or sloughing, banks with very steep slopes can be used.

(3) Regarding ore in sight ----

Mr. Gracey's estimate of 14,000 tons and Mr. Orem's estimate of 20,000 tons were based on proven and available ore in a small area opened up by the old workings, and to a depth of only 50 ft. on the Gracey estimate, and 60 ft. on the Orem estimate. A small amount of this has since been mined out by the 1937 operations.

Since these estimates were made, the 675 ft. adit was driven about 125 to 150 ft. below the upper workings. This adit cut ore in several places, showing the continuation of the ore in depth. The continuation of the ore along the stike of the deposit (NE + SW) for a length of 1,500 ft. or more, can also be reasonably expected. Mr. Gracey states that the mineralized area is over 1,000 ft. long, and Mr. Orem, in his report, states that it extends the full length of the property.

(4) Regarding Ore Values ----

(a) The smelter returns, which averaged 0.293 oz. gold, and 28.62 oz. silver, were, no doubt, from ore selectively mined with pick and shovel, with some hand sorting.

(b) The ore values estimated by Gracey ($ 13.10 per ton in 1922), and by Orem ($ 20.00 per ton in 1935) were based on underground mining operations, where the higher grade ore lenses , 6 to 15 ft. in thickness, could be mined selectively.

(c) The different conditions encountered in open cut mining would, no doubt, result in considerably lower ore values, due principally to dilution with waste, but would also permit the mining of lower grade ore on the outer fringes of the ore deposit, resulting in a much larger tonnage. It is very difficult to estimate what the average ore values in an open pit operation would be. It would depend on several factors --- the area selected for mining, the equipment used, and the ability of the operator to mine selectively, separating a great deal of the waste from the ore.

EXHIBIT C

REPORT ON GREAT AMERICAN MINE

Report by A.H. Gracey
Nov. 1, 1922
Johnson reference No. 1
P.20.

PROPERTY AND TITLES

The Great American Mine comprises a group of four contiguous patented mineral claims (76 acres) known as Great American, mineral survey Lot No. 41; Horn Silver, survey Lot No. 42; Sulphurette and Alice, survey No. 1262.

SITUATION AND ACCESSIBILITY

The mine is situated in the foothills of the Swisshelm Mountains, Cochise County, Arizona, twelve miles east of Webb, a station on a branch of the El Paso and Southwestern R. R., 35 miles north of Douglas. Two good roads connect the mine with Webb and all outside points.

TOPOGRAPHY

The surrounding country consists of low, rounded, grass covered hills forming the lower northeastern slope of the Swisshelm mountains. The altitude above sea level is approximately 5000 feet. The main drainage follows a ravine of gentle slope to Whitewater Draw, a part of the Sulphur Spring Valley, 2-½ miles below the mine.

GEOLOGY

The outstanding feature is the intrusion of a dike of rhyolite porphyry into and through limestone. In the fractured and altered zone along the contact between these formations occurs the ore deposit. The mode of occurance is characteristic of Southern Arizona mineral deposit. The ascending mineral bearing solutions have penetrated the fractures and seams along the contact and made out into the limeston bedsreplacing large areas of limestone with silica and depositing therewith valuable minerals. These solutions evidently

had a bountiful source, estimated by the area mineralized, and were of deep seated origin.

DISTRICT

Cochise County comprises one of the most productive mineral bearing regions of Arizona. The Great American Mine occupies a central position in this region. The famous mining camp of Tombstone, with a production of over $50,000,000 in gold and silver, lies 32 miles due west. Bisbee, the great copper camp, lies 26 miles southwest. The Commonwealth mine at Pierce, with a production of $18,000,000 in gold and silver, lies 18 miles northwest. Dos Cabezas, another gold and silver camp, lies 32 miles north. Courtland and Gleason, both copper camps, lie 18 miles to the west. Douglas, where the large smelter plants of the Phelps-Dodge Corporation and Calumet and Arizona Company are situated, is 28 miles south.

ORE DEPOSIT

The mineralized area, in the center of the property, is over 1000 feet long and from 50 to 100 feet wide. It is well exposed by present workings for a length of 500 feet and a width of 100 feet. The general strike of the deposit is northeast and southwest. The values contained are silver and gold, in the ratio of 3 ounces silver to $1.00 gold, accompanied with some iron pyrites and lead carbonates. The exposed ore is almost entirely oxid ized. A portion of the gold is free and some native silver is shown but the latter occurs chiefly in the chloride form. High grade ore is irregularly distributed throughout the deposit and all former operations were confined to mining these leaving the lower grades behind. The latter constitute a large tonnage and are chiefly dealt with in this report. There had evidently been considerable difficulty and expense attached to the mining of the high grade ores owing to their irregular

deposition throughout the deposit which necessitated the removal of a large amount of material and careful sorting. There are four large opencuts, or quarries, from 15 to 50 feet in diameter, with faces 10 and 20 feet high on the upper sides, large portions of which constitute ore of payable milling grade. All of the deposit carries some value. The gangue is much altered, highly silicious and hard and is variably colored from the effects of oxidation.

DEVELOPMENT

The old workings are scattered, covering a surface area 500 feet long and 100 feet wide. A large portion consists of open-cuts, as mentioned, but several tunnels of varying length have been driven fromthem in a westerly direction. Beginning at the north-east end there is a large opencut 50 feet in diameter with a face 10 and 20 feet high on the upper side. Two tunnels have been driven from this cut one 60 andthe other 20 feet in length. These were both driven out into the limestone at right angles to the contact but are in mineralized material throughout, their length. Adjoining on the southwest and 20 feet higher is another large cut 100 feet long and from 25 to 40 feet wide with a short tunnel at the south-west end. Sothwest of this again there is a narrow cut 60 feet in length forming the entrance to a tunnel 105 feet in length. Above this 22 feet higher and 40 feet distant is a small cut with a 20 foot tunnel. Above this again 100 feet distant and 44 feet higher is another cut 15 feet in diameter and 10 feet deep. Directly south of this latter cut on the same level and 220 feet distant, there is a short tunnel 25 feet in length atthe face of which a winze has been sunk to a depth of 60 feet. This is the deepest work on the property. At a depth of 25 feet below the collar of the winze there is a drift northeast 84 feet in length and one to the southwest 45 feet in length. In the northeast drift, at a point 43

feet from the winze, there is a crosscut 12 feet to the east. Still further southwest from this latter work is another tunnel 75 feet long with a winze near the portal.

All the work described, amounting to 325 feet of tunneling, 70 feet of sinking and 130 feet of drifting has been done in the ore deposit and at many points ore of payable milling grade is exposed.

ORE TONNAGE AND VALUE

On the attached sketch plan of the workings are noted the location, number, width and assay value of the samples taken. Some of the samples represent sections, only, of continuous payable width. For instance in thedeep cut near station 5 two sectional samples were taken, nos. 15 and 16, representing a total width of 14 feet. The average value of this 14 feet is $10.00 per ton. Above this entrance of the tunnel opposite station 7 a width of 7 feet carries $9.00 per ton, assay No. 19. It was not possible to take continuous and regular samples of this wide band of ore owing to the irregularity of the workings and debris lying on the floors. Assay Nos. 17 and 18 are of samples taken across the upper face of the big cut above the pay ore which had been stripped down to the floor level. A very conservative estimate ofthe ore which can be quarried or glory-holed from these two exposures, without allowance for continuations in the length or depth, is 2000 tons averaging in value $10.00 per ton. That several times this amount exists there is no doubt. Located here also are two large dumps composed of reject after sorting out of the high grade from the material broken down in these cuts. A sample of the upper portion of the dump at station 5, estimated to represent 500 tons, assayed $29.00 per ton. Another sample representing a larger lower part of the dump assayed $13.20 per ton. Near station 7 there is a dump of from 75 to 100 tons

of sorted ore averaging $35.00 per ton. The reject and dump at this point, which is low grade material from the tunnel, is estimated to contain 100 tons averaging $6.50. This being already mined will yield a milling profit.

Between station 3 and the southwest end workings there is an unexplored gap of 120 feet. The surface appearance here, however, is equally promising with any other portion of the deposit and the same may be said of the southwest continuations of the outcrop to the confines of the property.

Opposite station one and two the deepest work has been done and the highest and more regular values are found. This underground work is described under development heading. A careful sampling of these drifts and crosscuts, at an approximate depth of 35 feet below the surface, show an average value of $13.75 per ton over an average sampled width of11 feet for a length of 150 feet. As the faces, sides and bottoms of these drifts, and crosscuts are still in good ore the full width, length or depth of this ore body is not determined. For instance assays Nos. 7 ans 8 represent a width of 24 feet averaging $18.60 per ton and the face of the crosscut, represented by assay No 8, $16.10 per ton, is still in ore. It will be noted also that face of the northeast drift, represented by samples Nos 10 and 11, averages $19.64 per ton over a width of 10 feet and southwest end of the 20 foot winze, in the same ore body 150 feet distant, carries $12.60 per ton over a width of 7 feet. At neither of these points is the full width of the ore exposed.

A conservative estimate, therefore, of the ore available for easy and cheap mining in this block of ground down to an average depth of 50 feet below the surface, is 10,000 tons averaging in value $13.75 per ton. The reject and dumps at these workings are

estimated to contain over 1000 tons three samples of which gave the following
$12.80, $ 9.50 and $17.60 per ton or an average of $13.30 per ton.

A summary of the exposed and available tonnage and the average value show the following:-

Northeast end workings	2,000	tons at	$10.00 -	$ 20,000
Southeast end workings	10,000	" "	13.75 -	137,500
Dumps	2,000		13.00	26,000
Total	14,000			183,500

WATER AND FUEL

There is no developed water at the property but it has been encountered at moderate depths in the neighborhood and it seems certain an ample supply will result from the drilling of a well. There are several shallow wells within a half a mile of the mine belonging to a cattleman which provide all his needs. These are all in the gravel of the main drainage ravine below the mine and the water stand within 15 feet of the surface. South of the mine, about 1-½ mile , is an old shaft over 100 feet deep which tapped a large flow. With a total lift of from 150 to 200 feet at this shaftwater would flow by gravity to the Great American mill site. There are therefore two possible sources for water supply; one to drill a well at the mine and the other to arrange for water at the shaft and pipe it to the mine.

There is ample wood for domestic purposes consisting of oak, juniper, and pinion pine. For power purposes crude oil burning engines will be the most economical.

PLANT AND TREATMENT

The ore under consideration, being oxidized, presents no difficult treatment problem. The plant required would be simple and of standard construction. Laboratory tests indicate that an extraction of 90% or better, will result with concentration and cyanidation of the tailings. The concentration resulting from the test averaged

$162.40 per ton and the ratio of the concentration was 100 tons into 2-1/ 3 tons. The proportion of recovery was approximately 32% in the concentrates and 68% in the cyanide solutions. Sulfides will probably occur at depth but this combination treatment should still be effective.

Leaching or percolation tests, with ½ of one percent cyanide solution on the ore without concentration, ground to pass 48 mesh, gave an extraction of 85% of total values. This recovery would no doubt br higher in practice with agitation of the pulp so that cyanidation without concentration may prove the most economical. treatment for the oxidizedores. Complete tests are now being made and the flow sheet and mill plans worked out.

The amount of captial required to purchase andinstall the plant, develop or secure water to handle from 35 to 50 tons per day will be approximately $25,000.

CONSLUSIONS

Based on the results of my examination herein before given and with the suggested plant installed the following estimates are believed to be conservative :-

GROSS VALUE 14,000 tons at	.....$13.10	.....	$183,500
Less 10% loss in tails	1.30		18,350
NET RECOVERY VALUE	11.80		165,150
Less 10% royalty (which applies On purchase price)	1.18		16,515
	10.62		148,635
LESS COST MINING, MILLING	4.00		56,000
NET PROFIT PER TON	$ 6.62	total	$ 92,635

Owing to the fact that the high gradeore has been extracted or "gouged" in the present workings, the values found by sampling of present exposures, as given represent low grade material only. It may, therefore, be reasonably expected that extensions of the ore bodies to be opened by further development will show higher average

value as the high grade ore will be included. This probably is strengthened by the fact that the values contained in the reject dumps, left after high grade has been sorted out, checkes closely with the average values exposed in the workings.

The inclusion of probable and possible ore would greatly increasethe tonnage estimates. In fact it is my belief that at least double the amount of ore above given will be found to exist above the deepest point now developed while the possibilities with further development are very promising. Milling ores of the grade now shown occuring in such satisfactory widths, and continuing to even moderate depths, would add long life and much profit to the undertaking.

(Signed) A. H. Gracey

Tucson, Arizona
November 1st, 1922.

Assays to accompany Graceg's report dated Nov 1, 1922. J.H.D.

A S S A Y S

#1. 12 ft. across collar of 20 ft. winze opposite station 1.
Gold 0.17 ozs. Silver 5.5 ozs.

#2. 7 ft. across south side at bottom of 20 ft. winze.
Gold 0.11 ozs. Silver 10.4 ozs.

#3. Altered country rock.
Gold 0.03 ozs. Silver 1.2 ozs.

#4. 13 ft. across back of drift 25 ft. southwest of 50 ft. winze.
Gold 0.06 ozs. Silver 4.0 ozs.

#5. 10. across southside 50 ft. winze at depth of 35 ft.
Gold 0.09 ozs. Silver 8.0 ozs.

#6. 6 ft. across back of drift 17 ft from northeast.
Gold 0.19 ozs. Silver 15.2 ozs.

#7. 12 ft. across back of drift and short crosscut west, 25 ft. from winze.
Gold 0.20 ozs. Silver 17.10 ozs.

#8. 12 ft. along east crosscut 43 ft. from winze.
Gold 0.17 ozs Silver 12.7 ozs.

#9. 6 ft. in two cuts east side of drift 25 ft. from winze.
Gold 0.14 ozs. Silver 13.0 ozs.

#10. 4 ft. small crosscut near face of drift.
Gold 0.13 oz . Silver 9.60 ozs.

#11. 6 ft. across face of northeast drift 84 ft. from winze.
Gold 0.16 ozs. Silver 21.2 ozs.

#12. 8 ft. in opencut near station 3. This cut evidently an offshoot from main ore body .
Gold 0.03 ozs. Silver 3.4 ozs.

#13. 9 ft. at each side portal little tunnel near station 4.
Gold 0.11 Silver 2.5 ozs.

#14. 5. ft. in two cuts 10 and 20 ft. in from portal tunnel station 5. Alterd limestone
Gold 0.08 oz . Silver 2.1 ozs.

#15. 8 ft. in two cuts at portal same tunnel. Tunnel passed thru ore zone into altered limestone represented by sample 14.
Gold 0.10 ozs. Silver 5.6 ozs.

#16. 6 ft. up from top of tunnel being continuation upwards of sample 15.
Gold 0.175 oz Silver 10.7 ozs.

#17. 13 ft. across surface gossan, altered rock west side of

ore zone. Ore in bottom of cut below this sample.
Gold 0.06 ozs. Silver 2.5 ozs.

#18. 15 ft. being continuation of sample 17.
Gold 0.04 ozs. Silver 2.2 ozs.

#19. 7 ft. across bench of ore between cuts.
Gold 0.15 ozs. Silver 6.0 ozs.

#20. 5 ft. across bottom of 50 ft. winze.
Gold 0.10 ozs. Silver 8.9 ozs.

#21. 1,000 tons, or over, of reject and dump material from workings stations 1 and 2.

A - Gold 0.11 ozs. Silver 10.0 ozs.
B - Gold 0.12 ozs. Silver 7.1 ozs.
C - Gold 0.19 ozs. Silver 13.8 ozs.

#22. 1000 tons reject and dump stations 5 and 6.

A - Gold 0.26 ozs. Silver 23.8 ozs.
B - Gold 0.15 ozs. Silver 10.2 ozs.
C - Gold 0.19 ozs. Silver 12.5 ozs.

ARTHUR H. GRACEY
Mining Engineer

Tucson, Arizona
Feb. 20th, 1923.

The following is a brief outline of my experience as a mining engineer and operator -

After passing the matriculation examination for Queen's University Kingston, Ontario, I went to Arizona and entered the employ of the Phoenix Mining Company, Cave Creek, Arizona, as a mill man. This was in 1888. From 1889 I was employed in various capacities in mines and mills in Amador County, California, and operated a custom mill for a time. In 1896 was assistant superintendent for the Southwestern Mining Company at El Dorado Canyon, Lincoln Co., Nevada, where silver-gold ores were mined and milled. In 1897 and 1898 I attended the School of Mines at Queen's University, Kingston, Ontario, taking third and fourth year work and was employed by the Ontario Government to examine and report on mineral areas in various parts of the province. In 1899 I was sent to British Columbia as engineer and manager for the London and B, C. Goldfields Development and Exploration Company and the Oro Mining and Milling Company of which companies Sir George E. Foster, the Finance Ministerof Canada, was the head. I remained in British Columbia for 16 years during which time I acted as engineer, manager or president and manager for various companies among them being the Silver Queen Mining Company, The Imperial Development Syndicate, The Eva Gold Mines, Ltd., The Athabasca-Venus Ltd., The Dundee Mines Ltd., and the Nugget Gold Mines, Ltd., Since 1915 I have been examining properties for myself and others in California, Nevada, Arizona, Sonora and Sinaloa, Mexico.

(Signed) A. H. Gracey

EXHIBIT D

Tucson, Arizona
Feb. 14th, 1923

Mr. A. H. Gracey, Pres.
Swisshelm Mining and Development Co.,
Tucson, Arizona.

Letter report by C.L. Orem
Johnson Reference No. 2
J.H.E.

Dear Sir:

Pursuant to your request I have examined the property known as the Great American Mine and cut the necessary samples for concentration and cyanidation test and submit the following preliminary report and list of assays for the ore testing work.

The description, location and accessibility of the property and topography and geology of the district have been adequately and accurately described in your report and that of Mr. H. B. Bassac and the water and fuel questions clearly stated.

In the altered and fractured zones, along the contact of the porphyry and limestone which composes the mineralized area of this deposit, the mineralizing solution have replaced certain strata in the limestone more extensively than others and have followed the fractures and seams. This is shown by the present tunnels. Those beds which have been more susceptible to replacement by reason of their favorable chemical composition can be cheaply developed by crosscuts and inclined raises at right angles to the bedding planes. Some of these are extensively mineralized for considerable distances beyond the extent of the present workings. It is quite likely that similar beds will be encountered with deeper work as geological sections of the district show several hundred feet of favorable carboniferous beds below these levels.

The present workings do not determine the lateral extent of the ore body nor the distances along the strike. The mineralized area southwest beyond the present workings is well altered and silicified the full length of the property. The southwest drift on the 40 foot level in the 60 foot winze, shows fair values over 13 feet and this should prove favorable ground for future development work along the strike. I find your estimate of present ore tonnage available

(14,000 tons of $13.00 ore) very conservative. It takes in only the ore on dumps actually mined and that developed by present surface workings. This supply amply justifies the installation of the mill you recommend and as you state, does not include the probable and possible ore that can be developed.

Preliminary tests show a high recovery of the values by cyanidation and compared to the average mining venture the risk is negligible making it comparable to a manufacturing process with known value and cost of production; with an exceptionally good opportunity to develop many times the present tonnage of high grade and milling ore.

Samples carrying a little iron sulfides in the northeast face of the 40 foot level in the 60 foot winze and a few other assays taken over the workings as indicated in my list below show the presence of several high grade ore lenses. All previous work on the property has been done on the basis of high grade ore alone. This method was wasteful and costly. The installation of a cyanide plant will enable you to work the milling grade ore at a very good profit and will undoubtedly result in the development also of larger tonnages of high grade ore than has been previously mined. Former development in milling ore was dead work but future development in milling ore will yield a profit.

My assays are listed below with data in regard to width, location etc. These samples for the ore tests were cut down coarse, in large amounts and constitute an independent check on previous sampling.

ASSAY VALUE OF SAMPLES FOR ORE TESTING WORK

No1. 7 cuts, each 6 ft. in length, from east drift of 40 ft. level in 60 ft. winze. Cuts are spaced 6 ft. apart and extend from top to bottom of the drift.

Gold	$4.40	Silver	16.0 ozs.	Total	$20.40

No. 2- Cut across 12 ft. on side and 4 ft. at face of south crosscut on 40 ft. level. Total

Gold	$ 3.20	Silver	16.9 ozs.	$10.10

No 3. Cut across 14 ft. above 105 ft. tunnel portal.

Gold	$ 3.20	Silver	5.5 ozs.	$ 8.70

No. 4- Cut below the 14 ft. which constitutes No. 3.

Gold	$ 4.00	Silver	16.0 ozs.	$20.00

OTHER SAMPLES

No. 5- Lead ore on upper dump.

Gold	$ 4.00	Silver	19.0 ozs.	$23.00

No. 6- Samples showing iron sulfides from 40 ft. level, northeast face.

Gold	$ 3.60	Silver	30.4 ozs.	$34.00

No. 7- Sample of oxidized ore on surface above 105 ft. tunnel portal.

Gold	$15.20	Silver	4.2 ozs.	$19.40

No. 8- Sample showing iron sulfices from 40 ft. level.

Gold	$ 8.00	Silver	49.7 ozs.	$57.70

No. 9- Another from 40 ft. level showing iron sulfides.

Gold	$ 9.60	Silver	52.9 ozs.	$62.50

As soon as the work is completed I will submit my report on the metallurgical test and flow sheet for the plant.

Respectfully,

(Signed) C. L. Orem

THE UNIVERSITY OF ARIZONA

TUCSON

(COPY)

THE COLLEGE OF MINES AND ENGINEERING

Office of the Dean and Director

Feb.16th, 1923.

TO WHOM IT MAY CONCERN:

I take great pleasure in certifying herewith that Mr. C. L. Orem graduated from the University of Arizona in 1920 with the degree of Bachelor of Science in Mining Engineering and Metallurgy. He was an exceptionally earnest and proficient student and gave great promise before graduation that he would make a success of his chosen profession, which promise has been abundantly realized since graduation.

His experience since leaving school has been varied and of such a nature to enable him to obtain a practical knowledge of many phases of his profession. I know him to be absolutely honest, a gentleman in every sense of the word, and a unusually competent young engineer. I believe that any statements he may make may be accepted on their face value and his experience is such that great weight should be attached to any opinions expressed by him.

Very sincerely,

(Signed) G. M. Butler

EXHIBIT E

Mr. J. T. Stockdale
P. O. Box 1584
Phoenix, Arizona

P. O. Box, 1451
Phoenix, Arizona
Dec. 22nd, 1935

See Johnson reference No. 3 J.H.D.

