DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 1537X

DO NOT DETACH THIS SLIP

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

This document has been recorded as

_____

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

To:	~~Cowen~~	Date	~~6/8/51~~
To:	Reports & Records Br	Date	7/18/51
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	

DO NOT DETACH

CONTROLLED DOCUMENT

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

C. O. Mittendorf, Acting Administrator
Defense Minerals Exploration Admin.

MR. PHILIP A. LAYMADER, SCIENTIFIC EXPLORATION CO. March 14, 1952
PALO ALTO, CALIFORNIA

REFERENCE MARCH 13 REQUESTING THIS AGENCY TO COMMIT FUNDS FOR MAKING EMERGENCY LOAN TO [illegible] YOUR EXPLORATION CONTRACT ON BASIS MEANWHILE DATA CONTAINED REPORT, EXAMINED WITH THAT AVAILABLE YOUR DIRECT DMA 1537. THIS DECISION WILL NOT PRECLUDE CONSIDERATION SPECIFIC PROJECT ON YOUR REPORTED DISCOVERY PROVIDED [illegible] UNDER EXPLORATION REGULATIONS. SUGGEST YOU DISCUSS DETAILS WITH [illegible], OUR REGULATIVE OFFICER, 1012 FLOOD BUILDING, 870 MARKET STREET, SAN FRANCISCO.

C. O. Mittendorf

C. O. MITTENDORF
ACTING ADMINISTRATOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

COMITTENDORF/fw/pa

cc: Admr. Reading File
Mails and Files
Mr. Mittendorf

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

1201

W. P. MARSHALL, PRESIDENT

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=Int'l Letter Telegram

VLT=Int'l Victory Ltr.

The filing time shown in telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED

OA457

MAR 13 1952 MAR 13 AM 12 54

O.PKA345 NL PD=PALO ALTO CALIF 12=

:C O MITTENDORF CHIEF=

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPT OF INTERIOR WASHDC=

:FIVE YEAR $50,000 REGIONAL AEROGEOLOGICAL MINERAL EXPLORATION RESEARCH PROJECT ON FINANCIAL ROCKS RESULTS HAVE IMMEDIATE DISCOVERY POTENTIAL OF CONSIDERABLE NATIONAL INTEREST COULD YOUR AGENCY MAKE $4000 EMERGENCY LOAN TO ALLOW COMPLETION OF EXPLORATION CONTRACTS UNDER CONSIDERATION MONEY TO BE SECURED BY PROPERTIES TAKEN UP ACCORDING YOUR APPROVAL

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

1201

W. P. MARSHALL, PRESIDENT

SYMBOLS
DL=Day Letter
NL=Night Letter
LT=Int'l Letter Telegram
VLT=Int'l Victory Ltr.

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

OA457 O PKA345/2=

1952 MAR 13 AM 12 54

PLEASE WIRE REPLY HERE OTHERWISE MUST ABANDON PROJECT SHORTLY=

PHILIP A LAYLANDER PALO ALTO CALIF=..

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

FILE COPY
SURNAME:

Gowen
Jolum

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

July 18, 1951

MEMORANDUM

To: Reports and Records Division

From: Chairman, Copper Commodity Committee

Through: Director Supply Division

Subject: Exploration Aid application, Philip A. Laylander, Box 241, Fallon, Nevada, Docket DMA-1537X.

Applicant proposes to photograph in color from the air the Basin Range Province and through the geological interpretation of these photographs, to define certain target areas for closer arial study and ground prospecting. It is proposed to cover each target area with from 10 to 40 mining claims as a part of the exploration project.

It is recommended that the application be denied for the following reasons:

1. It does not have a sufficient basis for consideration being still in the experimental stage.

2. It is not a recognized technique for the exploration of orebodies.

3. Funds already expended could not be matched by the Government

4. Exploratory funds cannot be used to take up options or leases, or to locate mining claims.

Enclosed are three copies of the subject application, comprising the entire docket for disposal.

J. B. Gowen, Chairman
Copper Commodity Committee

Bureau of Mines Member

Geological Survey Member

JBGowen:ez
Copy to: Reports & Records Branch
Files
Administrator's Reading File, Mr. Gowen
Region III, Executive Officer, DMA Field Team

FILE COPY
SURNAME:

Bowen
Rodgers
Johnson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

July 17, 1951

Mr. Philip A. Leglmaier
Box 241
Fallon, Nev.

Re: Project No. [illegible]-1537

Dear Mr. Leglmaier:

Your application for aid for an exploration Project has been studied by the Supply Division of the Defense Minerals Administration and we regret to inform you that it must be denied.

While your proposed project for exploration and prospecting the potentiality of the Basin and Range Province with the aid of aerial color photography is novel and might lead to the results predicted in your application, it does not seem to fall within the definition of an exploration project as intended under DMA (Aerial Photo). It does not have sufficient basis in experience to warrant consideration. It is not a recognized technique, and is still too much in the experimental stage to be considered under the present program. Funds already expended could not be entered by the Government, nor could any exploratory funds be used to take up options or leases, or to locate mining claims.

Very truly yours,

SECRET

Tom Lyon
cc

Chas. Green, Director
Supply Division

Encl. 1 enc.

Copy to: Reports & Records Branch
Office [illegible]
Mr. Bowen, R213
Administrator's Chronological File
Region III, Executive Officer, DMA Field Team

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA 15-37X

Date received 2-4-5-1

Participation

Philip A. Laylander
Box 241
Fallon, Nevada

Name and address of applicant

Date 25 May 1951

FILL IN THIS BLOCK

Date of application 25 May 1951

Estimated cost $250,000.00

Mineral or metal Strategic

Percentage of Government participation 50%

Location of mine Basin Range Province, Geological Exploration Project, covering ten areas.

Date of filing MF-100 Advised by B.M. not required

DMA Docket Number, if available 15-37X

INSTRUCTIONS

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

THE APPLICANT

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

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

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

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

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

(*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

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

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

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

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

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

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

*16. History:

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

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

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

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

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

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each.

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

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

CERTIFICATION

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

(SCIENTIFIC EXPLORATION Co.)
(Name of company)

By Philip A. Lanlander
(Signature of authorized official)

25 May 1951
(Date)

(PRES.)
(Title)

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

*Same as footnote on page 1.

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

Application for Aid for an Exploration Project Pursuant to Mineral Order 5, Under Defense Production Act of 1950.

The Applicant

1. The applicant is an individual. However, he owns a Nevada corporation "The Scientific Exploration Company", under which for business reasons it may be adviseable to carry out the exploration project.

