DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4810

Application
- [x] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [✓] Owner's Consent to Lien and Subordination Agreement
- [✓] Application and attachments

Right Side

- [ ] Project summary (final)
- [ ] Work Completed analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports

- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

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

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

17963

Form MF–103
Revised Feb. 1957

RECEIVED
OCT 15 1957
U. S. G. S.
WASH

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42–R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

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

Ralph Gillispie,
Box 104
Morton, Washington

APPLICANT NOT TO USE THIS BLOCK

Docket Number: 4810
Date Received:
Government Participation %:
Region:
Division Code:

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [ ]
- Partnership [X]
- Other (Specify) [ ]

State in which firm is organized:

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
Ralph Gillispie	Box 104	Lessee No. 6766
John R. Forrest	Box 564	Lessee 6780
Wm. B Gillispie	Box 214	Lessee 6813

Mineral(s) for which you wish to explore: Cinnabar

Estimated Cost of Project: $ 20,000

LOCATION OF PROPERTY

Name	County	State
West End Cinnabar Mine	Lewis	Wash.

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order–I, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

CERTIFICATION

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

Oct. 14, 1957.
Dated

Ralph Gillispie
BY *(Signature)*

Supervisor
Title

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

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

(b) State your interest, if any, in operations stated in 2*(a)*.

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

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

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

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

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

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

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

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

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

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

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

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

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

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

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

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work; accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

Note – No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. *(a)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 15539

Docket No. RMEA 4810

RECEIVED
OCT 15 1957
U.S.G.S.
SPOKANE, WASH.

Morton, Wash.,
Oct. 14, 1957

Dear Sir

The 3 leases are located in: Ralph Gillispie S½SW¼, Section 36 T13N R 4E W.M. of 80 acres more or less. John R. Torrest N½ SW¼ Section 36 T13 N R4E W.M. of 80 acres more or less. Wm. B. Gillispie S¼NW¼ Section 36 T13 N R4E W M of 80 acres more or less.

I, Ralph Gillispie of the three lease pardnership am the superviser. There is no liens, mortages, or other encumbrances on the property.

Except for my prospecting and former prospecting there is no work done. That is that there has been no veen found as is yet.

RECEIVED OCT 25 1967
DATE [illegible]

Years back there was ore found on the farther North West end of our leases, but was in a bad eruptive area and not in place, but was good ore. Where I want to work is not torn up, but is in place.

This region is so badly over burdened it is next to impossible to surface prospect properly, except panning the cracks where the water flows from the vein. That is what established the idea to me that the vein is in Sec. 36. There is no out croppings.

The Mines are close to Morton and easy to find.

I think the Mercury will

be shipped to the nearst broker or Chemical Co.

The tunnel work will be to crosscut the vein at nearst point that can be and still have a smelter sight and waste dump sights. There will be some road building of which I will estimate in the Buldozer work. I will do all Construction work or over seed. I have been in Cinnabar work all of my life. The work would start as soon as I have money to work with.

I would figure to be in production 6 months to 1 year after I get started to work.

I will superintend the work as my pardners are not experienced in the Cinnabar field. I am well experienced in the mining as well as the smelting.

I estimate the tunnel work at $28 a foot, and 300 feet including labor, industrail insurance, and timbers and lagging. $8400.

Bulldozer work. $1500.

Second hand Compressor, tools and drilling equipment. $5000.

Nessesary building. $500.

Smelter Complete Cost. $5000.

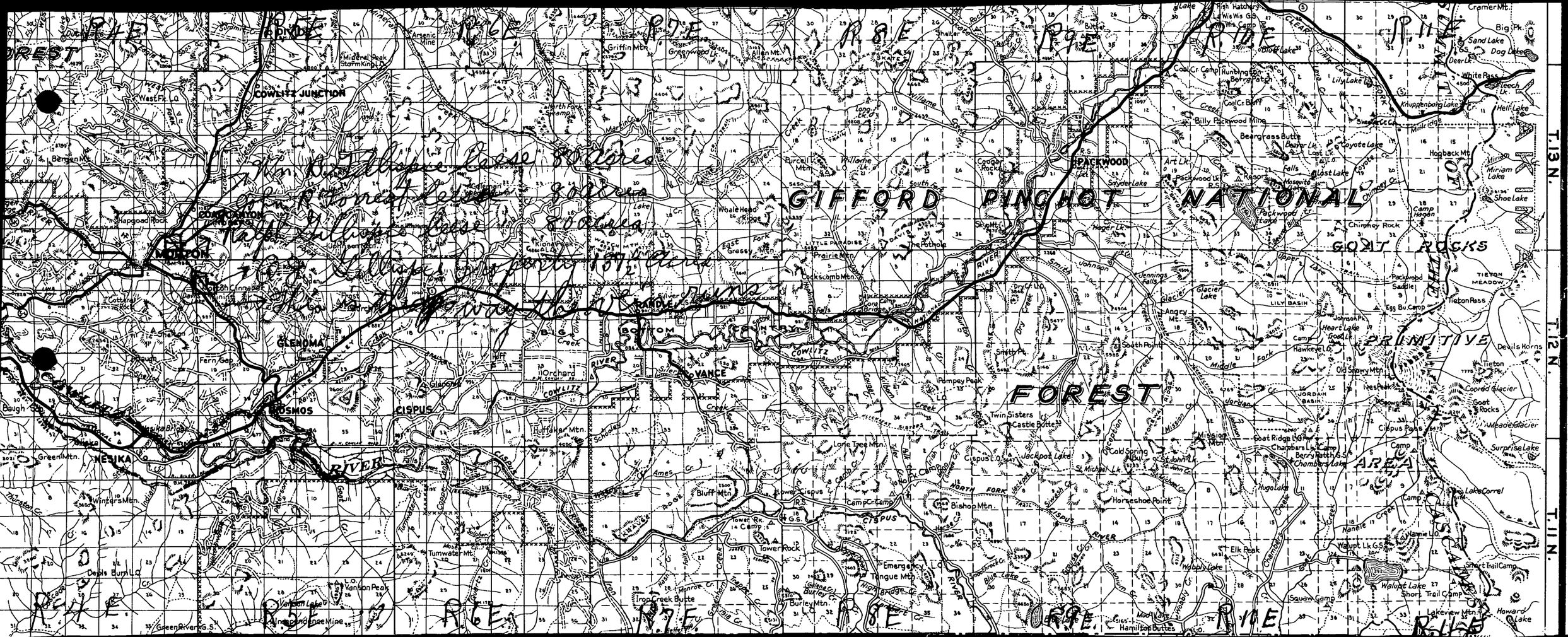
$20,400.

I think both properties will pay, but if one should not I pay back the money for both properties on which every pays.

I have a good Compressor and some drilling equipment that would amount to about $1500. I think I will be able to use it on one property or the other.

I do not have any money but am trying to sell some of my interest. So far I have been unsuccessful. I will keep trying to raise my part of the money without having to sacrifice to much of my interest I hope. I have been trying to get my fingers in this Ginsabar field for a good many years.

Yours truly
Ralph Gillispie


GIFFORD PINCHOT NATIONAL
FOREST
GOAT ROCKS
PRIMITIVE
AREA
COWLITZ JUNCTION
MORTON
GLENOMA
COSMOS
CISPUS
VANCE
BOTTOM
PACKWOOD
NESIKA
COWLITZ
RIVER
CISPUS
RIVER
T. 13 N.
T. 12 N.
T. 11 N.
R. 4 E.
R. 5 E.
R. 6 E.
R. 7 E.
R. 8 E.
R. 9 E.
R. 10 E.
R. 11 E.

CENTRAL FILE COPY
DMEA
RECEIVED OCT 25 1957

DATE	INITIALS	CODE

Form 38. S. F. No. 3658—9-55—2M. 43155.

ORIGINAL

VOL. 31 PAGE 324

579296

STATE OF WASHINGTON
OFFICE OF
COMMISSIONER OF PUBLIC LANDS

MINERAL PROSPECTING LEASE

THIS INDENTURE, Made this 28th *day of* May, 1957, *by and between the State of Washington as lessor and* RALPH GILLISPIE *as lessee*

WITNESSETH, That the State of Washington, for and in consideration of the sum of Ten and no/100 ($10.00) *Dollars, which has been paid by the lessee does hereby lease, demise, and let unto said lessee*, his *heirs, successors and assigns, the following described* School *land, situate in said state, county of* Lewis, *and particularly described as follows, to-wit:*

S½SW¼, Section 36, Township 13 North, Range 4 East, W.M., containing 80 acres, more or less, according to the government survey thereof.

Subject to the rights of the holder of Timber Bill of Sale No. 5249 heretofore issued under Application No. 24790.

The lessee will be required to perform work or make improvements upon the leased premises to an amount of not less than fifty dollars ($50.00) for each forty (40) acres included in said lease and will file with the Commissioner of Public Lands an affidavit of the performance of such work when application is made for a renewal of any mineral prospecting lease as provided by law.

TO HAVE AND TO HOLD unto the use of the said party of the second part for the term of two (2) years from the date hereof for the purpose of prospecting for and developing any minerals, except coal, oil and natural gas, that may be found upon said premises, and for no other purpose, and subject to the terms and conditions hereinafter set out.