Dear Sir:

Enclosed find a copy of the reports. The results cited in Mr. Gracey's report are based on my tests, of the ore. The values in the 1923 reports are on $20.00 per oz. gold and $1.00 per oz. silver. Copies of the same assays are attached below the reports, calculated at present prices, i.e. $35.00 per oz. gold and $0.77 per oz silver.

The ore bodies sampled and estimated by Mr. Gracey in 1923 averaged $1.00 gold to each three ounces or $3.00 silver, under present prices will average about $2.00 gold to $3.00 silver.

0.05 Au
3.0 Ag
Ratio 1:60
J.H.D.

Of course Mr. Gracey's report in 1923 was based on a product for a 50 ton plant. My 1935 description considers the entire mineral area and a much lower grade product for a very large plant.

As stated in Gracey's report the amount of opencut work in relation to the drifts, crosscuts, and raises, is large and considerable development work has been done since Mr. Gracey's report was made as well as considerable shipping.

The old E. R. thru Webb has been removed long ago and improvements and shortening of roads makes it only 26 miles north of Douglas now to where we turn off to the mine. This highway has been greatly improved, widened and is now being paved (oiled).

When you go into the matter thoroughly you will find my present claims for ore of $20.00 grade under present prices is very conservative. The lower tunnel we are driving will cut the ore zone from 50 to 350 feet on the dip of the ore beds and will average about 200 feet of backs for 1000 feet. A 16 inch width of ore of $20.00 value or better for that distance will make 20,000 tons. Widths of 8 to 10 feet and more have actually been mined of higher grade ore in this area and many small fissures and lenses are scattered thru this large deposit that are wider than 16 inches. Actual shipments from the property have assayed 2 or 3 times the value of what I say we can mine. Gracey's estimates considered the ore only to the bottom of the old workings, a distance of 60 feet. Additional assays and pannings indicate there are probably 50 places where ore higher than $20.00 per ton can be mined over a length of 1000 feet of the surface and through 350 feet on the dip of these beds as exposed by erosion of the hillside.

Our present idea is to drift lengthwise of the deposit in the lowest tunnel and crosscut the ore zone at 100 feet intervals to put car and track in this tunnel and an ore bin for the shipping ore on the dump. We will stock pile the mill ore. We intend to raise and connect with the old workings as these workings extend under them. This will permit of mining the shipping ore or grades of mill ore we desire as they are encountered, by glory-hole or underground stoping methods. The ground stands very well and large opencuts or stopes are practical.

Very truly yours,

C. L. Orem

See attached report by C.L. Orem under title of "Arizona Gold and Silver Property" J.H.D.

ARIZONA GOLD AND SILVER PROPERTY

to accom[illegible]
to J.T. Stoc[illegible]
Johnson [illegible]

The property is known as the Great American mine and consists of four patented claims situated in Cochise County, Arizona, eleven miles east of the Douglas-Pierce highway from a point 26 miles north of Douglas. Lying at the base of the northern end of the Swisshelm mountains, the property is accessible by good roads.

The mineral area is composed of beds of limestone and quartzite underlain on the dip by a large porphyry sill which makes up into the sedimentary series in the form of tongues or dykes.

The mineral area apparently dips approximately 20 degrees to the north and the most prominently exposed portion of it occupies the crest of a rounded gently sloping ridge pointing eastward. The mineralized zone where exposed on the surface is prominent for 1500 feet and may be considerably longer under the surface. In places it reaches a maximum width of from 200 to 300 feet. In it there are approximately 2000 feet of old scattered surface workings composed of opencuts, crosscuts, drifts, winzes and raises. Better than 2000 tons of ore have been shipped during the past from these old workings.

Records of part of this tonnage are given below. The rest of the old records are not at hand but probably could be obtained from the smelters. Shipments made over 50 years ago are estimated to total from $25,000.00 to $50,000.00 from these old workings. A list of samples taken in 1923 are also appended.

The mineralization may extend thry a thickness of 200 feet or more of these beds, judging from surface exposures and the present workings. However, if it will hold up to a 100 feet in thickness for a distance of 1000 feet, each 200 feet on the dip it extends would make a tonnage of better than 1,500,000 tons.

This area can be cheaply tunneled under all on ore for at least 200 feet on the dip and raises and crosscuts driven at intervals would adequately block out the ore.

Should this development prove up this area, the ore could be handled from the hillside by power shovel at a cost for mining of not over 50¢ per ton. On the basis of a 1000 ton mill, the milling should not be over $1.50 per ton. The work will open up additional large areas of high grade ore that could be shipped and even if the continuity of the larger area was disproved by this work, sufficient ore of higher grade would be developed and could be selectively stoped to justify a smaller mill from the higher grade sections of this area.

6 to 15 feet thicknesses of these beds exposed 60 feet deep by present workings will hold up to 15 ounces silver and $5.00 to $11.00 gold per ton.

Considerable ore testing work prove the ore can be successfully treated with a high recovery by cyanidation. However, the presence of a little copper and lead in the ore and the late improvements in floatation process may make a combination concentration-floatation plant the most economical. The average of the ore is highly silicious and the concentration ratio would be very high.

In regard to direct shipping ore it is extimated conservatively

that 20,000 tons coluldbe produced that would average 16 ounces silver and 0.20 ounces gold which would be $20.00 per ton present prices.

It is estimated that production costs on this ore will be as follows.

Smelting charges	$4.00	per ton
Smelter deductions	2.00	" "
Transportation	2.00	" "
Royalty	1.50	" "
Mining	3.00	" "
Development	1.00	
Sampling, assaying, taxes & miscl.	1.50	" "
Total	$15.00	" "

On this basis it is estimated that $5.00 per ton net profit could be made by opening up these ore bodies thru a lower tunnel that would permit of cheap production costs. When production reached a larger scale as the advancing development tunnel opened up larger and larger sections on this ore body, it is considered that many of the production costs outlined above could be materially reduced so that ultimately $10.00 to $12.00 ore could be produced at a nice profit thus greatly increasing the ore reserves.

As past production has shown much higher grade ore can be expected and it is anticipated thatextensive regular operations will yield greater quanties of such under the present higher prices than the small irregular workings did.

Wind mills on shallow wells close at hand indicate that sufficient water could be obtained for milling and mining purposes.

C. L. Orem
Mining Engineer and Metallurgist

Probable "A" Series of samples
By Orem, about Oct.? 1935.
J.H.D.

Samples taken on one of my recent trips to the property
Gold at $35.00 per oz. Silver at $0.77 per oz.

	GOLD OZS.	$ PER TON	SILVER OZS.	$ PER TON	TOTAL
1.	Sample of dump at old windlass.				
	0.14	$ 4.90	3.6	$ 2.77	$ 7.67
2.	Across 3 ft. portal 105 ft. tunnel.				
	0.09	$ 3.15	11.1	$ 8.55	$11.70
3.	Sample ore on dump.				
	0.42	$14.70	11.2	$ 8.62	$23.32
4.	2 ft. sample ore above lower cut tunnel.				
	0.13	$ 4.55	11.0	$ 8.47	$13.02
5.	4½ ft. sample raise inside portal tunnel.				
	0.90	$31.50	34.5	$26.57	$58.07
6.	2 ft. roof at end crosscut in 105 ft. tunnel				
	0.45	$15.75	4.3	$ 3.31	$19.06
7.	15 inches roof 80 ft. south 60 ft. winze 40 ft. level.				
	0.32	$11.20	10.8	$ 8.32	$19.52
8.	8 ft. sample across ore NE face 40 ft. level 60 ft. winze.				
	0.18	$ 6.30	11.4	$ 8.78	$15.08
9.	Sample white quartz.				
	0.12	$ 4.20	6.0	$ 4.62	$ 8.82

Orem's "B" series of Samples & assays J.B.O.

SAMPLES TAKEN NOV.24, 1935.

	GOLD OZS.	$ PER TON	SILVER OZS.	$ PER TON	TOTAL
1-B	Intersection two lenses on north wall top 60 ft. winze, 2 ft.				
	0.25	$ 8.75	8.2	$ 6.31	$15.06
2-B	West opencut east face 2 ft.				
	0.60	$21.00	20.8	$16.02	$37.02
3-B	2 ft. roof 20 ft. east 60 ft. winze on level with collar.				
	0.59	$20.65	22.5	$17.33	$37.98
4-B	6" to 1 ft. upper workings on surface.				
	0.43	$15.05	9.6	$ 7.39	$22.44
5-B	Best vuggy ore workings just below 4-B.				
	0.38	$13.30	33.5	$25.80	$39.10
6-B	2 ft. right or north side bottom opencut workings below 5-B.				
	0.45	$15.75	4.3	$ 3.31	$19.06

GOLD AT $35.00 PER OZ. SILVER AT $0.77 PER OZ.

RECEIVED
SEP 26 1963
MINERAL RESOURCES
ARIZONA

Jerome, Arizona
September 23, 1963

EXHIBIT F

Mr. Axel L. Johnson
Box 5047
Tucson, Arizona

Dear Axel:

I just returned from about a month away which wound up in Los Angeles to attend the Mining Congress. Mrs. G. and I were in Idaho and Montana visiting the parks there and then went to Lake Louise. A very nice trip.

With regard to the Great American Mine: A group in Phoenix headed by a Mr. Walker were operating the property along about 1936-37. I think they called their company "Great American Mining Co." Mr. Walker died several years ago and I did not know any of the rest of them very well so I dont know of anyone from whom you could get more detailed information than I can give you..

My connection with the oubfit was to design and build a mill using some machinery they already had other items which were bought at the time, all of which was second hand. C. L. Orem was their engineer at the time. Shortly after the mill was completed and operating I left, so I dont know about all that happened from then on. I dont think that it ran over a year. The grade of the ore did not stand up to the reported value. As I remember it they expected about a 15 to 20 oz. silver ore with a trace of lead. I believe the grade as mined turned out to be something under 10 oz.

There is quite a body of siliceous ore there but I dont know the grade. I am sorry I cant give you more information on the property and I dont know where you might get it. I remember a Mr. Snow was in charge when I left, and he is dead too.

Give my regards to Mr. Secrist. I will look forward to seeing you both at the AIME meeting in December.

Yours very truly

Mark Gemmill

Mark Gemmill

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

EXHIBIT G

Mine GREAT AMERICAN MINE Date 4/29/64

District SWISSHELM DISTRICT, COCHISE COUNTY Engineer LEWIS A. SMITH

Subject: MINE VISIT WITH STANLEY SECRIST (TUCSON) OWNER 4/29/64

REFERENCE IS MADE TO AXEL JOHNSON'S REPORT, OF SEPT. 19, 1963. that rather completely summarizes the fundamental data.

PRODUCTION: (1912, 1920-1921, 1925 and 1934-1935).
The reported shipments amounted to 687.771 tons of ore that averaged 0.293 ounces of gold and 28.62 ounces silver to the ton, and about 50 tons that averaged 11.10 ounces of silver to the ton, and about 24.8 per cent lead, a total of 738 tons. Of this about 419 tons showed about 0.07 per cent copper. All of this showed good silica content, some recent general samples assaying 79-85 per cent, along with variable gold-silver content. Numerous samples of certain better areas, where stoping occurred, indicate that good gold-silver areas did exist but mostly in lenses.

WORKINGS: Axel Johnson pretty well summarizes these except that the main curved adit was extended to 675 feet in total length, the middle portion of which is in relatively fresh limestone. Several cuts, winzes and short shafts are also present.

GEOLOGY: The general geology appears to consists of a wedge, or band, of limestone and quartzite (probably upper Paleozoic) that butts against, on a fault contact to the south, a large mass of rhyolite (some of which is porphyritic) a portion of which appears to be dacitic. Adjacent to the limestone and between it and the main mass of rhyolite is a narrow wedge of rhyolite that has been faulted downward from the main rhyolite mass. This narrow wedge, or "sliver" block, apexes in a small saddle at the head of a sharply incised steep canyon. The canyon is straight in course and follows the fault that forms the south border of the "sliver" wedge. This fault trends nearly EW. The fault that borders the north side of the "sliver" wedge trends N 60 deg. E. The limestone block to the north of this wedge also generally trends N 60 deg W. Due to variable silicification along transverse shear zones, that cross the limestone block, the block has an irregular crest, being high in relief where silicification of the limestone is most intense, with intervening areas of less relief where the silicification was comparatively less. Thus the limestone block from W to E is composed of alternate limestone and silicified zones, the limestone areas being much wider than the two upper silicified zones. The limestone block from top (SW) to bottom (NE) has a silicified zone that trends NW and that is 25-30' wide; then roughly 100 feet of relatively pure limestone; then a second silicified zone that may be up to 30 feet wide; then another 150-200 feet of limestone; then 500 or more feet of strongly sheared and relatively severely silicified limestone (most workings are in this zone). The total length of the limestone-silica band will approximate 1000 feet and its width would average between 100-125 feet. The limestone block is bordered on the northwest by a brown, more or less, uniformly-grained, igneous rock which, near the contact (this contact trends N 60 deg E, also) outcrops sparingly and intermittently, being exposed, mostly, next to the lower (northeastmost) silicified zone. C. L. Orem classed this as a porphyritic sill, but there is also some evidence that this rock may be a dike. Some brecciation occurs in a narrow belt along the contact, especially in the limestone. Due to the sparcity of exposures the function of this rock was not worked out, but its intrusion may have contributed to the severe shattering of much of the limestone near to the contact, prior to the silicification and metallization. The "dike" or "sill" rock was too badly altered to identify it. Its weathering pattern and texture suggest that it may be intermediate in composition. This lower (northeast) zone is intensely sheared particularly in a NW - SE direction.

The most intense silicification and limonite occurs along these shears but it also extends outward along favorable limestone beds. The entire zone mass probably varies greatly, from place to place in silica and limonite content. The spacing of the shears also varies, causing considerable local variation in the degree of silicification. the gold and silver are probably affiliated with higher iron areas. The fresher limestone between the silicified zones contains cherty masses, and lenses, that are part of the original rock. The limonite is mostly derived from pyrite. However the degree of silicification of the limestone on the whole looks to be adequate for silica flux material, although some less silicified portions may have to be identified and sorted out. Nevertheless a considerable amount of flux grade material is present in the lower (NE) zone. It was, therefore, suggested that a large general sample (a carload or more) be sent to the smelter for a trial run. Such a sample should cover all of the more silicified area, the object being to determine whether the deposit is amenable to open-pit mining. A few supplementaryy drill holes also would be advisable in order to determine the thickness and length of the silicification, even though the tunnels indicate a good length. The deposit borders are not well differentiated. Smelters prefer an$ assured tonnage over a long period, and, in order to meet this condition, a good reserve should be established before making contracts. The holes and the large carlot sample should also establish whether the gold-silver content is adequate since the mining of silica alone might be marginal. The truck haul would consist of 35 miles, of which about 12 or more miles would be on dirt road that, at present, would not be too good for large trucks. Since most replacement deposits, of this type, are erratic in shape and distribution, adequate sampling is almost a must. The two upper (SW) silicified zones are small and could be eliminated from consideration for the present.

not done

AMERICAN SMELTING AND REFINING COMPANY
ASARCO
SOUTHWESTERN ORE PURCHASING DEPARTMENT
P. O. BOX 5795, TUCSON, ARIZONA 85703

January 5, 1968

REED F. WELCH
MANAGER

1150 NORTH 7TH AVENUE
TELEPHONE 602-79 010

EXHIBIT K

Mr. Harry J. Fieldman
Arizona Exploration Co., Inc.
2777 N. Campbell Avenue
Tucson, Arizona 85719

Dear Sir:

Confirming our telephone conversation today I enclose a tentative schedule for the purchase of gold-silver siliceous flux ore, originating at the Great American Mine, Swisshelm Mining District, Cochise County, Arizona, to be delivered in railroad cars to El Paso.

In order to evaluate the potential of your mine for a drilling program, you may use this schedule for calculation purposes. However, because we do not contract converter flux ore, at our election we reserve the right to modify the treatment charge and the amount of ore accepted. If the product is acceptable in our fluxing at El Paso, I cannot visualize a rejection of your ore.

For your information, freight from Douglas to El Paso on 30-ton lots is $3.74 per ton for values not exceeding $10.00, $4.30 for values not exceeding $15.00, and $5.04 for values not exceeding $20.00.

Yours very truly,

Reed F. Welch

REED F. WELCH

Enclosure

FOR CALCULATION PURPOSES ONLY

PURCHASE SCHEDULE

American Smelting and Refining Company

EL PASO SMELTING WORKS
EL PASO, TEXAS

Date Effective January 5, 1968

Mine GREAT AMERICAN MINE **Location** Swisshelm Dist., Cochise County, Arizona

Shipper ARIZONA EXPLORATION CO.,INC **Address** c/o Harry Fieldman, 2777 N. Campbell, Tucson, Ariz. 85719

Character Ore GOLD-SILVER SILICEOUS FLUX ORE **R. R. Station** Douglas, Arizona

The following purchase terms are subject to the General Clauses shown on the back of this sheet, and are subject to change on 30 days notice. Unless shipments are begun within 30 days this quotation is automatically cancelled.

DELIVERY: F. O. B. unloading bins American Smelting and Refining Company, El Paso, Texas. The rates quoted are based upon shipment in gondola equipment. Extra unloading charges of $1.00 per dry ton will be assessed for products received in box cars.

PAYMENTS

GOLD: If .03 of an ounce per dry ton or over pay for 92.57% at the net realized price. Under present Mint price this is equivalent to paying for 100% at $32.3125 per troy ounce.

SILVER: Pay for 95% (minimum deduction of ½ ounce) at the average Handy & Harmon New York Silver quotations adjusted to the basis applicable to silver contained in unrefined silver-bearing material for calendar week, including date of delivery of last car of each lot at plant of Buyer, or, if higher, at the realized Mint price provided silver qualifies for Government purchase and affidavit is furnished, less a deduction in either case of 2½¢ per ounce.

No Pay for Copper

COPPER: Deduct from the wet copper assay 8 pounds and pay for 95 percent of the remaining copper at the daily net domestic refinery quotations for electrolytic wire bars as published in the E. & M. J. (Metal and Mineral Markets) averaged for the calendar week including date of delivery of last car of each lot at the plant of Buyer less a deduction of 3.8 cents per pound of copper accounted for. Nothing paid for copper if less than one-half per cent by wet assay.

No payment will be made for any metal or content except as above specified.

DEDUCTIONS

BASE CHARGE: $ 1.50 per net dry ton of 2,000 pounds; provided the sum of payments for gold, silver, and copper does not exceed $ 12.50 per ton. Add to the base charge ten per cent of the excess over $ 12.50 to a maximum charge of $ 8.50 per dry ton.

No Charge

(The base charge just specified is for ores containing at least eight pounds of copper per ton; when a smaller quantity is contained, there will be added to the base charge a sum equivalent to the value of the deficiency between actual contents and eight pounds per ton computed according to the terms specified herein for copper payment.

INSOLUBLE: Allow all units free; charge for excess at cents per unit, fractions in proportion.

ZINC: Allow five units free; charge for the excess at thirty cents per unit, fractions in proportion.

ARSENIC: Allow two units free; charge for the excess at $0.50 per unit, fractions in proportion.

ANTIMONY: Allow one unit free, charge for the excess at $1.50 per unit, fractions in proportion.

BISMUTH: One-tenth of one percent (0.1%) by wet assay allowed free, excess charged at 50¢ per pound, fractions in proportion.

TAXES: See Clause 1 on reverse side of this schedule.

FREIGHT: All railroad freight and delivery charges for account of shipper. Deduct from settlement freight and other advances made by Buyer.

TONNAGE: Limited to 1500 tons per month except by special arrangement.
Minimum Silica content 75%.

AMERICAN SMELTING AND REFINING COMPANY

By Reed F. Welch
REED F. WELCH

(over)

HILL PRINTING CO.—EL PASO

General Clauses Governing All Open Schedules

1. **Taxes:** All taxes or other governmental charges, national, local or municipal, now or hereafter imposed in respect to or measured by the product purchased hereunder, or the production, extraction, smelting, refining, sale, transportation, proceeds or value thereof, or of the metals derived therefrom, other than income taxes levied upon the BUYER, shall be for account of the SELLER and shall be deducted from the purchase price payable hereunder.

2. **Sampling:** Weighing, moisture and ore sampling (at which Seller or a representative may be present) as done by Buyer according to standard practice, promptly after receipt of product, will be accepted as final. The absence of Seller or a representative shall be deemed a waiver of the right in each instance. After sampling, the product may be placed in process, commingled, or otherwise disposed of by Buyer.

3. **Assaying:** As soon as available Buyer will furnish a pulp sample to Seller, or to Seller's representative or the firm handling Seller's assay work. On Seller's request Buyer will make assay comparison with Seller, or his representative, by exchange of assay certificates over the counter. Comparison may be made by exchange of certificates through the mail, and in such event Buyer and Seller will mail to each other their respective assay certificates on the sixth day following date appearing on smelter pulp sample envelope, or other such date as may be agreed upon. The following splitting limits will be used for comparison of assays under either exchange method listed above:

   Gold — .02 troy ounce per ton
   Silver — .5 troy ounce per ton
   Lead — 0.5%
   Copper — 0.3%

   If assays of Buyer and Seller are within limits above specified, settlement assays will be determined by averaging the two results. If assay comparisons indicate differences greater than the above limits, control sample shall be submitted to umpire. Umpires shall be selected in rotation from a list mutually agreed upon, whose assays shall be final if within the limits of the assays of the two parties; and if not, the assays of the party nearer to the umpire shall prevail. Losing party shall pay cost of umpire. In case of Seller's failure to make or submit assays, Buyer's assays will govern.

4. The rates quoted herein are for carload lots. On any lot containing one ton or less, there will be a sampling and handling charge of $10.00. This charge will be decreased $1.00 for each ton in excess of one ton.

5. In this schedule where the word "ton" is used, it is understood to be a ton of two thousand pounds avoirdupois; where the word "ounce" is used, as referring to gold and silver, it is understood to mean the troy ounce; and where the word "unit" is used, it is understood to mean one per cent of a ton, or twenty pounds avoirdupois.

6. The rates quoted herein are based on present published all rail freight rates on lead and copper bullion from El Paso, Texas to New York City. Any increase or decrease is for account of Seller and proper deduction or credit will be made accordingly.

7. Seller should consign his shipments to—American Smelting and Refining Company, El Paso Smelting Works, El Paso, Texas, and it is required that the original bill of lading covering each such shipment be delivered to the Buyer promptly on release of the shipment to the carrier. Full details as to the disposition of settlement returns, including royalty instructions if any, must be furnished by Seller to Buyer before shipments can be processed.