4. The business experience is that gained by organising and operating the exploration research project for the past four years. Other experience and qualification is graduation from U. C. Berkeley, Calif. 1940 in Chemistry with minor in Geology, more than four years flying and aerial photographic work in the AAF during the War, completion of nearly all work towards PhD. at Stanford University since the War (M. S. in Geology there in 1950.) Prior to the War spent more than two years doing conventional mining and exploration work with my father, a Mining Engineer.

5. The applicant is the owner of the property and materials for the aerogeological and field examination part of the project, including airplane, aerial cameras, color film new and exposed, truck and field equipment.

6. No encumbrances.

8. Current financial status is solvency, with present income by consulting work until proposed exploration project is activated.

9. Applicant has invested more than $40,000 and four years time on the project to date (with savings of more than $70,000 by obtaining surplus materials and equipment.) Since this investment is one and the same with the proposed project (which is essentially ground exploration work based on the four years research and finding of targets for such exploration) it is hoped that credit for such investment is granted by the DMA under their matching funds principle. However, besides that, present favorable contacts with venture mining capital developed over the past three years promise whatever amount of money up to $200,000 will be required to match DMA funds. Such amounts of money cannot be firmly subscribed prior to determining the extent of the DMA participation, as the DMA is the deciding factor at this time what the scale of the project will be, or whether it will be activated at all for that matter.

10 to 19. The properties which will be a part of the exploration project are not now taken up. Since such is at present largely open ground (although obtaining some options may be necessary) specific details concerning such properties cannot be included in this present application, for obvious reasons. The properties to be acquired are defined by studies of the past four years. Taking up of the properties will be part of the exploration project.

The Exploration

20. The exploration will be conducted for those important strategic minerals and metals which occur in the Basin Range Province, including copper, zinc, lead, fluorspar, tungsten, etc.

21. The exploration program is to be completed within the next two years. It will be in part a continuation of the present aerogeological work which includes aerial reconnaisance and selection of targets, accomplishing large scale vertical stereoscopic color air photography, and study of same with ground checking of findings. The main emphasis and expenses of the project will be those activities beyond the geological work, including taking up the ground, sampling, assaying, bulldozing, trenching, drilling and prospect mining activities which are necessary to prove an ore body. The targets will be covered by from ten to forty claims apiece, for the ten targets. By the color aerogeologic method of approach in the exploration project, the precise nature, location of target, and amount of such field work necessary to define it can be planned in detail prior to starting such work, which means much greater speed, efficiency, and effectiveness.

22. The geological basis for the project are those geological discoveries made during the past four study of thousands of square miles of mineralized ground in the Basin Range Province, including many important mining districts, such as Bingham, Tintic, Pioche, Tonapah, San Manuel, Tombstone, Johnson's Camp, Patagonia, Miami-Globe, Superior, Ray, Bradshaw Mts., Brucite, Tybo, Manhattan, and many other known and potential mineralized areas.

Such studies have established that all such mineralized areas and ore deposits have distinctive, recognizeable characteristics, by which they can be recognized and the ore located by color aerogeological exploration. This provides the scientific and geologic basis for the proposed exploration project. Those characteristics are of four types:

1. Regional. It is found that practically all the important ore bodies occur in locations of regional uniqueness, and not in homogeneous ones. The empirical criteria is that the geology (rock-structure-alteration) differ markedly in two or more quadrants. This has been noted in general by Locke, Billingsley, and other geologists. However, the large regional units and trends do not define specific targets. There are factors of intermediate scale, measured in miles and tens of miles which are of equal importance. These have not been studied and mapped in most of the Basin Range Province. They are best studied by aerial observation from 5,000 to 10,000 ft. above the terrain, where changes in pattern can be seen in ideal perspective for thousands of square miles at a flight. Several hundred hours of such observation over a region develops the ability to recognize and understand the significance of such factors. It is the combination of those broad regional and intermediate factors which determine the potential target areas of 20 to 100 sq. mi. in which the ore deposit will occur. The large scale, vertical, stereoscopic color air photography of such target areas are the necessary basis for the next phases of study.

22 cont.

2. Major Break. It is generally found that one major break or fault system controls the main hydrothermal activity which leads to the formation of the ore bodies. Sometimes this can be seen directly from aerial or ground study. However, often the nature and significance of the major break can be determined only after a detailed study of the fracture--alteration patterns which can be seen in the color stereoscopic models. It has been found that usually such color aerogeological study provides vital information to the prediction of the ore bodies which is not gained by ground studies over several years.

3. Hydrothermal Alteration. The bulk and types of hydrothermal alteration is highly important in analyzing and evaluating an area for the location and importance of the ore bodies. It is found that usually a great bulk of hydrothermal alteration, especially of a "digestive" nature is associated with important ore bodies, and that the ore bodies occur in rational position within the ellipsoids of alteration. This is true whether there is one phase of alteration; the location of the ore bodies does not conflict with the general alteration patterns. The ore location is in direct relation to the stronger breaks and the larger, stronger, and later pre-mineral or comineral hydrothermal alterations.

4. Specific Mineralization. The fourth type of information indicative of the location, size, grade, and explorability of ore bodies are those distinctive of mineralization much smaller in amount than the general alteration ellipsoids, and more closely related to the valuable mineralization. This includes, of course, the weathered expressions of the valuable mineralization itself. Such features are often quite inconspicuous, and have been generally overlooked by conventional ground exploration methods. However, they usually show to excellent advantage in the color stereoscopic photographic models, and may lead directly to discoveries of near surface ore, as for example, a fluorspar discovery by the writer in a thoroughly prospected area near Baxter's fluorspar mine near Broken Hills, Nevada. Those traces of mineralization also point out the ore bodies at depth, as for example, the distinctive weathered mangano-siderite bloom over the ore channel which is 1700 ft. below in the Pioche district. This was found in a recent study, and apparently had not been recognised and evaluated previously. Copper gossans are often very distinctive, and the recognizeability and fineness of discrimination of such by the color photo study (with sufficient experience) is remarkable.

The combination of sufficiently large size and grade of those types of regognizable characteristics show the size, grade, and location of the ore bodies. In fact, is is the only systematic effective approach to exploration to ore bodies known to the writer at this time. It is possible to cover a large region, select analyze and evaluate targets, and predict accurately, the location, size, and grade of an ore body, and the best methods for proving it by ground exploration methods.

22 cont.

