MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE

Contract No. _____ Docket No. 6619

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- [ ] Withdrawn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
- [x] 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 Semiannual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam. Report (Tab) 9/12/67
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. _____: Reports

- [ ] Analysis of Semiannual Inspection Reports
- [ ] Project Summary (Interim) by MME Engineers

Right Side

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

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

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty Material

72195-65

MA 3-2141
PA 5-9897

REX LAND COMPANY
4105 ARCADE BUILDING
1319 SECOND AVENUE SEATTLE, WASHINGTON 98101

OFFICIAL COPY
O. M. E.
RECEIVED
MAY 8 1967
INITIALS

5-5-67

United States
Dept. of the Interior
Office of Minerals Exploration
Geological Survey
Washington, D.C. 20240

Re: OME 6619 (Copper-Silver)
Carl B. Kennedy
Greenstone Mine
Beaverhead Co. Montana

Att: Frank E. Johnson
Chief: Office of Minerals
Exploration

Dear Mr. Johnson:

The applicant for the above assistance loan is the Rex Land Co., a Washington Corporation. The officers are Carl Kennedy, president; Farlyn Ubigau, vice president; and Harry Kennedy, secy.

The owners of the Greenstone Mine are the same above officers of the corporation.

I am enclosing the lease and option pertaining to the mine from the three individuals to the corporation.

I have been attempting to obtain some outside bids as you requested in your letter with little success. The job is either too small, out of their district, or won't bid without seeing and will not make the trip unless they have several small jobs to figure.

I made a special trip over to show Harold Reid and another contractor the property and I did get this one bid which is enclosed.

We trust that the enclosed will clear up any other questions that may arise.

Very truly yours,

Carl Kennedy

Carl Kennedy

May 1, 1967
Melrose, Montana

Mr. Kennedy,

On the bid on the Greenstone I would want $40 a foot for drift and $15 on Diamond Drilling.

Sincerily,
Harold Reid

LEASE WITH PURCHASE OPTION

THIS LEASE executed in duplicate this 25th day of April, 1964 between CARL B. KENNEDY, FARLYN E. UBIGAU and HARRY G. KENNEDY, of Seattle, King County, Washington, co-owners as their separate property, hereinafter designated as the Lessor, and REX LAND COMPANY, a Washington corporation, as Lessee;

WITNESSETH, The Lessor does hereby lease to the Lessee the following described property in Beaverhead County, Montana, commonly known as the Greenstone tract, and legally described as:

> "Survey No. 2138 in Utopia Mining District
> in Sections 11 and 14 of Township 5 South,
> Range 10 West"

of Beaverhead County, Montana, for a term of ten (10) years, commencing on the 25th day of April, 1964 and ending on the 24th day of April, 1974, inclusive.

It is mutually agreed by Lessor and Lessee that the annual rental for lease of the above property shall be ONE HUNDRED DOLLARS ($100.00), payable in advance on the 25th day of April of each year, at such place as the Lessor may from time to time designate in writing. The sum of $100.00 has this date been paid by Lessee to the Lessor for the first annual rental.

In consideration of the aforesaid rental and other valuable considerations which may accrue to the benefit of the Lessor, it is hereby further agreed as follows:

1. The aforesaid property is leased for the purpose of enabling the Lessee to conduct land, water and mineral development thereon, either on the surface or subsurface of said property.

2. Lessee agrees, at its own expense to keep said property in good repair during the entire term of this Lease. Lessor shall not be liable for any damage sustained to or upon the property or for personal injury sustained by any persons caused by any defect in said premises. Lessee shall maintain liability and property damage insurance on said property for the benefit of both Lessor and Lessee with provision for waiver of any subrogation rights between said parties, and shall comply with all laws and regulations of the State of Montana, or any other applicable authority, regarding workman's compensation or industrial insurance benefits to be provided for any employee of Lessee while working on or about said leased premises.

3. Lessee shall be permitted to assign or sublease the whole or any part of the above described leased premises without written consent of the Lessor. Lessee shall also be entitled to market any minerals, ore or water produced on the premises during the term of this Lease. Lessee agrees to pay to Lessor a royalty of six per cent (6%) of the gross income of Lessee from any sub-leasing of the property or from sale of mineral, ore or water developed, produced and sold to third parties on the leased premises. Lessee shall account to Lessor for any such royalties on an annual basis as of the date when rentals are otherwise due on this Lease, and all such royalty payments shall be applied as a credit on the annual rental as hereinbefore provided.

4. Lessee shall pay the cost of all improvements, development, repairs, fuel, power, taxes, maintenance and supplies made, used upon or payable in connection with the premises

during the term of this Lease.

5. In consideration of the annual rental and other valuable considerations paid to or which may accrue to the benefit of Lessor hereunder, Lessor does hereby grant to Lessee an option to purchase the aforesaid leased premises at any time during the term of this Lease, or any extension thereof, at a sale price of ONE HUNDRED THOUSAND DOLLARS ($100,000.00). Notice of intention to exercise this option shall be given in writing by Lessee to Lessor thirty (30) days in advance of the date upon which it elects to exercise said option. In the event said option to purchase is exercised by Lessee, credit shall be given on the purchase price for the full amount of all annual rental payments already made by Lessee to Lessor plus the full amount of any royalty payments on gross income from development of the property and resources thereon that may have been paid to Lessor before the date of said sale. Upon the date fixed for exercise of said option, after due notice as herein provided, Lessor will provide Lessee as purchaser with a good and sufficient warranty deed, showing the property free and clear of all encumbrances or liens, except any encumbrance or lien as may have been placed or suffered to be imposed upon the premises by Lessee during the term of this Lease.

6. Upon termination of this Lease, Lessee undertakes to return the leased premises to Lessor in good condition, subject to any removals of mineral, ore or water by Lessee, as are permitted under the terms of this Lease, and upon the understanding that all improvements or developments then existing upon the property shall remain thereon upon surrender of the property to Lessor. Lessee

shall have the right to remove from said property any of its personal property, including machinery, equipment and vehicles.

7. Lessee reserves the right to cancel and terminate this Lease at any time upon giving thirty (30) days' written notice of such cancellation and termination to Lessor, together with the payment of an additional sum of ONE HUNDRED DOLLARS ($100.00) to Lessor.

8. This Lease may be extended or renewed for additional terms of ten (10) years by the Lessee giving written notice to Lessor of its intention to do so, which notice shall be delivered to Lessor not less than sixty (60) days before expiration of the then current term of the Lease.

9. Upon any default by the Lessee in any of its covenants and undertakings herein contained, Lessor shall have the right to terminate this Lease and re-enter upon said premises and remove all persons therefrom after giving Lessee thirty (30) days' written notice and an opportunity to correct or eliminate said default.

IN WITNESS HEREOF, the parties have hereunto set their hands and seals the day and year first written.

Carl B Kennedy

Carlyn C Ubigan

Harry B Kennedy

Co-owners as their separate property, Lessor.

REX LAND COMPANY,
a Washington corporation

By Carl B Kennedy
Its President, Lessee.

Attest:

Harry B Kennedy
Its Secretary

STATE OF WASHINGTON)
) SS
COUNTY OF KING)

THIS IS TO CERTIFY that on this 25th day of April, 1964, before me, the undersigned, personally came CARL B. KENNEDY, FARLYN E. UBIGAU and HARRY G. KENNEDY, to me known to be the individuals described in and who executed the foregoing instrument, and acknowledged to me that they signed and sealed the same as their free and voluntary act and deed for the uses and purposes therein mentioned.

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

Joan Mitchell
Notary Public in and for the State of Washington, residing at Seattle.

STATE OF WASHINGTON)
) SS
COUNTY OF KING)

On this 25th day of April, 1964, before me personally appeared CARL B. KENNEDY and HARRY G. KENNEDY, to me known to be the President and Secretary respectively of the corporation that executed the within and foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute said instrument, and that the seal affixed is the corporate seal of said corporation.