~~*The lessee may cut and use the timber on said premises necessary for fuel and in the construction thereon of buildings required in the operation of any mine or mines on said premises and for drains, tramways and supports for such mine or mines, but for no other purpose.*~~ *The lessee may during the term of this lease develop any mine or mines upon said premises and may remove not more than five (5) tons of ore therefrom for assaying and testing purposes, and shall remove no ore for any other purpose. Within sixty (60) days prior to the expiration of this lease, if this be the first lease of said premises issued to said lessee or his predecessors in interest, the lessee may apply to the commissioner of public lands of the State of Washington for a new lease thereof, and shall thereby acquire the right to such new lease upon such terms as may be then provided by law. At any time prior to the expiration of this lease or of any lease issued in renewal hereof, the holder thereof shall have the right to apply to the said commissioner of public lands for a contract and to obtain from said commissioner of public lands a contract which shall bind the State of Washington according to the terms of chapter 255 of the Session Laws of 1927.*

The State of Washington reserves the right, by and through its proper officer or officers, or otherwise, to grant such easements for rights of way of necessity upon, over, through or across said lands or any part thereof as is now or may hereafter be authorized by law. The said lands are leased subject to all the provisions of chapter 255 of the Session Laws of 1927, which shall be as binding upon the lessee as though set out at length herein.

The lessee shall not sublet the above described premises or transfer possession thereof to any other party without the approval of the commissioner of public lands in writing first had and obtained.

It is agreed by the lessee that a breach of any of the conditions herein contained or the doing of any act hereinabove prohibited shall work a forfeiture of all his rights under this lease, and that the same may thereupon be cancelled by the lessor through its commissioner of public lands.

Executed in duplicate the day and year above written.

Witnesses as to Lessee:

L W Bagley

L. R. Cook

THE STATE OF WASHINGTON

By Bert Cole
Commissioner of Public Lands.

Lessee.

Ralph Gillispie
Lessee.

App. No. 50616
2232-33

Filed for Record 10-14-57 at 9 o'clock A M
Request of Ralph Gillispie
W. G. SHEARER, Lewis County Auditor
Box 104
Morton, Wash.

P. O. Address Box 104
Morton, Washington

TAKE NOTICE: This is merely a prospecting lease and does not permit mining and removal of minerals.

OFFICIAL RECORD
COPY
RECEIVED OCT 25 1957

DATE	INITIALS	CODE

Form 36. S. F. No. 3658—9-55—2M. 43155.

ORIGINAL

579295

VOL. 31 PAGE 323

STATE OF WASHINGTON
OFFICE OF
COMMISSIONER OF PUBLIC LANDS

MINERAL PROSPECTING LEASE

THIS INDENTURE, Made this 28th *day of* May, 1957, *by and between the State of Washington as lessor and* JOHN R. FORREST *as lessee*

WITNESSETH, That the State of Washington, for and in consideration of the sum of Ten and no/100 ($10.00) *Dollars, which has been paid by the lessee does hereby lease, demise, and let unto said lessee, his heirs, successors and assigns, the following described* School *land, situate in said state, county of* Lewis, *and particularly described as follows, to-wit:*

N½SW¼, Section 36, Township 13 North, Range 4 East, W.M., containing 80 acres, more or less, according to the government survey thereof.

The lessee will be required to perform work or make improvements upon the leased premises to an amount of not less than fifty dollars ($50.00) for each forty (40) acres included in said lease and will file with the Commissioner of Public Lands an affidavit of the performance of such work when application is made for a renewal of any mineral prospecting lease as provided by law.

TO HAVE AND TO HOLD unto the use of the said party of the second part for the term of two (2) years from the date hereof for the purpose of prospecting for and developing any minerals, except coal, oil and natural gas, that may be found upon said premises, and for no other purpose, and subject to the terms and conditions hereinafter set out.

~~*The lessee may cut and use the timber on said premises necessary for fuel and in the construction thereon of buildings required in the operation of any mine or mines on said premises and for drain tramways and supports for such mine or mines, but for no other purpose.*~~ *The lessee may during the term of this lease develop any mine or mines upon said premises and may remove not more than five (5) tons of ore therefrom for assaying and testing purposes, and shall remove no ore for any other purpose. Within sixty (60) days prior to the expiration of this lease, if this be the first lease of said premises issued to said lessee or his predecessors in interest, the lessee may apply to the commissioner of public lands of the State of Washington for a new lease thereof, and shall thereby acquire the right to such new lease upon such terms as may be then provided by law. At any time prior to the expiration of this lease or of any lease issued in renewal hereof, the holder thereof shall have the right to apply to the said commissioner of public lands for a contract and to obtain from said commissioner of public lands a contract which shall bind the State of Washington according to the terms of chapter 255 of the Session Laws of 1927.*

The State of Washington reserves the right, by and through its proper officer or officers, or otherwise, to grant such easements for rights of way of necessity upon, over, through or across said lands or any part thereof as is now or may hereafter be authorized by law. The said lands are leased subject to all the provisions of chapter 255 of the Session Laws of 1927, which shall be as binding upon the lessee as though set out at length herein.

The lessee shall not sublet the above described premises or transfer possession thereof to any other party without the approval of the commissioner of public lands in writing first had and obtained.

It is agreed by the lessee that a breach of any of the conditions herein contained or the doing of any act hereinabove prohibited shall work a forfeiture of all his rights under this lease, and that the same may thereupon be cancelled by the lessor through its commissioner of public lands.

Executed in duplicate the day and year above written.

Witnesses as to Lessee:

Marion A. Stinson

Tina Stinson

THE STATE OF WASHINGTON

By [signature] Commissioner of Public Lands.

Peter Cole

~~Lessee.~~

[signature] Lessee.

Filed for Record 10-14-57 9 00 a M

Request of Ralph Gillispie

W. G. SHEARER, Lewis County Auditor

Po Box 104
Morton, Wash.

App. No. 50617
2233-36

P. O. Address Box 564

Morton, Washington

TAKE NOTICE: This is merely a prospecting lease and does not permit mining and removal of minerals.

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 25 1957

DATE	INITIALS	CODE

DATE | CODE

Form 36. S. F. No. 3658—9-55—2M. 43155.

579297

ORIGINAL

VOL. 31 PAGE 325

STATE OF WASHINGTON
OFFICE OF
COMMISSIONER OF PUBLIC LANDS

MINERAL PROSPECTING LEASE

THIS INDENTURE, Made this 28th *day of* May, 19 57, *by and between the State of Washington as lessor and* WILLIAM GILLISPIE *as lessee*

WITNESSETH, That the State of Washington, for and in consideration of the sum of Ten and no/100 ($10.00) *Dollars, which has been paid by the lessee does hereby lease, demise, and let unto said lessee, his heirs, successors and assigns, the following described* School *land, situate in said state, county of* Lewis, *and particularly described as follows, to-wit:*

S½NW¼, Section 36, Township 13 North, Range 4 East, W.M., containing 80 acres, more or less, according to the government survey thereof.

Subject to easement for right of way for state road acquired through the filing of State Road Plat No. 400.

Subject to easement for right of way for railroad heretofore granted under Application No. 7318.

The lessee will be required to perform work or make improvements upon the leased premises to an amount of not less than fifty dollars ($50.00) for each forty (40) acres included in said lease and will file with the Commissioner of Public Lands an affidavit of the performance of such work when application is made for a renewal of any mineral prospecting lease as provided by law.

TO HAVE AND TO HOLD unto the use of the said party of the second part for the term of two (2) years from the date hereof for the purpose of prospecting for and developing any minerals, except coal, oil and natural gas, that may be found upon said premises, and for no other purpose, and subject to the terms and conditions hereinafter set out.

~~*The lessee may cut and use the timber on said premises necessary for fuel and in the construction thereon of buildings required in the operation of any mine or mines on said premises and for drains, tramways and supports for such mine or mines, but for no other purpose.*~~ *The lessee may during the term of this lease develop any mine or mines upon said premises and may remove not more than five (5) tons of ore therefrom for assaying and testing purposes, and shall remove no ore for any other purpose. Within sixty (60) days prior to the expiration of this lease, if this be the first lease of said premises issued to said lessee or his predecessors in interest, the lessee may apply to the commissioner of public lands of the State of Washington for a new lease thereof, and shall thereby acquire the right to such new lease upon such terms as may be then provided by law. At any time prior to the expiration of this lease or of any lease issued in renewal hereof, the holder thereof shall have the right to apply to the said commissioner of public lands for a contract and to obtain from said commissioner of public lands a contract which shall bind the State of Washington according to the terms of chapter 255 of the Session Laws of 1927.*

The State of Washington reserves the right, by and through its proper officer or officers, or otherwise, to grant such easements for rights of way of necessity upon, over, through or across said lands or any part thereof as is now or may hereafter be authorized by law. The said lands are leased subject to all the provisions of chapter 255 of the Session Laws of 1927, which shall be as binding upon the lessee as though set out at length herein.

The lessee shall not sublet the above described premises or transfer possession thereof to any other party without the approval of the commissioner of public lands in writing first had and obtained.

It is agreed by the lessee that a breach of any of the conditions herein contained or the doing of any act hereinabove prohibited shall work a forfeiture of all his rights under this lease, and that the same may thereupon be cancelled by the lessor through its commissioner of public lands.

Executed in duplicate the day and year above written.

Witnesses as to Lessee:

Gerald Swain

Sidney S. Benton

THE STATE OF WASHINGTON

By E. H. Cole
Commissioner of Public Lands.

William Gillispie
Lessee.

Lessee.

App. No. 50615 Filed for Record 12-5-7 9 02 A M *P. O. Address* Box 214

2232-32 Request of Ralph Gillispie

W. G. SHEARER, Lewis County Auditor

Box 104
Morton, Wash.

Morton, Washington

TAKE NOTICE: This is merely a prospecting lease and does not permit mining and removal of minerals.