To be sure, the more that a region is observed and studied, the more accurately the important identifying characteristics and their values can be determined. The writer has been fortunate in having nearly ten years of such study between flying and photographic work in the Air Forces and the present four year exploration research project. It may not be out of place to mention that brief, casual, desultory studies more often lead to negative results than to positive ones, and has led to the opinion by some that such methods are not of value. Only more work along such lines by other workers, properly qualified, and the publication of the results of such studies leading to discoveries by the writer will establish the value of the methods.

All ground examinations based on such aerial observation and color photographic study have demonstrated that the values of mineralization are where predicted, and has led to actual valuable discoveries, on which only one block of ground has been taken up because of lack of operating capital for ground work this past two years (in part due to the 1949 recession.)

The writer was faced with two alternatives in 1949. To carry out the larger scale basic regional studies, which would eventually lead to important discoveries, or to engage in the promotion and development of small discoveries. At the expense of insecurity and immediate financial discomfitures it was decided to attempt the more important line of activity, in the regional study, and the selection and study of important mineralized targets to prepare for ground exploration when the economic environment for mining exploration was improved and venture capital available. The present response of the DMA and their possible encouragement of such basic development of rapid, efficient exploration methods will determine whether my decision was the correct one. For at this time the DMA is responsible for creation of a favorable exploration venture capital environment by its matching funds program. The implementation of the contemplated exploration activities based on the research and findings of the writer will be primarily based on the interest of the DMA. If it is borne out by discoveries under the exploration program (which the writer has every reason to anticipate) it will stimulate a great deal of such work by others and should result in several important discoveries within the next few years.

The reason for setting up a program based on ten targets, is that with the best of information, there are often complicating technical, economic, and logistic factors which mitigate against the completion of discovery activities on any particular target. It is necessary to have a sufficient number of well selected targets that at least one will be completed readily to pay for the cost of the program. It will probably develop in future activities that a fairly definite percentage of production will be the exploration budget--from five to ten per cent. Another important consideration is that the targets are large enough in size (under present conditions probably at least $10,000,000 potential) so that one discovery will pay for exploration on several targets.

22 cont.

The past four years study has resulted in the delineation of at least twenty such targets (of more than $10,000,000 potential, of which ten will be all that can be covered under the present project. There are some which can be established by very near surface work, such as bulldozing, or short prospect shaft or adit. They all include ore bodies which will be established by drilling or other testing within 500 ft. of the surface. A larger exploration budget would be necessary to consider deeper targets.

23. It is not possible to make an itemised statement of costs, since the size and and nature of the project depends on the DMA participation and encouragement. The costs will be in keeping with current good exploration practise.

24. The time schedule for the project is also not determinable in advance. Some targets may require two weeks for initial exploration, some two or three months. Upon approval of the exploration project work can be started at once on acquiring the ground and doing surface examination and testing. As soon as personnel and equipment can be obtained drilling and subsurface testing will begin. It is anticipated that one diamond drill crew will be kept busy during most of the life of the project.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA 1537X

Date received 6-4-51

Participation

Philip A. Laylander
Box 241
Fallon, Nevada

Name and address of applicant

Date 25 May 1951

FILL IN THIS BLOCK

Date of application 25 May 1951

Estimated cost $250,000.00

Mineral or metal Strategic

Percentage of Government participation 50%

Location of mine Basin Range Province, Geological Exploration Project, covering ten areas.

Date of filing MF-100 Advised by B.M. not required

DMA Docket Number, if available 1537X

INSTRUCTIONS

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

THE APPLICANT

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

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

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

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

16—64067-1

THE PROPERTY

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

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

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

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

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

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

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

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

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

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

*18. Ore or mineral reserves: *(If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

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

THE REQUIREMENTS AND COSTS

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

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

CERTIFICATION

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

(SCIENTIFIC EXPLORATION COMPANY)
(Name of company)

By Philip C. Laylander
(Signature of authorized official)

25 May 1951
(Date)

(PRES.)
(Title)

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

*Same as footnote on page 1.

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

Application for Aid for an Exploration Project Pursuant to Mineral Order 5, Under Defense Production Act of 1950.

The Applicant

1. The applicant is an individual. However, he owns a Nevada corporation "The Scientific Exploration Company", under which for business reasons it may be adviseable to carry out the exploration project.

4. The business experience is that gained by organizing and operating the exploration research project for the past four years. Other experience and qualification is graduation from U. C. Berkeley, Calif. 1940 in Chemistry with minor in Geology, more than four years flying and aerial photographic work in the AAF during the War, completion of nearly all work towards PhD. at Stanford University since the War (M. S. in Geology there in 1950.) Prior to the War spent more than two years doing conventional mining and exploration work with my father, a Mining Engineer.

5. The applicant is the owner of the property and materials for the aerogeological and field examination part of the project, including airplane, aerial cameras, color film new and exposed, truck and field equipment.

6. No encumbrances.

8. Current financial status is solvency, with present income by consulting work until proposed exploration project is activated.

9. Applicant has invested more than $40,000 and four years time on the project to date (with savings of more than $70,000 by obtaining surplus materials and equipment.) Since this investment is one and the same with the proposed project (which is essentially ground exploration work based on the four years research and finding of targets for such exploration) it is hoped that credit for such investment is granted by the DMA under their matching funds principle. However, besides that, present favorable contacts with venture mining capital developed over the past three years promise whatever amount of money up to $200,000 will be required to match DMA funds. Such amounts of money cannot be firmly subscribed prior to determining the extent of the DMA participation, as the DMA is the deciding factor at this time what the scale of the project will be, or whether it will be activated at all for that matter.

10 to 19. The properties which will be a part of the exploration project are not now taken up. Since such is at present largely open ground (although obtaining some options may be necessary) specific details concerning such properties cannot be included in this present application, for obvious reasons. The properties to be acquired are defined by studies of the past four years. Taking up of the properties will be part of the exploration project.

The Exploration

20. The exploration will be conducted for those important strategic minerals and metals which occur in the Basin Range Province, including copper, zinc, lead, fluorspar, tungsten, etc.

21. The exploration program is to be completed within the next two years. It will be in part a continuation of the present aerogeological work which includes aerial reconnaisance and selection of targets, accomplishing large scale vertical stereoscopic color air photography, and study of same with ground checking of findings. The main emphasis and expenses of the project will be those activities beyond the geological work, including taking up the ground, sampling, assaying, bulldozing, trenching, drilling and prospect mining activities which are necessary to prove an ore body. The targets will be covered by from ten to forty claims apiece, for the ten targets. By the color aerogeologic method of approach in the exploration project, the precise nature, location of target, and amount of such field work necessary to define it can be planned in detail prior to starting such work, which means much greater speed, efficiency, and effectiveness.