AMERICAN SMELTING AND REFINING COMPANY
El Paso Smelting Works

El Paso, Texas

(over)

INSPIRATION CONSOLIDATED COPPER COMPANY
Inspiration, Arizona

SMELTING DEPARTMENT
File No. 700

EXHIBIT L

GENERAL INFORMATION TO SHIPPERS

1. Shipments are received on Monday through Friday of each week, between 8 A.M. and 4 P.M. Shippers should advise at least one operating day prior to actual shipment, to insure provision for unloading.

2. New shippers should submit a representative sample of their ore prior to shipment. Current shippers should submit representative samples of materials which might differ widely from current shipments.

3. Our laboratory is fully occupied in doing Company work and we do not wish to compete with commercial laboratories. There is no charge for assays on representative samples submitted in advance of shipment, for determination of the suitability of materials for purchase, but we prefer that prospecting and exploration samples be submitted to a commercial assay office. For the convenience of those who might not have ready access to commercial laboratories, we allow our own laboratory employees to do a limited amounted of outside assaying. In those cases assaying is for the account of the individual, and should be handled directly with Mr. L. D. Vanell, our Chief Chemist. Charges by Mr. Vanell are as follows:

   Cu - $1.00, and Au and Ag $1.50. In addition there is a sample preparation charge of $0.15 for each sample submitted. Cost of other determinations will be quoted by Mr. Vanell on request.

4. Payments and minimum quantities are covered in the General Ore Schedule. Maximum amounts received must be negotiated on the basis of the individual ore.

5. Shipments to this plant should be made in bottom-dump railroad gondolas or end-dump trucks. We can, by prior arrangement, spot a car for the shipper to unload into by hand.

W. H. Foard, Smelter Supt.

:fm

Inspiration Consolidated Copper Company

INSPIRATION, ARIZONA

SMELTING DEPARTMENT
(Revision of 8-7-67)

GENERAL ORE PURCHASE SCHEDULE

PAYMENTS:

Copper: Pay for copper content (less deduction as below) at the daily net refinery quotation for electrolytic copper as published in the Engineering and Mining Journal on the date of arrival of the last car of each lot at the plant of the Buyer, less a deduction for freight East and refining of 4.55 cents per pound of copper paid for. Copper deductions are as follows:

Copper assay of 5% or less - 10 pounds per ton deduction.
Copper assay of 5% to 15% - 10% deduction.
Copper assay over 15% - 30 pounds per ton deduction.

No payment will be made for copper when the copper content is less than 0.5%.

Silver: If the silver content is one ounce per ton or over pay for 95% of the silver content. Payment shall be made on the basis of the Handy and Harman New York spot silver quotation for silver in unrefined silver bearing materials on the date of arrival of the last car of each lot at the plant of Inspiration.

No payment is made for silver in ores assaying less than one ounce per dry ton.

Gold: If the gold runs 0.03 ounce per ton or over, pay for all of the gold at 92% of the average weekly U. S. Treasury price for gold, i.e., at $35 X .92 or $32.20 per ounce. No payment is made for gold in ores assaying less than 0.03 ounces per ton.

TREATMENT CHARGE:

The base treatment charge on ores having metal values paid for up to $15.00 per dry ton will be per dry ton as follows:

Ores received for converter flux - above 70% silica - $6.00.
Ores received for converter flux - below 70% silica - $9.50.
Ores and concentrates for furnace treatment - $11.50.

TREATMENT CHARGE - Continued

If the metal values paid for exceed $15.00 per dry ton, the treatment charge will be increased 10% of the first $25.00 in excess of $15.00 paid for. For ore having values paid for in excess of $40.00 per dry ton, the treatment charge will be further increased to the extent of 5% of such value in excess of $40.00.

CREDITS:

Siliceous ore must contain at least 70% silica.

In addition to payments under the General Ore Purchase Schedule a payment of 8¢ per short ton unit will be made for excess silica. Excess silica is the total silica content, less the sum of the following three items:

1. Alumina content X 10.
2. Iron content.
3. Lime content.

PENALTIES:

Copper Deficiency:

Ores containing less than 10 pounds of copper per day ton will be charged with a penalty for each pound, or fraction thereof, by which its actual copper content falls below 10 pounds per ton. Copper deficiency penalty will be charged at the pay value per pound copper as set forth in the General Ore Purchase Schedule.

Moisture:

Moisture penalty per ton of material:

Over 15%, 10¢ for each 1% above 15%.
Over 20%, 50¢ plus 15¢ for each 1% above 20%.
Over [illegible], $[illegible] [illegible] each 1% above [illegible].

Sampling:

A sampling and handling charge will be made for small shipments. This charge will amount to $2.00 for each ton by which the shipment falls short of 10 dry tons.

DELIVERY:

Delivery in the case of truckload shipments shall be f.o.b. cars at the Buyer's works, and in the case of carload shipments f.o.b. Inspiration Transfer, Miami, Arizona.

FREIGHT:

All freight and delivery charges are for the account of the Shipper. Any advance made by the Buyer shall be deducted from the settlement.

GENERAL CLAUSES COVERING SCHEDULES:

1. Terms quoted are subject to immediate acceptance and unless shipments are begun within thirty (30) days this quotation is automatically cancelled.

2. Weighing, Moisture and Ore Sampling as done by the Buyer according to standard practice promptly after receipt of the product will be accepted as final.

   The Seller or his representative has the right to be present to witness these operations, but the absence of said Seller or his representative shall be deemed a waiver of the right in each instance. After sampling, the product may be placed in process or disposed of as the Buyer sees fit.

   In case of disagreement on assays, sample pulps shall be sent to Umpire. Umpire assays shall be accepted as final. The Party losing the umpire shall pay the cost of umpiring. In the case where the Seller fails to make or submit assays to the Buyer, the Buyer's assay shall govern.

3. Except by special arrangement, rates quoted are for carload shipment, minimum of 60,000 pounds.

4. Schedules on ore not under contract for definite period of time are subject to change without notice.

5. In this schedule where the work TON is used, it is understood to be a ton of 2,000 pounds avoirdupois. Where the word OUNCE is used, in connection with gold and silver, it is understood to mean the troy ounce. Where the word UNIT is used, it is understood to mean a unit of one per cent or twenty pounds avoirdupois.

COPY

27[illegible] NORTH CAMPBELL [illegible]
T[illegible]ON, [illegible]
OFFICE [illegible] 327-604[illegible]
NIGHT [illegible] 325-6[illegible]

EXHIBIT M

January 15, 1968

Valley National Bank
Downtown Office
2 East Congress Street
Tucson, Arizona

Refer?

Attention: Mr. Gilbert Bradley, Sr. Vice President

Re: Application for Commercial Loan

Dear Mr. Bradley:

Reference is hereby made to our recent telephone conversation regarding the possibility of your granting a loan to Arizona Exploration Company to explore and develop for profitable marketing an ore body on certain silver-bearing mining claims that we have under lease and option to purchase from Stanley M. Secrist of Tucson.

Our proposed exploration program will require an operational fund of $30,000, of which Arizona Exploration Company is prepared to invest $7,500. The balance of $22,500 is the amount that we are asking you to consider on a commercial loan. This exploration fund will be used to prove by drilling ore reserves that include both indicated and geologically inferred ore. Ore reserve blocks are shown on the enclosed plan map of proposed exploration drill holes. Block 1 and Block 2 are the two blocks we propose to explore by Stage 1 and Stage 2 of this program, and ore reserves are estimated only for these two blocks.

Block 1 is estimated to contain 500,000 tons of silver-gold-bearing silica, from which we estimate 325,000 tons of commercial ore can be recovered by open pit mining. The arithmetic average of 102 samples from old records is 10.98 ounces of silver, and 0.1777 of gold per ton, and for our estimates we are reducing this to a grade of 5.0 ounces of silver and 0.05 ounces of gold per ton to allow for dilution that will result from bulk mining.

Block 2 we are estimating at 210,000 tons of ore, but for the purpose of forecasting potential profit we are considering only the recoverable 325,000 tons in Block 1. In accordance with our

projected mining costs and recent smelter quotations we anticipate a profit of $2.00 a ton, amounting to $650,000 over a period of five years or less.

We can offer as security collateral our rights, title and interest in our lease and option on the land. Because we are a new company we do not, as yet have sufficient physical assets to offer as collateral. I have investigated the acquiring of co-signers who might be satisfactory to you, but have been refused because of the speculative nature of the risk.

Our request for this loan may have to be judged by your record of banking experience with me over a period of the last sixteen years. To review only part of my banking activity, your records will show that you were agent for the collection of mortgage payments on my home, starting in June, 1952, which was consummated satisfactorily; a commercial loan to me of $7,000 in 1958; purchases over the years of cars and equipment, and notes, the most recent one in excess of $4,000, on which final payment will be made next month.

You are somewhat familiar with my mining experience which covers the last twenty years, and includes exploration, mine development, mine and mill operation, and employment as manager for Mineral Materials Company of Alhambra, California under a GSA foreign contract for tungsten in Mexico, as well as my most recent activities, during the past seven years, in acquiring land in our local mining districts for the exploration of copper. I do not hold a degree in mining, but I have been qualified by Arizona State Land Engineering Department by experience, and my reports to them are accepted.

Arizona Exploration Company is a new corporation, incorporated in the State of Arizona under the Small Business Corporation Act as of May 10, 1967, as a vehicle for the future expansion of my exploration activities in the State of Arizona. Because of this short period of activity we have not developed a financial history that would enable us to answer the detailed questions on a financial statement such as you would usually require with a loan application. In lieu of such a statement, the following is a brief resume of our assets and liabilities:

<u>Assets</u>
Cash on hand in Valley National Bank $6,878.83
Equipment $5,000
Unpatented and patented Federal Lode Mining Claims, State Exploration Leases and pending applications for a total of approximately 10,000 acres; value indeterminate, depending on mineral discoveries or surface use value.

<u>Liabilities:</u>
Notes payable Valley National Bank $132.00
Other unsecured notes payable in 5 years $18,000

We are operating as a closed corporation with no intention of making a stock offering at this time. The only stock that has been issued is 100,000 shares to myself, President of the Company, and 118,000 shares to Mrs. Clare F. Filiatrault, Secretary and Treasurer and Mr. Arthur D. Filiatrault, Vice President, for the transfer of our mutual holdings of mining land to the corporation. The address of Mr. and Mrs. Filiatrault is 4901 Camino Arenosa, Tucson, Arizona.

I am including with this application a copy of our lease and option; also the following exhibits to provide you with detailed information regarding our proposed exploration program:

Report on the mining claims by John N. Faick, Ph.D. for Arizona Exploration Co.
Map of proposed drilling, showing Stage 1 and Stage 2.
Proposed exploration program, detailing projected activities and costs.

My sincere thanks to you for your kind consideration of this application for a commercial loan. As we are anxious to start the exploration work on this property in the very near future we would appreciate an early decision.

Very truly yours,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman

J. Harry Fieldman, President

JHF/ajg
Encs. 4

ARE
Arizona Exploration Co., Inc.
27[illegible] NORTH CAMPBELL AVE.
TUCSON, ARIZONA 85719
OFFICE (602) 327-6041
NIGHT 325-6162

EXHIBIT N

January 15, 1968

Arizona Trust Co.,
P. O. Box 1631
Tucson, Arizona

Reply?

Attention: Mr. Walter E. Lovejoy, Jr., Vice President

Re: Application for Commercial Loan

In a telephone conversation with your Mrs. Virginia Batey regarding an application for a commercial loan, she suggested that I direct my application to you for processing.

Arizona Exploration Company is applying for a loan to explore and develop for profitable marketing an ore body on certain silver-bearing mining claims that we have under lease and option to purchase from Stanley M. Secrist of Tucson.

Our proposed exploration program will require an operational fund of $30,000, of which Arizona Exploration Company is prepared to invest $7,500. The balance of $22,500 is the amount that we are asking you to consider on a commercial loan. This exploration fund will be used to prove by drilling ore reserves that include both indicated and geologically inferred ore. Ore reserve blocks are shown on the enclosed plan map of proposed exploration drill holes. Block 1 and Block 2 are the two blocks we propose to explore by Stage 1 and Stage 2 of this program, and ore reserves are estimated only for these two blocks.

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projected mining costs and recent smelter quotations we anticipate a profit of $2.00 a ton, amounting to $650,000 over a period of five years or less.

We can offer as security collateral our rights, title and interest in our lease and option on the land. Because we are a new company we do not as yet have sufficient physical assets to offer as collateral. I have investigated the acquiring of co-signers who might be satisfactory to you, but have been refused because of the speculative nature of the risk.

Therefore this request for a loan may have to be judged largely on my personal history in banking and my mining experience. I would refer you to the Valley National Bank, Downtown Office, for information as to my loan experience with them over the past sixteen years, and I have authorized them to give you any information you may desire.

Since I have been a customer of your bonding and insurance department for a number of years, and have been underwritten by you on numerous bonds covering liabilities as required by the Arizona State Land Department, you are somewhat familiar with my mining experience which covers the last twenty years, and includes exploration, mine development, mine and mill operation, and employment as manager for Mineral Materials Company of Alhambra, California under a GSA foreign contract for tungsten in Mexico, as well as my most recent activities, during the past seven years, in acquiring land in our local mining districts for the exploration of copper. I do not hold a degree in mining, but I have been qualified by Arizona State Land Engineering Department by experience, and my reports to them are accepted.

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<u>Liabilities</u>
Notes payable Valley National Bank $132.00
Other unsecured notes payable in 5 years $18,000

We are operating as a closed corporation with no intention of making a stock offering at this time. The only stock that has been issued is 100,000 shares to myself, President of the Company, and 118,000 shares to Mrs. Clare F. Filiatrault, Secretary and Treasurer and Mr. Arthur D. Filiatrault, Vice President, for the transfer of our mutual holdings of mining land to the corporation. The address of Mr. and Mrs. Filiatrault is 4901 Camino Arenosa, Tucson, Arizona.

I am including with this application a copy of our lease and option; also the following exhibits to provide you with detailed information regarding our proposed exploration program:

Report on the mining claims by John N. Faick, Ph.D. for Arizona Exploration Co.
Map of proposed drilling, showing Stage 1 and Stage 2.
Proposed exploration program, detailing projected activities and costs.

My sincere thanks to you for your kind consideration of this application for a commercial loan. As we are anxious to start the exploration work on this property in the very near future we would appreciate an early decision.

Very truly yours,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman, President

JHF/ajg
Encs. 4

DRILLING
BLASTING

QUARRYING
TUNNELING

METLER BROS. DRILLING CORPORATION

Core Drilling Contractors

4001 E. Illinois Street | Phone 327-4268 | Tucson, Arizona 85714

EXHIBIT O

9 January, 1968

AREX, Arizona Exploration Co., Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

Attention: Mr. J. Harry Fieldman, Pres.

Dear Sir:

In compliance with your request, we are submitting the following proposal for air-trac drilling the claims located on the northeast slope of the Swisshelm Mountains in Secs. #1 and #6, Twns. #20S, Rngs. #27 and #28.

1. Drilling, 0 to 100 feet @ $3.50 per ft.
   Drilling, 100 to 200 feet @ $4.00 per ft.

2. Moving from hole to hole @ $22.50 per hour.

3. Mobilization of air-trac drill rig and compressor @ $1.00 per mile.

4. Access roads and drill sites are to be prepared by your company in advance.

Thank you for giving us the opportunity to quote prices on this project.

Very truly yours,

METLER BROS. DRILLING CORPORATION

Frank C. Metler

FCM:dr

M. M. SUNDT CONSTRUCTION CO.
GENERAL CONTRACTORS

P.O. BOX 2992 440 SOUTH PARK AVENUE TUCSON, ARIZONA 85702 AREA CODE 602 623-[illegible]

January 13, 1968

EXHIBIT P

J. Harry Fieldman, President
AREX, Arizona Exploration Co., Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

Dear Mr. Fieldman:

Thank you for giving us the opportunity to submit the following proposal on exploration drilling at your Great American Silver Claims located in the Swisshelm Mountains in southeastern Arizona.

We plan to accomplish the above drilling by using a Gardner-Denver PR 133 air track and a 600 CFM compressor, putting down a 3 inch diameter hole. Our bid is based upon the conditions as stated in your letter of January 5, 1968, and is as follows:

1. Holes 0-100 ft. in depth - $3.70/Ft.
2. Holes 0-200 ft. in depth - $4.15/Ft.
3. Moving from hole to hole and setting up - $25.00/Hr.

Our bid does not include the following:

1. Building access roads.
2. Drilling below the ground water table.
3. Drilling holes other than vertical.

We hope the above will meet with your approval as we would like very much to do this work for AREX.

Very truly yours,

M. M. SUNDT CONSTRUCTION CO.

M. A. Hustad
Manager, Mining Department
Heavy Engineering Division

MAH:hr

Ponderosa Mining & Development Co., Inc.

WRITE TO:
P. O. BOX 5
ELKO, NEVADA 89801

NEVADA DIVISION
OFFICE
BULLION ROAD

TELEPHONE
(702) 738-6811

EXHIBIT Q

January 23, 1968

AREX, Arizona Exploration Co., Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

Attention: Mr. J. Harry Fieldman, Pres.

Dear Mr. Fieldman:

Please accept the following figures as our bid on the proposed work consisting of percussion drilling, sampling and building of access roads and drill sites on the Great American Silver Mine, located in Cochise County, Arizona, which we inspected on January 20, 1968. We have studied the maps for the proposed program and have noted your suggestions for the required project.

I. Drilling, blasting and bulldozing to build approximately 7500 feet of access roads, and preparation of 85 drill sites for Stage I and Stage II.....$6062.00

II. Drilling and catching samples with cyclone sampler at 5-foot intervals for holes approximately 60 feet in depth on a 40-foot grid pattern, for a minimum of 55 holes (3300 linear feet) for Stage I, or a maximum of 85 holes (5100 linear feet) for combined Stage I and Stage II, at $3.40 per foot.

III. Moving equipment from hole to hole at $15.00 per hole.

IV. Mobilization and demobilization.....Total $330.00

Thank you for the opportunity to submit these quotations.

Very truly yours,

M. L. Tate

M. L. Tate, Gen. Mgr.
Ariz. State License #29676

EXHIBIT R

MINING LEASE AND OPTION TO PURCHASE AGREEMENT

THIS MINING LEASE AND OPTION TO PURCHASE AGREEMENT, is entered into this 10th day of NOVEMBER, 1967, by and between STANLEY M. SECRIST and HELEN W. SECRIST, husband and wife, of Tucson, Arizona, hereinafter called Lessors, and AREX, ARIZONA EXPLORATION COMPANY, INC., an Arizona corporation, of Tucson, Arizona, hereinafter called AREX, as follows:

WITNESSETH:

WHEREAS, Lessors own the hereinafter described patented lode mining claims (hereinafter called "The Claims") situated in the Swisshelm Mining District in Section 1, Township 20 South, Range 27 East, and Section 6, Township 20 South, Range 28 East, G&SRM, Cochise County, Arizona, the mineral surveys of which are set forth below and the patents to which are of record in the office of the Recorder of Cochise County as follows:

Name of Claim	Deeds of Mines Book	Page	M.S. No.
GREAT AMERICAN	14	152	830
HORN SILVER	14	155	831
SULPHURETTS	14	157	1262
ALICE	14	157	1262

1. WARRANTIES. Lessors represent that they own and have the exclusive possession of The Claims. In the event AREX exercises its option to purchase The Claims, Lessors agree to furnish, at their expense, a title insurance policy in the form

customary for insuring patented mining claims, insuring title to The Claims in the purchaser.

2. GRANT OF LEASE AND OPTION. For and in the considerations of minimum payments, royalties, covenants and agreements hereinafter expressed to be paid, kept, and performed by AREX, and the sum of Two Hundred Dollars ($200.00) paid herewith by AREX to Lessors (receipt of which is hereby acknowledged) Lessors do hereby grant to AREX a lease of, together with the exclusive option to purchase The Claims, all as hereinafter set forth.

3. TERM. The term of this Agreement shall be ten (10) years unless sooner terminated by completion of purchase as set forth below in Article 4 or as set forth in Article 5. AREX is also granted the right, at its sole election, to extend the lease for an additional ten (10) year term providing that not less than Fifty Thousand Dollars ($50,000.00) has been paid to the Lessors hereunder on or before the termination of ten (10) years from the date of this Agreement.

4. OPTION TO PURCHASE. Lessors hereby grant to AREX an option, exercisable at any time while this Agreement is in effect, to purchase The Claims for a total purchase price of One Hundred Thousand Dollars ($100,000.00), reduced by all royalty payments under Section 6 and all minimum royalty payments under Section 7 theretofore paid to Lessors by AREX.

5. TERMINATION. Notwithstanding any other provision of this Agreement, AREX may, at any time, terminate this Agreement

by giving Lessors thirty (30) days' written notice of such termination, and AREX shall thereafter be under no further obligation to Lessors, except as follows:

A. That AREX shall pay all theretofore unpaid royalties.

B. That if the notice of termination is given within ninety (90) days of the end of the then current tax year, AREX shall pay all necessary taxes for that year.

C. That upon termination of the within Agreement, by its own terms or by mutual agreement, AREX shall give peaceable possession of The Claims to the Lessors, but shall have sixty (60) days to remove all machinery, tools and equipment; provided, however, that all underground ladders, timbers, stulls or supports shall be left in place. No machinery, tools or equipment may be removed from the premises if AREX is in any manner indebted to the said Lessors for any obligation incurred under this Agreement, except by consent and approval of the removal of such machinery, tools and equipment by the Lessors.

If AREX fails to make any payments to Lessors on or prior to the applicable due dates set forth in Articles 6 and 7, and if Lessors give notice to AREX of such failure, this Agreement shall automatically terminate ten (10) days after Lessors have given

such notice, unless prior to the expiration of the said ten (10) days, AREX shall have tendered such payment to Lessors. Any notice given under this Article 5 shall be effective if given in the manner specified in Article 16 and all payments to Lessors shall be made to Lessors at the address (including any change thereof) as specified in Article 16.

6. PRODUCTION ROYALTY. AREX shall pay Lessors a production royalty on the net smelter returns on all ore produced and shipped from The Claims, on a graduated (sliding scale) basis as follows:

> On ore of less than $5.00 per ton NSR, royalty will be Ten Cents ($.10) per ton.
>
> On ore of $5.00 to $5.99 per ton NSR, royalty will be Twenty Cents ($.20) per ton.
>
> On ore of $6.00 to $9.99 per ton NSR, royalty will be Seven and One-half Percent (7-1/2%).
>
> On ore of $10.00 or more per ton NSR, royalty will be Ten Percent (10%).