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

Joan Mitchell
Notary Public in and for the State of Washington, residing at Seattle.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane, Washington 99204
April 4, 1967

OFFICIAL COPY
O. M. E.
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APR 6 1967
INITIALS | CODE

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region I

Subject: Transmittal of Application for Assistance
Carl B. Kennedy (Copper-Silver)
Greenstone Mine
Beaverhead County, Montana

The enclosed application for OME assistance appears to be reasonably complete. However, there is some confusion as to the correct identity of the applicant.

On the front of the application the Name of Applicant appears as Carl B. Kennedy, but the Business Organization is indicated as being a corporation and Corporate Officers or Partners show Carl B. Kennedy, President, and Farlyn E. Ubigau, Vice President. The Certification is signed by Carl B. Kennedy and Farlyn E. Ubigau, presumably as partners(?). ?

This is further complicated by the letters to the banks which are signed "Rex Land Co., Carl Kennedy, Pres." and the banks' replies which are addressed to Carl Kennedy, President, Rex Land Company.

Under Item 2(a) the statement is made: "The applicants have surface and mineral rights, etc." In view of the above confusing items, it is recommended that Carl E. Kennedy be requested to clarify whether the claims are owned by Rex Land Company or by him and Farlyn E. Ubigau as individuals or partners. This should be done before new letters to banks nearer the property could be written.

Apparently, Kennedy believes that he can give himself a contract to do the drilling and underground work and in addition draw a salary as supervisor-engineer. It is recommended that he be advised that if the work is to be done by independent contractors, he must furnish at least two bids in addition to his own.

D. R. MacLaren

D. R. MacLaren

Enclosures

CARL KENNEDY
P. O. BOX 1771
SEATTLE, WASHINGTON 98111

MARCH 17, 1967

U. S. Department of Interior
Office of Mineral Exploration
South 157 Howard Street
Spokane 4, Washington

Gentlemen:

Herewith is my application for aid in an exploration project covering the Greenstone Mine in the Utopia Mining District of Beaverhead County, Montana. A nearby property, the Indian Queen has been a substantial producer of copper ore and the potential of the Greenstone Mine with very similar geological conditions appears favorable for replacement orebodies in limestone and/or quartzite.

We hope the supporting information is sufficient for your consideration and we are ready to supply any additional data your office may require.

Sincerely,

Carl B. Kennedy

Carl B. Kennedy

RECEIVED
APR 4 1967
Spokane Office

13

MME Form 40
Jan. 65

RECEIVED
APR 4 1967

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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6 1967
INITIALS CODE

O.M.E
Spokane

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

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

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

Carl B. Kennedy
P.O. Box 1771
Seattle, Washington 98111

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6619

DATE RECEIVED: 4-6-67

REGION: 1

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

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

STATE IN WHICH FIRM IS ORGANIZED:

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
Carl B. Kennedy	P.O. Box 1771	Pres.
Farlyn E. Ubigau		V.Pres.

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Copper & Silver

ESTIMATED COST OF PROJECT: $

PROPERTY NAME	LOCATION COUNTY	STATE
Greenstone Mine	Beaverhead	Montana

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior,* ~~Washington 25, D. C. or the nearest OME Field Office.~~ Washington, D. C., 20242, or with the nearest OME Field Office.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

3-30-67
DATED

Carl B Kennedy
BY *(Signature)*

Farlyn E Ubigau
TITLE

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

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

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

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

2. Applicant's Rights in Land:

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

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

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

3. Physical Description:

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

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

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

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

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

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

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

4. Accessibility of Property:

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

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

5. Exploration Work:

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

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

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

6. Experience:

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

7. Estimate of Costs:

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

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

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

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

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

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

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

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

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

TO: U. S. Department of the Interior
Office of Minerals Exploration
Region 1
South 157 Howard Street
Spokane, Washington

Supporting data for application for Financial Assistance for the Greenstone Mine, Utopia Mining District, Beaverhead County, Montana.

Carl Kennedy
P. O. Box 1771
Seattle, Washington 98111

Carl Kennedy

P. O. BOX 1771
SEATTLE 11

3

INFORMATION WITH APPLICATION

1. Financial Eligibility
   - a. Letters requesting private loan and their refusal attached
   - b. None
   - c. Specified in application
2. Applicants rights to Land
   - a. Specified in application
   - b. Specified in application
   - c. Attached
3. Physical Description
   - a. Physical description of Greenstone property and combined surface sketch and geologic map of Adit Nos. 1 and 2 attached
   - b. Description of development work attached
   - c. Attached
   - d. Unknown
   - e. Attached
   - f. Geological opinion attached
   - g. Geological report
     1. U.S. Bureau of Mines R.I. 5552, P. 19-22
     2. U.S. Geol. Survey Bulletin 574, P. 63-65
     3. Sketch map of surface and Adits 1 and 2
     4. Accessibility of Property
        - a. Described in application
        - b. Described in application

Carl Kennedy

5. Exploration work

   a. Description included

   b. No access roads necessary

   c. Exploration work would commence in the early summer of 1967, upon execution of OME loan

6. Experience

   a. Mr. Carl Kennedy will supervise work, experience attached

7. Estimate of costs

   a. Attached with this application

Carl Kennedy

FINANCIAL ELIGIBILTY

A. Evidence of efforts to obtain loan

B. None

C. Out of pocket personal cash funds

GREENSTONE MINE

CARL KENNEDY
P. O. Box 1771
SEATTLE, WASHINGTON 98111

1. Financial Eligibility:

   a. Herewith are letters requesting a development loan for the Greenstone property and the loan refusal

   b. No affiliated or parent contracting companies with interest in the Greenstone Mine

   c. Mr. Carl Kennedy and Mrs. Farlyn E. Ubigau will furnish their share of costs from personal funds.

1-12-67

Seattle First National Bank
Loan Dept.
Dexter Horton Bldg.
Seattle, Wn.

Gentlemen:

During the past three years we have been exploring the Greenstone Copper Mine in the Utopia Mining District, Beaverhead County, Montana for copper and silver ore.

All the surface work and all the underground work has proved up scattered low grade ore.

At this time we wish to apply for a $22,000.00 loan upon the following terms: Three months before payments begin, then we will pay $200.00 per month at 6½ % interest for a period of six months, $300.00 per month for a period of one year, then the balance of the loan at $450.00 per month.

The money will be used for diamond drilling and drifting. We wish to tie in the low grade ore deposits, explore for new ore bodies so that we can properly evaluate this property.

Very truly yours,
Rex Land Co.

Carl Kennedy, Pres.

SEATTLE-FIRST NATIONAL BANK

ESTABLISHED 1870

SEATTLE, WASHINGTON 98124

A. L. McALLISTER
Assistant Vice President

January 13, 1967

Mr. Carl Kennedy, President
Rex Land Company
P. O. Box 1771
Seattle, Washington 98111

Dear Mr. Kennedy:

Earlier today you approached our bank for a $22,000 loan for Rex Land Company, the proceeds to be used to prove up certain mining properties owned or controlled by your company in the Utopia Mining District, Beaverhead County, Montana. You indicated that the loan would be repaid on a monthly schedule from production to be obtained from the mine.

We regret to advise you that the speculative nature of your venture and the extended terms you would require eliminate the loan from consideration by us as an unsecured commercial bank loan under our existing credit policies.

We appreciate the opportunity you have given us to review your requirements with you, and trust that you will find adequate financing for your development program from other non-bank sources.

Very truly yours,

A. L. McALLISTER
Assistant Vice President

ALM:km

P. O. Box 1771
SEATTLE 11

1 12-67

National Bank of Commerce
Loan Dept.
Seattle, Wn.

Gentlemen:

Durning the past three years we have been exploring the Greenstone Copper Mine in the Utopia Mining District, Beaverhead County, Montana for copper and silver.

All the surface work and all the underground work has proved up low grade ore.

At this time we wish to apply for a $22,000.00 loan upon the following terms: Three months before payments begin, then we will pay $200.00 per month at 6½ % interest for a period of six months, $300.00 per month for a period of one year, then the balance of the loan at $450.00 per month.