22. The geological basis for the project are those geological discoveries made during the past four study of thousands of square miles of mineralized ground in the Basin Range Province, including many important mining districts, such as Bingham, Tintic, Pioche, Tonapah, San Manuel, Tombstone, Johnson's Camp, Patagonia, Miami-Globe, Superior, Ray, Bradshaw Mts., Brucite, Tybo, Manhattan, and many other known and potential mineralized areas.

Such studies have established that all such mineralized areas and ore deposits have distinctive, recognizeable characteristics, by which they can be recognized and the ore located by color aerogeological exploration. This provides the scientific and geologic basis for the proposed exploration project. Those characteristics are of four types:

1. Regional. It is found that practically all the important ore bodies occur in locations of regional uniqueness, and not in homogeneous ones. The empirical criteria is that the geology (rock-structure-alteration) differ markedly in two or more quadrants. This has been noted in general by Locke, Billingsley, and other geologists. However, the large regional units and trends do not define specific targets. There are factors of intermediate scale, measured in miles and tens of miles which are of equal importance. Those have not been studied and mapped in most of the Basin Range Province. They are best studied by aerial observation from 5,000 to 10,000 ft. above the terrain, where changes in pattern can be seen in ideal perspective for thousands of square miles at a flight. Several hundred hours of such observation over a region develops the ability to recognize and understand the significance of such factors. It is the combination of those broad regional and intermediate factors which determine the potential target areas of 20 to 100 sq. mi. in which the ore deposit will occur. The large scale, vertical, stereoscopic color air photography of such target areas are the necessary basis for the next phases of study.

22 cont.

2. Major Break. It is generally found that one major break or fault system controls the main hydrothermal activity which leads to the formation of the ore bodies. Sometimes this can be seen directly from aerial or ground study. However, often the nature and significance of the major break can be determined only after a detailed study of the fracture--alteration patterns which can be seen in the color stereoscopic models. It has been found that usually such color aerogeological study provides vital information to the prediction of the ore bodies which is not gained by ground studies over several years.

3. Hydrothermal Alteration. The bulk and types of hydrothermal alteration is highly important in analyzing and evaluating an area for the location and importance of the ore bodies. It is found that usually a great bulk of hydrothermal alteration, especially of a "digestive" nature is associated with important ore bodies, and that the ore bodies occur in rational position within the ellipsoids of alteration. This is true whether there is one phase of alteration; the location of the ore bodies does not conflict with the general alteration patterns. The ore location is in direct relation to the stronger breaks and the larger, stronger, and later pre-mineral or co-mineral hydrothermal alterations.

4. Specific Mineralization. The fourth type of information indicative of the location, size, grade, and explorability of ore bodies are those distinctive of mineralization much smaller in amount than the general alteration ellipsoids, and more closely related to the valuable mineralization. This includes, of course, the weathered expressions of the valuable mineralization itself. Such features are often quite inconspicuous, and have been generally overlooked by conventional ground exploration methods. However, they usually show to excellent advantage in the color stereoscopic photographic models, and may lead directly to discoveries of near surface ore, as for example, a fluorspar discovery by the writer in a thoroughly prospected area near Baxter's fluorspar mine near Broken Hills, Nevada. Those traces of mineralization also point out the ore bodies at depth, as for example, the distinctive weathered mangano-siderite bloom over the ore channel which is 1700 ft. below in the Pioche district. This was found in a recent study, and apparently had not been recognized and evaluated previously. Copper gossans are often very distinctive, and the recognizeability and fineness of discrimination of such by the color photo study (with sufficient experience) is remarkable.

The combination of sufficiently large size and grade of those types of regognizable characteristics show the size, grade, and location of the ore bodies. In fact, is is the only systematic effective approach to exploration to ore bodies known to the writer at this time. It is possible to cover a large region, select analyze and evaluate targets, and predict accurately, the location, size, and grade of an ore body, and the best methods for proving it by ground exploration methods.

22 cont.

To be sure, the more that a region is observed and studied, the more accurately the important identifying characteristics and their values can be determined. The writer has been fortunate in having nearly ten years of such study between flying and photographic work in the Air Forces and the present four year exploration research project. It may not be out of place to mention that brief, casual, desultory studies more often lead to negative results than to positive ones, and has led to the opinion by some that such methods are not of value. Only more work along such lines by other workers, properly qualified, and the publication of the results of such studies leading to discoveries by the writer will establish the value of the methods.

All ground examinations based on such aerial observation and color photographic study have demonstrated that the values of mineralization are where predicted, and has led to actual valuable discoveries, on which only one block of ground has been taken up because of lack of operating capital for ground work this past two years (in part due to the 1949 recession.)

The writer was faced with two alternatives in 1949. To carry out the larger scale basic regional studies, which would eventually lead to important discoveries, or to engage in the promotion and development of small discoveries. At the expense of insecurity and immediate financial discomfitures it was decided to attempt the more important line of activity, in the regional study, and the selection and study of important mineralized targets to prepare for ground exploration when the economic environment for mining exploration was improved and venture capital available. The present response of the DMA and their possible encouragement of such basic development of rapid, efficient exploration methods will determine whether my decision was the correct one. For at this time the DMA is responsible for creation of a favorable exploration venture capital environment by its matching funds program. The implementation of the contemplated exploration activities based on the research and findings of the writer will be primarily based on the interest of the DMA. If it is borne out by discoveries under the exploration program (which the writer has every reason to anticipate) it will stimulate a great deal of such work by others and should result in several important discoveries within the next few years.

The reason for setting up a program based on ten targets, is that with the best of information, there are often complicating technical, economic, and logistic factors which mitigate against the completion of discovery activities on any particular target. It is necessary to have a sufficient number of well selected targets that at least one will be completed readily to pay for the cost of the program. It will probably develop in future activities that a fairly definite percentage of production will be the exploration budget--from five to ten per cent. Another important consideration is that the targets are large enough in size (under present conditions probably at least $10,000,000 potential) so that one discovery will pay for exploration on several targets.

22 cont.

The past four years study has resulted in the delineation of at least twenty such targets (of more than $10,000,000 potential, of which ten will be all that can be covered under the present project. There are some which can be established by very near surface work, such as bulldozing, or short prospect shaft or adit. They all include ore bodies which will be established by drilling or other testing within 500 ft. of the surface. A larger exploration budget would be necessary to consider deeper targets.

23. It is not possible to make an itemized statement of costs, since the size and and nature of the project depends on the DMA participation and encouragement. The costs will be in keeping with current good exploration practise.