The phrase "net smelter returns" is hereby defined as the net amount received for all shipments of material after deduction of all smelter charges, trucking charges from mine or mill to rail head or smelter, and freight charges from The Claims to any and all points in the State of Arizona, Hurley, New Mexico, El Paso, Texas or Cananea, Mexico. In the event that shipments are made to more distant points then the cost shall be deductible in the amount of highest cost to any of the shipping points mentioned above.

All payments of production royalty hereunder shall be remitted directly to Lessors by the smelter or other reduction work

purchasing shipments hereunder and shall be accompanied by a copy of the settlement sheet. Payments for shipments made in any one calendar month shall be due and payable no later than twenty (20) days after expiration of such calendar month.

7. MINIMUM ROYALTY. Nine (9) months from date that this Agreement has been in effect AREX agrees that minimum royalty payments to Lessors shall be not less than One Hundred Dollars ($100.00) per month for the duration of the Agreement.

8. TAXES. Lessors have heretofore paid the taxes for the 1967 tax year. AREX shall pay, before the same becomes delinquent, all real and personal property taxes assessed on the property or on equipment installed thereon and all taxes measured by production from The Claims to the end that no tax lien of any nature shall arise against The Claims while this Agreement is in effect.

9. SUBORDINATION FOR O. M. E. It is mutually agreed and understood that in the event AREX applies for an exploration loan for The Claims from the U. S. Government through the office of Minerals Exploration, the Lessors do hereby agree to submit a Subordination Statement on an MME Form 52 or other forms supplied by O. M. E. to facilitate an exploration contract, but only to the amount of the lien that may become effective to O. M. E.

10. MUTUAL BOUNDARY PROTECTION. Lessors agree that they will not acquire any interests in land within two thousand (2,000) feet of the perimeter of The Claims covered by this Agreement. AREX agrees that in the event it acquires contiguous claims (i.e., claims that are adjacent, touch, or have common

boundaries at a corner to The Claims) AREX, in the event it does not exercise its option to purchase The Claims, will quitclaim to the Lessors all such contiguous claims upon termination of this Agreement. This Agreement to quitclaim contiguous claims shall not include any lands that may be purchased for their mineral rights from private ownership.

11. OPERATIONS; "NO LIEN" NOTICES; INSURANCE. AREX shall cause all work, development and mining to be done in a workmanlike manner and shall conform with all state and federal mining laws and regulations. AREX agrees to pay all expenses of its operations hereunder and, except as set forth in Article 9, to permit no liens arising from any act of AREX or its successors or assigns to remain upon The Claims and AREX shall indemnify Lessors against any liability to third persons resulting from its operations hereunder. Lessors may post and record "No Lien" notices provided for in ARS § 33-990, and AREX agrees to maintain such notice in the manner required under the said statute. AREX shall comply with the workman's compensation laws and with the social security and unemployment insurance laws and with all other federal and state laws relating to its operations hereunder. If AREX allows any lien (other than as set forth in Article 9) to remain upon The Claims, Lessors shall have the right to pay off such lien and recover the costs and expenses thereof from AREX and shall also have the right, if Lessors so choose, to re-enter and repossess The Claims, in which event the rights of AREX shall immediately cease and terminate. Such rights and remedies of

Lessors shall be in addition to, and in no way detract from, any other rights of termination or forfeiture set forth elsewhere in this Agreement.

12. TITLE DEFECTS; RELINQUISHMENTS. If Lessors title to The Claims is defective or less than represented in Article 1, AREX shall give notice to Lessors of such title discrepancy and Lessors shall undertake to cure any defect, the failure of which to remove would in any way hinder the operations of AREX hereunder, including the initiation of, or defense of, litigation involving the title to The Claims or any portion thereof. If Lessors do not undertake such curative steps within a reasonable time, AREX shall have the right to cure Lessors title and deduct all direct costs incurred from payments otherwise payable to Lessors hereunder to the extent that such costs do not exceed Ten Thousand Dollars ($10,000.00). If for any reason this Agreement expires or is terminated, AREX agrees to execute and deliver to Lessors an appropriate release of this Agreement.

13. INSPECTION; DELIVERY OF DATA. AREX shall maintain correct and complete books of records showing all particulars necessary for the true ascertainment of royalties, and Lessors or their agents shall have the right to inspect such books and records at all reasonable times. Lessors or their agents may enter The Claims and any mill or other facility at which material from The Claims is being treated at all reasonable times and at Lessors' risk and so as not to hinder unreasonably the operations of AREX. If this Agreement is terminated or expires, AREX shall

furnish Lessors copies of all maps, geological sections, drill logs, survey data, geological, geochemical, or geophysical reports pertaining to The Claims prepared by, or under the direction of, or at the request of AREX.

14. SALE OR ASSIGNMENT. AREX agrees that before it shall be entitled to sell or assign its rights hereunder to any third party, not less than a total of Fifty Thousand Dollars ($50,000.00) must be paid to the Lessors hereunder; provided, however, that AREX shall be entitled to pay the difference between $50,000.00 and all sums theretofore paid simultaneously with such sale or assignment.

If within twenty (20) years from the date of this Agreement, whether prior to or subsequent to exercise by AREX of its option to purchase, this Agreement or The Claims are sold or assigned for a purchase price of Five Hundred Thousand Dollars ($500,000.00) or more, the Lessors shall receive upon (and only upon) such initial sale or reassignment and and in addition to other sums payable hereunder, Ten percent (10%) of all sums in excess of $500,000.00 received by the party making such a sale or assignment.

15. FAILURE OF AREX TO PERFORM. In addition to the provisions of Article 11, if AREX fails to perform any of the terms and conditions of this Agreement, and if such default shall continue for thirty (30) days after Lessors have given written notice thereof, this Agreement shall terminate and Lessors shall retain all payments theretofore made.

16. NOTICES. Notices hereunder shall be in writing and delivered either personally or by certified mail, postage prepaid

and addressed as follows:

To Lessors: Stanley M. Secrist
P. O. Box 1088
Tucson, Arizona 85702

To AREX: AREX, Arizona Exploration Co., Inc.
2777 N. Campbell Ave., Suite "B"
Tucson, Arizona 85719

or to such other address as a party may, in like manner, designate.

17. MEMORANDUM. The parties agree to execute a Memorandum of this Agreement, which either party may record.

18. INUREMENT. This Agreement (including the Sale or Assignment provisions of Article 14) shall extend to and be binding upon the heirs, successors, executors, administrators and assigns of all of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have hereunto caused this Agreement to be executed effective as of the date first above written.

LESSORS:

Stanley M. Secrist

Stanley M. Secrist

Helen W. Secrist

Helen W. Secrist

AREX:

ARIZONA EXPLORATION COMPANY, INC.

By J. Harry Fieldman

J. Harry Fieldman, President

ATTEST:

Clare F. Filiatrault

Secretary

STATE OF ARIZONA)
) ss.
COUNTY OF PIMA)

On this the 9th day of NOVEMBER, 1967, before me, the undersigned officer, personally appeared STANLEY M. SECRIST and HELEN W. SECRIST, husband and wife, known to me to be the persons whose names are subscribed to the within instrument, and acknowledged that they executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Leo N. Smith
Notary Public

My commission expires:
My Commission Expires Aug. 22, 1970

STATE OF ARIZONA)
) ss.
COUNTY OF PIMA)

On this the 10th day of November, 1967, before me, the undersigned officer, personally appeared J. HARRY FIELDMAN, who acknowledged himself to be the President of ARIZONA EXPLORATION COMPANY, INC., and that he, as such President, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of the company by himself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Adria J. Gray
Notary Public

My commission expires:
My Commission Expires July 6, 1971

MEMORANDUM
of
MINING LEASE AND OPTION TO PURCHASE AGREEMENT

EXHIBIT R

Under the terms of that certain Mining Lease and Option to Purchase Agreement dated the 10th day of NOVEMBER, 1967, by and between STANLEY M. SECRIST and HELEN W. SECRIST, his wife, of Tucson, Arizona, (therein and hereinafter designated "Lessors") and AREX, Arizona Exploration Company, Inc., an Arizona corporation (therein and hereinafter designated "AREX"), Lessors granted to AREX and exclusive lease of the hereinafter referred to property for an initial term of ten (10) years, which term may be renewed for additional term of ten (10) years, all as fully set forth therein, together with the exclusive option to purchase the said property during the said term or extension thereof, all on the terms and conditions as set forth therein.

The property subject to the said Agreement consists of the four patented lode mining claims situated in the Swisshelm Mining District, in Section 1, T. 20 S., R. 27 E. and in Section 6, T. 20 S., R. 28 E., G&SRM, Cochise County, Arizona, as described in the patents thereto of record in the office of the Recorder of Cochise County, Arizona as follows:

Name of Claim	Deeds of Mines Book	Page	M.S. No.
GREAT AMERICAN	14	152	830
HORN SILVER	14	155	831
SULPHURETTS	14	157	1262
ALICE	14	157	1262

Copies of the said Agreement are in the possession of Lessors at 250 South Cottonwood Boulevard, Tucson, Arizona, and of AREX, 2777 North Campbell Avenue, Tucson, Arizona.

LESSORS:

Stanley M. Secrist
Stanley M. Secrist

Helen W. Secrist
Helen W. Secrist

AREX:

ARIZONA EXPLORATION
COMPANY, INC.

By J. Harry Fieldman
J. Harry Fieldman, President

ATTEST:

Mare F. Filistrauer
Secretary

STATE OF ARIZONA)
) ss.
COUNTY OF PIMA)

On this the 9th day of NOVEMBER, 1967, before me, the undersigned officer, personally appeared STANLEY M. SECRIST and HELEN W. SECRIST, husband and wife, known to me to be the persons whose names are subscribed to the within instrument, and acknowledged that they executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Leo N. Smith
Notary Public

My commission expires:
My Commission Expires Aug. 22, 1970

STATE OF ARIZONA)
) ss.
COUNTY OF PIMA)

On this the 10th day of November, 1967, before me, the undersigned officer, personally appeared J. HARRY FIELDMAN, who acknowledged himself to be the President of ARIZONA EXPLORATION COMPANY, INC., and that he, as such President, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of the company by himself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Adrin J. Gray
Notary Public

My commission expires:
My Commission Expires July 6, 1971

VERITY & SMITH
ATTORNEYS AT LAW
SUITE 902 TRANSAMERICA BUILDING
177 NORTH CHURCH AVENUE
TUCSON, ARIZONA 85701

VICTOR H. VERITY
LEO N. SMITH
JAMES E. MUELLER
JOHN C. LACY

AREA CODE 602
TELEPHONE 622-7446

EXHIBIT S

January 19, 1968

Mr. J. Harry Fieldman
President
AREX, Arizona Exploration Co., Inc.
2777 No. Campbell Avenue, Suite B
Tucson, Arizona 85719

Dear Mr. Fieldman:

Enclosed are five copies of MME Form 52 executed by Mr. and Mrs. Secrist. You are hereby authorized to file the documents with OME in conjunction with your loan application on the condition that (1) Mr. Secrist be advised upon the signing of an OME Contract and furnished with a copy hereof; and (2) Mr. Secrist be advised of, and furnished a copy of, any certification of the property in the event the government deems the property certifiable or a copy of the letter of termination releasing the lien.

Very truly yours,

Leo N. Smith

LNS:md

Encls.

cc: Mr. Stanley M. Secrist

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090 –
Contract Date

LIEN AND SUBORDINATION AGREEMENTS[1]

EXHIBIT S

To the United States of America:

That certain land in the County of Cochise, State of Arizona,

described [2] in a lease and option dated November 10, 1967 and recorded in Book 3119, Pages No. 503 to No. 505 Pima County Recorder's Office, Arizona. The land consists of four patented mining claims, Great American, Horn Silver, Sulphuretts and Alice, described in the patents thereto and recorded in Deed of Mines Book 14, pages 152, 155 and 157 respectively

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AREX, Arizona Exploration Company, Inc. [3]
hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

1. (a) Being the owner of an interest in the land, hereby grants to the Government a lien upon all of his right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of the royalty on production provided for by the Contract, and agrees if the Operator's interest should be surrendered or terminated at any time prior to the expiration of the rights of the United States under said Contract to pay royalty to the Government according to the terms of said Contract; or

(b) Being the holder of a claim, lien, or encumbrance against the land, hereby subordinates his claim, lien, or encumbrance in or against the land and in any production therefrom to the rights of the Government under the Contract with respect to royalty on production and liens to secure same.[4]

2. Undertakes and agrees that property in which the Government may acquire an interest or equity under the Contract may be dismantled, severed from the land, and removed as may be provided in the Contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned.

3. Represents and undertakes that there is no claim, lien, or encumbrance upon the undersigned's right, title, claim, or interest in or against the land other than the following: (If "none" insert the word "none". Do not leave blank.)

None, other than exceptions and reservations in the United States patents issued thereto and except as to real property taxes which have become a lien but which are not yet due and payable.

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3/ Insert name exactly as it appears in the Application MME Form 40.

4/ Subparagraph 1(a) does not apply to the holder of a claim, lien, or encumbrance.

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

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6. Added provisions None (State "None" or "See Annex No.____".)

Dated this 19th day of January, 1968.

Stanley M. Secrist	(Seal)	250 S. Cottonwood Blvd.	(Street)
		Tucson, Arizona	(City & State)
Stanley M. Secrist			
Helen W. Secrist	(Seal)	250 S. Cottonwood Blvd.	(Street)
		Tucson, Arizona	(City & State)
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	(Seal)		(Street)
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	(Seal)		(Street)
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	(Seal)		(Street)
			(City & State)
	(Seal)		(Street)
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I, _____ (Name), certify that I am the _____ (Title—Secretary, etc.) of the corporation named herein; that _____ (Name), who signed this agreement was then _____ (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____
(Corporate Seal)

INT.-DUP. SEC., WASH., D.C. 21103

MME Form 52
Jan. 1959

UNITED STATES
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FOR GOVERNMENT USE ONLY
Operator
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2

MME Form 52
Jan. 1959

UNITED STATES
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	(Seal)		(Street)
			(City & State)
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			(City & State)

I, _____ (Name), certify that I am the _____ (Title—Secretary, etc.) of the corporation named herein; that _____ (Name), who signed this agreement was then _____ (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____
(Corporate Seal)

Office of Minerals Exploration
Building 53 Room 200

October 23, 1969

Mr. J. Harry Fieldman, President
Arizona Exploration Company, Inc.
2238 E. Hedrick Drive, No. 11
Tucson, Arizona 85719

Re: OME-6692 (Silver-Gold)
Arizona Exploration Company, Inc.
Great American Claim, et al.
Cochise County, Arizona

Dear Mr. Fieldman:

I am sending you the aerial photographs you referred to in your letter to this office dated October 8, 1969 under separate cover. They had inadvertently been placed in another file. Please accept our apology. I trust they will have not arrived too late to be of use to you.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosure
cc: Chief, OME
OME-6692
OME chron
Mr. Hasler

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October 8, 1969

OME Docket
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OCT 13 1969
Denver, Colorado

J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Denver Federal Center
Office of Minerals Exploration
Building 53, Room 200
Denver, Colorado 80225

Dear Mr. Hasler:

Subject: OME-6692 (Silver-Gold)
Arizona Exploration Company, Inc.
Great American Claim, et al
Cochise County, Arizona

Thank you for returning the application material per our request.

I would like to advise that the aerials which we sent you November 20, 1968, and which you could not locate, were probably handed to your Mr. James L. Gualtieri and may be in his personal file.

We will be looking forward to hearing from you, and hope that we will receive the photos as soon as possible.

Very truly yours,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman, President

JHF/ajg

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September 29, 1969

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OCT 2 - 1969
Denver, Colorado

J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Denver Federal Center
Building 53, Room 200
Denver, Colorado 800225

Dear Mr. Hasler:

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co, Inc.
Great American Claim, et al.
Cochise County, Arizona

Enclosed is a copy of our letter to you dated August 13, 1969, which may possibly have gone astray and not reached you.

We kindly request you to note in the copy of the letter referred to our need for the material requested, and would greatly appreciate your forwarding it to us.

Possibly the material referred to may have been forwarded to Washington. In this event, if we do not hear from you within a reasonable time, we will assume this is the case and will write direct to Washington, making the same request.

Very truly yours,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman, President

JHF/ajg
Enc.: Copy of letter of 8/13/69

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Office of Minerals Exploration
Building 53 Room 200

October 3, 1969

Mr. J. Harry Fieldman, President
Arizona Exploration Company, Inc.
2238 E. Hedrick Drive No. 11
Tucson, Arizona 85719

Subject: OME-6692 (Silver-Gold)
Arizona Exploration Company, Inc.
Great American Claim, et al
Cochise County, Arizona

Dear Mr. Fieldman:

I am returning all of the application material you sent to us under separate cover, however I am unable to locate the two sets of aerial photographs that were sent to us with the letter of transmittal dated November 20, 1968. I shall contact Washington to see if they have a copy of the aerial photographs and I will continue to search our files for them. Please pardon my delay in answering your request, as I have been in fht eield a good portion of the time since receiving your letter of August 13, 1969.

Sincerely yours,

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

cc: Chief, OME
OME-6692
OME chron
Mr. Hasler

OCT 6
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OME Region III
RECEIVED
OCT 2 - 1969
Denver, Colorado

August 13, 1969

J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Denver Federal Center
Building 53, Room 200
Denver, Colorado 800225

Dear Mr. Hasler:

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

We kindly request your consideration of returning all exhibits submitted to your Department under the subject application for assistance to exploration. Our application was prepared in duplicate, and your Washington Office has a complete set which we would be pleased to have them retain for the records.

We particularly need at this time the two sets of aerial photographs that we forwarded to you with a letter of transmittal datedNovember 20, 1968, and we would be grateful if you would kindly include them with the data above requested.

Incidentally, we have completed considerable exploration work on the Great American claims, consisting of geophysical surveys and shallow drilling and we are now preparing a core drilling program to depths of 300 feet which we hope will give us encouragement for further study.

Our thanks to you for your previous consideration, and we will be looking forward to hearing from you at your convenience.

Very truly yours,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman, President

JHF/ajg

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
12/20/68	E Peterson	120
12/23/68	Kirkemo	120
"	Johnson	110
	Kilgrgard	
12/30	Meyer	
		220

AIRMAIL

Arizona Exploration Co., Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

DEC 31 1968

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Gentlemen:

A careful study of your application for financial assistance to explore the subject property and of other information available to us indicates that not enough geologic information is known of the exploration target to support the proposed project and justify Government participation in the work. Accordingly, we must inform you that your application for assistance is denied.

We regret the necessity for this action which, however, is taken without prejudice to the property. Should you perform additional work such as geologic mapping and sampling and obtain evidence that more completely justifies further exploration of the property, we shall be pleased to consider a new application at that time.

We wish to thank you for your interest in the minerals exploration program and for bringing your property to our attention.

Sincerely yours,

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
EconomicGeology File
OME Docket
OME Reading File
Region III
Mr. Peterson
130

ECPeterson/bsl 12/20/68

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
12/20/68	Kirkham	120
		120
12/23	Johnson	110
		220

DEC 31 1968

Memorandum

To: The File

From: Edward C. Peterson

Subject: OME-6692 (Silver→Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Justification for Denial of Application

In the field examination report it is recommended that a limited program of exploration drilling be approved. However, after reviewing the report and data submitted by the Applicant, I recommend with the concurrence of the Field Officer, that the application be denied on the basis that available geologic information indicates exploration is not warranted.

Over twenty random grab sample of ferruginous silicified material were taken from surface outcrops and underground workings by the field examiner. The arithmetic average of the assays of the 21 samples is 0.05 oz/ton gold and 1.3 oz./ton silver. It is to be noted, however, that the average of the 21 samples is strongly effected by one sample which contains 1.04 oz/ton gold and 13.81 oz./ton silver. If this sample is excluded, the remaining samples average only 0.006 oz./ton gold and 0.39 oz./ton silver. If these assays are indicative of the average tenor of the deposit, its economic potential is greatly decreased.

The commercial possibilities of the apparent low grade deposit as a source of siliceous fluxing agent are unknown. According to officials at the AS&R smelter in Denver (inquiry made by Field Officer) prices, needs, grade, etc. fluctuate considerably. Therefore, it is doubtful that development of the property soley for this purpose would be economically feasible.

Recorded production from the property amounts to only 770 tons of which about 50 tons was mined for its lead content. However, based on mining operations located in the eastern part of the silicified body which were directed toward exploiting the higher grade ores with considerable success, there exists the possibility that the silicified body on the Applicant's property may warrant exploration. Therefore, it is recommended that the application for assistance be denied without prejudice to the property. Should the Applicant perform additional work such as geologic mapping and sampling (recommended in our letter of February 5, 1968) and obtain evidence that exploration is warranted, the OME could consider a new application at that time.

Edward C. Peterson

Edward C. Peterson

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Mr. Peterson

ECPeterson/bsl 12/20/68

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 200

December 11, 1968

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Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6692 (Ag)
Arizona Exploration Company
(Great American Silver Mine)
Cochise County, Arizona

Transmitted herewith is a report of examination on the subject application by James L. Gualtieri. I have reviewed the report and concur in the recommendation made by Mr. Gualtieri.

There is a question in my mind as to just what constitutes mill grade ore in this particular case. It seems to me that the sale of the low grade ore depends largely on the price the applicant would receive for silica and flux material. A check with the Globe Smelter, American Smelting and Refining Company indicated that the price for the marketing of flux material varies greatly, depending upon the current requirements for that material at the various individual smelters.

The exploration program as outlined in the report of examination would adequately explore the property with a minimum amount of funds, and it is my opinion that the property, at present would warrant only the expenditure suggested herein. Should any Stage II work be justified as a result of favorable exploration results the contract could be expanded to include Stage II work.

By phone 12/16/68 Bill agrees that a good shot at it goes along with the idea of a good shot should be denied without prejudice. EP

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 200

December 11, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: James L. Gualtieri

Subject: OME-6692 (Silver)
Arizona Exploration Company, Inc.
Great American Project
Cochise County, Arizona

Enclosed herein is the report of examination on the application of the Arizona Exploration Company, Inc. OME-6692. It is recommended that a much reduced, phased program be undertaken to test the silicified body.

Most sincerely,

J. L. Gualtieri

J. L. Gualtieri, Geologist
Office of Minerals Exploration

UNITED STATES

DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, SECRETARY

U. S. GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION

REPORT OF EXAMINATION

REGION III

On-Site Exam Report

OME-6692 (SILVER)

ARIZONA EXPLORATION COMPANY, INC.