OFFICIAL USE ONLY

DATE	TO WHO	CODE

DATE

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 8 1957

DATE	INITIALS	CODE
8/8	WSM	400

August 5, 1957

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: New Application (Mercury)
Ralph Gillispie
West End Cinnabar Mine
Lewis County, Washington

Dear Mr. Selfridge:

Enclosed are the original and two copies of an application for DMEA assistance to explore for mercury in Lewis County, Washington.

The application includes a sketch showing the location of the applicant's and other properties. There is nothing to indicate what the applicant proposes to do to explore his property, or what he estimates the project to cost; no assays are offered to indicate what grade of ore might be expected, and no copies of his lease are included.

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I

Enclosures

cc: USBM (2)
Geologist

OFFICIAL FILE COPY DMEA RECEIVED AUG 8 1957		
DATE	INITIALS	CODE

So. 157 Howard Street
Spokane 4, Washington

August 5, 1957

Mr. Ralph Gillispie
Box 104
Morton, Washington

Re: New Application (Mercury)
West End Cinnabar Mine
Lewis County, Washington

Dear Mr. Gillispie:

We have received your application for DMEA assistance and forwarded it to our Washington, D. C. office. You should hear from them soon.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I

cc: DMEA (2)
USBM (2)
Geologist

RECEIVED
AUG 2 1957
U. S. G. S.
SPOKANE, WASH

Form MF-103
Revised Feb. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

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

Ralph Gillespie
Box 104
Morton, Wash.

RECEIVED AUG 8 1957 D.M.E.A.

APPLICANT NOT TO USE THIS BLOCK

Docket Number	4810
Date Received	8/8/57
Government Participation %	
Region	I
Division Code	400

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [ ]
- Partnership [X]
- Other (Specify) [ ]

State in which firm is organized

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
John Forrest	Morton Wash.	West End Cinnabar Mine
Wm B Gillespie	" "	
Ralph Gillespie	Morton, Wash.	Supervisor

Mineral(s) for which you wish to explore: Cinnabar

Estimated Cost of Project: $ 20,000

LOCATION OF PROPERTY

Name	County	State
Sec 36 T 13 N.	Lewis	Wash.

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order-I, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

CERTIFICATION

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

Aug. 1, 1957
Dated

Ralph Gillespie Supervisor
BY (Signature)

West end Cinnabar Mine
Title

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

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

(b) State your interest, if any, in operations stated in 2*(a)*.

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

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

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

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

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

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

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

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

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

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

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

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

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

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

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

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

Note – No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. *(a)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 15539

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 8 1957
DATE | INITIALS | CODE

Ellensburg, Wash.
Aug. 1, 1957.

Dear Sir

The Cinnabar property is located in, Sec. 36 T 13 N R 45. The property is State owned land which I am leasing. The State would only allow me 80 acres for myself so I took in John Forrest my Soninlaw and Wm. Gillispie a brother as I wanted more than 80 acres leased. I have been in Cinnabar all of my life and I think after a lot of prospecting that this is valuable property.

There is no work been done on this property. So I will have to start ~~from scra~~ from the bottom.

As I only have one map here I will draw a map of this property and other properties which have produced Mercury, especially the O.J. Gillispie's property which is my dads property. I have recently managed that property for a group of Boeings workers who pooled some money together. But I did not have enough money to do anything with. (over)

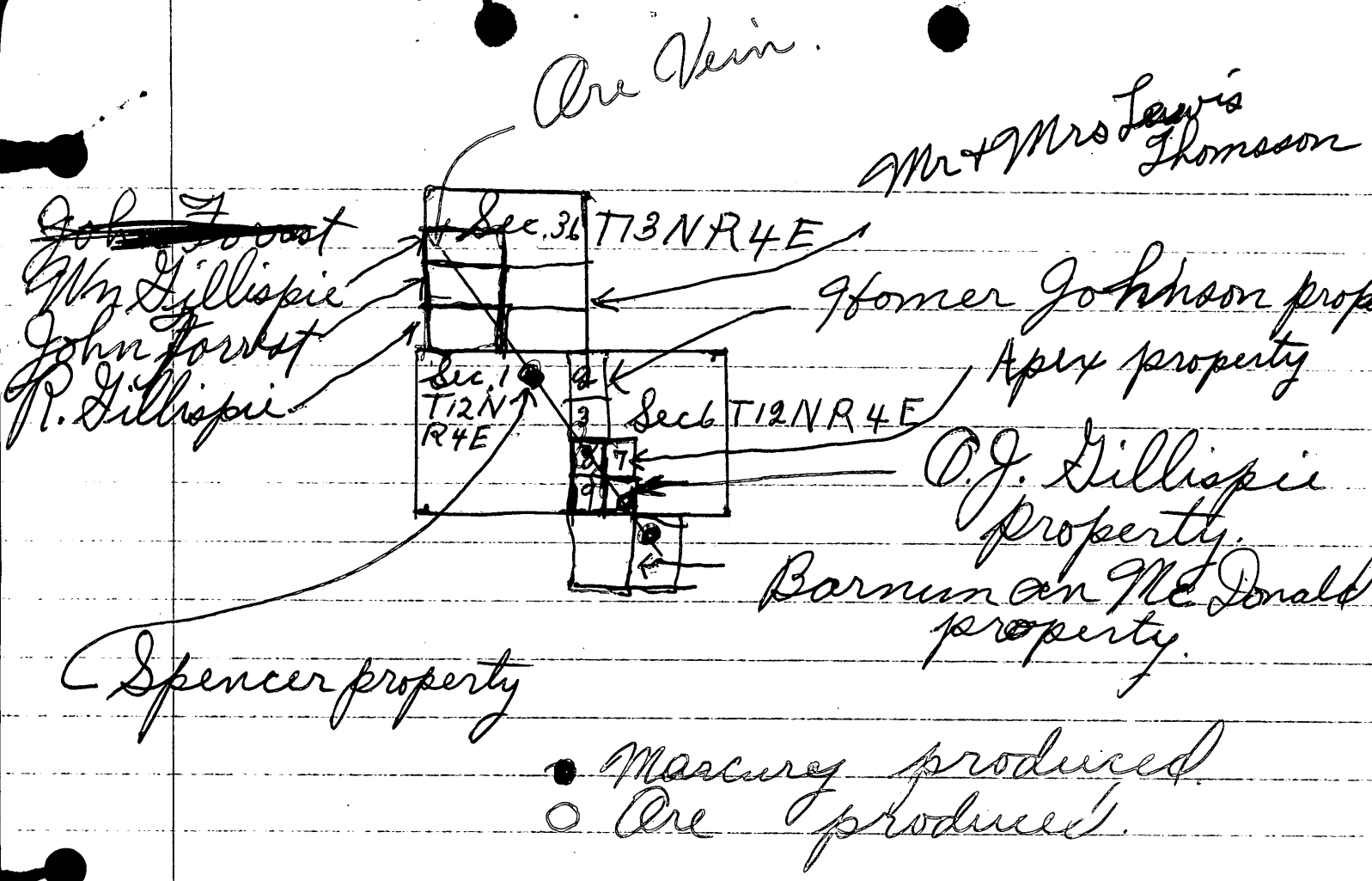
I have them in court action now, as they seem to be giving up. My dad has promised me the mine lease when he gets it back. My attorney and my dad both has said they are about to foreclose on them.

I have to sacrafice quite heavy interest to raise money if I could even raise money.

Please let me know if the Government will supply the Capital or if I will have to raise my 25 percent as I have no money as yet.

I was raised on the A. J. Gillispie property. I have superintended Cinnabar mines in California. I have also worked mines in Oregon. There is a Vancover Washington Cinnabar mine Company now trying to get me to take full Charge of their mine in Oregon.

Yours truly
Ralph Gillispie


Ore Vein.
Mr + Mrs Lewis Thomsson
~~John Forest~~
Wm Gillispie
John Forest
R. Gillispie
Sec. 36 T13NR4E
Homer Johnson property
Apex property
Sec. 1 T12N R4E
Sec 6 T12NR4E
O.J. Gillispie property.
Barnum on McDonald property.
Spencer property
Mercury produced.
Ore produced.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3-11	Chapman	400
3-11	Martin	400
3/14	Selfridge	130
3/14	Lamb	130
3/14	Nelson	130
"	Johnson	110
"	Hartendorf	100
		220

MAR 14 1958

Mr. Ralph Gillispie
Box 104
Morton, Washington

Re: Docket No. DMEA 4810 - Mercury
West End Cinnabar Prospect
Lewis County, Washington

Dear Mr. Gillispie:

Your application for exploration assistance and other data available to us in Washington concerning the referenced property have been reviewed.

Projects approved by the Defense Minerals Exploration Administration must, in its judgement, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position of the National Defense Program.

Careful study of all our information, although noting the occurrence of mercury mineralization on your property, indicates to us that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. Under these circumstances we regret to advise you that in our records we are carrying your application as denied, although your letter of January 4, 1958, to the Field Team, Region I, might have been considered as a request that the application be withdrawn.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing this property to our attention.

Sincerely yours,

Administrator

TLCHAPMAN/dlm 3-11-58
cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. I
Messrs. J. W. Pennington, USBM
T. H. Kiilsgaard, USGS

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/11	Chapman	400
3/11	Keating	400
		110
		100

March 10, 1958

MEMORANDUM

To: Administrator, DMEA

From: Division of Iron and Ferro-Alloys, DMEA

Subject: Denial of the subject application for exploration assistance in the amount of $20,400.00
Docket No. DMEA 4810 - Mercury
Ralph Gillispie
West End Cinnabar Prospect
Lewis County, Washington

A denial of the subject application is recommended by this Division, based on the following information.