24. The time schedule for the project is also not determinable in advance. Some targets may require two weeks for initial exploration, some two or three months. Upon approval of the exploration project work can be started at once on acquiring the ground and doing surface examination and testing. As soon as personnel and equipment can be obtained drilling and subsurface testing will begin. It is anticipated that one diamond drill crew will be kept busy during most of the life of the project.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA 15-37X

Date received 6-4-51

Participation

Philip A. Leylander
Box 241
Fallon, Nevada

Name and address of applicant

Date 25 May 1951

FILL IN THIS BLOCK

Date of application 25 May 1951

Estimated cost $250,000.00

Mineral or metal Strategic

Percentage of Government participation 50%

Location of mine Basin Range Province, Geological Exploration Project, covering ten areas.

Date of filing MF-100 Advised by B.M. not required

DMA Docket Number, if available 15-37X

INSTRUCTIONS

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

THE APPLICANT

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

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

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

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

16—64067-1

THE PROPERTY

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

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

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

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

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

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

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

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

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

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

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

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

THE REQUIREMENTS AND COSTS

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

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

CERTIFICATION

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

(SCIENTIFIC EXPLORATION Co.)
(Name of company)

By Philip R. Layander
(Signature of authorized official)

25 May 1951
(Date)

(PRES.)
(Title)

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

*Same as footnote on page 1.

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

Application for Aid for an Exploration Project Pursuant to Mineral Order 5, Under Defense Production Act of 1950.

The Applicant

1. The applicant is an individual. However, he owns a Nevada corporation "The Scientific Exploration Company", under which for business reasons it may be adviseable to carry out the exploration project.

4. The business experience is that gained by organizing and operating the exploration research project for the past four years. Other experience and qualification is graduation from U. C. Berkeley, Calif. 1940 in Chemistry with minor in Geology, more than four years flying and aerial photographic work in the AAF during the War, completion of nearly all work towards PhD. at Stanford University since the War (M. S. in Geology there in 1950.) Prior to the War spent more than two years doing conventional mining and exploration work with my father, a Mining Engineer.

5. The applicant is the owner of the property and materials for the aerogeological and field examination part of the project, including airplane, aerial cameras, color film new and exposed, truck and field equipment.

6. No encumbrances.

8. Current financial status is solvency, with present income by consulting work until proposed exploration project is activated.

9. Applicant has invested more than $40,000 and four years time on the project to date (with savings of more than $70,000 by obtaining surplus materials and equipment.) Since this investment is one and the same with the proposed project (which is essentially ground exploration work based on the four years research and finding of targets for such exploration) it is hoped that credit for such investment is granted by the DMA under their matching funds principle. However, besides that, present favorable contacts with venture mining capital developed over the past three years promise whatever amount of money up to $200,000 will be required to match DMA funds. Such amounts of money cannot be firmly subscribed prior to determining the extent of the DMA participation, as the DMA is the deciding factor at this time what the scale of the project will be, or whether it will be activated at all for that matter.

10 to 19. The properties which will be a part of the exploration project are not now taken up. Since such is at present largely open ground (although obtaining some options may be necessary) specific details concerning such properties cannot be included in this present application, for obvious reasons. The properties to be acquired are defined by studies of the past four years. Taking up of the properties will be part of the exploration project.

The Exploration

20. The exploration will be conducted for those important strategic minerals and metals which occur in the Basin Range Province, including copper, zinc, lead, fluorspar, tungsten, etc.

21. The exploration program is to be completed within the next two years. It will be in part a continuation of the present aerogeological work which includes aerial reconnaisance and selection of targets, accomplishing large scale vertical stereoscopic color air photography, and study of same with ground checking of findings. The main emphasis and expenses of the project will be those activities beyond the geological work, including taking up the ground, sampling, assaying, bulldozing, trenching, drilling and prospect mining activities which are necessary to prove an ore body. The targets will be covered by from ten to forty claims apiece, for the ten targets. By the color aerogeologic method of approach in the exploration project, the precise nature, location of target, and amount of such field work necessary to define it can be planned in detail prior to starting such work, which means much greater speed, efficiency, and effectiveness.

22. The geological basis for the project are those geological discoveries made during the past four study of thousands of square miles of mineralized ground in the Basin Range Province, including many important mining districts, such as Bingham, Tintic, Pioche, Tonapah, San Manuel, Tombstone, Johnson's Camp, Patagonia, Miami-Globe, Superior, Ray, Bradshaw Mts., Brucite, Tybo, Manhattan, and many other known and potential mineralized areas.

Such studies have established that all such mineralized areas and ore deposits have distinctive, recognizeable characteristics, by which they can be recognized and the ore located by color aerogeological exploration. This provides the scientific and geologic basis for the proposed exploration project. Those characteristics are of four types:

1. Regional. It is found that practically all the important ore bodies occur in locations of regional uniqueness, and not in homogeneous ones. The empirical criteria is that the geology (rock-structure-alteration) differ markedly in two or more quadrants. This has been noted in general by Locke, Billingsley, and other geologists. However, the large regional units and trends do not define specific targets. There are factors of intermediate scale, measured in miles and tens of miles which are of equal importance. Those have not been studied and mapped in most of the Basin Range Province. They are best studied by aerial observation from 5,000 to 10,000 ft. above the terrain, where changes in pattern can be seen in ideal perspective for thousands of square miles at a flight. Several hundred hours of such observation over a region develops the ability to recognize and understand the significance of such factors. It is the combination of those broad regional and intermediate factors which determine the potential target areas of 20 to 100 sq. mi. in which the ore deposit will occur. The large scale, vertical, stereoscopic color air photography of such target areas are the necessary basis for the next phases of study.

22 cont.

2. Major Break. It is generally found that one major break or fault system controls the main hydrothermal activity which leads to the formation of the ore bodies. Sometimes this can be seen directly from aerial or ground study. However, often the nature and significance of the major break can be determined only after a detailed study of the fracture--alteration patterns which can be seen in the color stereoscopic models. It has been found that usually such color aerogeological study provides vital information to the prediction of the ore bodies which is not gained by ground studies over several years.

3. Hydrothermal Alteration. The bulk and types of hydrothermal alteration is highly important in analyzing and evaluating an area for the location and importance of the ore bodies. It is found that usually a great bulk of hydrothermal alteration, especially of a "digestive" nature is associated with important ore bodies, and that the ore bodies occur in rational position within the ellipsoids of alteration. This is true whether there is one phase of alteration; the location of the ore bodies does not conflict with the general alteration patterns. The ore location is in direct relation to the stronger breaks and the larger, stronger, and later pre-mineral or co-mineral hydrothermal alterations.