GREAT AMERICAN PROJECT

COCHISE COUNTY, ARIZONA

By

JAMES L. GUALTIERI

GEOLOGIST

DECEMBER, 1968

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OME-6692 (SILVER)

ARIZONA EXPLORATION COMPANY, INC.

GREAT AMERICAN PROJECT

COCHISE COUNTY, ARIZONA

Introduction

Arizona Exploration Company, Inc., applied to the Office of Minerals Exploration January 29, 1968 for financial assistance to explore the area adjacent to the Great American silver mine, Cochise County, Arizona. Subsequently the proposal was revised several times. The current proposal is dated September 25, 1968. A field examination was requested by the Office of Minerals Exploration, Washington, D. C. and an examination was made by J. L. Gualtieri on November 11th and 12th. A brief preliminary examination was made on the afternoon of November 11th and a more thorough examination was made on November 12th in company with Messrs. J. N. Faick and Willian Lundby.

The Property

Arizona Exploration Company, Inc., is leasing or holding by location, property in the northern part of the Swisshelm Mountains, in Section 1, T. 20 S., R. 27 E. and Section 6, T. 20 S., R. 28 E., Cochise County, Arizona. The area may be reached either by traveling southwest from Willcox, Arizona 8 miles over Interstate Highway 10, then southwest 38 miles over U. S. Highway 666 to Rucker Canyon turnoff, or by traveling north 31 miles from Douglas, Arizona over

U. S. Highways 80 and 666 to the Rucker Canyon turnoff. From the turnoff the route is east over about 13 miles of gravel road to Moore's Ranch and south across Whitewater Draw over about 2-1/2 miles of dirt road.

The claims which are of principal concern in the Applicant's current proposal are patented and are held by lease by the Applicant. The claims are the Great American, Horn Silver, Alice and Sulphuretts which have a total area of about 76.05 acres. The Hornsilver and Great American claims have survey numbers 830 and 831 respectively; the Alice and Sulphuretts have survey number 1262. These claims are adjoined on the northwest, southwest and southeast by a block of 38 claims which the Applicant holds by location. All the ground on which the proposed exploration would take place lies on the four patented claims.

Geology

The northern part of the Swisshelm Mountains are composed of Precambrian granite and a succession of Paleozoic and Cretaceous sedimentary rock formations which have been complexly folded and faulted during post-Cretaceous time (Galbraith and Loring, 1951, p. 30-32). The succession is overlain by volcanic rock which has been eroded from the axial area of the mountains. The core of the northern part of the Swisshelm Mountains is intruded by a body of intermediate igneous rock which may have been emplaced contemporaneously with the volcanic rock (Cooper, 1959). Locally, parts of the thrust planes are intruded by diorite porphyry sills (Galbraith and Loring, 1951, p. 32).

The Paleozoic sedimentary formations are mainly composed of limestone or dolomite with very minor thicknesses of quartzite, shale or sandstone. The sole Cretaceous formation is composed of arkosic sandstone and conglomerate. A brief compendium of the geologic column modified from Cooper (1959) is as follows:

Age, formation, and character	Thickness in feet
Cretaceous	
Volcanic rocks	
Propylitized andesite flows and pyroclastic rocks that weather green, maroon, and purple with sparse lenses of conglomerate, sandstone and shale	500
UNCONFORMITY	
Bisbee Formation	
Interbedded sandstone and shale with coarse limestone conglomerate at the base and sparse limy zones higher in the section	1,000+
UNCONFORMITY	
Pennsylvanian and Permian	
Naco Group	
Upper part - blue gray to almost black limestone in medium to thick beds	
Lower part - fuslinid-bearing limestone and some buff to red shale and calcareous sandstone in units 10 to 50 feet thick	2,400

Age, formation, and character (Cont'd.)	Thickness in feet
UNCONFORMITY	
Mississippian	
Escabrosa Limestone	
Thick-bedded, gray, commonly crinoidal limestone with abundant chert nodules in some beds	330
UNCONFORMITY	
Devonian	
Swisshelm Formation	
Dolomitic quartz sandstone, platy siltstone, nodular limestone, and marl, and subordinate clastic limestone and silty dolomite	400
UNCONFORMITY	
Ordovician	
El Paso Formation	
Thin- to thick-bedded gray dolomite and limestone with siltstone and sandstone beds and laminae	175
Cambrian	
Abrigo Formation	
Interbedded green limestone and shale, thin bedded, cherty	225
Bolsa Quartzite	
Coarse- to medium-grained quartzite, commonly arkosic in lower part	400+

Age, formation, and character (Cont'd.) Thickness in feet

UNCONFORMITY

Precambrian

Granite

Coarse-grained, commonly porphyritic

Several silicified areas of sufficient size to show at a scale of 1:250,000 are present in the northern part of the Swisshelm Mountains (Cooper, 1959). The silicified areas are located either in the Naco Group or the Escabrosa Limestone. This consistent relationship suggests that the locales of silicification are controlled by favorable structures such as thrust planes and by the presence of rock susceptible to silicification. The emplacement of (diorite) porphyry sills on thrust planes may have contributed to the silicification process. Such a sill is exposed to the southeast of the silicified body on the Great American claim and is assumed to be continuous beneath the body (Applicant's second proposal, Fig. 2A). Direct evidence of such a relationship is lacking for the other three silicified bodies, but lead sulphide ore bodies of the Mountain Queen and Chance mines are similarly situated.

The block of ground containing the siliceous body of the Great American claim is shown (Cooper, 1959) as a narrow southwestward extension of a large overthrust sheet composed of rocks of the Naco Group with volcanic rock emplaced in normal sequence on the flanks of the extension. It appears likely that the southwest

side of the extension is in fault contact with the volcanic rocks and this may also be true on the north side. On aerial photographs the block appears fractured on a northwest-southeast trend or in a pattern that parallels the southwestern contact.

The siliceous body was apparently produced by the near total replacement of limestone beds of the Naco Group. Commonly the siliceous rock is highly to moderately ferruginous, banded, brecciated, or massive, and locally it is vuggy where box-work structures have developed at the sites of now-leached minerals. Lime that has migrated away from silicified areas is evident in myriads of calcite veinlets emplaced in the surrounding limestone. Locally, within the siliceous body, beds of limestone remain unreplaced. Some of these beds appear to be totally intact from top to bottom as though the replacement process had been halted at the top and basal partings of these beds. It is not known whether these beds were immune to replacement because of some subtle difference in chemistry or because of some wholly incidental factor.

The overall outline of the outcrop pattern of the siliceous replacement body on the Great American claim has the shape of an asymmetrical "V" with the limbs open to the west. The body has an exposed vertical extent in excess of 100 feet. Unreplaced beds of limestone adjacent to the silicified body strike roughly N. 30° W. and dip 30° - 55° NE It is not clear from this relationship if some major zone in the Naco Group was silicified in preference to others, or if the silification process indiscriminately effected the limestone. There is no direct evidence of stratigraphic control,

rather it seems likely that structural controls -- minor faults and fractures and the proximity of the underlying sill were the principal factors in localizing the replacement process.

The Siliceous Body as an Ore Deposit

The first recorded production from the Great American mine was, according to the Applicant, in 1912. Thereafter the mine was operated sporadically until 1937, when it finally closed. Recorded production through this period amounts to 770 tons of which about 50 tons was mined for its lead content. The Applicant believes that overall as much as 10,000 tons of ore were produced from the property.

Mining development, judged from the many pits, open cuts, adits and stopes was directed to exploit the highly mineralized parts of the body. The practice of continually sampling and assaying the body must have been necessary to guide the miners to the best ore. During the course of examination only one fragment of sulfide-bearing silicified ore was observed and this, a pyrite-bearing fragment, was found lying on a dump. In one of the larger stopes copper bloom-amorphous malachite and azurite-was noted at two places on the wall, but this feature no doubt developed after the working was opened. In another part of the same workings there is a linearally developed stope of several tens of feet in vertical extent which suggests the miners followed a vein-like feature, and except for some discoloration in the back which is thought to be due to the downward percolation of groundwater

along a fracture plane, there is no visible evidence of the presence of a vein or ore minerals. These observations suggest that even in the high grade parts of the deposit the ore minerals are finely disseminated and masked by limonitic material permeating the rock. Sample and assay data such as are given in the Applicant's original proposal (Tab. 7 and Fig. 6) reflect the tenor of the high grade parts of the deposit. The arithmetic average of 17 samples is 0.175 oz/ton gold and 14.76 oz/ton silver. Other data of mined, sold or sampled ore render averages of the same order or magnitude. The Applicant believes that the number of relatively high grade ore pockets scattered through the siliceous body is sufficient to permit the treatment of the whole body as a single deposit of milling-grade gold-silver ore.

Ratios of arithmetic averages of silver to gold differ from about 30:1 to about 105:1. The Applicant believes that the silver-gold ratios have been effected in the near-surface parts of the silicified body by weathering. Silver was leached from the near-surface locations and redeposited at depth. It is the opinion of one of the early workers, cited by the Applicant, that both native gold and native silver are contained in the deposit, but that most of the silver is present in the form of chloride. The presence of chloride may well be the result of a leaching process.

The Applicant in its estimate of ore reserves places the ratio of silver to gold at 100:1. On the premise that gold has remained fixed in place, 30 grab samples were taken from surface

outcrops and workings located on and in the deposit. In addition two samples of apparently barren rock, one of siliceous material of sedimentary origin -- a chert nodule, and one of limestone located outside the boundary of the silicified body were taken to obtain comparative background data. The results of the assays of these samples are as follows:

Sample	Description	Au/oz/ton	Ag/oz/ton
Arex LS	Limestone, several tens of feet distant from nearest silicified rock	0.001	0.06
Arex IC	Chert nodule, sedimentary origin, embedded in limestone	0.001	0.06
Arex DU	Pyritic silicified rock on dump; only sulfide-bearing rock observed	0.69	122.96
Arex 1	Slightly ferruginous, silicified rock with minute euhedral quartz incrustations; small outlying silicified body in which proposed Hole 9 is located; natural outcrop	-	0.15
Arex 2	Ferruginous silicified rock; adit portal in cliff face of open cut	0.001	0.52
Arex 3	Ferruginous silicified material; natural outcrop	-	-
Arex 4A	Ferruginous silicified material, brecciated; fragments fraction of an inch to several inches across; natural outcrop	0.001	0.12

Sample	Description	Au/oz/ton	Ag/oz/ton
Arex 4B	Silicified material, gray, banded, very finely crystalline in places; natural outcrop----------	0.001	0.98
Arex 5	Ferruginous silicified material, locally vuggy with minute euhedral quartz crystals lining vugs; natural outcrop----------	0.001	0.12
Arex 6	Ferruginous silicified material, some brecciation; locally open boxwork structure after leached material; vugs lined with subhedral to euhedral quartz as long as 1cm; natural outcrop----------	-	0.19
Arex 7	No sample		
Arex 8	Ferruginous silicified material, brecciated; fragments up to 2 inches long; natural outcrop----------	-	0.08
Arex 9	Ferruginous silicified material, some brecciation; natural outcrop ----	-	0.01
Arex 10	Ferruginous silicified material, some brecciation, fragments up to 1 inch long; natural outcrop	0.001	0.87
Arex 11	No sample		
Arex 12A	Ferruginous silicified material, brecciated; stope wall	0.035	1.67

Sample	Description	Au/oz/ton	Ag/oz/ton
Arex 12B	Ferruginous silicified material; copper bloom -- azurite and malachite -- on surface; stope wall--	0.04	2.55
Arex 12C	Ferruginous silicified material, brecciated; stope wall----------	1.04	13.81
Arex 12D	Ferruginous silicified material located along fracture or narrow shear zone; stope wall----------	0.02	1.17
Arex 13	Ferruginous silicified material, brecciated; bedded or banded appearing in places; adit wall-------	0.005	1.00
Arex 14	Ferruginous silicified material, banded appearing to massive; adit wall------	0.001	0.15
Arex 15	Ferruginous silicified material; inconspicuous brecciation; pit wall--	0.04	0.14
Arex 16	Ferruginous silicified material; inconspicuous brecciation; pit wall---	0.02	0.11
Arex 17	Ferruginous silicified material, vuggy; vugs irregular rounded to box-like with finely crystalline quartz lining, possible manganese coating some quartz crystals; natural outcrop----------	0.001	0.08
Arex 18	Ferruginous silicified material, banded, about 12 feet from limestone contact; natural outcrop----------	0.01	0.18

Sample	Description	Au/oz/ton	Ag/oz/ton
Arex 19	Ferruginous silicified material, vuggy; pit wall----------	-	-
Arex 20	Limestone, partly silicified, ferruginous; adit wall--------	0.001	0.08
Arex 21	Limestone, partly silicified, ferruginous; adit wall	0.01	2.12
Arex 22	Limestone, gray; many vertical calcite veinlets 1/8 inch to 2 inches wide; adit wall------	0.001	0.05
Arex 23	Limestone, coarsely crystalline; adit wall----------	0.001	0.08
Arex 24A	Low density, gray material, leached (?); adit wall----------	0.001	0.18
Arex 24B	Ferruginous material, soft, argillaceous(?) leached (?); adit wall----------	0.001	0.16
Arex 24C	Coarsely crystalline, black calcite; adit wall----------	0.001	0.07
Arex 25	Ferruginous material, banded, finely crystalline; inclined raise----------	0.001	0.16

Excluding country rock samples Arex LS and Arex IC, the pyritic silicified sample Arex DU, limy and highly leached samples Arex 20 through Arex 24C, and cupreous sample Arex 12B, there are 21 grab samples of ferruginous silicified material

randomly selected from surface outcrops and workings. These samples are more or less homogeneous appearing with a few exceptions. They do not contain visible ore minerals. The arithmetic average of the assays of the 21 samples is 0.05 oz/ton gold and 1.3 oz/ton silver. The low silver content may be the result of leaching as discussed previously. If, however, the Applicant's estimate of the silver to gold ratio of 100 to 1 for the whole deposit is correct, the presence of 0.05 oz/ton gold may mean the original silver content was of the order of 5 oz/ton. It is to be noted, however, that the arithmetic average for the 21 samples is strongly effected by sample Arex 12C which contains 1.04 oz/ton gold and 13.81 oz/ton silver. If this sample is excluded in computing the arithmetic average, the 20 remaining samples average only 0.006 oz/ton gold and 0.39 oz/ton silver. If the metals are heterogenously distributed throughout the deposit, as the Applicant believes, these few samples may not represent an accurate appraisal.

The Applicant estimates the deposit contains 500,000 tons of inferred ore of 0.05 oz/ton gold and 5 oz/ton silver and a possible additional 1,000,000 tons of lower grade material.

Applicant's Proposal

The Applicant in its current proposal outlines a plan wherein all exploration will be restricted to the area around the Great American mine. The Applicant proposes to put down 48 hammer holes in a series of fences. The fences would be separated by 100 feet in the main area of silicified rock outcrops and by 200 feet in the surrounding areas. The individual holes within the fences

would be located 200 feet apart except in the outermost parts of area to be explored where they would be located 400 feet apart. The proposed holes are to be put down 200 and 250 feet deep; three of the 200 foot holes would be deepened to 500 feet.

In view of the intention of the Applicant to find a body of ore, milling grade, the spatial pattern of the proposed drilling constitutes exploration. It is extremely unlikely that holes spaced as much as 100, 200 and 400 feet apart can be the sole basis for computing reserves; additional holes, probably spaced no more than 50 feet apart will eventually have to be drilled.

Conclusions

There appears to be a reasonable chance that the silicified body on the Great American and adjacent claims contains gold and silver in sufficient quantity to constitute a body of milling ore. Such data as is available upon which to base judgement is from mining operations located in the eastern part of the silicified body which were directed toward exploiting the higher grade ore. The Applicant surmises on the basis of these data that a reserve of 500,000 tons of 5 oz/ton silver and 0.05 oz/ton gold ore will be discovered with the possible additional discovery of 1,000,000 tons of lower grade ore. The proposed exploration is unduly broad in its scheme with the result that the cost of the proposed program is uneccessarily high relative to the objective in mind. Further, the proposed exploration program lacks proper phasing whereby it can be stopped in an early stage if results are unfavorable.

Recommendations

It is recommended that the application of the Arizona Exploration Company, Inc. be approved but approved with such revisions as to allow for an orderly program of smaller scope and financial outlay. The Applicant presently proposes a "one-shot" program to include 48 drill holes. Although the Applicant has subdivided the proposed exploration area into three parts it suggests no order or phasing of the involved work. It is recommended that the work be carried out in two phases so that at the completion of the first phase the project can be reviewed as to the advisability of further endeavor. In addition it is recommended that the drill hole locations be drilled in some specified sequence so that a concept of the morphology of the body can be gradually and orderly developed as work proceeds. Such a program will allow a high degree of control with maximum flexibility. Under Phase I it is recommended that only those holes collaring in or collaring close to silicified rock be drilled. This would include holes 11, 12, 16, 22, 23, 24, 26, 27, 28, 32, 33, 34, 36, 37, 42, 43, 44, 45, 46, and 47 (Fig. 1). These holes will provide a sufficient number of samples silicified rock cuttings on which to base a judgement of character of the body. If the Office of Minerals Exploration believes assay results at the completion of Phase I do not warrant further exploration the project would then be concluded. Further, drilling on and peripheral to outcrops of silicified rock will permit an orderly development of the concept of the body's morphology. The Applicant believes that the body is an extensive one and has patterned the location of drill holes accordingly. The body, however,

may be steep sided and otherwise limited in lateral extent. For this reason it is considered prudent to drill first on silicified outcrops and then outward into the peripheral areas. To do this, it is suggested that hole 33 be drilled first followed roughly in order by holes 27, 28, 34, 38, and 37. Other holes scheduled under Phase I would be drilled in such an order that each succeeding hole would be located adjacent to one previously drilled. The fence pattern of holes designed by the Applicant will be followed without change, under Phase I.

The Applicant has specified that all holes are to be put down to a depth of 200 or 250 feet and that three holes are to be deepened to 500 feet. Taking the holes to prespecified depths ignores what little is known about the geology of the deposit, ignores the fact that the holes will be collared at different elevations, and ignores the fact that drill hole data with which to judge the bottoming depths of succeeding holes will become available in the course of exploration.

The silicified body is thought to be genetically related to a nearly flat-lying sill of diorite, the top of which is exposed in the outer part of the lowest adit. It is not known if the sill extensively underlies the silicified body, or if some other geologic relationship exists. If the sill does extensively underlie the body it may constitute the base or sole, but it is possible that additional silicified rock may underlie the sill. To afford some point of reference, it is recommended that at the outset

of Phase I Hole 33 be arbitrarily drilled to 300 feet regardless of what type of rock it penetrates at depth. A depth of 300 feet should be an effective initial test of the body as Hole 33 collars about 160 feet above the exposed part of the diorite sill. If a definitive base of the silicified body is found it will be possible to predict the bottoming depths of the succeeding holes and consequently to better control the exploration program. If, however, it is found that the silicified body has an indefinite base, that is, there exists a succession of silicified and unsilicified zones, it will be necessary to set some arbitrary bottoming depth. In any case, no matter how deeply the silicified body is found to extend in Hole 33, the holes subsequently drilled should not be put down deeper than 100 feet, and they will of course be bottomed at shallower depths if the base of the silicified body is reached. By setting this limit on the depth of the holes, the maximum footage expended under Phase I will be 2200 feet. If Phase I drilling reveals a deeply rooted body, and assays are encouraging, the holes can be reoccupied and footage allotted to Phase II be used to prove out the body at depth. This would fulfill the Applicant's objective of proving a deposit of milling ore of sufficient reserves and would obviate the need for Phase II exploration.

If Phase II exploration is warranted, it is recommended that 19 holes be drilled. They would include holes 7, 8, 9, 10, 13, 14, 15, 17, 18, 21, 25, 31, 35, 41 and 48 (Fig. 1) In addition four holes would be located at new sites so as not to outstep the

silicified body by too great a distance. The recommended locations of the new holes are as follows: Hole A, 100 feet north of Hole 12; Hole B, 100 feet north of Hole 11, Hole C, 100 feet west and 100 feet south of Hole 11; and Hole D, 100 feet west and 100 feet south of Hole 41 (Fig. 1). Depths of individual holes would not be pre-specified under Phase II except that they bottomed where they reach the base of the silicified body and will not in any case go deeper than 150 feet. Two thousand eight hundred and fifty (2850) feet of drilling would be allotted for this phase. Phase II exploration would be undertaken only if the tenor of assays of Phase I were sufficiently high, and if Phase I exploration revealed the ore body to be relatively thin i. e. 50 feet but extensive so that the ground outlying the Phase I area would have to be explored to find sufficient ore reserves to fulfill the objectives of the project. The holes peripheral to the Phase I exploration area would be drilled first, hence holes 17, 18 and 25 would be drilled prior to holes 13, 14 and 15.

The Applicant has requested the right to move holes within a radius of 25 feet of the locations shown on the map (Applicant's current proposal, Fig. 3A) to avoid places of unusually difficult access and to avoid drilling into old mine workings. It is recommended that if some holes must be moved, those collaring in silicified rock not be moved to locations off the body, and in any case, that by moving the locations no hole be located closer than 100 feet to an adjacent hole.

The Applicant in a prior proposal indicated that samples of cuttings of silicified rock collected from drill holes would be from intervals 10 feet in length. So long as the cuttings appear homogenous, a 10 foot sample interval is a reasonable maximum. If, however, there are observable differences in the character of the recovered cuttings, they should be sampled accordingly and no attention given to interval length.

Because so little is really known about the morphology of the silicified body, as has been discussed previously, bottoming depths will be determined as work progresses, and consequently the consulting geologist should be present on the project a sufficient part of the time to keep close watch on the drilling operations. For this reason it is deemed necessary to allot 8 days employment for a consulting geologist for each phase of the project.

In summary, a two-phase program of exploration is recommended. The first phase is to include 20 drill holes; one hole drilled to 300 feet and 19 holes drilled to yet-to-be determined bottoming depths but in no case deeper than 100 feet. Total footage allotted to Phase I is 2,200 feet. The second phase is to include 19 drill holes to be drilled to yet-to-be determined bottoming depths but in no case deeper than 150 feet. Phase II will be carried out only if the results of Phase I warrant it. Total footage allotted to Phase II is 2,850 feet. The total allotted footage for the whole project is 5050 feet. If Phase I results show the silicified body to be deep rooted and of sufficient tenor to warrant deeper exploration, Phase II footage will be allocated for deepening Phase I holes.