The money will be used for diamond drilling and drifting. We wish to tie in the low grade ore deposits, explore for new ore bodies so that we can properly evaluate this property.

Very truly yours,
Rex Land Co.

Carl Kennedy, Pres.

The National Bank of Commerce of Seattle

SECOND AVENUE AT SPRING STREET
area code 206 MAin 2-0101

Main Office....P. O. BOX 3966, SEATTLE, WASHINGTON 98124

January 13, 1967

Mr. Carl Kennedy, President
Rex Land Company
4105 Arcade Building
1319 Second Avenue
Seattle, Washington 98101

Re: Loan application
Greenstone Copper Mine
Beaverhead County, Montana

Dear Mr. Kennedy:

Due to the lack of security, terms of repayment, and location of the operation being well beyond our service area, the loan as requested in the amount of $22,000 is not one that can be considered a suitable risk for this bank.

We want to thank you for giving us this opportunity to consider the loan, and hope that you will feel free to contact us in the future.

Very truly yours,

Gordon F. Givens

Gordon F. Givens
Assistant Cashier

GFG:jf

Carl Kennedy

APPLICANTS RIGHTS IN LAND

A. Applicants are owners

B. Descriptions and book and page number of recorded claims included

C. MME Form 40 included

Carl Kennedy 1771

2. Applicants Rights in Land:

a. The applicants have surface and mineral rights to one patented claim and nine unpatented claims. The property at present is not under lease and there are no liens, mortgages, or other encumberances against the patented or unpatented claims.

b. Book and page number of recorded claims, Beaverhead County Courthouse, Dillon Montana:

Book 101	P. 413	Timber Queen
Book 126	P. 301	Paystreak
Book 126	P. 444	Albatross
Book 101	P. 412	Subuene
Book 101	P. 407	Jerricoe
Book 101	P. 408	Kenlyn
Book 101	P. 409	Fairview
Book 101	P. 410	Northern Star
Book 101	P. 411	Saddle Back

The patented Greenstone Claim has patent No. 15654.

The nine unpatented claims and the Greenstone patented claim are located in the Utopia Mining district on the south slope of Greenstone Mountain, and are about 8 miles west of Apex Siding via Birch Creek Road and Farlin Gulch. The property is in Sections 11 and 14, T. 5S., R. 10W.

Carl Kennedy

PHYSICAL DESCRIPTION

A. Description and available geologic surface and underground map attached

B. Description of development work attached

C. Production records attached

D. Unknown

E. Attached

F. Geological opinion attached

G. Geologic reports

1. U. S. Bureau of Mines R.I. #5552
2. U. S. Geological Survey Bulletin 574

Carl Kennedy

3. Physical Description:

a. The Greenstone property consists of one north-trending patented claim (Pat.#15654) and 9 unpatented claims which are developed by a 235-ft. vertical shaft with 176 ft. of drifting from the 50 and 220 foot levels, two northerly striking adits which are 335 (No. 1) and 196 ft. (No. 2) in length, a 50 foot incline shaft and a shallow pit, and 13 bulldozer cuts. The incline shaft has been stoped from crosscut Adit 2 to near the surface.

b. Most of the development work has been done by George Farlin (former owner) and Carl Kennedy, with some access roads and bulldozer cuts exploring for tungsten done by Minerals Engineering Company in the early 1950's.

c. There has been no current production from the property and there is no developed ore reserves. Some low grade ore has been intercepted by development work in the vertical shaft. Production records of the Greenstone Mine from Anaconda Smelter is as follows:

DATE:	SHIPPER	TONS	% CU	OZ. AG.	OZ. AU.
Aug. 1909	M. Doerflinger	21.3	3.32	1.6	0.04
Oct. 1909	" "	16.1	5.29	2.3	0.03
July 1916	L. Matritz	25.4	3.53	2.5	0.05
Aug. 1916	" "	15.6	4.41	3.2	0.05
Aug. 1949	Carl Kennedy	43.4	3.11	1.2	0.005

3.93 — 2.54 — 0.035

One ton of sorted tungsten ore containing 1.2 percent WO_3 was shipped by Minerals Engineering. It is possible that George Farlin Shipped some copper ore to the Glendale Smelter during 1908 and 1909, however, the Glendale Smelter has been abandoned and no production records of shippers are available.

d. Unknown

e. On the surface a lower and upper road crosses the contact between granodiorite (Mount Torrey batholith) and the Amsden Limestone, the limestone striking No.20°E., to No.20°W., 60° to 78°E. In the hanging wall of the contact is a

3. Physical Description Continued

e. Continued

north-striking and east-dipping tactite zone ranging on the surface from about 25 to 40 feet wide. Another northwest-striking tactite zone east of Adit 2 ranges on surface from 8 to 12 feet wide.

North of Adits 1 and 2 is an inferred northwest striking fault (see fig. 18) with the north block moving southeast relative to the south block. Northeast of the fault is exposed from west to east granodiorite, tactite, and Quadrant quartzite, with the quartzite striking N. 15°E., 60°E.

Some ore, (copper carbonate) has been shipped from a stope above the intersection of the incline shaft and crosscut adit 2, the stope located about 100 feet northwest of the adit portal. Ore was also shipped from the vertical shaft. The ore deposits were of the replacement type in limestone and tactite.

On the 50 ft. level of the vertical shaft and to the northeast, about 100 feet of drifting was done prior to 1950. A 8-ft. mineralized tactite zone was intercepted containing garnet, epidote and copper carbonate minerals. It is located between black limestone and marble and strikes North, 70°E. The mineralized zone was followed by drifting for a horizontal distance of 40 feet and vertically for a distance of 20 feet. Some scheelite occurs associated with tactite in the shaft area.

f. To the southwest the Indian Queen property has been a substantial producer of copper ore in replacement-type ore deposits in tactite bodies occurring along the contact of quartz monzonite and Mississippian Mission Canyon Limestone. Scheelite and primary and secondary copper minerals are associated with tactite zones in faulted and sheared zones.

At the Greenstone property similar geologic conditions exist and it is proposed to explore the tactite zone, the Quadrant Quartzite-tactite contact, and the northwest-striking fault which displaces granodiorite, tactite,

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3. Physical Description Continued

f. Continued

and quartzite. The probable fault at the base of the incline shaft in Adit 2, projected northeasterly will intercept the tactite body and Quadrant Quartzite along strike. Quartzite as well as limestone is a favorable host rock for ore deposits in other mining districts of Montana and Idaho, and where it associated with faulting and fracturing, a reasonable chance for an ore deposit may exist.

In a pit north of the incline shaft a 12-foot chip sample assayed 0.70 percent copper (see fig. 18, sample 6). No other samples for analysis of contained copper minerals are available.

g. Attached are the following reports

1. Pattee, E.C., 1960, Tungsten resources of Montana: Deposits of the Mount Torrey Batholith, Beaverhead County; U.S. Bureau Mines R.I. 5552, p. 1-41.

2. Winchell, A.N., 1914, Mining districts of the Dillon Quadrangle, Montana and adjacent areas: U.S. Geol. Survey Bulletion 574, p. 1-191.

3. Sketch of surface and Adit Nos. 1 and 2, Greenstone Mine, Beaverhead County, Montana.

4. Accessibility of Property

a. Mr. Carl B. Kennedy, Rex Land Company, P.O. Box 1771, will meet the OME representative sent to examine the property at Dillon, Montana, if previous trip arrangements are made. The representative can reach the property by car from the Apex siding north of Dillon by following the Birch Creek Road for 6½ miles to the Indian Queen property and continuing an additional 1½ to 2 miles northeast to the Greenstone mine at the head of Greenstone Gulch.

b. Shipping and supply points would be from Dillon, Montana, about 20 miles from the Greenstone property, or 8 miles from the Apex siding.

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5. Exploration Work

a. Proposed exploration work would include advancing Adit 1 northeasterly for a distance of 60 feet and Adit 2 a distance of 120 feet, the total footage to be 180 feet of 5' x 7' crosscuts.