4. Specific Mineralization. The fourth type of information indicative of the location, size, grade, and explorability of ore bodies are those distinctive of mineralization much smaller in amount than the general alteration ellipsoids, and more closely related to the valuable mineralization. This includes, of course, the weathered expressions of the valuable mineralization itself. Such features are often quite inconspicuous, and have been generally overlooked by conventional ground exploration methods. However, they usually show to excellent advantage in the color stereoscopic photographic models, and may lead directly to discoveries of near surface ore, as for example, a fluorspar discovery by the writer in a thoroughly prospected area near Baxter's fluorspar mine near Broken Hills, Nevada. Those traces of mineralization also point out the ore bodies at depth, as for example, the distinctive weathered manganese-siderite bloom over the ore channel which is 1700 ft. below in the Pioche district. This was found in a recent study, and apparently had not been recognized and evaluated previously. Copper gossans are often very distinctive, and the recognizeability and fineness of discrimination of such by the color photo study (with sufficient experience) is remarkable.

The combination of sufficiently large size and grade of these types of regognizable characteristics show the size, grade, and location of the ore bodies. In fact, is is the only systematic effective approach to exploration to ore bodies known to the writer at this time. It is possible to cover a large region, select analyze and evaluate targets, and predict accurately, the location, size, and grade of an ore body, and the best methods for proving it by ground exploration methods.

22 cont.

To be sure, the more that a region is observed and studied, the more accurately the important identifying characteristics and their values can be determined. The writer has been fortunate in having nearly ten years of such study between flying and photographic work in the Air Forces and the present four year exploration research project. It may not be out of place to mention that brief, casual, desultory studies more often lead to negative results than to positive ones, and has led to the opinion by some that such methods are not of value. Only more work along such lines by other workers, properly qualified, and the publication of the results of such studies leading to discoveries by the writer will establish the value of the methods.

All ground examinations based on such aerial observation and color photographic study have demonstrated that the values of mineralization are where predicted, and has led to actual valuable discoveries, on which only one block of ground has been taken up because of lack of operating capital for ground work this past two years (in part due to the 1949 recession.)

The writer was faced with two alternatives in 1949. To carry out the larger scale basic regional studies, which would eventually lead to important discoveries, or to engage in the promotion and development of small discoveries. At the expense of insecurity and immediate financial discomfitures it was decided to attempt the more important line of activity, in the regional study, and the selection and study of important mineralized targets to prepare for ground exploration when the economic environment for mining exploration was improved and venture capital available. The present response of the DMA and their possible encouragement of such basic development of rapid, efficient exploration methods will determine whether my decision was the correct one. For at this time the DMA is responsible for creation of a favorable exploration venture capital environment by its matching funds program. The implementation of the contemplated exploration activities based on the research and findings of the writer will be primarily based on the interest of the DMA. If it is borne out by discoveries under the exploration program (which the writer has every reason to anticipate) it will stimulate a great deal of such work by others and should result in several important discoveries within the next few years.

The reason for setting up a program based on ten targets, is that with the best of information, there are often complicating technical, economic, and logistic factors which mitigate against the completion of discovery activities on any particular target. It is necessary to have a sufficient number of well selected targets that at least one will be completed readily to pay for the cost of the program. It will probably develop in future activities that a fairly definite percentage of production will be the exploration budget--from five to ten per cent. Another important consideration is that the targets are large enough in size (under present conditions probably at least $10,000,000 potential) so that one discovery will pay for exploration on several targets.

22 cont.

The past four years study has resulted in the delineation of at least twenty such targets (of more than $10,000,000 potential, of which ten will be all that can be covered under the present project. There are some which can be established by very near surface work, such as bulldozing, or short prospect shaft or adit. They all include ore bodies which will be established by drilling or other testing within 500 ft. of the surface. A larger exploration budget would be necessary to consider deeper targets.

23. It is not possible to make an itemized statement of costs, since the size and and nature of the project depends on the DMA participation and encouragement. The costs will be in keeping with current good exploration practise.

24. The time schedule for the project is also not determinable in advance. Some targets may require two weeks for initial exploration, some two or three months. Upon approval of the exploration project work can be started at once on acquiring the ground and doing surface examination and testing. As soon as personnel and equipment can be obtained drilling and subsurface testing will begin. It is anticipated that one diamond drill crew will be kept busy during most of the life of the project.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA 1539 X

Date received 6-4-51

Participation

Philip A. Laylandor
Box 241
Fallon, Nevada

Name and address of applicant

Date 25 May 1951

FILL IN THIS BLOCK

Date of application 25 May 1951

Estimated cost $250,000.00

Mineral or metal Strategic

Percentage of Government participation 50%

Location of mine Basin Range Province, Geological Exploration Project, covering ten areas.

Date of filing MF-100 Advised by D.M. not required

DMA Docket Number, if available 1537 X

INSTRUCTIONS

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

THE APPLICANT

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

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

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

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

16—64067-1

THE PROPERTY

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

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

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

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

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

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

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

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

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

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

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

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

THE REQUIREMENTS AND COSTS

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

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

CERTIFICATION

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

(SCIENTIFIC EXPLORATION Co.)
(Name of company)

By Philip R. Layland
(Signature of authorized official)

25 May 1951
(Date)

(PRES)
(Title)

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

*Same as footnote on page 1.

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

Application for Aid for an Exploration Project Pursuant to Mineral Order 5, Under Defense Production Act of 1950.

The Applicant

1. The applicant is an individual. However, he owns a Nevada corporation "The Scientific Exploration Company", under which for business reasons it may be adviseable to carry out the exploration project.

4. The business experience is that gained by organising and operating the exploration research project for the past four years. Other experience and qualification is graduation from U. C. Berkeley, Calif. 1940 in Chemistry with minor in Geology, more than four years flying and aerial photographic work in the AAF during the War, completion of nearly all work towards PhD. at Stanford University since the War (M. S. in Geology there in 1950.) Prior to the War spent more than two years doing conventional mining and exploration work with my father, a Mining Engineer.

5. The applicant is the owner of the property and materials for the aerogeological and field examination part of the project, including airplane, aerial cameras, color film new and exposed, truck and field equipment.

6. No encumbrances.

8. Current financial status is solvency, with present income by consulting work until proposed exploration project is activated.