Estimated Costs of Work

Phase I

Category (a) Independent Contracts

Drilling

1 hole 300 feet deep -- 300 feet

19 holes 100 feet deep -- 1900 feet

Total 2200 feet

2200 feet @ $5.10/foot----------$11,220.00

Sampling and assaying

220 samples gold and silver,

@ $3.00/sample---------- $660.00

Roads

1/2 mile at $1,750.00/mile-------- $875.00

Drill site preparation

20 sites @ $35.00/site---------- $700.00 $13,455.00

(b) Personal Services

Project foreman

3/4 month @ $750.00/month---------- $562.50

Consulting geologist

8 days @ $60.00/day---------- $480.00 $1,042.50

(c) Operating Materials and Supplies

None

(d) Operating Equipment

None

(e) Initial Rehabilitation and Repairs

None

Estimated Costs of Work (Cont'd.)

Phase I (Cont'd.)

Category (f) New Buildings, Fixtures, Installations

None

(g) Miscellaneous

Bookkeeping and Accounting

3/4 month @ $100.00/month---------- $75.00

Phase I total---------- $14,572.50

Government participation @ 75%------- $10,929.38

Phase II

Category (a) Independent Contracts

Drilling

19 holes 150 feet deep -- 2850 feet

2850 feet @ $5.10/foot---------- $14,535.00

Sampling and assaying

200 samples, gold and silver

@ $3.00/sample---------- $600.00

Roads

1/2 mile @ $1,750.00/mile---------- $875.00

Drill site preparation

19 sites @ $35.00/site---------- $665.00 $16,675.00

(b) Personal Services

Project foreman

3/4 month @ $750.00---------- $562.50

Consulting geologist

8 days @ $60.00/day---------- $480.00 $1,042.50

Estimated Costs of Work (Cont'd.)

Phase II (Cont'd.)

Category (c) Operating Material and Supplies

None

(d) Operating Equipment

None

(e) Initial Rehabilitation

None

(f) Miscallaneous

Bookkeeping and Accounting

3/4 month @ $100.00/month----------$75.00

Phase II total----------	$17,792.50
Government participation @ 75%----------	$13,344.38
Total estimated cost of work----------	$32,365.00
Government participation @ 75%----------	$24,273.75

References Cited

Cooper, John R., 1959, Reconnaissance geologic map of southeastern Cochise County, Arizona; U. S. Geol. Survey Mineral Inv. Map MF-213.

Galbraith, F. W. and Loring, W. B., 1951, Swisshelm District in Arizona zinc and lead deposits, Part II, Arizona Bureau of Mines, Geological series No. 19, Bull. No. 158, p. 30-36.

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AREX
Arizona Exploration Co., Inc.
2238 E. Hedrick Dr., No. 11
TUCSON, ARIZONA 85719
OFFICE (602) 327-6041

November 20, 1968

J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Denver Federal Center
Building 53, Room 200
Denver, Colorado 800225

Dear Mr. Hasler:

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

We wish to express our appreciation for the property examination made by your Mr. Gualtieri, for your further evaluation of the subject application. Also please extend our personal thanks to Gualtieri for his conscientious effort in covering a considerable area over a long day and rugged terrain. Dr. Faick and Mr. Lundby enjoyed his company and the exchange of ideas.

I am enclosing two sets of aerials that we took last March at different altitudes for stereo study, and a blow-up covering the mine proper. I mentioned these to Gualtieri, and since then it has occurred to us that they may be of some help.

We have recently acquired additional Federal claims covering most of Section 35, T19S, R27E, to bring into our holdings a large silica deposit that is similar in character to the occurence on the Great American Claim, and we are preparing to sample in the near future and make a study for related information to our application.

We will be looking forward to hearing from you, and if we can provide any additional information we would be pleased to do so.

Very truly yours,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman, President

JHF/ajg
Encs.: Aerial photos
cc: Mr. Frank E. Johnson
Mr. James L. Gualtieri
Mr. William Lundby
Mr. John N. Faick

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October 4, 1968

Frank E. Johnson, Chief
Office of Minerals Exploration
U. S. Department of the Interior
Geological Survey
Washington, D. C. 20242

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Dear Mr. Johnson:

Thank you for your advice of October 2, 1968 in regard to your reviewing the subject application in your Washington office.

We will be pleased to forward whatever additional information Mr. Hasler may desire, particularly in relation to the exploration work that is in progress at this time by our associate geologist, William J. Lundby. We will be looking forward to a visit from Mr. Hasler and will be glad to make all arrangements for his field examination.

Our staff will be attending the American Mining Congress Convention this coming week, and we will be back in the office by October 12, 1968.

Sincerely yours,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman, President

JHF/ajg
cc: J. William Hasler
John L. Faick
William J. Lundby

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(2/63)

OCT 2 1968

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10/2/68	Peterson	120
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AIRMAIL

Arizona Exploration Co., Inc.
2238 East Hedrick Drive, No. 11
Tucson, Arizona 85719

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Gentlemen:

Your amended application for exploration assistance, dated September 25, 1968, has been reviewed in our Washington office and referred to Mr. F. William Hasler, Field Officer, Region III, Office of Minerals Exploration, Room 203, Building 53, Denver Federal Center, Denver, Colorado 80225.

Mr. Hasler will notify you if he requires additional information concerning the application, and possibly to make arrangements for a field examination.

Sincerely yours,

FRANK E. JOHNSON (glu)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Region III
130
Mr. Peterson

ECPeterson/bsl 10/2/68

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OCT 2 1968

AIRMAIL

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

The subject application is referred to you for further study, a field examination if warranted, and recommendations.

The amended application adds nothing to the original proposal except increase the estimated costs. The work continues to be based chiefly on questionable geologic interpretations with little or no real supporting evidence. Our suggestion to the Applicant that he perform some preliminary geologic studies on the property apparently was ignored.

The proposal to drill a large number of holes (48) on 100 to 200 foot centers is considered development. It seems that exploration if warranted could be completed with considerable less work than outlined.

FRANK E. JOHNSON (gfa)

Frank E. Johnson

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Region III
130
Mr. Peterson

ECPeterson/bsl 10/2/68

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AIRMAIL

SEP 19 1968

Arizona Exploration Co., Inc.
2238 East Hedrick Drive, No. 11
Tucson, Arizona 85719

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Gentlemen:

We have reviewed your amended application for financial assistance dated September 12, 1968.

In evaluating a proposal we must consider the estimated cost of the exploration work in relation to the probable size and grade of the potential deposit. In other words, does the deposit warrant the expense required to explore it? Based on the information presented with your application, indications are that although eligible minerals may occur on the property, their over-all potential does not justify the cost of the ambitious program outlined; consequently, we would be unable to participate in the work as proposed.

It would seem prudent to consider a program of limited drilling to test the most favorable target, and if the results indicate further exploration is warranted, the project could then be expanded. We would appreciate your consideration of this suggestion and advise us accordingly.

As you know, the State of Arizona cannot execute a subordination agreement covering the land included in the prospecting permit. Therefore, it will be necessary to have your assurance that the company is able and willing to provide either a Performance Bond or an Affidavit of Individual Surety covering the Government's share of the estimated project costs in the event of an exploration contract. One Standard Form 25, Performance Bond, and Standard Form 28, Affidavit of Individual Surety, are enclosed for your study.

Please note that in an OME contract reasonable allowances are made for supervision and technical services. However, allowances for a full-time consultant and non-supervisory assistant are not allowable costs. Also,

See revised application & letter 9/25/68 left-hand side.

office expenses, including bookkeeping, are held to a minimum. Normally, $50-$75 per month is considered sufficient for this purpose.

To assist in evaluating the commercial possibilities of the potential deposit, please comment on the maximum daily tonnage of fluxing ore that would be accepted at the smelters in Arizona. A preliminary estimate of credits, deductions, and net profit of the various smelters based on your estimate of indicated ore reserves would be helpful.

We shall continue to hold the application until we have been advised of your decision regarding our suggestion. Nothing in this letter should be construed as a commitment by the Government to grant an exploration contract.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

Enclosures

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Region III
Mr. Peterson

ECPeterson/gla 9/19/68

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August 31, 1968

United States Department of the Interior
Geological Survey
Office of Minerals Exploration
Washington, D. C. 20242

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ATTENTION: Frank E. Johnson, Chief
Office of Minerals Exploration

RE: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al
Cochise County, Arizona

Gentlemen:

Reference is made to our letter of July 12, 1968 informing you that we were awaiting Dr. John N. Faick's return from Mexico so that we could give you a more specific date for the completion of our revision and amendments for the broadening of the exploratory project on the subject application that is presently being held in your active file pending these changes.

Dr. Faick is now preparing a new property control map for AREX showing the expanded area that we are now including. Our interest in the surrounding area was encouraged by a coincidence in that information was brought to our attention regarding a geological class project by the College of Mines of the University of Arizona, fortunately covering the exact same ground that we had included contiguous to our Great American Silver Mine.

Papers were prepared by the students on the above mentioned project in relation to a "Geologic Discussion and Interpretation of a Portion of the Swisshelm Mountains." The studies were under the direction of a group of Professors listed as follows: Doctors S. R. Titley, J. F. Schreiber Jr., W. D. Pye, J. W. Wright, J. M. Guilbert, B. E. Nordlie, D. L. Bryant.

In a paper prepared by Dennis C. Fischer, one of Dr. Titley's students, and examined by him, there is mention that mineralization occurs in the silicified zones of Sections 2 and 11

Amended Application 9/12/68 left-hand side

which they were primarily concerned with and that two prominent fracture zones occur on these sections with high silicification. In the summary mention is made that the structural evolution is still a mystery to a great extent and that much information may be obtained from geophysical tests as well as chronological data.

Dr. Titley has been interested in this area for a number of years and has made studies for the State of Arizona, subsequently accumulating considerable geological data, and also comprehensive aerial photos. He has taken a personal interest in our present exploration program which has been active for the last few weeks, and very kindly has supplied us with considerable information under an arrangement to reciprocate if we can, by adding a third dimension to his work. I am also pleased to tell you that he has agreed to collaborate with Dr. Faick, as he has stated that the area is deserving of further exploration because of the unknown factors, and is pleased that we are planning this program that we have under consideration by OME.

Considerable study and re-evaluation of our exploratory program is being done at this time and I am listing the locations of the lands that we presently have under control, applied for or negotiating for. In T19S, R27E our interest is in Sections 25, 26, 27, 34, 35 and 36. In T20S, R27E in Sections 1, 2, 3, 10, 11 and 14. We are also interested in the W½ of Section 6 in T20S, R28E. This area will be defined with legal descriptions on the property map that Dr. Faick is preparing for you that will accompany his report on the amendments.

We thank you for the kind consideration you have shown us, and your patience over these many months, which has allowed us to permit Dr. Faick to keep up with his consulting work during this past period while he was also studying our problems so that they would conform to an acceptable program for presentation to your department.

Dr. Faick has promised us that he will have the revised or amended application ready for you not later than Sept. 15, 1968.

Very truly yours,

AREX, Arizona Exploration Co.,Inc.

J. Harry Fieldman

J. Harry Fieldman, President

JHF/ajg
cc: J. William Hasler
Dr. John N. Faick
Dr. S. R. Titley

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~~XXXNORTHXCAMRBELXAVEX~~ 2238 E. Hedrick Dr., No. 11
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July 12, 1968

United States Department of the Interior
Geological Survey
Office of Minerals Exploration
Washington, D. C. 20242

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JUL 15 1968

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ATTENTION: Frank E. Johnson, Chief
Office of Minerals Exploration

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Gentlemen:

We appreciate your letter of this past July 8th, and our thanks to your department for holding our OME application in your active file pending our proposed revision and amendments.

Our apology for the elapsed time without giving you notification of our intentions. This was due to the heavy agenda of our consultant, Dr. John N. Faick, and without realizing it, these many months have gone by.

Enclosed is a copy of my letter to Dr. Faick and I also have sent him a copy of your letter.

I had planned to work with Dr. Faick on his return from Mexico to immediately follow up by presenting the changes in our application for your consideration. A specific date will be set up after I have visited with him, and I will immediately thereafter notify you.

Thank you for your patience and consideration and we hope that in the very near future we can conform to a practical presentation of the exploratory program that you will find has merit for processing.

Very truly yours,

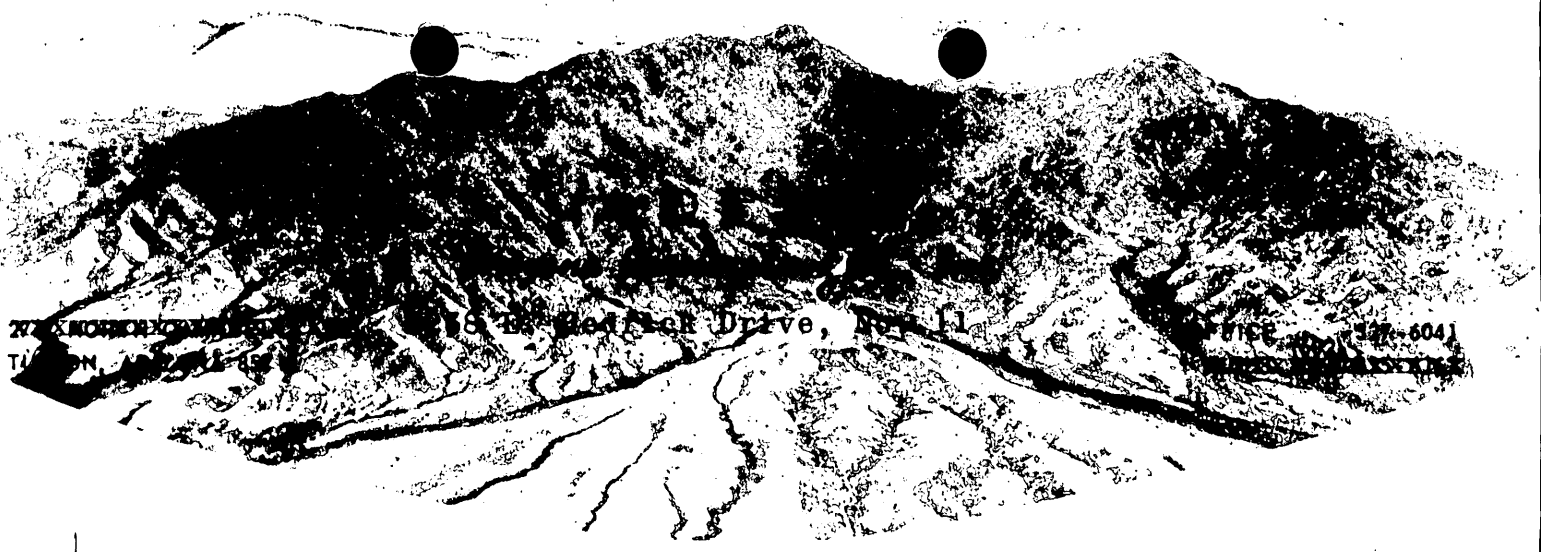
AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman

J. Harry Fieldman, President

JHF/ajg

Enc. Copy of July 12th letter to Dr. John N. Faick
cc: J. William Hasler, Office of Minerals Exploration,
Bldg. 53, Room 203, Denver Federal Center
Denver, Colorado 80225



July 12, 1968

Dr. John N. Faick
c/o Senor Jorge Amador
Madero, No. 31
Villa Union
Sinaloa, Mexico

COPY

Dear Dr. John:

I am enclosing a copy of our correspondence from OME dated this past July 8th so that you will be informed that we should proceed with our plan to follow up with our revised application. This should be done immediately on your return, which I understand will be on or about the 25th of this month.

I am advising OME, as you will note by copy of letter to them, that we will take care of this and let them know a specific date for receiving the revision and amendments after we have had the opportunity to visit together regarding this.

My best wishes for a most interesting trip and successful program on your Mexican project.

Sincerely,

AREX, Arizona Exploration Co., Inc.

J. Harry Fieldman, President

JHF/ajg
Encs. Copy of July 8th letter from OME
Copy of AREX reply

cc: OME

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(2/63)

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7/8/68	RMSmith	120
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JUL 8 1968

AIRMAIL

Arizona Exploration Co., Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Gentlemen:

In accordance with our letter of February 28, 1968, we are continuing to hold your application pending receipt of a revised proposal to explore the subject property.

Will you please inform us when we may expect to receive the amended application. If you need additional time to prepare the data will you please so inform us.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Region III
Mr. Smith

RMSmith/bsl 7/8/68

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Feb 28 1968

AIRMAIL

Arizona Exploration Co., Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Gentlemen:

Thank you for your letter of February 8, 1968, enclosing copies of letters which are parts of Exhibits M & N of the referenced application.

We have also received a request dated February 21 from your Consultant, Dr. John N. Faick, to defer action on your application until a revised proposal is prepared and submitted. Accordingly, we shall hold the application in our active files pending receipt of the additional data.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
Mr. Smith
Region III

RMSmith/bsl 2/28/68

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February 21, 1968

Mr. Frank E. Johnson, Chief
Office of Mineral Exploration
Room 4460, Interior Building
U. S. Geological Survey
Washington, D. C. 20242

Dear Mr. Johnson:

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Reference is made to your letter of February 5, 1968 concerning the Arizona Exploration Co. Inc. application for financial assistance in exploration of the Great American Claim, et al in Cochise County, Arizona.

We appreciate your suggestions regarding our proposed exploration program, and are giving them serious consideration. We will submit an amended or revised application which will have broader exploration aspects than our original application. To obtain the required information and prepare the revision will require about six or eight weeks. May we ask you to defer action on our application for this period while we continue our studies? 90 days

Please accept our thanks for your prompt attention to our application and for your valuable suggestions.

Sincerely yours,

John N. Faick

John N. Faick, Ph.D.
Consulting Geologist

JNF/ajg
cc: J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Building 53, Room 203
Denver Federal Center
Denver, Colorado 80225

AREX®
Arizona Exploration Co., Inc.
2777 NORTH CAMPBELL AVE.
TUCSON, ARIZONA 85719
OFFICE (602) 327-6041
NIGHT (602) 325-6162

February 8, 1968

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Mr. Frank E. Johnson, Chief
Office of Mineral Exploration
Room 4460, Interior Building
U. S. Geological Survey
Washington, D. C. 20242

Dear Mr. Johnson:

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Thank you for your letter of February 5, 1968 relative to our application for financial assistance in exploring the subject property referenced above.

Dr. John N. Faick, Consulting Geologist, is out of town, but is expected back within a week. Upon his return we will review the contents of your letter, consider your suggestions and recommendations and write you in detail.

I regret that we neglected to enclose with our application the letters of rejection from Valley National Bank and Arizona Trust Company, which were a part of Exhibits M and N. Copies of those letters are enclosed herewith.

Sincerely yours,

J. Harry Fieldman, President
AREX, Arizona Exploration Co., Inc.

JHF/ajg
Encs. 2
cc: J. William Hasler
Office of Minerals Exploration
U. S. Geological Survey
Building 53, Room 203
Denver Federal Center
Denver, Colorado 80225
Encs. 2

ARIZONA TRUST COMPANY

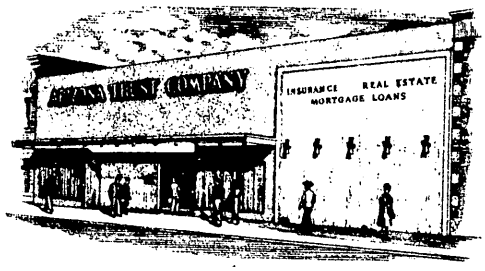
EXHIBIT N

WALTER E. LOVEJOY
PRESIDENT

W. E. LOVEJOY, JR.
HARRY R. TALMAGE, JR.
EXECUTIVE VICE PRESIDENTS

R. A. SCHENDEL
JOHN C. HANSEN
TOM WEBB, JR.
VICE PRESIDENTS

HARRY R. TALMAGE
SECRETARY



136 NORTH STONE AVENUE

MAIL: P. O. BOX 1631
TUCSON, ARIZONA 85702

DIAL 623-6961

January 15, 1968

COPY

Mr. J. Harry Fieldman, President
AREX, Arizona Exploration Co., Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

Dear Mr. Fieldman:

This will acknowledge receipt of your application and supporting exhibits for a commercial loan on silver mining property to be developed in Cochise County, Arizona, approximately 30 miles north of Douglas.

Because of the highly complex technical and scientific aspects of ore exploration, we regret that we must decline this application. Our Company is not set up to handle this highly diversified branch of commercial financing.

We very much appreciate the fine business which you have provided for our insurance and bonding department and the most satisfactory manner in which you have maintained these accounts.

Enclosed herewith you will find the various exhibits which accompanied your application.

Yours very truly,

W. E. LOVEJOY, JR.
Executive Vice President

WELjr/slb

Enclosures

VALLEY NATIONAL BANK

DOWNTOWN OFFICE • P.O. BOX 311 • TUCSON, ARIZONA 85702

January 19, 1968

COPY

Mr. J. Harry Fieldman, President
AREX, Arizona Exploration Company, Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

Dear Harry:

I was very impressed with the fine writeup "The Great American Silver Mine" by John N. Faick, Ph.D. It also appears that you have a good proposed exploration program for carrying through the project.

We have considered your loan application of $22,500 to be used for exploration expenses. Despite the fact that our credit experience with you, Harry, has been fine over a period of many years and we know that you are experienced in the mining business, we regretfully have come to the conclusion that we will not be able to grant the loan requested. As you might suspect, our bank is a little on the conservative side when it comes to exploration funds when the borrowing company does not have adequate finances to cover any emergencies that might arise.

We certainly wish you luck in this exploration development and hope you will keep us informed as it progresses..

Sincerely,

G F Bradley

Senior Vice President
and Area Manager

G. F. Bradley
lw

OME Bureau copy

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AIRMAIL

Arizona Exploration Co., Inc.
2777 North Campbell Avenue
Tucson, Arizona 85719

FEB 5 1968

Re: OME-6692 (Silver-Gold)
Arizona Exploration Co., Inc.
Great American Claim, et al.
Cochise County, Arizona

Gentlemen:

Preliminary review of your well prepared application for financial assistance in exploring the property referenced above indicates that part of the project, as proposed, is preliminary mapping and sampling, part is exploration, and part is development. Only the exploration is eligible for OME assistance.

Rehabilitation of old workings to make them accessible for mapping and sampling is not an allowable cost item in an OME contract. We concur that ". . . it will provide significant information pertaining to the distribution of the silver and gold," and that sampling the crosscuts will help confirm or deny the premise that the entire siliceous body is commercial. Geologic mapping would contribute quantitative information on dikes, selective replacement, and disseminated pyrite to supplement the assays for alumina, lime, and iron which may be so high as to offset the credit for silica. This preliminary work, if completed prior to starting the more costly drilling project, may yield geologic evidence that more completely justifies the drilling, or it might indicate that the drilling is not warranted. We would suggest that it be done at your own expense and the results used to strengthen your application.