Diamond drilling from the extended faces would ammount to 6 horizontal holes DDH1 through 6 for a total footage of 450 feet from the face of Adit 1, and 6 horizontal diamond drill holes from Adit 2 (DDH12) amounting to a total footage of 550 feet; total diamond drilling amounting to 1,000 feet.

b. No access roads need to be built.

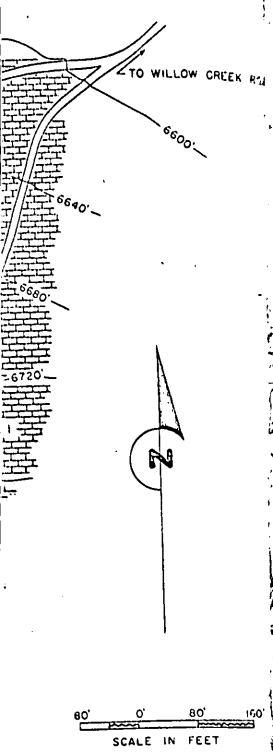
c. Work could be started upon execution of OME contract by June 1st and probable completed by November 1, 1967 (5 months). Crosscuts should be advanced at the rate of 4 feet per day (100 feet per month) and diamond drilling at the rate of 20 feet per day (400 feet per month).

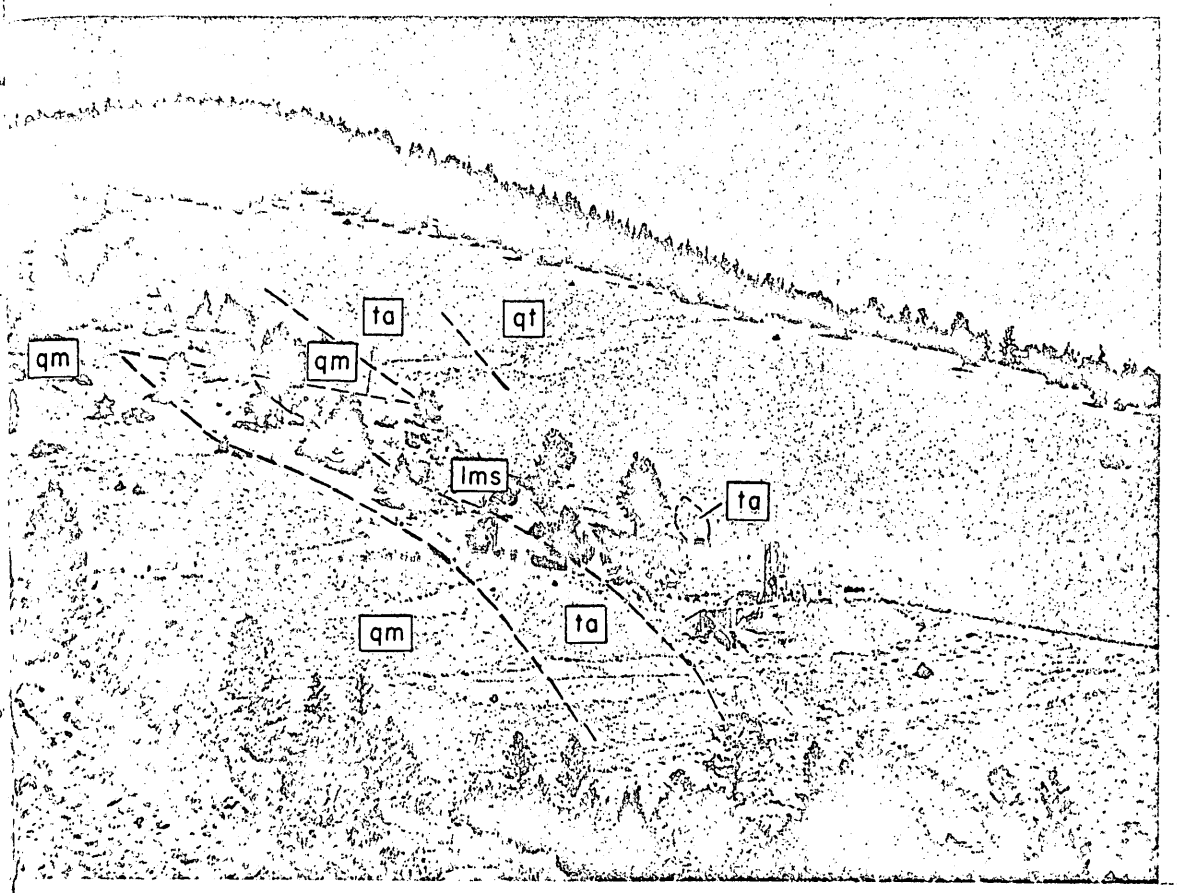
6. Experience

a. Mr. Carl B. Kennedy will supervise the work. Mr. Kennedy has been active for many years exploring properties in Montana jointly owned by Mr. Kennedy and his sister, Mrs. Farlyn E. Ubigau. Mr. Kennedy has supervised previous exploration work at the Greenstone property consisting of advancing Adit 1, drifting from levels in the vertical shaft, and supervising diamond drilling at the property.

7. Estimate of Cost (fixed costs)

Mr. Kennedy will contract the 180 feet of advance (5' x 7' and untimbered except through faults) for Adits 1 and 2 at a cost of $25.00 per foot, with Carl Kennedy supplying explosives, water and compressor; also lay 75 feet of track, airline, and water line in the upper Adit (No. 2) to the face of the tunnel. ?



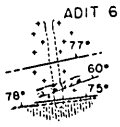


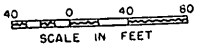
RE 17.—View of North Area, Greenstone Mine. Tactite (ta); quartz monzonite (qm); limestone (lms); quartzite (qt).

MPLE ASSAYS

ngth	Type	WO_3%	Mo%
—	Grab	0.056	—
4.5'	Chip	.06	<0.02
40.0'	do.	<.02	< .02
23.0'	do.	<.02	—
37.0'	do.	.14	—
28.5'	do.	.17	—
51.0'	do.	Tr.	—
	Grab	Tr.	—
28.0'	Chip	.06	Tr.
80.0'	do.	Tr.	Tr.
50.0'	do.	.06	Tr.

d locations are indicated by circled





. County, Mont.

occur in altered tactite on the footwall of a ow quartz vein near the face of the adit. ybdenite and pyrite are disseminated ugh the rock in the footwall of the vein. ft 3 was collared at the contact of tactite limestone. The contact appears to strike 0° E. and dip 30° easterly.

GREENSTONE MINE

The mine is a short distance south of the Glow Worm prospect and on the south slope of Greenstone Mountain. It is 8.8 miles from Apex by way of Farlin Gulch on Birch Creek. Scheelite and powellite in tactite are exposed south of Greenstone Gulch and in limestone and tactite north of the gulch.

The north area (figs. 17 and 18) was explored for copper before 1951 by 2 adits and a 235-foot shaft with 176 feet of drifting. In 1950 Minerals Engineering Company constructed an access road from the Willow Creek road and excavated 13 bulldozer cuts to explore for tungsten. One ton of sorted tungsten ore containing 1.2 percent WO_3 was shipped from the property.

The east margin of the Mount Torrey batholith extends southward through the claims. The intrusive is in contact with Amsden [17] limestone at the mine and Quadrant quartzite 1,000 feet to the north. The limestone near the contact has metamorphosed to tactite. The tactite south of the gulch, a dip-slope exposure (fig. 19), strikes N. 6° to 22° E., dips 39° E., and crops out continuously for 480 feet. The known width along the dip varies from 25 to 180 feet and averages 140 feet. The known thickness varies from 3 to 9 feet, with an estimated maximum of 24 feet. A portion in the center of the exposure has eroded and exposed underlying quartz monzonite that contains scheelite and inclusions of garnet. The scheelite crystals are up to 6.3 mm. long. The south and west boundaries of the dip-slope exposure are difficult to follow because of quartz boulders, and the hanging wall is concealed by overburden. Debris from two trenches less than 470 feet south of the exposure contains fragments of tactite; sparse float occurs for 1,000 feet farther south.

[17] Work cited in footnote 15, p. 16.