The above-noted property was the subject of a request dated October 14, 1957, for exploration assistance for bulldozing, drifting and a treatment plant at a cost of $20,400. The property was examined on November 20 and 21, 1957, by Howard F. Albee, Geological Survey, accompanied by Mr. Ralph Gillispie.

Applicant: Ralph Gillispie
Box 104
Morton, Washington

Property Ownership: The West End Cinnabar property comprises a total of 240 acres in Lewis County, Washington, which the Applicant controls by prospecting leases from the State of Washington. The leases are for two years and are renewable. The lessees, dates and description of the land are as follows:

Lessee	Date	Description
William Gillipsie	5/28/57	S½NW¼. sec. 36, T. 13 N. R. 4E.
John R.Forrest	5/28/57	N½SW¼ sec. 36, T. 13 N. R. 4E.
Ralph Gillispie	5/28/57	S½SW¼ sec. 36, T. 13 N. R. 4E.
		Washington Meridian

Geology: The rocks of this area include shales with coal seams, siltstone, and tuffaceous sandstone, all intruded by basic sills, dikes and other igneous bodies. Observations indicate that mineralization is on the east limb of north-south anticline and mineralization was effected by solutions rising along fault planes controlled by varying degrees of perviousness. Three main types of ore occurrence have been mined from the District; the breccia type, the sandstone type and the inter-

section type. Cinnabar is the main mineral of the area.

History and Production: The first mineral was noted in 1913 in the seams of coal. Mercury was first produced in 1916, when 75 flasks were recovered from 47 tons of ore. Active development in the District started in 1926. The total production through 1940, was 4,999 flasks, not including five years when production was grouped with other states. The main producers in the area were the Barnum-McDonnell, and the Roy-Fisher mines.

Ore Values and Tonnage: The past values of ores mined and treated on the properties have varied from 3 to 47 pounds of mercury per ton. There are no workings or outcrops on the property from which any estimate or value of ore can be estimated.

Applicant's Proposal: The applicant proposed to bulldoze, drift 300 feet at an undetermined point and build a treatment furnace at a cost of $20,400.00.

Comments and Conclusions: The examining geologist, with concurrence of the Field Team concludes that there is no potential target on the property and recommends that the application be denied.

The Commodity Divisions of the Geological Survey and the Bureau of Mines, concur in the conclusions and recommendations of the Field Team.

W S Martin

W. S. Martin, Director
Division of Iron & Ferro-Alloys

TLCHAPMAN/foc
3-10-58
cc to: Docket
Code 400
Admr. R. File
Oper. Comm.

DMEA
RECEIVED FEB 20 1958

DATE		CODE
2/20	C	220
	WBM	400

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

February 19, 1958

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: Assistant Chief, Branch of Base Metals

Subject: Review of Field Team examination report, Docket No. DMEA 4810 (cinnabar), West End Cinnabar Mine and Docket No. DMEA 4843 (mercury), The Fern Hill Cinnabar Mine, Ralph Gillespie, Lewis County, Washington.

The applicant proposed to drift 300 feet on the West End property at a total cost of $20,400 and drift 500 feet on the Fern Hill property at a total cost of $27,800. The proposed program was indefinite and contained no information on the location of the proposed drifts nor indication of any definite exploration targets.

Examination of the properties showed that the proposed exploration of West End property was not justified; however, there is good geologic probability that exploration could discover significant reserves on the Fern Hill property. Consequently, a two-stage program consisting of bulldozing and drifting was recommended by the examiner. Later it developed that the applicant cannot get consent to lien on the Fern Hill property.

I concur with the recommendations of the Field Team that: the application in Docket No. DMEA 4810 for assistance to explore the West End property be denied and the application in Docket No. DMEA 4843 for assistance to explore the Fern Hill property be considered as withdrawn.

J. W. Pennington

Copy to: Division of Minerals
Branch of Base Metals (2)
Thor Kiilsgaard, U.S.G.S.
F. D. Lamb
Files

IN REPLY REFER TO:

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

FEB 20 1958

2/20	C	220
	WSM	400

February 14, 1958
Re: DMEA 4810 & 4843
Ralph Gillispie
West End Cinnabar Mine (4810)
Fern Hill " " (4843)
Lewis County, Washington
$20,400 (4810)
$30,000 (4843 Mercury

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team Report

The applicant requested assistance in exploring a mercury-bearing fault in two properties, the West End and Fern Mines, by bulldozing and drifting. The estimates of cost include 2 "smelters". Ore, some of it high grade, yielding upwards of 5,000 flasks of mercury has been mined in the Barnum fault breccia on the Fern Hill and McDonnell properties. By careful bending the applicant projects the fault over a mile into the West End property.

To the examiner, such an extension does not look probable and he recommends that the application (4810) be denied.

The examiner thinks bulldozing planned to trace the Opalite fault to its assumed intersection with the possible extension of the Blackwall thrust fault is warranted. If ore is found in the outcrop of the Opalite vein or at the intersection, drifting would follow. If generally successful, other similar work, as on the Roy No. 5 fault might be justified. No detailed work program is outlined.

I concur with the recommendations of the examiner, that application 4810 be denied and a staged work program be approved as for application 4843.

W. P. Williams
For N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

FEB 10 1958

DATE	INITIALS	CODE
2-10	C	220
2/14	JB	130
2/14	C	220
2/19	WSM	400

February 7, 1958

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Ralph Gillispie
Lewis County, Washington
Docket No. DMEA-4810 (Cinnabar)
West End Cinnabar Mine
and
Docket No. DMEA-4843 (Mercury)
The Fern Hill Cinnabar Mine

Dear Mr. Selfridge:

Enclosed are six copies of a memorandum report on two contiguous properties, the West End and Fern Hill, by Howard F. Albee, Geologist, U. S. Geological Survey.

The applicant could not show any evidence of a potential target on the West End property and Albee concludes that the structural and ore pattern of the Fern Hill property cannot be safely projected to the West End ground. He, therefore, recommends that the application for aid to explore this property be denied.

On the Fern Hill property considerable ore has been mined from breccia zones along faults, from sandstone beds adjacent to breccia zones, and from intersections of breccia zones with cross faults. Albee concludes that there may be such an intersection between the cinnabar-bearing Opalite fault and the Black Wall thrust fault. He, therefore, recommends a two-stage program. The first stage would consist of trenching across the Opalite fault, particularly near the projected intersection of the Opalite and Black Wall faults. If cinnabar is found in encouraging amounts at the intersection or along the Opalite fault, he recommends a second stage of drifting.

After the field examination had been made and the report nearly prepared, Mr. Gillispie in a letter dated January 4, 1958 asked that the applications be withdrawn. A few days after receiving this letter Albee and G. G. Waddell, Mining Engineer, U. S. Bureau

Reviewed by
DMEA OPERATING COMMITTEE
2-14-58
(date)

of Mines were in the area and called on Mr. Gillispie who told them that he did not mean to request withdrawal of his application, that he thought he could raise the money to pay the taxes on the land and that he would reopen the old Opalite workings within a few days. He promised Albee and Waddell that he will write the Field Team requesting reinstatement of his applications as soon as the financial problem is solved and consent to lien forms were signed. In a letter dated January 24, 1958, Mr. Gillispie advised the Field Team that he could not get the property owner to sign the consent to lien.

We concur with Albee's recommendation that the application in Docket DMEA-4810 for aid to explore on the West End property be denied.

With respect to the application in Docket DMEA-4843 for aid to explore on the Fern Hill property as the applicant cannot get consent to lien on the property, we recommend that the application be considered as withdrawn.

By Field Team, Region I

A. E. Weissenborn

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey

Stephen R. Toledo

for Wing G. Agnew, Member
U. S. Bureau of Mines

Enclosures

cc: USBM (2)
USGS (SRO) (2)
Albee

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane 4, Washington

DMEA RECEIVED FEB 10 1958		
DATE	INITIALS	CODE
2/14	HB	120
		220

February 4, 1958

On Site EXAM.

MEMORANDUM

To: DMEA Field Team, Region I

From: Howard F. Albee, Geologist, U. S. Geological Survey

Subject: Field Examination Report, Docket No. DMEA-4810 (Mercury), West End Cinnabar Mine, and Docket No. DMEA-4843 (Mercury), The Fern Hill Cinnabar Mine, Ralph Gillispie, Lewis County, Washington

INTRODUCTION AND SUMMARY

Ralph Gillispie, Box 104, Morton, Washington, applied September 18 and October 14, 1957, respectively, to Defense Minerals Exploration Administration for assistance to explore for mercury on the West End and Fern Hill Cinnabar properties (fig. 2). Mr. Gillispie proposes to drift 300 feet on the West End property at a total cost of $20,400 and 500 feet on the Fern Hill property at a total cost of $27,800. He proposed no definite program. The only maps accompanying the applications did not show the locations of the proposed drifts or indicate any definite exploration targets.

The properties were examined November 20 and 21, 1957, by Howard F. Albee, U. S. Geological Survey, accompanied by Mr. Ralph Gillispie. Accessible parts of the property were examined, but all the drifts that reportedly reached the mercury-bearing structures and strata were caved or full of water and no mercury-bearing rocks or structures were seen.

Production records of the U. S. Bureau of Mines show that about 5,000 flasks of mercury were produced from the district from 1926 through 1940, mostly from the Fern Hill property and the adjoining Barnum-McDonnell property to the south. The greater part of the production reportedly came from brecciated zones along faults that served as the main, or primary, avenues of upward movement of mineralizing solutions.