The OME does not participate in drilling ". . . to block out ore." The proposed grid of holes on 40-foot centers is considered to be development rather than exploratory drilling. Some of the holes, however, would clearly be exploratory. For example, several "fences" of holes across the trend of the deposit on, say, 120-foot centers would delineate its size and indicate whether it is commercial, but would not block out an ore body or sample it sufficiently in preparation for mining. Diamond drill holes deeper than the proposed 60-foot wagon-drill holes to search the downward extent of the deposit would also be exploratory. Although the exploration is primarily for silver and gold, a reasonable number of assays for all constituents affecting the value of the ore, including silica, alumina, lime, and iron, would be allowable.

Before we proceed further with your application, please let us have the benefit of your views on the acceptability and usefulness of a project limited to exploration more or less as we have outlined. If such a project is feasible, should it be staged to include a few holes in Blocks 3 and 4?

To assist in appraising the commercial possibilities, please comment on the maximum daily tonnage of fluxing ore that would be accepted at the smelters in Arizona. A preliminary estimate of credits, deductions, and net profit at the various smelters based on the current estimate of indicated ore reserves in Block 1 would be helpful.

Exhibits M and N of the application contain your letters to two banks, but the replies from the banks were omitted from the original application and also from the copy sent to Denver.

This request for additional information should not be construed as a commitment by the Government to grant an exploration contract. We shall hold the further processing of your application until the data requested are received.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
OME Region III
Mr. Smith

RMSmith/gla 2-5-68

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 203

OFFICIAL COPY
O. M. E.
RECEIVED
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Brad 120 to be assigned

January 30, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: W. L. Emerick

Subject: AREX
Arizona Exploration Company, Inc. 6692
Great American Silver Mine
Cochise County, Arizona

We have reviewed the application received from Arizona Exploration Company, Tucson, Arizona, dated January 26, 1968, for financial assistance for exploration of the Great American Silver Mine, Cochise County, Arizona.

The application appears to be well presented but one thing we noted as missing, probably an oversight on the applicant's part, were the rejection letters for loans from the two banks. Applicant's Exhibits M and N indicate that the letters should have been included.

W L Emerick

W. L. Emerick,
Office of Minerals Exploration

Not in Washington office copy either

January 29, 1968

Arizona Exploration Co., Inc.
2777 N. Campbell Avenue
Tucson, Arizona 85719

Subject: OME-6692

Gentlemen:

Your application for exploration assistance, dated January 26, 1968, submitted to our office at Washington, D. C., has been assigned Docket No. OME-6692.

Please identify all future correspondence relating to your application by this docket number.

Sincerely Yours

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to Region III

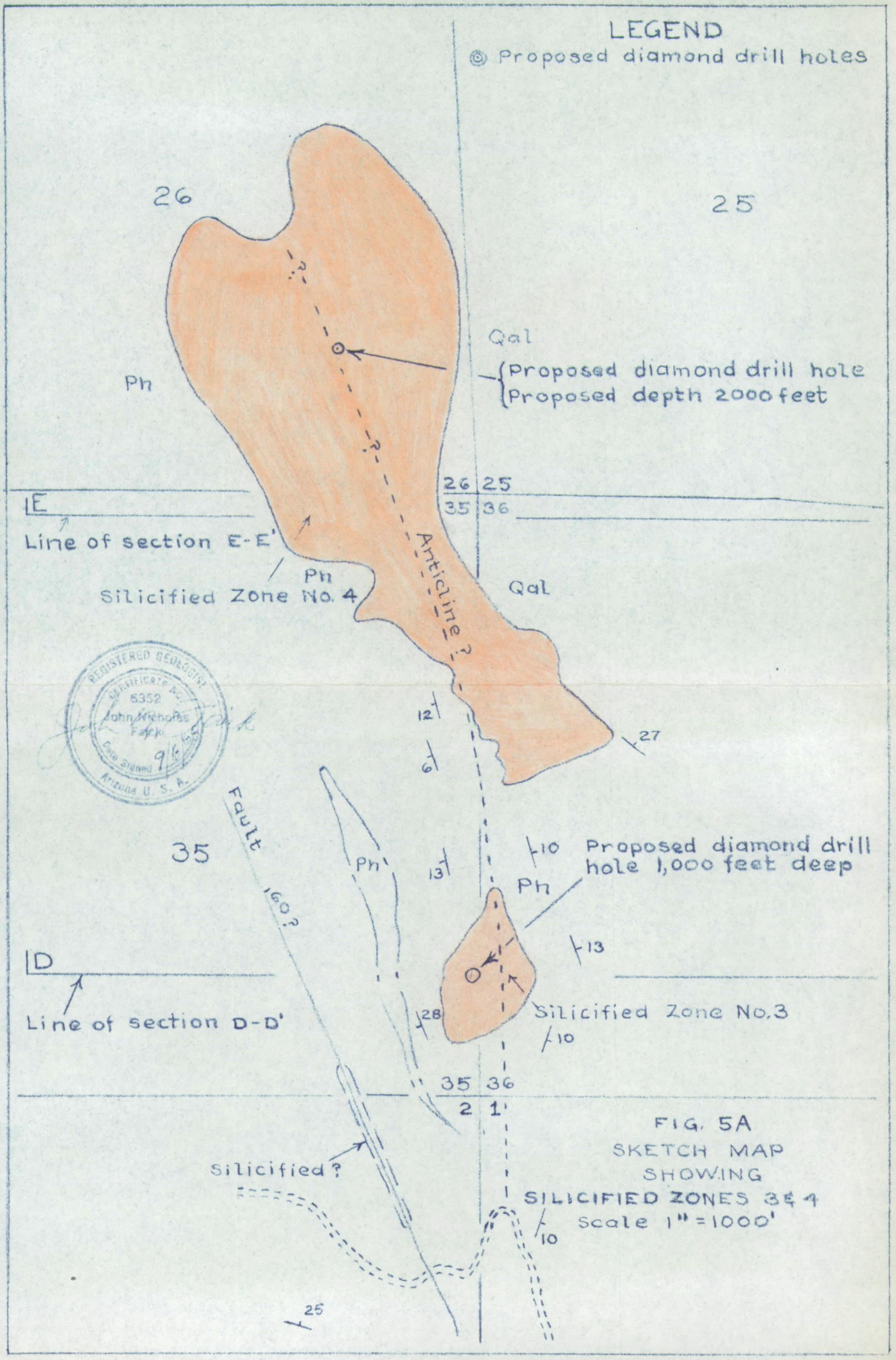

FIG. 5A
SKETCH MAP
SHOWING
SILICIFIED ZONES 3 & 4
Scale 1" = 1000'

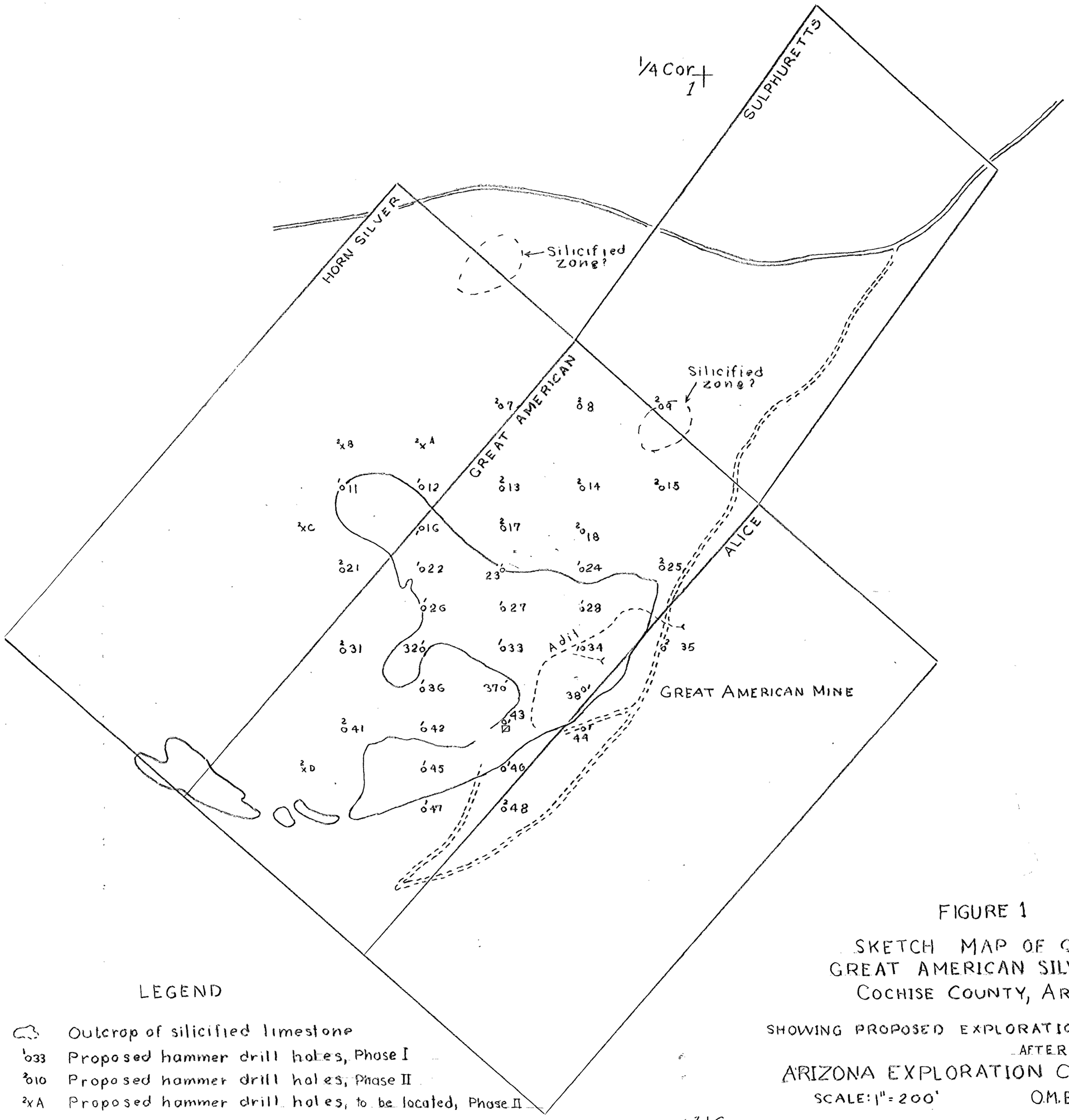

FIGURE 1

SKETCH MAP OF CLAIMS
GREAT AMERICAN SILVER MINE
COCHISE COUNTY, ARIZONA

SHOWING PROPOSED EXPLORATION DRILL HOLES

AFTER JOHN D. FAICK

ARIZONA EXPLORATION COMPANY, INC.

SCALE: 1" = 200' O.M.E. 6692

1 | 6
12 | 7

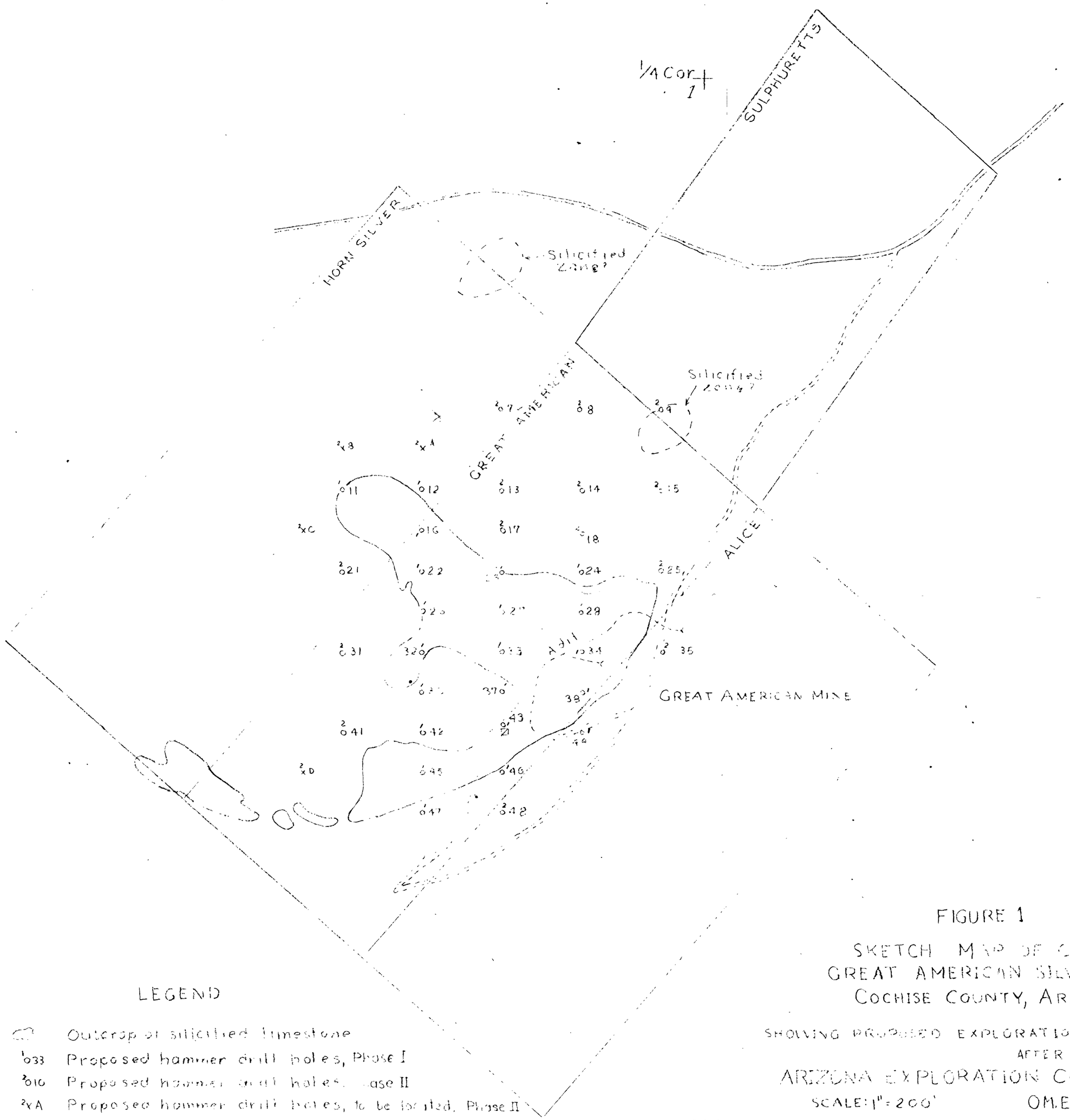

FIGURE 1

SKETCH MAP OF CLAIMS
GREAT AMERICAN SILVER MINE
COCHISE COUNTY, ARIZONA

SHOWING PROPOSED EXPLORATION DRILL HOLES
AFTER JOHN D FRICK

ARIZONA EXPLORATION COMPANY, INC.

SCALE: 1" = 200' O.M.E. 6512

1 | 6
12 | 7

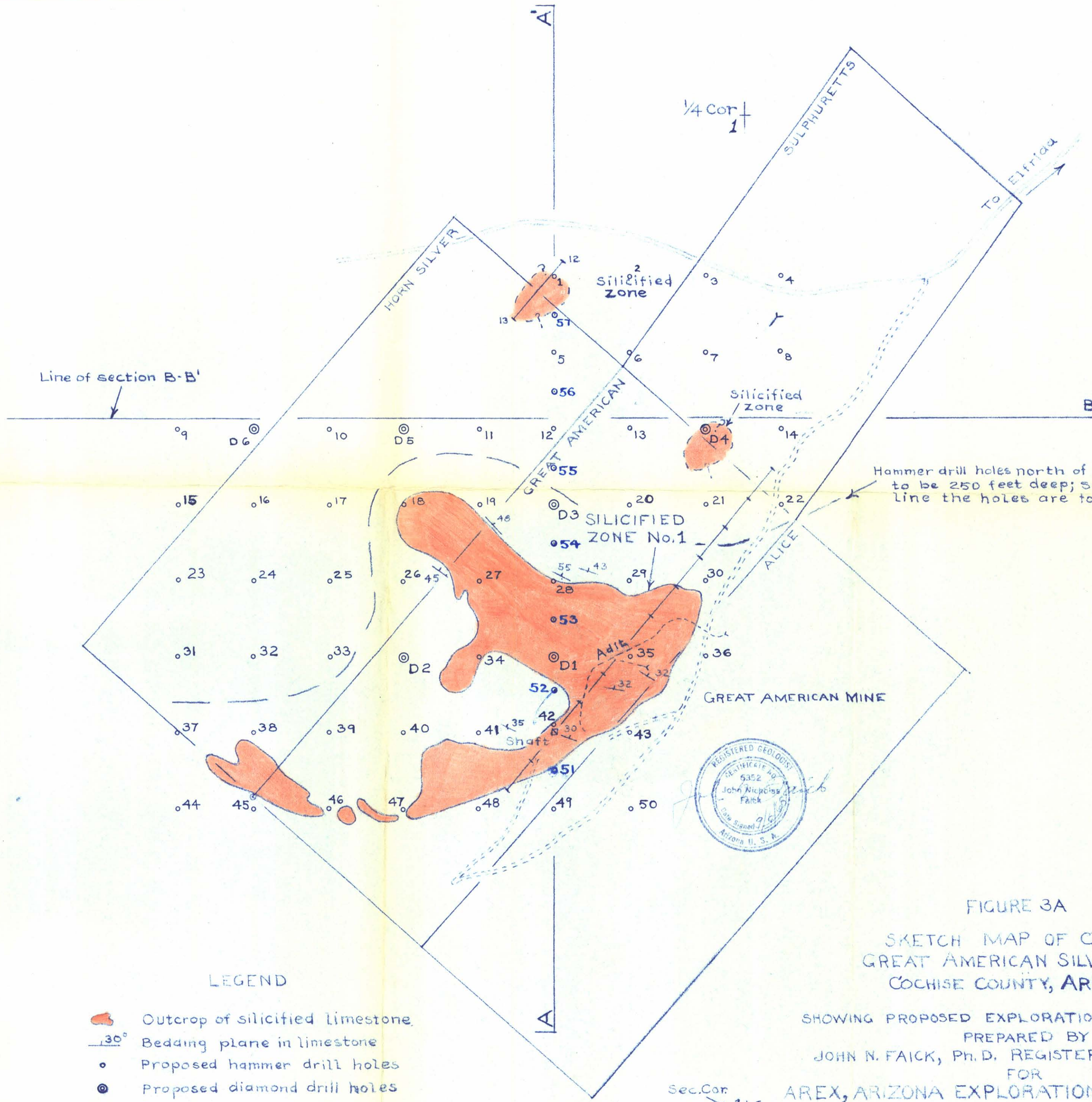

FIGURE 3A

SKETCH MAP OF CLAIMS
GREAT AMERICAN SILVER MINE
COCHISE COUNTY, ARIZONA

SHOWING PROPOSED EXPLORATION DRILL HOLES
PREPARED BY
JOHN N. FAICK, Ph.D. REGISTERED GEOLOGIST
FOR
AREX, ARIZONA EXPLORATION COMPANY, INC.

SCALE: 1" = 200' AUGUST 30, 1968

LEGEND

- Outcrop of silicified limestone
- 30° Bedding plane in limestone
- Proposed hammer drill holes
- Proposed diamond drill holes
- Geochem sample lines

Sec. Cor.

1	6
12	7

T. 20 S.	T. 20 S.
R. 27 E.	R. 28 E.

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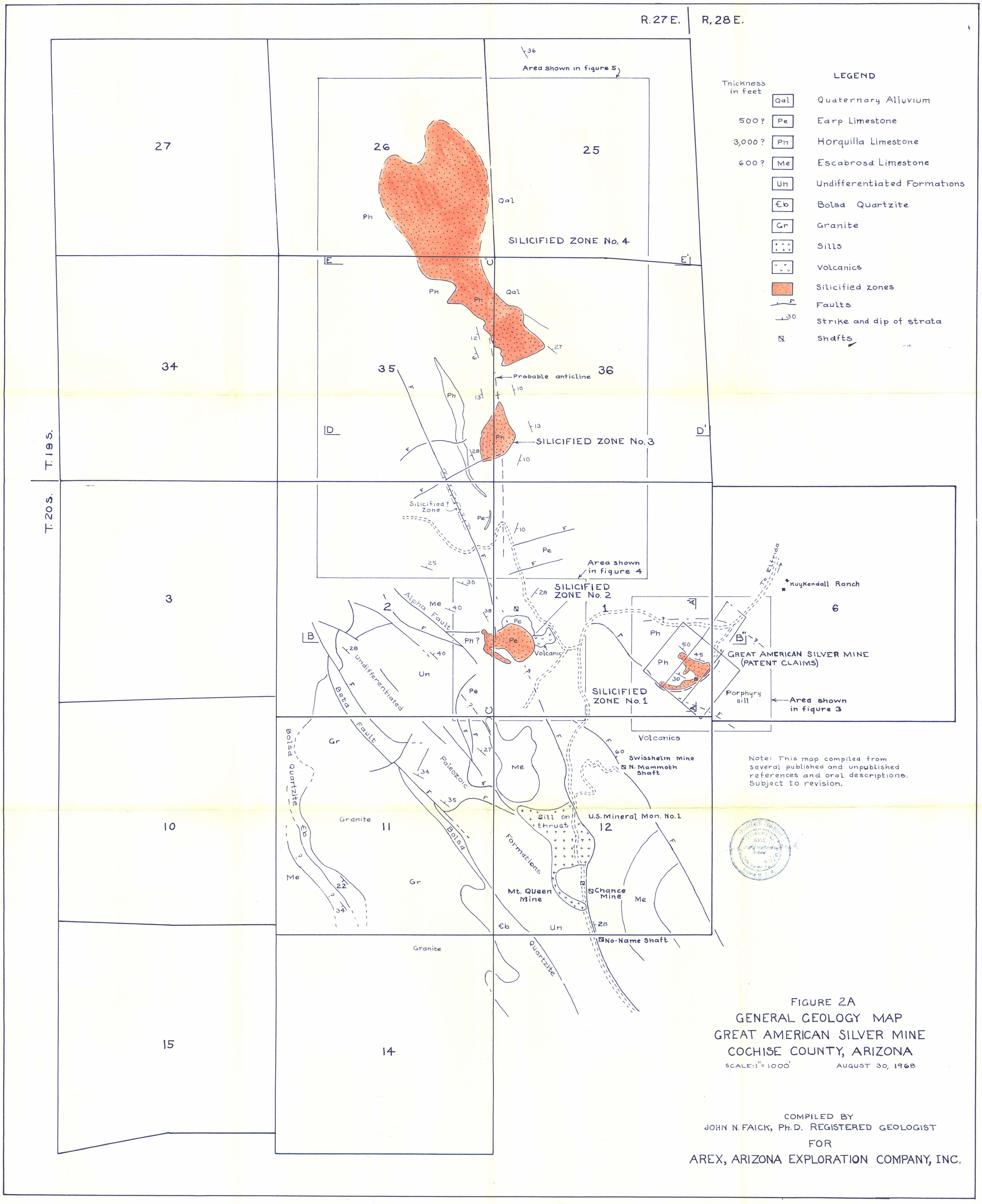


FIGURE 2A
GENERAL GEOLOGY MAP
GREAT AMERICAN SILVER MINE
COCHISE COUNTY, ARIZONA
SCALE: 1" = 1000' AUGUST 30, 1968

COMPILED BY
JOHN N. FAICK, Ph.D. REGISTERED GEOLOGIST
FOR
AREX, ARIZONA EXPLORATION COMPANY, INC.