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North of the gulch a shaft is collared near the edge of a body of tactite containing some scheelite. There is a small exposure in a trench next to the shaft, but otherwise the rock in place is covered. Float can be traced for 115 feet N. 5° E. to a small exposure.

An adit southwest of the shaft has been driven northward in a second body of tactite. This body can be traced by exposures and float for 340 feet north from the bank of the road south of the portal. The horizontal width varies from 44 to 105 feet. The body trends a few degrees west of north and dips eastward. Deep overburden obscures a possible extension to the south.

A stope has been excavated to the surface on a mineralized portion of a shear zone from an adit northwest of the shaft. The walls of the stope contain finely disseminated scheelite and shoots of magnetite. Malachite stain and secondary powellite occur along shear planes which trend in a southeast direction.

A small pit has been dug to expose a shear zone at a point 84 feet north of the stope. The zone strikes N. 24° E. and dips at 69° to the southeast. Malachite stain, finely disseminated scheelite, and shoots of magnetite were observed in the pit. Barren tactite has been uncovered in a bulldozer trench 135 feet northeast of the pit.

COPPER CONTACT CLAIM

The claim, ½ mile south of the Greenstone mine, extends across Lime Gulch at a point ½ mile north of the Birch Creek road.

Fine, sparsely disseminated scheelite is contained in partly decomposed friable tactite which strikes N. 79° E. and dips 80° E. It is exposed in a small pit for 4 feet along the strike and 3 feet along the dip, with an average width of 2.5 feet. A 4-foot chip sample taken diagonally across the width assayed no tungsten. Quartz monzonite and Mission Canyon [18] limestone bound the north and south sides, respectively. Possible extensions are obscured by overburden. Underground workings are caved, and no tungsten minerals are on the dumps.

INDIAN QUEEN MINE

The claim is 6.5 miles west of the Apex siding via the Birch Creek road at the south end of a ridge between Lime and Farlin gulches. The end of the ridge slopes about 25° south toward Birch Creek.

The deposit probably was discovered in the 1860's, when the area was prospected for gold and copper. A blast furnace for smelting c per was installed in 1903 at the property. T mine is the main producer of copper. Cop production in the district was valued at m than a quarter of a million dollars. No tu sten has been produced from the claim.

According to Stevens,[19] the undergrou workings totaled about 1,600 feet in 19 Three adits totaling 321 feet long are accessi at present. Two shafts averaging 38 feet depth are open, but unsafe.

The deposit is on the east margin of Mount Torrey batholith. Two tactite bod containing scheelite occur along the contact quartz monzonite and Mississippian Miss Canyon [20] limestone (figs. 20 and 21). At south end of the property, the contact tre in a north-south direction, but near the no end of the claim it turns to the east. Tac continues about 400 feet northward from turn into the quartz monzonite. The ro along the contact have been intensely faul and sheared. Scheelite is generally finely seminated, but crystals to 25 millimeters oc Malachite and azurite were observed, and W chell [21] reports several other copper minerali

A dip-slope exposure of tactite, containin negligible amount of scheelite, extends w ward for 144 feet from near the inaccess main adit. It strikes N. 70° W. to S. 80° and dips 51° to 65° southward. The bod exposed up to 92 feet along the dip. thickness is estimated by projection to be than 30 feet.

A large body of tactite, which is mostly ren, can be traced by float and exposures 1,030 feet northeastward from a point 44 north of the main adit. The width ra from 6 to 370 feet and is estimated to ave 160 feet. The depth is unknown, but expos differ in elevation by about 290 feet. The portion of the body that contains enough t sten to show in the assays is at a small pit feet northeast of the main adit. The rock tains some scheelite, magnetite, and malac It is gray and banded. This showing ext to a small pit 24 feet to the northwest. A sample assayed 0.14 percent WO_3. Negli amounts of scheelite shown by fluorescence qualitative tests occur in the body in outc at sample 3, in outcrops at the west end of ple 5, in adit 2, and in adit 3 (fig. 20).

SAMPLE ASSAYS

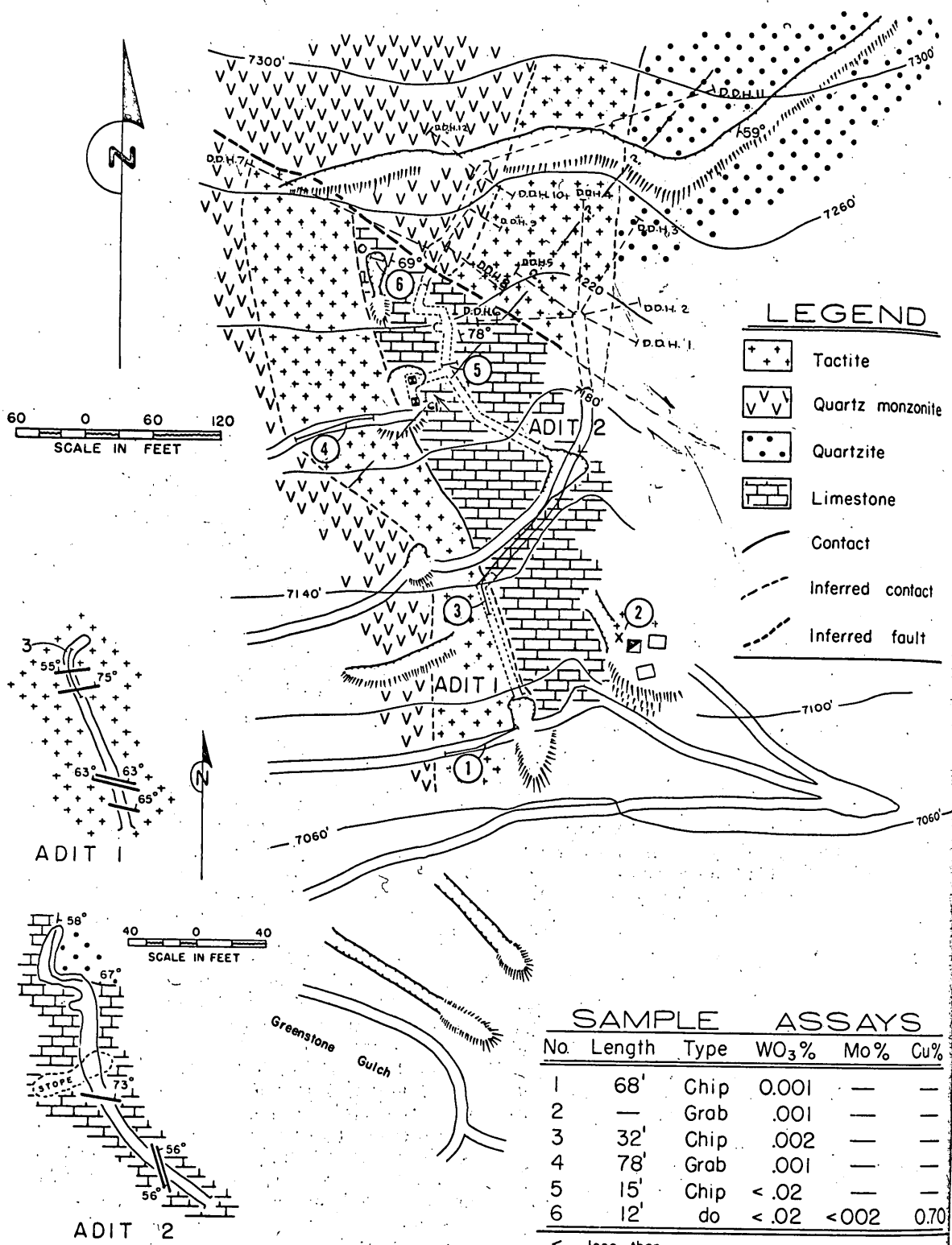
No.	Length	Type	WO_3 %	Mo %
1	71.0'	Grab	nil	—
2	34.7'	Chip	nil	—
3	17.0'	do	nil	—

[18] Work cited in footnote 15, p. 16.

[19] Stevens, H. J., The Copper Handbook: Vol. 6, 19 581.