Reviewed by
DMEA OPERATING COMMITTEE
2-14-58
(date)

CONCLUSIONS AND RECOMMENDATIONS

The Fern Hill property has had a substantial production and there is a good geologic probability that exploration could discover significant reserves. A two-stage program, consisting of bulldozing and drifting, is recommended to explore this property.

On the West End property, the applicant could show no evidence to justify exploration and it is recommended that the application in Docket No. DMEA-4810 be denied.

ACCESSIBILITY

The Morton cinnabar district is about 2 miles east of the town of Morton, Washington, and is accessible by paved highway (fig. 1). The West End property is near the north end of the district and is reached by about a mile of unimproved road. The Fern Hill property lies a few hundred yards north of the highway and is reached by a steep unimproved road.

The Fern Hill property lies on the steep western slope of a north-trending ridge and ranges in altitude from about 1,000 to 2,000 feet. The old adits, now inaccessible, were driven at about 100-foot vertical intervals, between altitudes of about 1,100 and 1,400 feet.

The West End property is on a spur of the same ridge in somewhat less steep terrain. Small perennial streams cross each property. The area receives from 40 to 45 inches of precipitation annually, mostly as rain. Snowfall is light and does not long remain on the ground.

The district has a heavy cover of timber, mostly conifers and alders. The conifers consist largely of white fir, which may be adequate for mine timber.

DESCRIPTION OF THE PROPERTY

The West End Cinnabar property comprises a total of 240 acres in Lewis County, Washington, which the applicant controls by prospecting leases from the State of Washington. The prospecting leases run for two years and are renewable. The lessees, dates, and descriptions of the land are:

Lessee	Date	Description
William Gillispie	May 28, 1957	S½NW¼, sec. 36, T. 13 N., R. 4 E., W.M.
John R. Forrest	May 28, 1957	N½SW¼, sec. 36, T. 13 N., R. 4 E., W.M.
Ralph Gillispie	May 28, 1957	S½SW¼, sec. 36, T. 13 N., R. 4 E., W.M.

The Fern Hill Cinnabar property consists of 120 acres of land held under lease and is described as:

> Government lots 8 and 9, and SE¼SW¼, all in section 6, T. 12 N., R. 5 E., W.M., Lewis County, Washington. The land is leased by Ralph Gillispie from O. J. Gillispie and the lease continues as long as rental amounting to $100 per month and 10 percent of the gross sale price of any minerals removed (except coal) is paid to the lessor.

THE APPLICANT

The applicant under Docket No. DMEA-4843 (Fern Hill Cinnabar property) is Ralph Gillispie, an individual. The applicant under Docket No. DMEA-4810 (West End Cinnabar property) is a partnership comprising Ralph Gillispie, John R. Forrest, and William B. Gillispie, all of Morton, Washington.

Ralph Gillispie is a practical hard-rock miner with considerable mining experience but obviously is not capable of directing an exploration program without technical advice. Conversation with Mr. Gillispie indicates that he has an exaggerated faith in his ability to direct a program without using engineering or geological tools. His two partners are not experienced mining men.

HISTORY AND PRODUCTION

The original discovery of mercury in the Morton district is said to have been made in 1913 when the presence of cinnabar was noted in a seam of coal. Mercury was reportedly first produced in 1916, when 75 flasks were recovered from 47 tons of ore. Active development of the district began with the opening of the Barnum-McDonnel mine in 1926. The total output of the district from 1926 through 1940, as recorded by the U. S. Bureau of Mines, was 4,999 flasks. This figure does not include five years for which the production figures are grouped with those of other states.

From studying the available data, J. H. Mackin (Report of Investigations No. 6, Relation of Geology to Mineralization in the Morton Cinnabar District, State of Washington, Division of Mines and Mining, 1944) ascertained the yearly production of individual mines and determined roughly the tenor of the ores.

In the first year of operation (1926) the Barnum-McDonnell mine produced 489 flasks from 900 tons of ore, indicating a recovery of about 47 pounds per ton. The total production of the mine from 1926 to 1929, inclusive, was 1,265 flasks. In 1931 this property produced 441 flasks from 11,115 tons of ore, or about 3 pounds per ton.

The Roy-Fisher property, now the Fern Hill property and adjacent to the Barnum-McDonnell mine, was developed in 1926 and 1927. According to Mackin, this property produced about 2,500 flasks of mercury in 1928 and 1929, 1,079 flasks in 1930, and 1,581 tons in 1931. The 1931 production averaged about 5 pounds per ton; apparently the ore produced from 1928 through 1930 averaged somewhat higher. Most of the other mines in the district were opened between 1931 and 1936. Their production was evidently insufficient to counteract the steady decline in output of the district resulting from decreased activity on the Barnum-McDonnell and Roy-Fisher properties between 1930 and 1940. The Roy-Fisher property produced 60 flasks of mercury from 1,000 tons of ore in 1940, or slightly under 5 pounds per ton, and was operated intermittently on a small scale until at least 1943.

Drifting from the surface has been done at two places on the old Roy-Fisher property in recent years, but the work in each case did not reach mercury-bearing structure. Ralph Gillispie leased the property on September 17, 1957, and no work has been done since.

GEOLOGY AND ORE DEPOSITS

A report on the Morton Cinnabar District by J. H. Mackin, previously cited, was published in 1944. Descriptions of the geology and ore deposits are taken from that report.

The rocks penetrated by the old Roy-Fisher and Barnum-McDonnell workings are a sequence of sediments that include shale with coal seams, siltstone, and tuffaceous sandstone, all of which have been intruded by basic sills, dikes and other igneous bodies (pl. 2). The prevailing strike of the beds is northerly and the dips average about 20° easterly. Surface observations in the area indicate that the mines are on the east limb of a major north-south anticline.

Mineralization was effected by solutions rising along fault planes and accompanied by intense hydrothermal alteration. The mineral deposition was controlled by varying degrees of perviousness in the east-dipping sedimentary beds and by brecciated zones and/or gouge along three faults: the Barnum normal fault, trending north and dipping 35°-60° W.; the Black Wall thrust, trending N. 10°-15° W. and dipping 20°-25° NE.; and the Opalite strike-slip fault, trending N. 52° E. and dipping 80°-90° NW. (pl. 1). The Barnum and Opalite faults are examples of main avenues of upward movement of mineral-bearing solutions, and the relatively low-angle Black Wall fault is an example of a gouge-carrying cross fault that interrupted the continuity of the brecciated feeder-fault planes.

Three main types of ore occurrence have been mined from the district: the breccia type, the sandstone type, and the intersection type. The brecciated zones along faults served as main avenues for the movement of mineral-bearing solutions and thus formed the most productive ore bodies. There does not appear to be any relation between the tenor of the ore and wall-rock types or the amount of ore and irregularities in the fault surface. The greater part of the production of the district has come from the Barnum fault breccia zone.

The sandstone type of ore deposit was formed when some fraction of the mineral-bearing solutions passed from the breccia zones into the sandstone beds. Circumstances favoring this type of deposition include: perviousness of the sandstone, attitude of the bedding in the hanging wall, the absence of a tight seal of gouge on the hanging wall, and some kind of dam on the fault which prevented or inhibited free movement upward along it. The sandstone-type occurrence was thus formed by a diversion or dispersal of flow of some portion of the mercury-carrying solutions, and it may be expected to be lower in tenor than the associated breccia-type ore.

The intersection-type deposit is found at places where the continuity of the breccia zones was interrupted by cross faults. The concentration of flow of mineral-bearing solutions results in relatively rich ore in deposits of this type.

The Barnum fault has been explored for about 1,300 feet on strike and through a vertical range of about 350 feet. The thickness of the brecciated zone ranges from a few inches to 3 feet or more and averages about 1 foot. The breccia has been largely mined out in the Barnum-McDonnell workings and in the southern part of the Roy-Fisher workings. Decrease in the size of stopes in a northerly direction in the Roy-Fisher workings and relatively poor showings of cinnabar in the breccia near the north headings of the drifts suggest that the values decrease toward the north.

If a large east-west fault were truncated by the Black Wall thrust, then solutions rising along the breccia of the east-trending fault would be forced to flow upward (westward) in the fault breccia just under the impervious Black Wall gouge, either to a breach in the gouge or possibly high enough to be intersected by the present surface. The Opalite fault (pl. 1) is such a fault and it did carry mineral-bearing solutions. Whether or not it continues far enough to the east, and whether the Black Wall thrust continues far enough to the north so that they intersect is not known.

A recommended course of action would be to investigate the possibility of an intersection. A drift easterly on the Opalite fault would encounter this intersection within 1,600-1,700 feet,

provided that the faults do intersect and maintain observed attitudes. If values along the Opalite vein do not justify extension of a drift along it, there is doubt as to how much dependence should be placed on the theoretical possibility of finding ore at the intersection. This doubt could be largely resolved by tracing the outcrop of the Opalite vein on the surface to where it should be cut by the Black Wall thrust, in order to determine if there is actually a concentration of values at the intersection. Sampling and assaying of the Opalite vein in test pits for several hundred feet along its outcrop and at the possible intersection should provide a basis for determining the practicability of deeper exploration.

The Roy No. 5 fault also carried mineralizing solutions. Provided that investigations along the Opalite fault proved encouraging, then a similar course of action could be undertaken on the Roy No. 5 fault.

Rock types and general structural relationships on the West End Cinnabar property in section 36 are probably similar to those in section 6 on the Fern Hill Cinnabar property. However, lack of surface exposures makes it appear most unlikely that any specific fault can be traced from section 6 into section 36. As it is virtually impossible to work out a definite and detailed stratigraphic sequence on the basis of surface exposures, surface stratigraphic and structural study in section 36 is of little use in finding faults. Even if faults could be found, geologic relations contribute little to the understanding of the distribution of values along them. For these reasons, the structural and ore pattern observed in section 6 cannot be projected to serve as guides to possible exploration targets in section 36.