9. Applicant has invested more than $40,000 and four years time on the project to date (with savings of more than $70,000 by obtaining surplus materials and equipment.) Since this investment is one and the same with the proposed project (which is essentially ground exploration work based on the four years research and finding of targets for such exploration) it is hoped that credit for such investment is granted by the DMA under their matching funds principle. However, besides that, present favorable contacts with venture mining capital developed over the past three years promise whatever amount of money up to $200,000 will be required to match DMA funds. Such amounts of money cannot be firmly subscribed prior to determining the extent of the DMA participation, as the DMA is the deciding factor at this time what the scale of the project will be, or whether it will be activated at all for that matter.

10 to 19. The properties which will be a part of the exploration project are not now taken up. Since such is at present largely open ground (although obtaining some options may be necessary) specific details concerning such properties cannot be included in this present application, for obvious reasons. The properties to be acquired are defined by studies of the past four years. Taking up of the properties will be part of the exploration project.

The Exploration

20. The exploration will be conducted for those important strategic minerals and metals which occur in the Basin Range Province, including copper, zinc, lead, fluorspar, tungsten, etc.

21. The exploration program is to be completed within the next two years. It will be in part a continuation of the present aerogeological work which includes aerial reconnaisance and selection of targets, accomplishing large scale vertical stereoscopic color air photography, and study of same with ground checking of findings. The main emphasis and expenses of the project will be those activities beyond the geological work, including taking up the ground, sampling, assaying, bulldozing, trenching, drilling and prospect mining activities which are necessary to prove an ore body. The targets will be covered by from ten to forty claims apiece, for the ten targets. By the color aerogeologic method of approach in the exploration project, the precise nature, location of target, and amount of such field work necessary to define it can be planned in detail prior to starting such work, which means much greater speed, efficiency, and effectiveness.

22. The geological basis for the project are those geological discoveries made during the past four study of thousands of square miles of mineralized ground in the Basin Range Province, including many important mining districts, such as Bingham, Tintic, Pioche, Tonapah, San Manuel, Tombstone, Johnson's Camp, Patagonia, Miami-Globe, Superior, Ray, Bradshaw Mts., Brucite, Tybo, Manhattan, and many other known and potential mineralized areas.

Such studies have established that all such mineralized areas and ore deposits have distinctive, recognizeable characteristics, by which they can be recognized and the ore located by color aerogeological exploration. This provides the scientific and geologic basis for the proposed exploration project. Those characteristics are of four types:

1. Regional. It is found that practically all the important ore bodies occur in locations of regional uniqueness, and not in homogeneous ones. The empirical criteria is that the geology (rock-structure-alteration) differ markedly in two or more quadrants. This has been noted in general by Locke, Billingsley, and other geologists. However, the large regional units and trends do not define specific targets. There are factors of intermediate scale, measured in miles and tens of miles which are of equal importance. Those have not been studied and mapped in most of the Basin Range Province. They are best studied by aerial observation from 5,000 to 10,000 ft. above the terrain, where changes in pattern can be seen in ideal perspective for thousands of square miles at a flight. Several hundred hours of such observation over a region develops the ability to recognize and understand the significance of such factors. It is the combination of those broad regional and intermediate factors which determine the potential target areas of 20 to 100 sq. mi. in which the ore deposit will occur. The large scale, vertical, stereoscopic color air photography of such target areas are the necessary basis for the next phases of study.

22 cont.

2. Major Break. It is generally found that one major break or fault system controls the main hydrothermal activity which leads to the formation of the ore bodies. Sometimes this can be seen directly from aerial or ground study. However, often the nature and significance of the major break can be determined only after a detailed study of the fracture--alteration patterns which can be seen in the color stereoscopic models. It has been found that usually such color aerogeological study provides vital information to the prediction of the ore bodies which is not gained by ground studies over several years.

3. Hydrothermal Alteration. The bulk and types of hydrothermal alteration is highly important in analyzing and evaluating an area for the location and importance of the ore bodies. It is found that usually a great bulk of hydrothermal alteration, especially of a "digestive" nature is associated with important ore bodies, and that the ore bodies occur in rational position within the ellipsoids of alteration. This is true whether there is one phase of alteration; the location of the ore bodies does not conflict with the general alteration patterns. The ore location is in direct relation to the stronger breaks and the larger, stronger, and later pre-mineral or comineral hydrothermal alterations.

4. Specific Mineralization. The fourth type of information indicative of the location, size, grade, and explorability of ore bodies are those distinctive of mineralization much smaller in amount than the general alteration ellipsoids, and more closely related to the valuable mineralization. This includes, of course, the weathered expressions of the valuable mineralization itself. Such features are often quite inconspicuous, and have been generally overlooked by conventional ground exploration methods. However, they usually show to excellent advantage in the color stereoscopic photographic models, and may lead directly to discoveries of near surface ore, as for example, a fluorspar discovery by the writer in a thoroughly prospected area near Baxter's fluorspar mine near Broken Hills, Nevada. Those traces of mineralization also point out the ore bodies at depth, as for example, the distinctive weathered mangano-siderite bloom over the ore channel which is 1700 ft. below in the Pioche district. This was found in a recent study, and apparently had not been recognized and evaluated previously. Copper gossans are often very distinctive, and the recognizeability and fineness of discrimination of such by the color photo study (with sufficient experience) is remarkable.

The combination of sufficiently large size and grade of those types of regognizable characteristics show the size, grade, and location of the ore bodies. In fact, is is the only systematic effective approach to exploration to ore bodies known to the writer at this time. It is possible to cover a large region, select analyze and evaluate targets, and predict accurately, the location, size, and grade of an ore body, and the best methods for proving it by ground exploration methods.

22 cont.

To be sure, the more that a region is observed and studied, the more accurately the important identifying characteristics and their values can be determined. The writer has been fortunate in having nearly ten years of such study between flying and photographic work in the Air Forces and the present four year exploration research project. It may not be out of place to mention that brief, casual, desultory studies more often lead to negative results than to positive ones, and has led to the opinion by some that such methods are not of value. Only more work along such lines by other workers, properly qualified, and the publication of the results of such studies leading to discoveries by the writer will establish the value of the methods.

All ground examinations based on such aerial observation and color photographic study have demonstrated that the values of mineralization are where predicted, and has led to actual valuable discoveries, on which only one block of ground has been taken up because of lack of operating capital for ground work this past two years (in part due to the 1949 recession.)