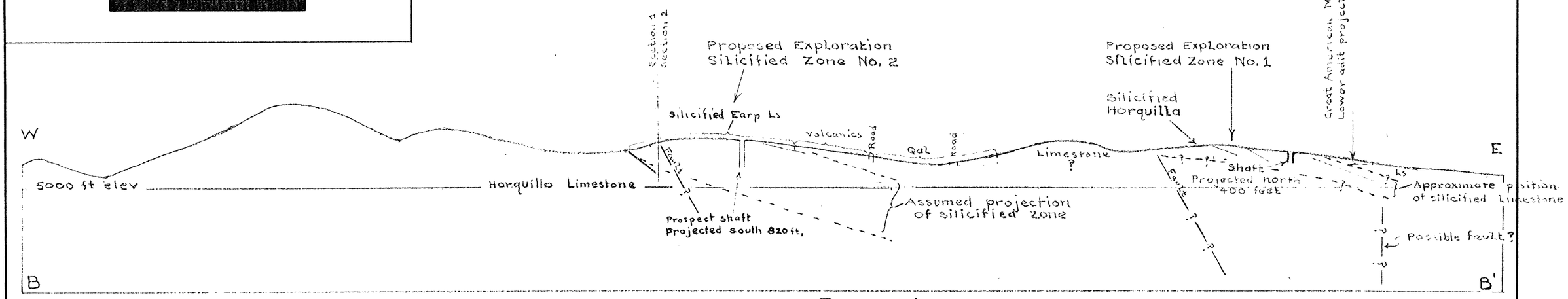
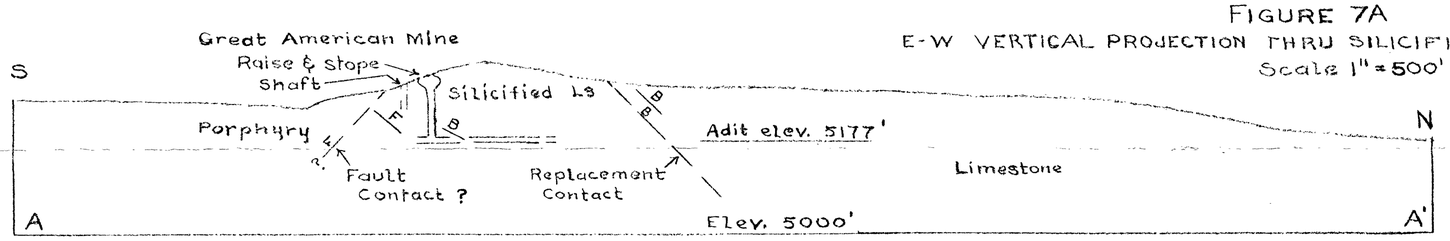


FIGURE 7A

E-W VERTICAL PROJECTION THRU SILICIFIED ZONES No. 1 & 2

Scale 1" = 500'



N-S VERTICAL PROJECTION THRU SILICIFIED ZONE 1

Scale: 1" = 200'

FIGURE 6A

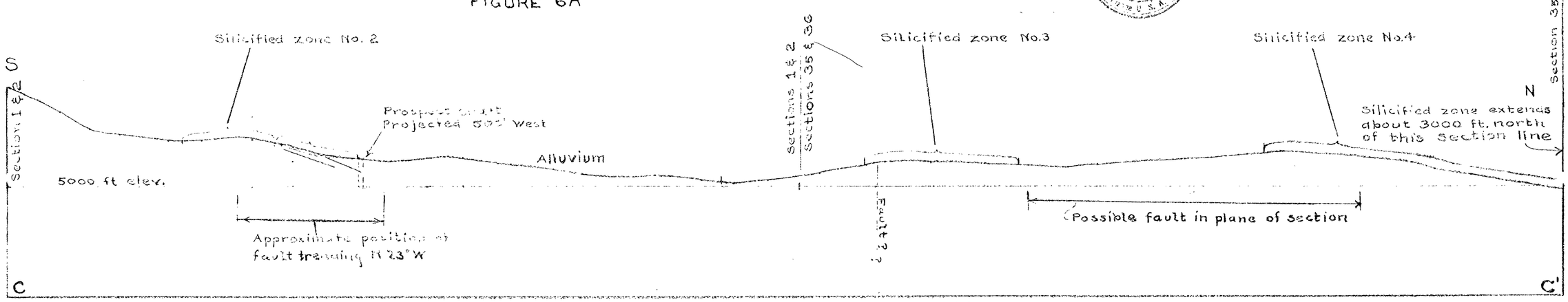
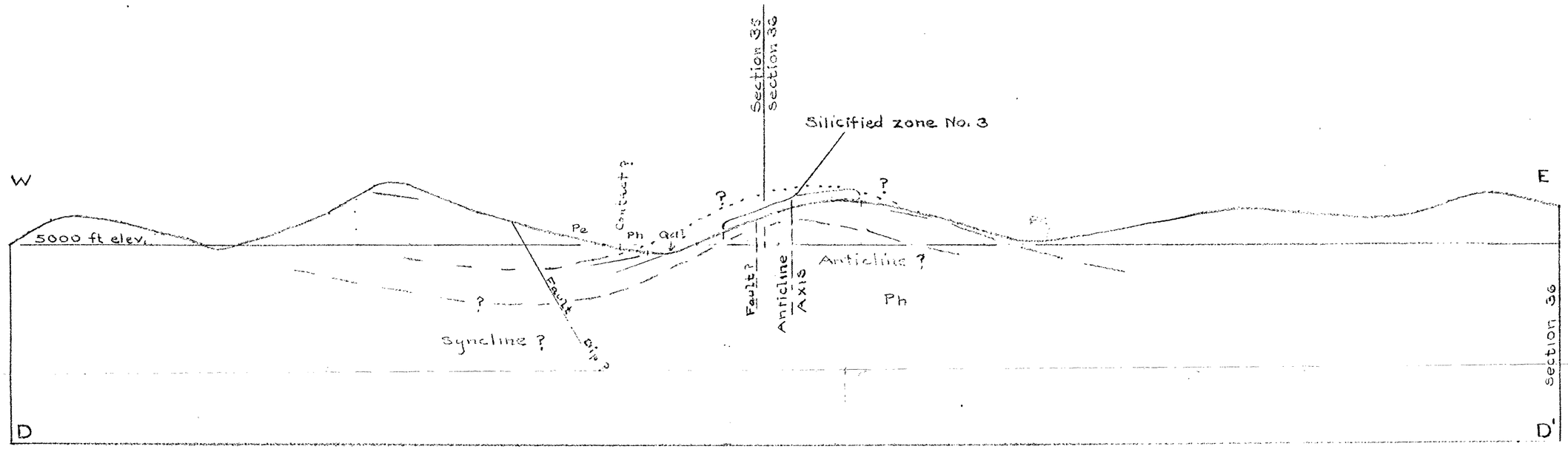


FIGURE 8A

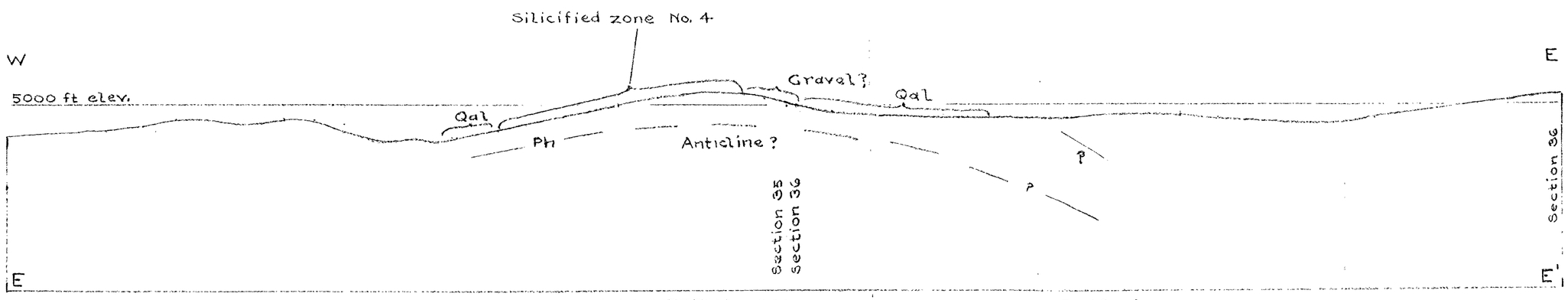
N-S VERTICAL PROJECTION THRU SILICIFIED ZONES 1, 2 & 3

Scale: 1" = 500'

Section faces west



E-W VERTICAL PROJECTION THRU SILICIFIED ZONE 3
Scale: 1" = 500'
FIGURE 9A



E-W VERTICAL PROJECTION THRU SILICIFIED ZONE 4
Scale: 1" = 500'
FIGURE 10A

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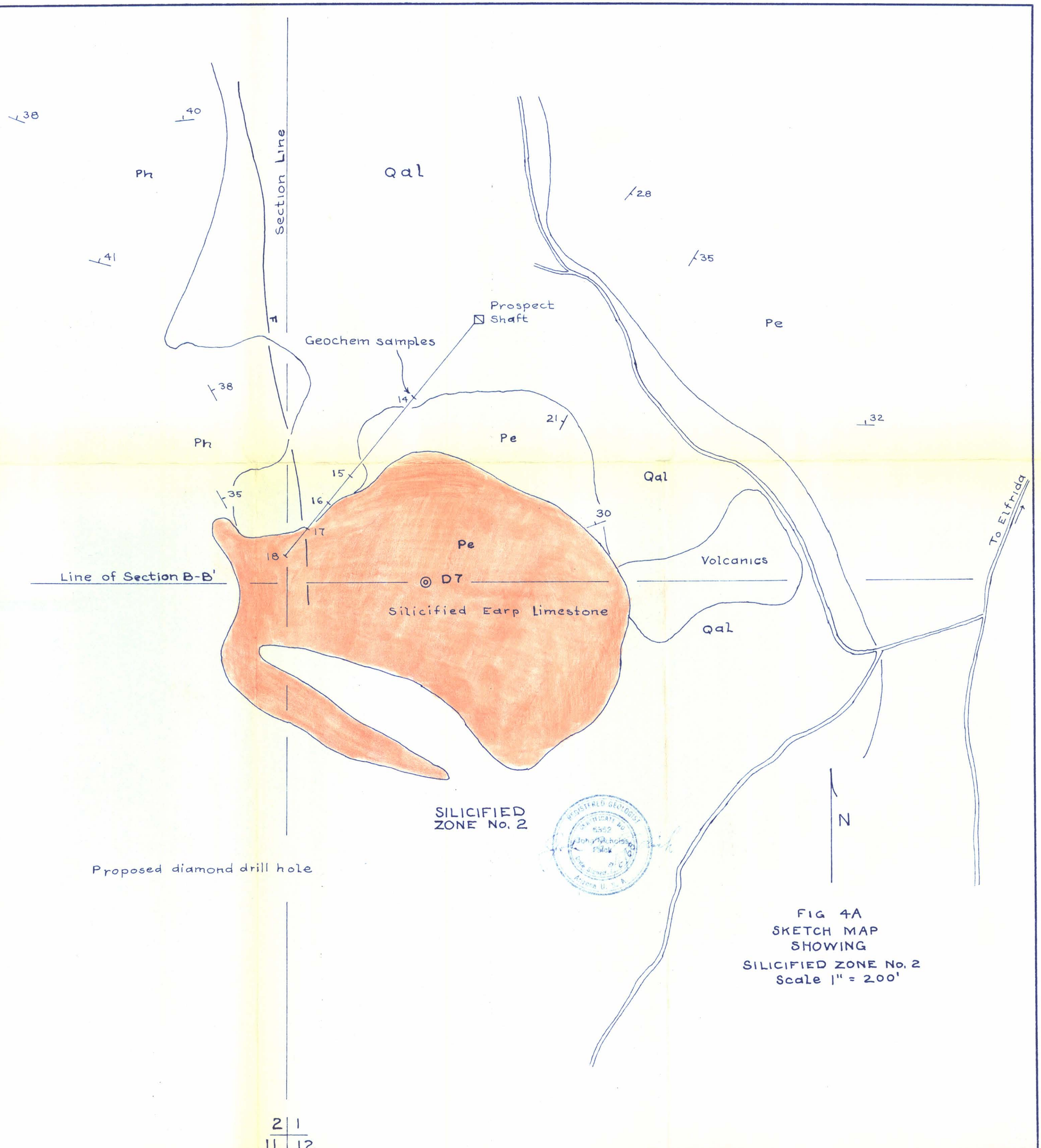


FIG 4A
SKETCH MAP
SHOWING
SILICIFIED ZONE No. 2
Scale 1" = 200'

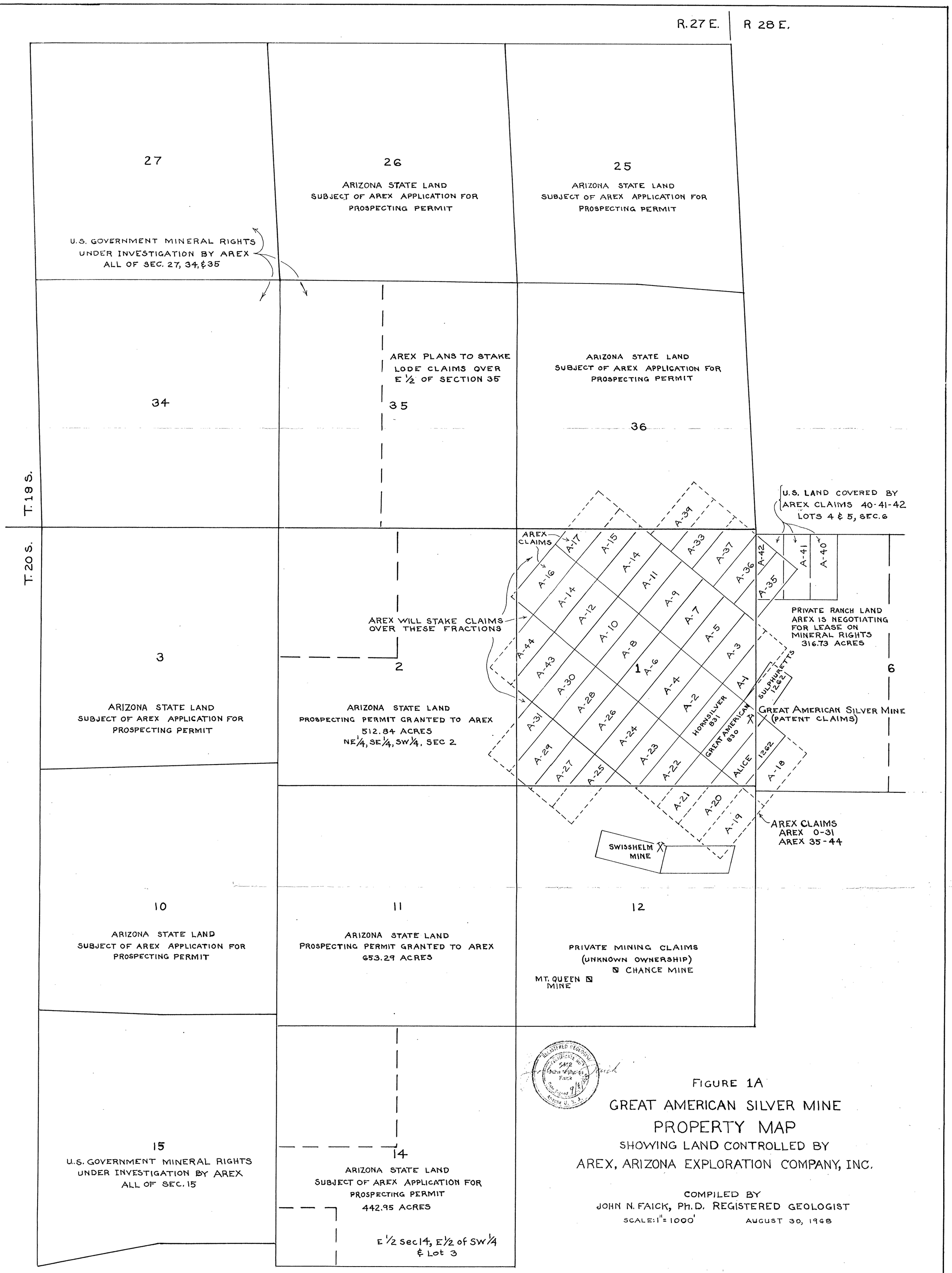


FIGURE 1A

GREAT AMERICAN SILVER MINE

PROPERTY MAP

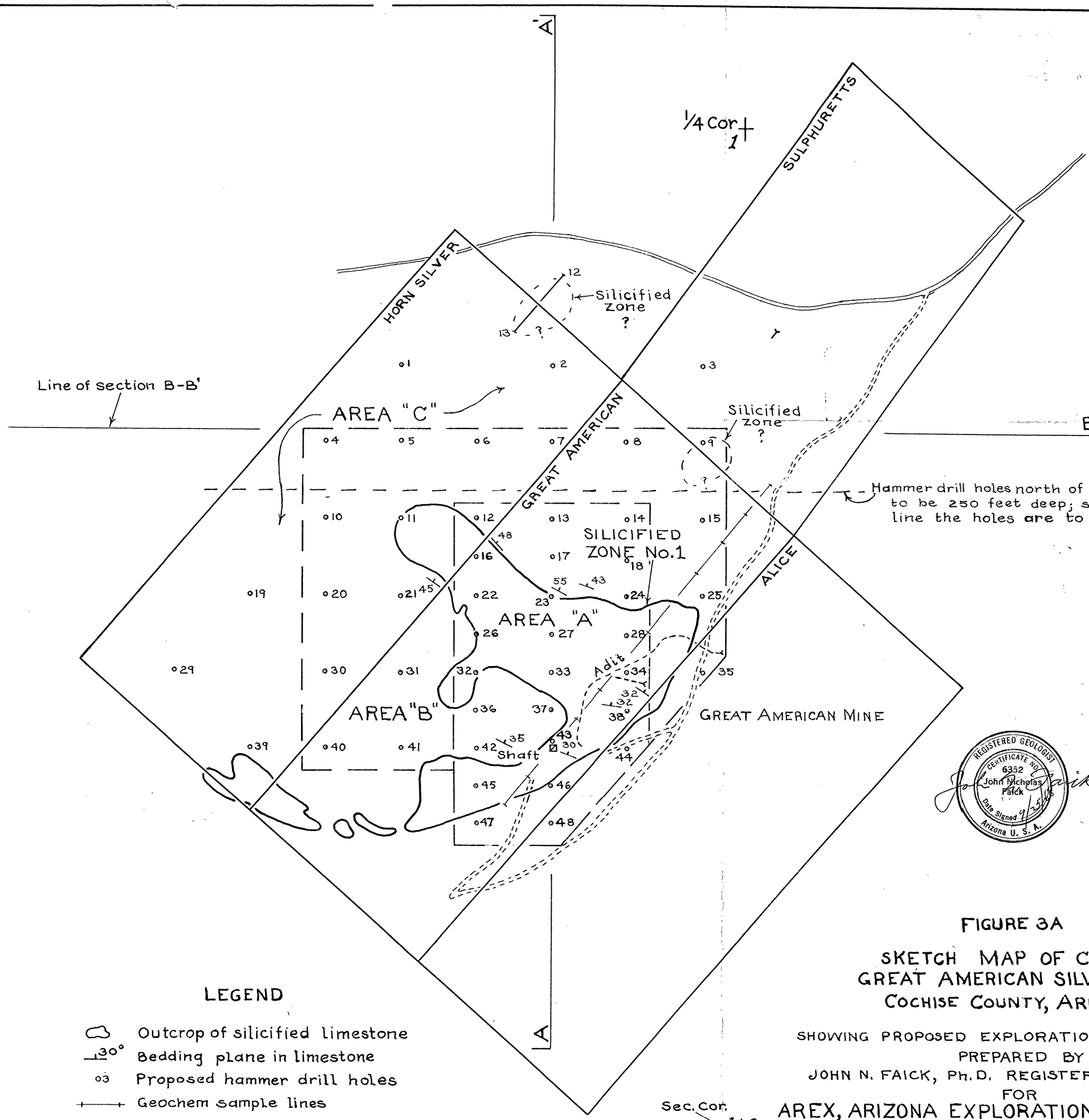
SHOWING LAND CONTROLLED BY

AREX, ARIZONA EXPLORATION COMPANY, INC.

COMPILED BY

JOHN N. FAICK, Ph.D. REGISTERED GEOLOGIST

SCALE: 1" = 1000' AUGUST 30, 1968



LEGEND

- Outcrop of silicified limestone
- 30° Bedding plane in limestone
- o3 Proposed hammer drill holes
- Geochem sample lines

Sec. Cor.

1	6
12	7

T. 20 S.	T. 20 S.
R. 27 E.	R. 28 E.

FIGURE 3A

SKETCH MAP OF CLAIMS GREAT AMERICAN SILVER MINE COCHISE COUNTY, ARIZONA

SHOWING PROPOSED EXPLORATION DRILL HOLES

PREPARED BY

JOHN N. FAICK, Ph.D. REGISTERED GEOLOGIST

FOR

AREX, ARIZONA EXPLORATION COMPANY, INC.

SCALE: 1" = 200' AUGUST 30, 1968

REVISIONS
9-25-68