EQUIPMENT AND SUPPLIES

There are no buildings or equipment on the property. Materials, equipment and supplies are available locally or in Seattle, 90 miles to the north. Water for domestic and mining uses is available on the property and labor is available locally. Power lines cross the southwest corner of the property.

APPLICANT'S PROPOSAL

The applicant indicated he would drift 300 feet on the West End property and 500 feet on the Fern Hill property but he gave no locations of the work. The applicant did not clarify this during the examination as he seemed uncertain as to where he would start except "someplace in the old, caved haulage tunnel (Roy No. 1, pl. 2) on the Fern Hill property and crosscut to the northeast."

Such a procedure may well have merit but it would entail a large amount of rehabilitation in the old haulage tunnel and several hundred feet of dead crosscutting. Mackin states that the old drifts (drifts that would lead to the applicant's target area) show decreasing values to the north.

RECOMMENDED EXPLORATION PROPOSAL

On the Fern Hill property, a program that consists of bulldozing along the outcrop of the Opalite vein to where it is cut by the Black Wall fault is recommended. If the Opalite vein shows mercury along its outcrop and a concentration of mercury at the intersection of the Black Wall Fault, then drifting along the vein is recommended.

Mr. Gillispie states that he could open the old workings into the Opalite vein with a few days work and that he would be willing to go along with the proposed program.

Attachments

Distribution:
DMEA (6)
USBM (6)
USGS(SRO) (2)
Dockets (2)
Albee (1)

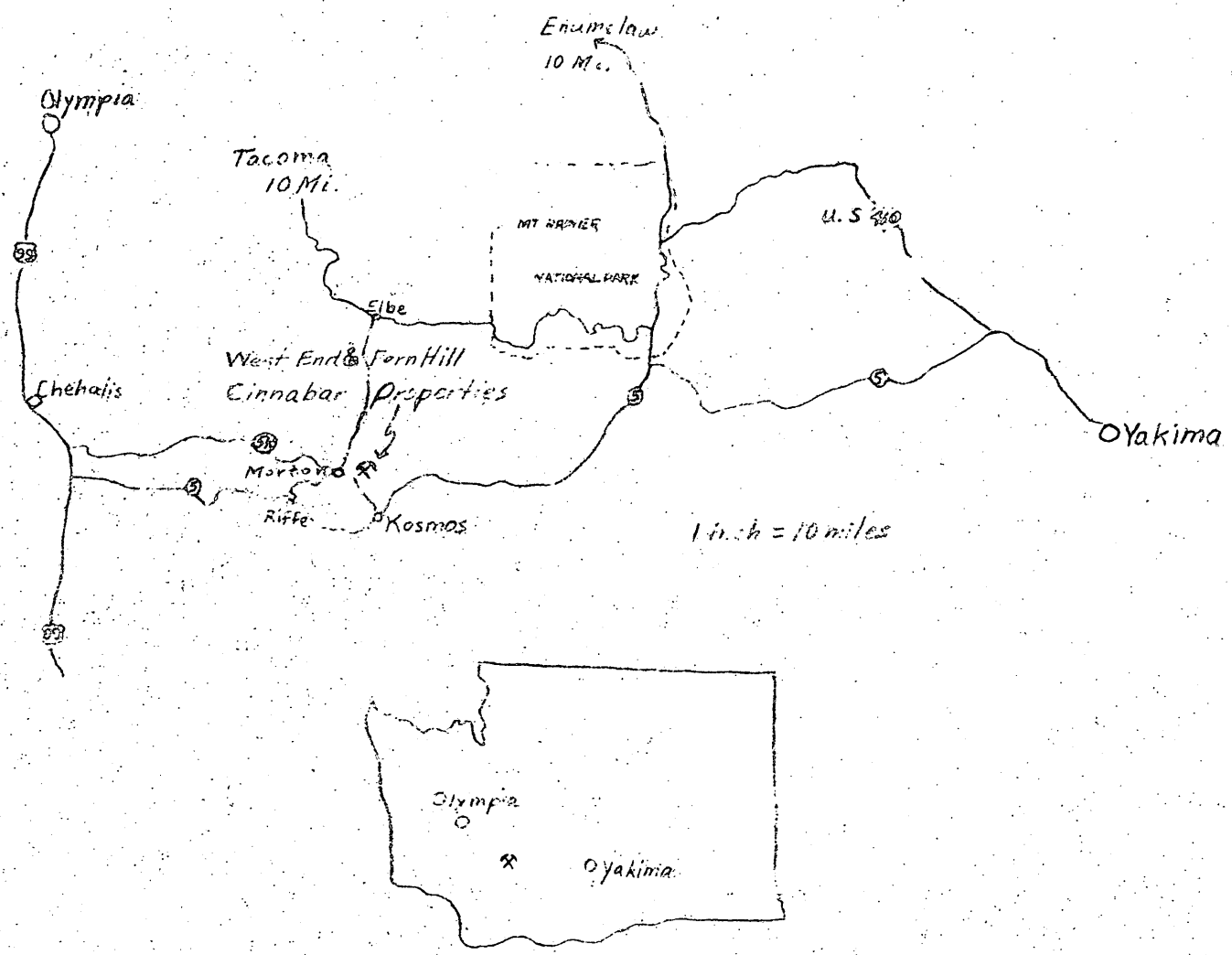


Figure 1. Location map, West End and Fern Hill Cinnabar properties, Lewis County, Washington

H.F. Albers, November, 1957

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R M E A
RECEIVED FEB 10 1958

DATE	INITIALS	CODE

Note: Property boundaries from applicants map. Location of faults from a structural and topographic map of the Morton Cinnabar District by L.T. Christian and L.V. Mullins, 1942

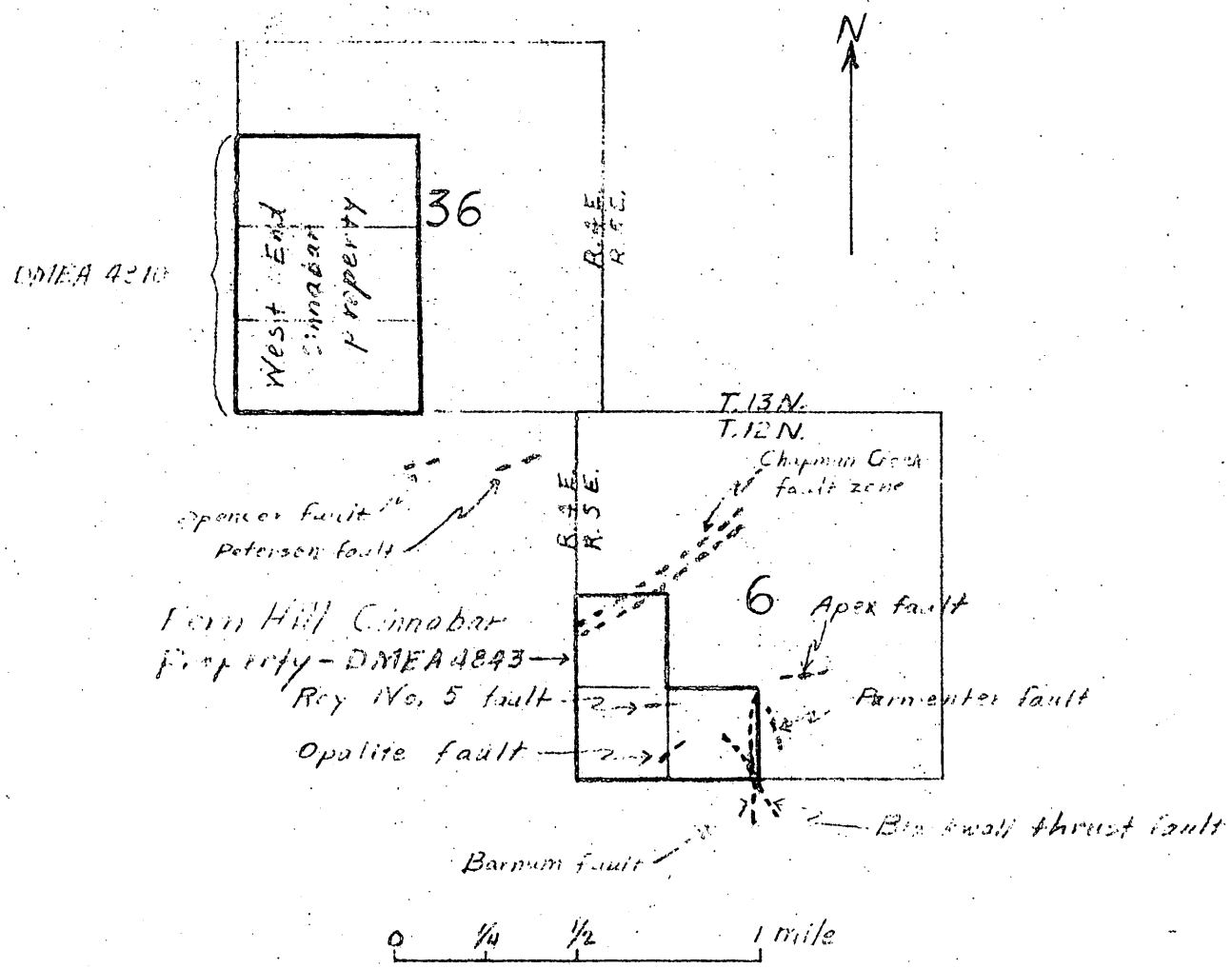


Figure 2. Map of the West End and Fern Hill Cinnabar properties showing the location of most of the known faults, Ralph Gillispie, Lewis County, Washington

H. F. Albee
November, 1957

OFFICE OF THE DIRECTOR
C M E A
RECEIVED FEB 10 1958

DATE	INITIALS	CODE

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 13 1958

DATE	INITIALS	CODE
1/13	gb	220
	WJM	400

January 10, 1958

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4810 (Cinnabar)
Ralph Gillispie
West End Cinnabar Mine
and
Docket No. DMEA-4843 (Mercury)
The Fern Hill Cinnabar Mine
Lewis County, Washington

Dear Mr. Selfridge:

Enclosed are two copies of a self-explanatory letter dated January 4, 1958 from the subject applicant requesting that his application be withdrawn as he cannot meet the payments due on leases and taxes.