[20] Myers, W. B., Geology and Mineral Deposits of the west Quarter Willis Quadrangle and Adjacent Brown' Area. Beaverhead County, Mont.: Geol. Survey Ope Rept., 1952, pl. 1.

[21] Winchell, A. N., Mining Districts of the Dillon rangle, Mont. and Adjacent Areas: Geol. Survey Bul 1914, pp. 61–65.



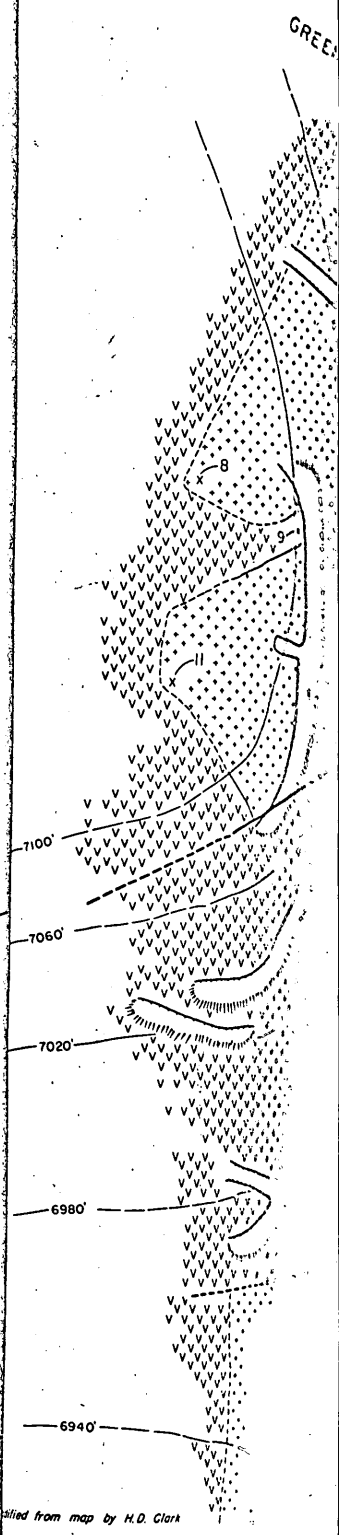
SAMPLE ASSAYS

No.	Length	Type	WO_3%	Mo%	Cu%
1	68'	Chip	0.001	—	—
2	—	Grab	.001	—	—
3	32'	Chip	.002	—	—
4	78'	Grab	.001	—	—
5	15'	Chip	< .02	—	—
6	12'	do	< .02	<002	0.70

< less than

Sampled locations are indicated by circled numbers

FIGURE 18.—Greenstone Mine, North Area, Beaverhead County, Mont.



Compiled from map by H.D. Clark

FIGURE 19

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aplitic dikes, somewhat irregular in form. The Greenwich mine is ocated on a contact between the quartz monzonite and the Pennsylvanian (?) (Quadrant?) quartzite.

The areal geology of the Utopia district is shown in figure 3.

ORE DEPOSITS.

COPPER.

The Indian Queen mine is located on a limestone and monzonite contact along which some faulting has occurred. The limestone lies on the east side and the monzonite on the west side of the contact, which here runs irregularly north and south. The ore occurs in irregular shoots and bunches in the fault proper or in the limestone near the contact. The ore has been developed to a total depth of about 500 feet from the surface. Most of it has come from the oxidized zone, although some very rich massive chalcocite ore was found just below that zone. The ore minerals include native copper, malachite, azurite, chrysocolla, cuprite, and melaconite in the oxide zone, and chalcocite, bornite, and chalcopyrite in the sulphide zone. The gangue minerals include quartz, calcite, hematite, garnet, epidote, diopside, and axinite.

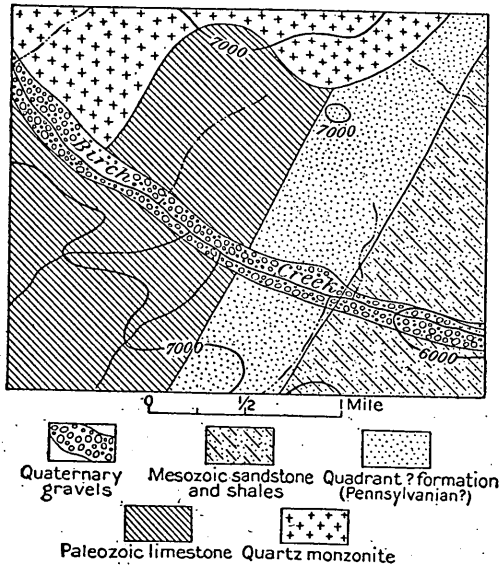

FIGURE 3.—Geologic sketch map of the Utopia (Birch Creek) mining district, Mont.

The Indian Queen mine is opened by an adit tunnel reaching a vertical depth of about 300 feet, with raises and winzes, and by several shallow shafts near the top of the hill.

The Greenstone mine is about 2 miles northeast of the Indian Queen mine, along the contact between monzonite and quartzite, at an elevation of about 7,200 feet above sea level. The lead strikes east and dips north, and the main contact strikes north. Quartzite of this horizon seems to outcrop continuously south-southwestward across Birch Creek at the narrowest part of the canyon, and north-northeastward at least to Barber Gulch, about halfway between Birch Creek and Willow Creek. On the Fairview claim on Barber

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Gulch the monzonite is cut by numerous aplite dikes, and is in contact with quartzite which contains layers curiously spotted brownish red and gray, apparently by unequal distribution of iron oxide. Other layers close at hand consist of dense gray quartzite, filled with numerous small rudely ellipsoidal openings which average about 0.5 millimeter in diameter and lie in all positions. Some of them are partly filled by a pale-greenish mineral which weathers brownish.

These quartzites are strikingly similar to the Weber quartzite[1] of the Pennsylvanian of Utah, and seem to represent the same horizon. They probably belong to the Quadrant formation.

IRON.

Deposits of magnetite iron ore occur in limestone on the south side of Birch Creek about half a mile south of the Indian Queen mine. They have been worked from time to time to obtain fluxing material for copper or lead smelters. They occur as irregular pockets and are opened by shallow pits and shafts.

ORIGIN OF ORE DEPOSITS.

The ores of the Indian Queen and Greenstone mines are very plainly of contact origin—that is, they have been produced by solutions escaping from the intrusive magma along its contacts with sedimentary rocks. Chemical action between these solutions and the sedimentary rocks concerned is probably important in many cases in producing precipitation and localization of ores. The evidence of such an origin for these ores is unusually complete. It may be outlined as follows:

1. The ores are restricted in occurrence to the zone of contact between the intrusive and the sedimentary series.

2. The ores include, in addition to minerals due to enrichment, sulphide minerals intimately associated with oxides; that is, chalcopyrite and bornite are mingled with magnetite and hematite. This association is well known in ores produced by contact metamorphism and is unknown or rare in other deposits. It is, of course, common also in the ores of pegmatites, which are closely related to contact-metamorphic ores.

3. The ores of the Indian Queen mine are intimately associated with minerals such as garnet, epidote, diopside, and axinite, which are often produced by contact metamorphism of limestone. Axinite is an indication of the close relationship between contact-metamorphic ores and the ores of pegmatites.

4. The ores are closely related in occurrence to intrusions of aplitic dikes which are probably differentiation products from the monzonitic magma.

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[1] Blackwelder, Eliot, U. S. Geol. Survey Bull. 430, p. 540, 1910.

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According to Vogt[1] the contact-metamorphic iron deposits of the Christiania region of Norway were formed before the solidification of the igneous intrusive from which they came. In the Utopia district the contact ores were formed after the solidification of the quartz monzonite, for they extend a short distance from the contact into the monzonite. Such ores seem to be associated rather closely with aplitic intrusions. In Bear Gulch (Tidal Wave district), in the Moose Creek district, in the Bryant (Hecla) district, and in the Argenta district the evidence is clear that ores of contact-metamorphic origin were formed after the solidification of the igneous intrusive.

PRODUCTION.