The writer was faced with two alternatives in 1949. To carry out the larger scale basic regional studies, which would eventually lead to important discoveries, or to engage in the promotion and development of small discoveries. At the expense of insecurity and immediate financial discomfitures it was decided to attempt the more important line of activity, in the regional study, and the selection and study of important mineralized targets to prepare for ground exploration when the economic environment for mining exploration was improved and venture capital available. The present response of the DMA and their possible encouragement of such basic development of rapid, efficient exploration methods will determine whether my decision was the correct one. For at this time the DMA is responsible for creation of a favorable exploration venture capital environment by its matching funds program. The implementation of the contemplated exploration activities based on the research and findings of the writer will be primarily based on the interest of the DMA. If it is borne out by discoveries under the exploration program (which the writer has every reason to anticipate) it will stimulate a great deal of such work by others and should result in several important discoveries within the next few years.

The reason for setting up a program based on ten targets, is that with the best of information, there are often complicating technical, economic, and logistic factors which mitigate against the completion of discovery activities on any particular target. It is necessary to have a sufficient number of well selected targets that at least one will be completed readily to pay for the cost of the program. It will probably develop in future activities that a fairly definite percentage of production will be the exploration budget--from five to ten per cent. Another important consideration is that the targets are large enough in size (under present conditions probably at least $10,000,000 potential) so that one discovery will pay for exploration on several targets.

22 cont.

The past four years study has resulted in the delineation of at least twenty such targets (of more than $10,000,000 potential, of which ten will be all that can be covered under the present project. There are some which can be established by very near surface work, such as bulldozing, or short prospect shaft or adit. They all include ore bodies which will be established by drilling or other testing within 500 ft. of the surface. A larger exploration budget would be necessary to consider deeper targets.

23. It is not possible to make an itemized statement of costs, since the size and and nature of the project depends on the DMA participation and encouragement. The costs will be in keeping with current good exploration practise.

24. The time schedule for the project is also not determinable in advance. Some targets may require two weeks for initial exploration, some two or three months. Upon approval of the exploration project work can be started at once on acquiring the ground and doing surface examination and testing. As soon as personnel and equipment can be obtained drilling and subsurface testing will begin. It is anticipated that one diamond drill crew will be kept busy during most of the life of the project.

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. 15378

Commodity COPPER

Total Amount $250,000.00

Govt. Participation $125,000.00

1. Name and Address of Applicant PHILIP A. LAYLANDER
BOX 241, FALLON NEVADA

2. Location of Property NO PROPERTY AS YET

3. Mineral or metal COPPER AMONG OTHERS Is it listed in Section 9 of MO-5?

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good

b) Poor

c) None Does not qualify under Secs. 4 & 5 MO-5

d) Don't know—needs field examination

e) Is there an alternative and favorable project?
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? No
(question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached? ?

Does the lease have sufficient time to run to cover a future productive period? —

*question numbers are those of MF-103

7. Are subordination agreements necessary? ?

a) MF-201? —

b) MF-202 —

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower ?

b) Equipment and supplies ?
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* ?

d) Water (question 13)* ?

e) Power (question 13)* ?

Is a field check needed on any of these points? YES ALL

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* PROBABLY

Is a field check needed on this point? NO

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? NO

If not, are there sufficient data given so that you can describe the project? NO If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? NO

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? NO

If not, what part of it is? That part when they go to geological surface exploration

Is this part a worthwhile exploration project? Yes

d) Are the cost estimates detailed? No

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? No If so, attach a draft.

e) Are the cost estimates reasonable? ?

f) Should more information be requested from applicant? Yes

g) Is a field examination necessary to complete Exhibit A? Yes

11. Exhibit B (question 23-d)*

a) Is it applicable? ? Does not list costs

b) If so, are sufficient data furnished? No If so, attach a draft.

c) Is a field check needed? Yes

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? ? Does not list cost

b) Sufficient data? — If so, attach a draft.

c) Are rents and charges reasonable? —

d) Is a field check needed? Yes

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? No

b) Is the schedule adequate for the work proposed? ?

c) Is the schedule excessive for the work proposed? ?

d) Are the proposed wages and salaries reasonable? No Salaries Given

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? ? No Costs Given

b) Sufficient data? No

c) Reasonable? —

d) Field check needed? Yes

15. In your judgment, can the proposed work be done in the proposed time? ?

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? Report this as it can not be classified as exploration under Sec 4 and Sec. 8 MO-5

Reviewed by: [illegible]
D.P. Wachsmuth

Date 27 Jun 51

97692

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. 15371

Commodity COPPER

Total Amount $250,000.00

Govt. Participation $125,000.00

1. Name and Address of Applicant PHILIP A. LAYLANDER

BOX 241, FALLON NEVADA

2. Location of Property NO PROPERTY AS YET

3. Mineral or metal COPPER ANTIMONY ERS Is it listed in Section 9 of MO-5?

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good

b) Poor

c) None Does not qualify under Secs 4 & 8 MO-5

d) Don't know—needs field examination

e) Is there an alternative and favorable project? (If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? No (question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached? ?

Does the lease have sufficient time to run to cover a future productive period? —

*question numbers are those of MF-103

7. Are subordination agreements necessary? ?

a) MF-201? —

b) MF-202 —

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower ?

b) Equipment and supplies ?
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* ?

d) Water (question 13)* ?

e) Power (question 13)* ?

Is a field check needed on any of these points? Yes All

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Doubtful

Is a field check needed on this point? No

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? No

If not, are there sufficient data given so that you can describe the project? No If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? No

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? No

If not, what part of it is? [illegible]

Is this part a worthwhile exploration project? Yes

d) Are the cost estimates detailed? No

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? No If so, attach a draft.

e) Are the cost estimates reasonable? ?

f) Should more information be requested from applicant? Yes

g) Is a field examination necessary to complete Exhibit A? Yes

11. Exhibit B (question 23-d)*

a) Is it applicable? ? Does not list costs

b) If so, are sufficient data furnished? No If so, attach a draft.

c) Is a field check needed? Yes

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? ? Does not list cost

b) Sufficient data? - If so, attach a draft.

c) Are rents and charges reasonable? -

d) Is a field check needed? Yes

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? No

b) Is the schedule adequate for the work proposed? ?

c) Is the schedule excessive for the work proposed? ?

d) Are the proposed wages and salaries reasonable? No Salaries Given

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? ? No costs GIVEN

b) Sufficient data? No

c) Reasonable? —

d) Field check needed? Yes

15. In your judgment, can the proposed work be done in the proposed time? ?

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? Report this as it can not be classified as exploration under Sec. 4 and Sec. 8. MO-5

Reviewed by: [illegible]
D P Macdaren

Date 27 Jan 51

97692