As we have made an examination we will submit a report on the property for the files as soon as it is completed.

By Field Team, Region I

Wing G. Agnew, Acting Exec. Officer
U. S. Bureau of Mines

Donald R. MacLaren, Acting Member
U. S. Geological Survey

Enclosures

cc: USBM (2)
Albee

OFFICIAL FILE COPY
DMEA
RECEIVED JAN
DATE INITIALS

Morton, [illegible]
Jan. 4, 1958.

(1)

Dear Sir

I am sorry, but I [illegible]
I will have to have [illegible]
cancel my negotiating with
the Government. The Gilliga[illegible]
property has already
built up in round figu[illegible]
1000 on payments and
taxes. I have no money
and cannot pay it. I thought
I could raise some money
on these properties. But
even my friends want
so much interest for
ten 1000 that I can't
operate. I have different
proof since the ratio that
the properties are good
properties. I thought maybe
the Government might

So. 157 Howard Street
Spokane 4, Washington

November 12, 1957

11/15 C 220
11/15 WSM 400

Mr. Ralph Gillispie
P. O. Box 104
Morton, Washington

Re: Docket No. DMEA-4810 (Mercury)
West End Cinnabar Mine
and
Docket No. DMEA-4843 (Mercury)
The Fern Hill Cinnabar Mine
Lewis County, Washington

Dear Mr. Gillispie:

Your DMEA applications have been assigned to Mr. E. W. Parsons of the U. S. Bureau of Mines and me for examination. We plan to be in Morton the evening of November 19, 1957, and will meet you in front of the Post Office at 8:00 a. m. on the following day.

If this arrangement is not satisfactory, please notify this office by Monday, November 18, 1957. We may not be able to arrange for a jeep from this office and if not may wish to arrange for one in Morton if possible. Please drop us a postcard at this address giving your telephone number in case we find it necessary to change our plans.

Sincerely yours,

Howard F. Albee
Geologist

cc: DMEA (2)
USBM (2)

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10-29	Hopkins	400
10-29	Martin	400
10/30	Gillespie	130
10/30	Faust	130
10/30	Williams	130
10/31	C	220
		400

OCT 31 1957

Mr. Ralph Gillispie
Box 104
Morton, Washington

Re: Docket No. DMEA 4810 - Mercury
West End Cinnabar Prospect
Lewis County, Washington

Dear Mr. Gillispie:

This will acknowledge receipt of the additional information which we requested in our letter of August 30, 1957.

As your application for exploration assistance on the Fern Hill Cinnabar Mine (Docket No. DMEA 4843) has been referred to the field for an examination, arrangements will be made by the Field Team to examine the subject property at the same time.

Any assistance that you can give the members of the Field Team will be appreciated.

Sincerely yours,

Frank E. Johnson (for)

ACTING Administrator

JHOPKINS/dlm 10-29-57

cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. I

Messrs. J. W. Pennington, USBM
T. H. Kiilsgaard, USGS

P. S.: Copies of memoranda dated August 9, 1957, by J. W. Pennington, Bureau of Mines and N. E. Nelson, Geological Survey, relating to the project are attached. Also attached is an extra copy of the application for use of the Field Team. (written on FT's copy only)

to ft cy of this letter

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 28 1957

DATE	INITIALS	CODE
10/25	C	220
10/25	WSM	400

October 22, 1957

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4810 (Cinnabar)
Ralph Gillispie
West End Cinnabar Mine
Lewis County, Washington

Dear Mr. Selfridge:

Reference is made to our letter of August 5, 1957, transmitting an incomplete application from Mr. Gillispie on the West End Cinnabar mine, and to Mr. Mittendorf's letter of August 30, 1957 to Mr. Gillispie.

Enclosed are the original and two copies of Form MF-103 together with a letter of October 14, 1957 in which Mr. Gillispie outlines a program of exploration on this same property. This no doubt is additional information asked for in the Administrator's letter of August 30. Enclosed also is one photostat copy each of three prospecting leases.

As his second application, Docket No. DMEA-4843, has been referred to the Field we will examine both properties at the same time this fall, weather permitting.

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I

Enclosures

cc: USBM (2)
Geologist

Oct 16 1957 - Ltr to [illegible]

10-25-57
Copies to:
BM
&
GS

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 23 1957

DATE	INITIALS	CODE
9/23	C	220
9/24	WSA	400

September 13, 1957

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4810 (Mercury)
Ralph Gillispie, et al.
West End Cinnabar Prospect
Lewis County, Washington

Dear Mr. Selfridge:

Enclosed are three copies of a letter dated September 9, 1957, from Mr. Ralph Gillispie which is in reply to the Administrator's letter of August 30, 1957.

Sincerely yours,

D. R. MacLaren

D. R. MacLaren
Alternate Acting Exec. Officer
DMEA Field Team, Region I

Enclosures

cc: USBM (2)

Box 104

OFFICIAL FILE COPY
DREA
RECEIVED SEP 23 1957
DATE | INITIALS | CODE
9/24 | NSG | 400

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8-22	Hopkins	400
8-22	Martin	400
8/23	Bashor	130
8/23	Gillegaard	130
8/23	Selfridge	130
"	Johnson	110
"	Mittendorf	100
9-3	C	220
		400

Aug 30.1957

Mr. Ralph Gillispie
Box 104
Morton, Washington

Re: Docket No. DMEA 4810 - Mercury
West End Cinnabar Prospect
Lewis County, Washington

Dear Mr. Gillispie:

This will acknowledge receipt of your letter of August 1, 1957, enclosing the subject application for exploration assistance.

We regret to inform you that the processing of this application will necessarily be delayed because your letter has not furnished us with sufficient information on your property and your proposed project. We are enclosing a copy of the application form for your guidance in submitting the information we require. Under "General Instructions" please note that, "your application must provide all applicable material and information specified on the back of the application form." This includes copies of leases which you and your partners have obtained from the State of Washington. Lease on the O. J. Gillispie property does not need to be included until the litigation proceedings have been settled.

We note that you ask if the Government supplies capital for an exploration project. The Government in contributing to the approved costs of DMEA exploration projects, does not provide funds for the work in advance. Under the terms of our contracts the operator is required to complete each month's work, whereupon the Government makes reimbursement for its approved share of the cost, which for mercury projects is 75 percent. As reimbursement for the Government's share of such costs takes from three to four weeks after the operator submits a properly supported voucher, an applicant should have sufficient funds to finance at least two months' exploration work.

Upon receipt of the required information your application will receive prompt attention.

Sincerely yours,

C. O. Mittendorf (for)
Administrator

Enclosure

JHOPKINS:foc 8-22-57
cc to: Docket
Code 400
Admr. R. File

cc to: Oper. Comm.
FT. REG. I
Messrs. J. W. Pennington, USBM
T. H. Kiilsgaard, USGS

Mailed in region

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8-21	Hopkins	400
8-21	Martin	400
8/23	GCS	130
"	Johnson	110
"	Mitchell	100
8/26	Q	220
		400

AUG 26 1957

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA 4810 - Mercury
Ralph Gillispie, et al.
West End Cinnabar Prospect
Lewis County, Washington

Dear Mr. Weissenborn:

Enclosed is a proposed reply to the subject applicant's letter of August 1, 1957. If you approve, please forward it to Mr. Ralph Gillispie.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

APPROVED:

O. M. Bishop
Member, Bureau of Mines (JHB)

Thor H. Kiilsgaard
Member, Geological Survey (JHB)

JHOPKINS:foc 8-20-57
cc to Docket
Code 400
Admr. R. File
Oper. Comm.
FT. REG. I
Messrs. J. W. Pennington, USBM
T. H. Kiilsgaard, USGS

Enclosure

8623

IN REPLY REFER TO:

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

August 9, 1957
Re: DMEA 4810
Ralph Gillispie
West End Cinnabar Mine
Lewis County, Washington
$20,000 - Mercury

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application

The applicant requests assistance in doing $20,000 of work on the extension of a mercury-bearing vein or zone. No work program is outlined and no information concerning the showing to be prospected or explored is given.

Referral of the application to the Field Team for appropriate action is recommended.

N. E. Nelson

N. E. Nelson

OFFICIAL FILE COPY
D M E A
RECEIVED AUG 12 1957

DATE	INITIALS	CODE
8/12	Q.K.	220
8/12	WSM	400

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 9 1957

DATE	INITIALS	CODE
8/9	O.K.	220
8/9	WSM	400
August 9, 1957		

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: Assistant Chief, Branch of Base Metals

Subject: Review of application, Docket No. DMEA 4810 (mercury) Ralph Gillespie, West End Cinnabar Mine, Lewis County, Washington $20,000.00

There is insufficient information furnished with the application; additional data will be required, either from the applicant or the Field Team, before the application can be evaluated.