The production of metals in the Utopia district in 1903 may be estimated from the known output and net value of copper matte and metal; for the years 1904 to 1909, inclusive, the production of metals may be tabulated from the records of the United States Geological Survey. The following statistics, thus obtained, show that the district has produced metals having a total value of more than a quarter of a million dollars:

Production of metals in the Utopia district.

Year.	Ore.	Gold.		Silver.		Copper.		Total.
	Tons.	*Fine oz.*		*Fine oz.*		*Pounds.*		
1903	1,600	40.00	$828	16,500	$8,844	700,000	$92,750	$102,422
1904	1,200	30.14	623	12,579	7,198	525,639	67,403	75,224
1905	.....	.....	.....	.....	.....	.....	.....	.....
1906	707	14.52	300	3,975	2,663	191,926	37,042	40,005
1907	471	.69	14	2,449	1,616	103,207	20,642	22,272
1908	341	74.45	1,539	1,249	662	107,172	14,147	16,348
1909	199	3.09	64	420	218	28,765	3,739	4,021
1910	35	.24	5	46	24	10,885	1,382	1,411
1911	65	.87	18	154	82	14,877	1,860	1,960
1912	31	2.47	51	194	119	4,627	764	984
	4,649	166.47	3,442	37,566	21,426	1,687,098	239,729	264,647

In addition to the output stated in the above table the district in 1912 produced 1,102 pounds of lead, valued at $50.

ARGENTA DISTRICT.

LOCATION.

The Argenta district is situated at the mouth of the canyon of Rattlesnake Creek, about 12 miles west-northwest of Dillon, which is the county seat of Beaverhead County and an important station on the Oregon Short Line Railroad. The Argenta mines are at an elevation of 6,000 to 6,500 feet, just above the bench lands south of the creek, which are so evenly graded between Argenta and Beaverhead River that the region looks like a flat plain.

[1] Vogt, J. H. L., Am. Inst. Min. Eng. Trans., vol. 31, p. 138, 1902.

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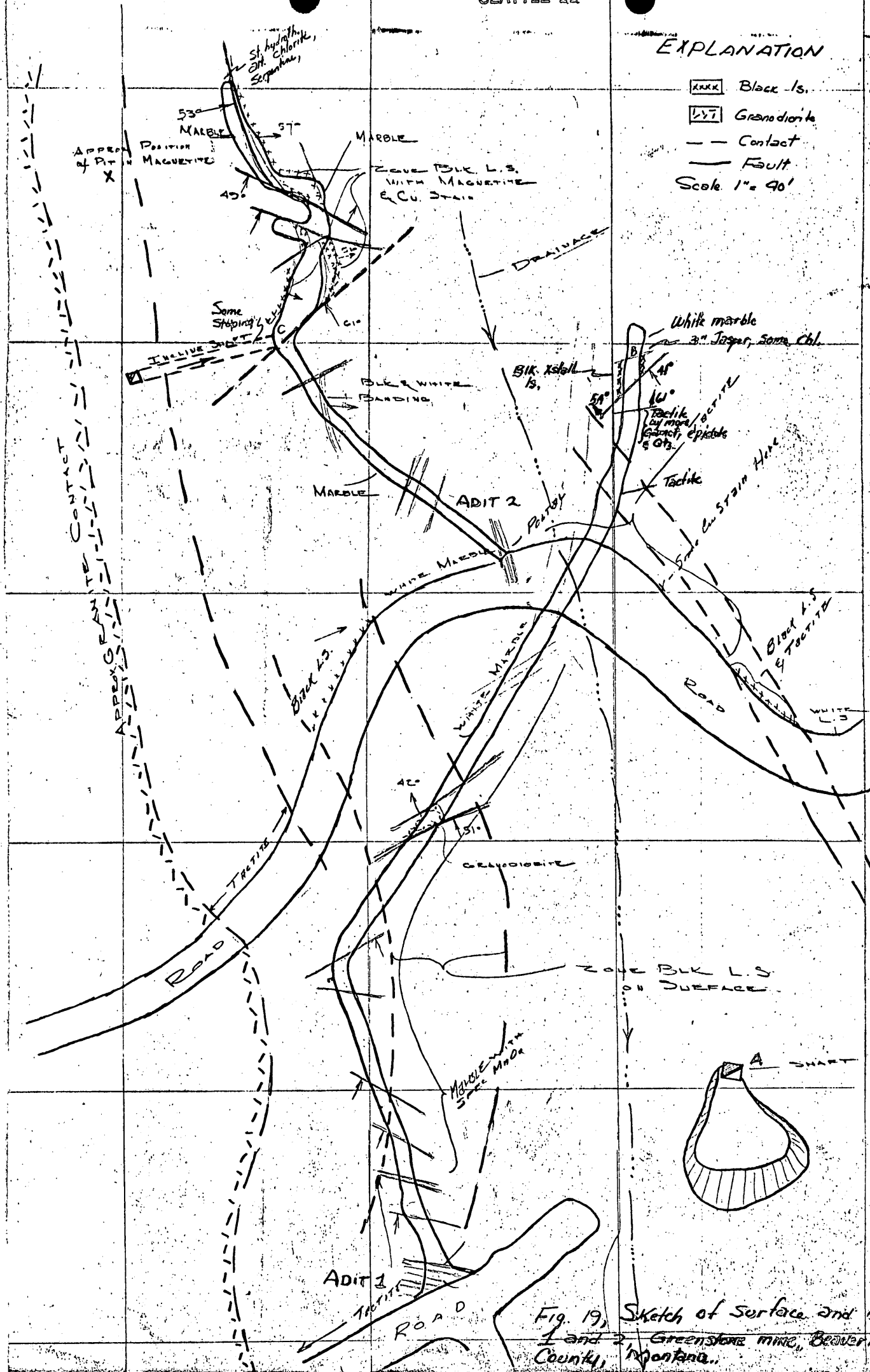

Fig. 19, Sketch of Surface and Adit Nos. 1 and 2, Greenstone mine, Beaverhead County, Montana.

Carl Kennedy

7. Estimate of Cost Continued

a. Under independent contractor

1.	Contract for 180 feet of advace of Adits 1 and 2 at $25.00 per foot	$ 4,500.00
2.	Contract for 1000 feet of diamond drilling from Adits 1 and 2 at $10.00 per foot	10,000.00

b. Personal Services

1.	Supervision by Carl B. Kennedy for contract work, engineering services and supervision for installing 75 feet of track ties, water line and airline in upper adit ($400 per month for 4½ months)	1,800.00
2.	Engineering services (checking geology and drift bearings, bearings of diamond drill holes and logging core)	600.00
3.	Labor for laying track, airline and water line in upper Adit (No.2) 10 shifts at $20.00 per shift	200.00

c. Operating material and supplies

1.	Twelve pound mine rails and ties for 75' of tunnel	125.00
2.	Pipe (air and water)	100.00
3.	Mine rail ties and air and waterline for 180' drifiting	550.00
4.	Swivel Type core barrel	150.00
5.	2 EX diamond drill bits	300.00

d. Operating Equipment

1.	Diesel powered compressor at $10.00 per day for 90 days	900.00
2.	Compressor in good condition and valued at $3,500.00 to be furnished by Carl Kennedy.	

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7. Estimate of Cost Continued

d. Operating Equipment Continued

3. Gardiner-Denver #9 Mucking machine in good condition and valued at $1,500.00 to be furnished by Mr. Kennedy.

4. Three Liners, Gardner-Denver, Ingersoll-Rand, & ICP, good condition and valued at $800.00 (total) to be furnished by Carl Kennedy.