According to Bureau of Mines records, properties adjacent to that of the applicant have produced mercury. From 1925 to 1929, the Barnum-McDonell mercury mine produced 1,265 flasks. Between 1930 and 1942, as near as I can determine, the mine produced about 1,100 flasks. Total production from the Morton district, which apparently includes the group of properties cited in the application, was about 4,100 flasks up to 1930.

The O. Gillespie property produced 28 flasks of mercury from 75 tons of ore in 1934. Also in 1934, the Spencer property produced 0.5 percent of a flask from an unknown quantity of material.

The application is returned herewith.

J. W. Pennington

J. W. Pennington

Attachment

Copy to: Division of Minerals
Branch of Base Metals (2)
Thor Kiilsgaard, U. S. G. S.
F. D. Lamb
F i l e s

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

August 8, 1957

Mr. Ralph Gilliopie
Box 104
Morton, Washington

Subject: DMEA 4810

Dear Mr. Gilliopie,

Your application for exploration assistance, dated August 1, 1957 submitted to our office at Spokane, Washington has been assigned Docket Number 4810 and referred to the Division of Iron & Ferro-Alloys in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

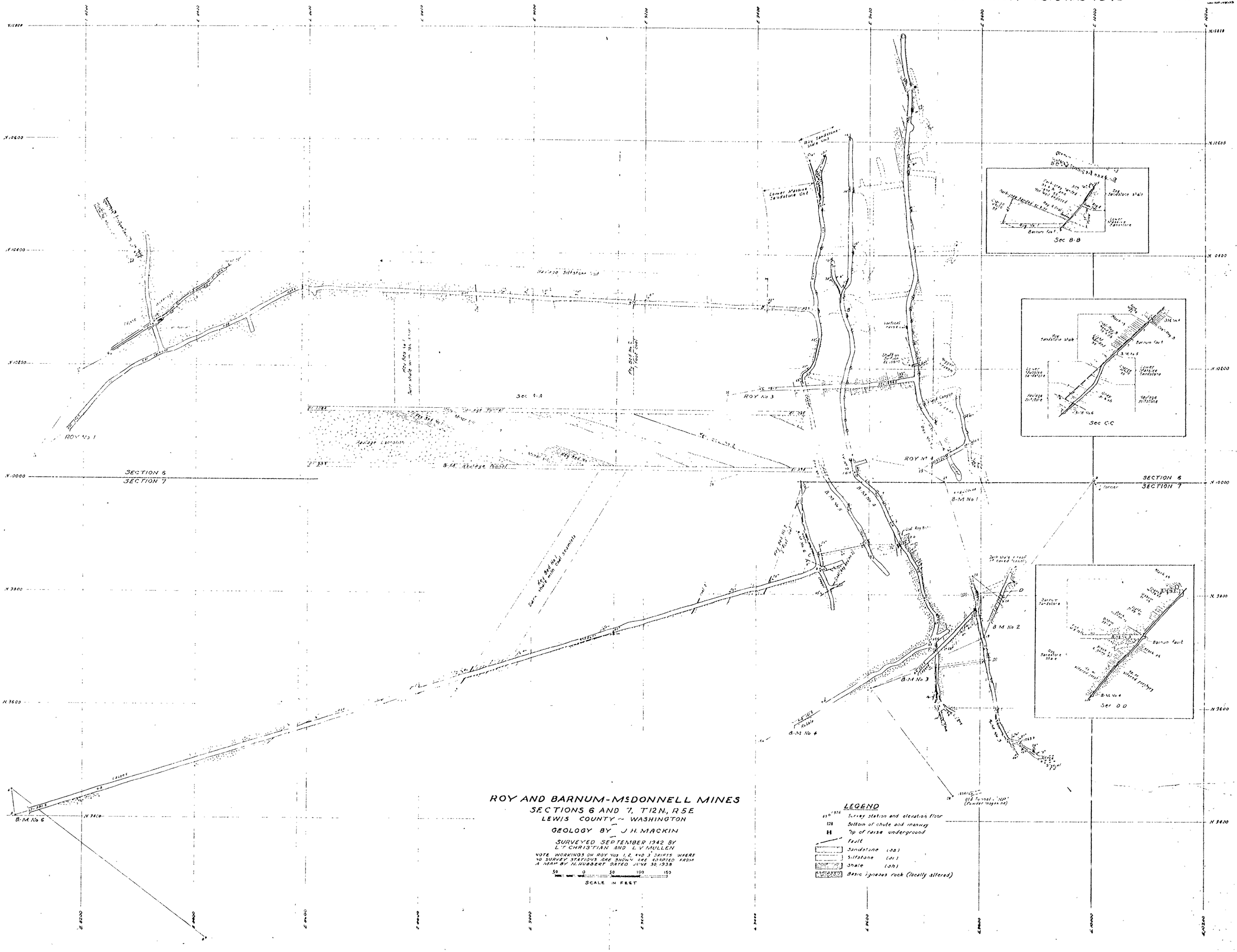
Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to:
Region I

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
DIVISION OF MINES AND MINING
SHELDON L. GLOVER, SUPERVISOR

DOCKET NOS. DMEA 4810 AND 4843

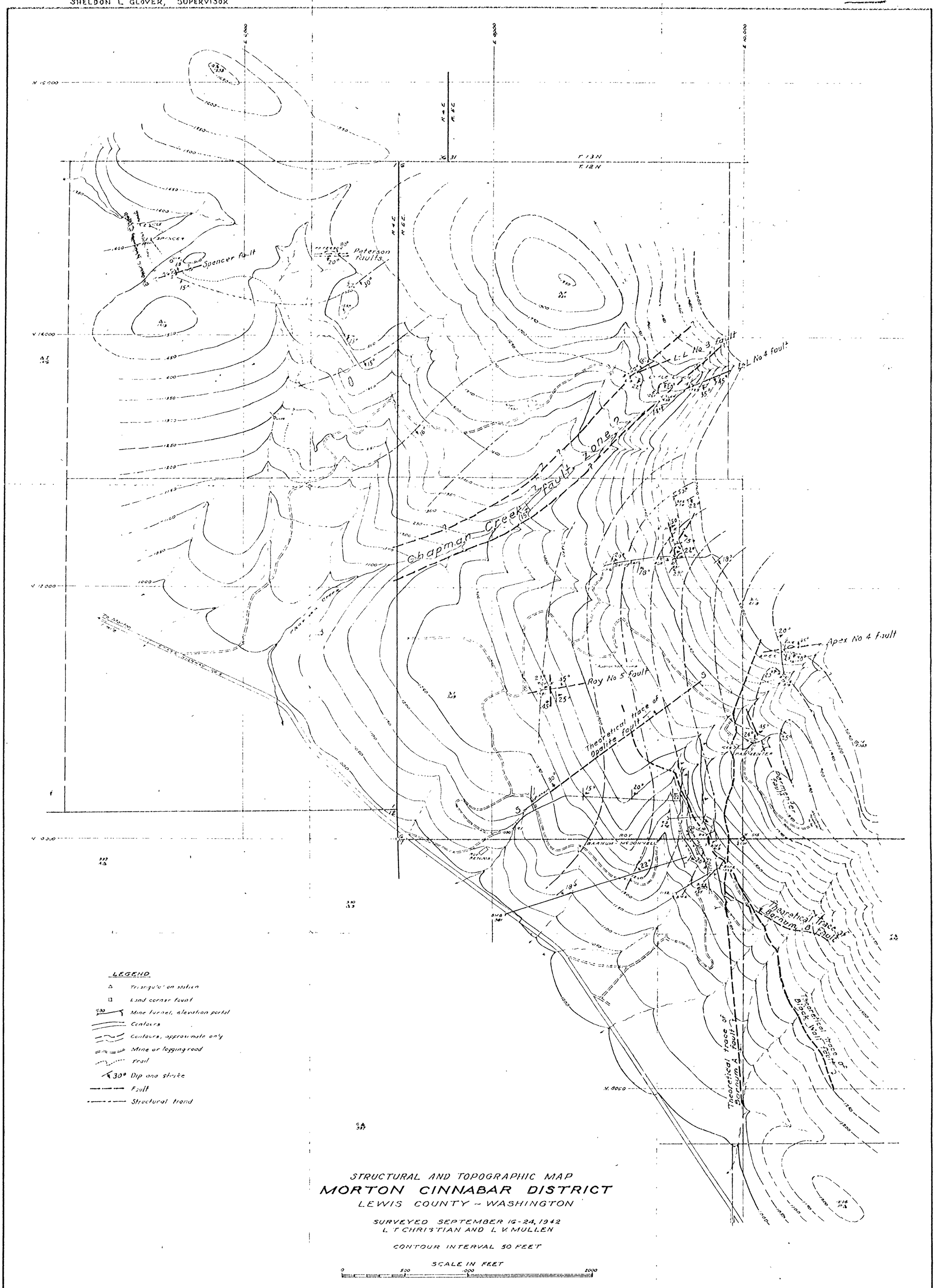
REPORT OF INVESTIGATIONS
NUMBER 6 PLATE 2



STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
DIVISION OF MINES AND MINING
SHELDON L. GLOVER, SUPERVISOR

DOCKET NOS. DMEA 4810 AND 4843

REPORT OF INVESTIGATIONS
NUMBER 6 PLATE I



STRUCTURAL AND TOPOGRAPHIC MAP

MORTON CINNABAR DISTRICT

LEWIS COUNTY ~ WASHINGTON

SURVEYED SEPTEMBER 16-24, 1942
L. T. CHRISTIAN AND L. V. MULLEN

CONTOUR INTERVAL 50 FEET

SCALE IN FEET
0 500 1000 2000