5. C.P. Diamond drill and Core barrel with EX drill rod, all in good condition and valued at $3,500.00.

6. Three 1-ton mine cars in fair condition and valued at $200.00 (total).

7. Small tools and air hose and waterhose in fair condition, valued at $300.00.

e. Movable Equipment amounts to the following:

UNIT	CONDITION	ESTIMATED VALUE
1 Weapons Carrier pckup	good	$400.00
1 GMC 3/4 ton pickup	good	600.00
1 Chevrolet dump truck	fair	350.00
1 Ford F-6 w/churn drill & welder	good	2500.00
1 3T D7 Caterpillar	fair	3500.00

Equipment that may or may not be used in the project:

2 stopers	good	200.00
2 Jackhammers	good	150.00
1 Air hoist	good	350.00
2 Sinking buckets	good	50.00
1 Surface hoist	good	250.00
1 Electric grinder	good	50.00
1 3KW generator	good	250.00
1 Blower & Electric motor	good	75.00
1 Air fan	good	100.00
1 DC Arc Welder	good	500.00
1 Air Sump pump	good	150.00
1 Air Chain saw	good	125.00
1 gasoline chain saw	good	175.00
1 electric chain saw	good	75.00

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7. Estimate of Cost Continued

e. Equipment Continued

DEPRECIATION OF EQUIPMENT

Unit & Value	Deprec. 1 yr. for 6 yrs	Deprec. for Number Months	Amount
Compressor $3500	$583	3	$145.00
Mucking Machine 1500	250	2	41.00
Three liners with Air & Water hoses 800	150	2	25.00
Diamond Drill & Equipment 3500	583	2½	116.00
Three mine cars 200	33	2	6.00
3/4 ton GMC pickup 600	100	5	42.00
Air fan, blower and motor 175	29	5	12.00

Total depreciation $387.00
OME Share of Depreciation $193.50

Contract, if OME loan is approved, can provide for equipment furnished by operator at a normal depreciation allowance in lieu of rental for time it is actually used on exploration work (about 2 months of drifting of 1/6 year, and 2½ months for diamond drilling or 1/5 year).

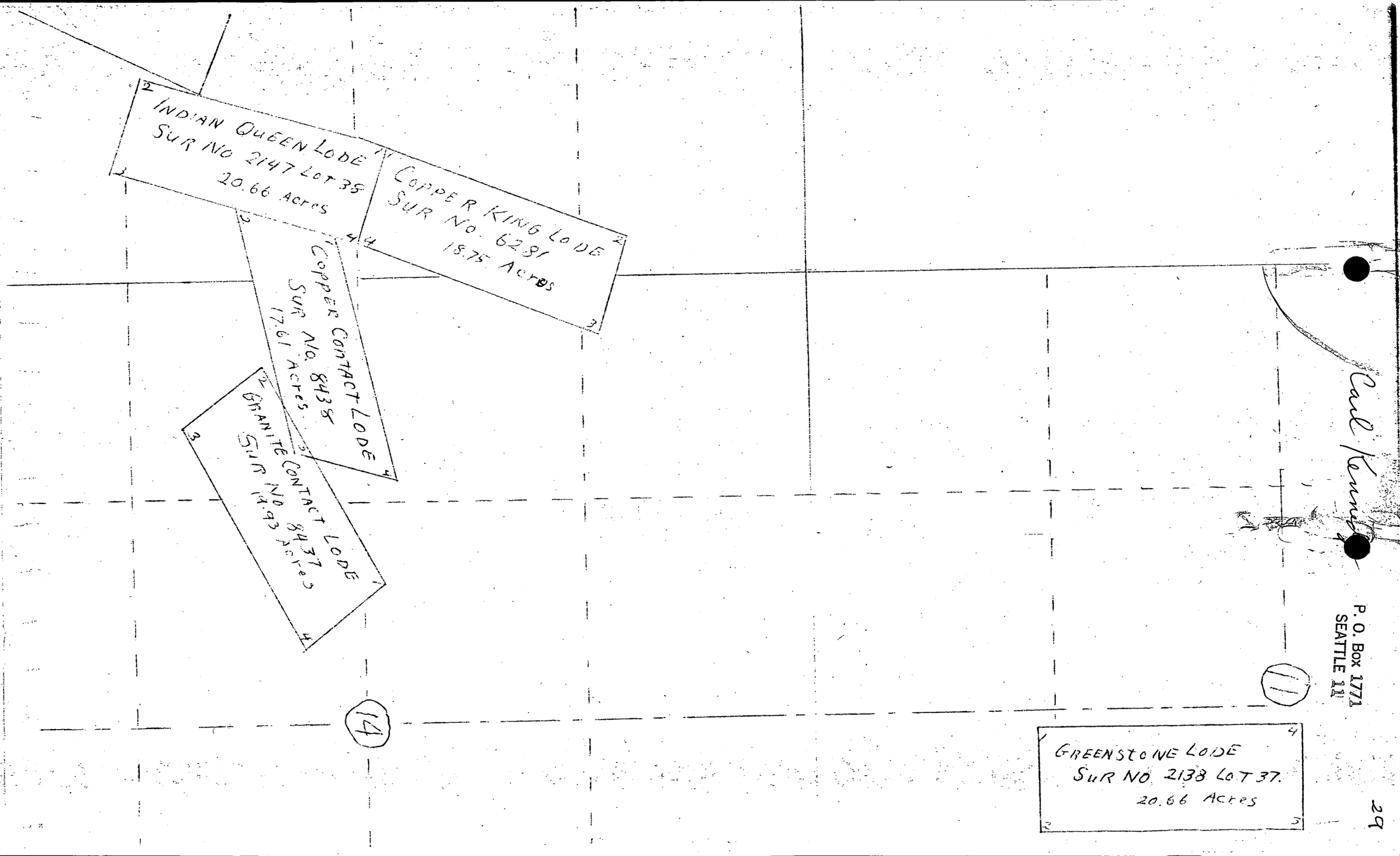
f. None

g. Estimated cost of maintenance and repair of operating equipment 300.00

Since nearly all labor is to be performed on an independent contract basis, it is not anticipated to have accounting, office expense, workman's compensation, unemployment or payroll taxes.

TOTAL AMOUNT OF MONEY REQUESTED	$19,525.00
CONTINGENCY	1,950.00
TOTAL	21,475.00

KENNEDY PARTNERSHIP CONTRIBUTION	$10,737.00
OME Contribution	$10,737.00
OME Depreciation Share	193.50
TOTAL OME CONTRIBUTION	$10,930.50


INDIAN QUEEN LODE
SUR NO 2147 LOT 35
20.66 Acres
COPPER KING LODE
SUR No. 6281
18.75 Acres
COPPER CONTACT LODE
SUR No. 8438
17.61 Acres
GRANITE CONTACT LODE
SUR No 8437
14.93 Acres
GREENSTONE LODE
SUR NO 2138 LOT 37.
20.66 Acres
14
11
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SEATTLE 11

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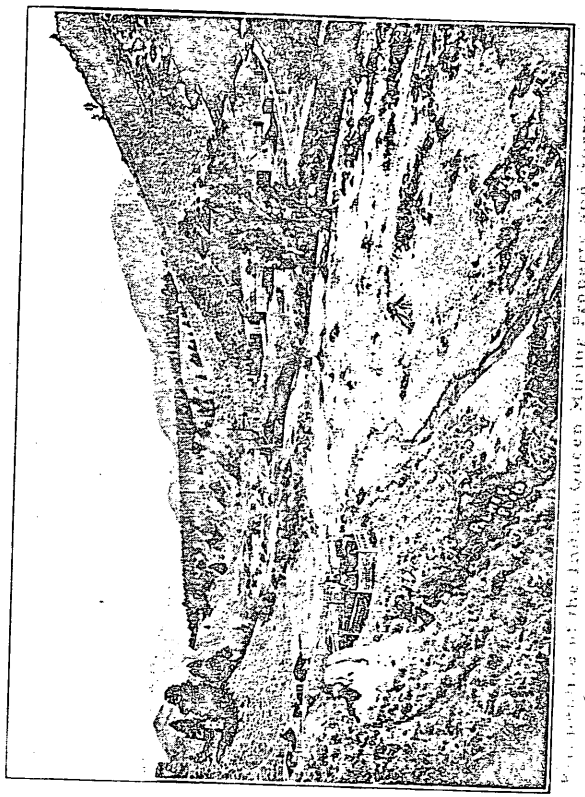
Indian Queen Mining and Smelting Company

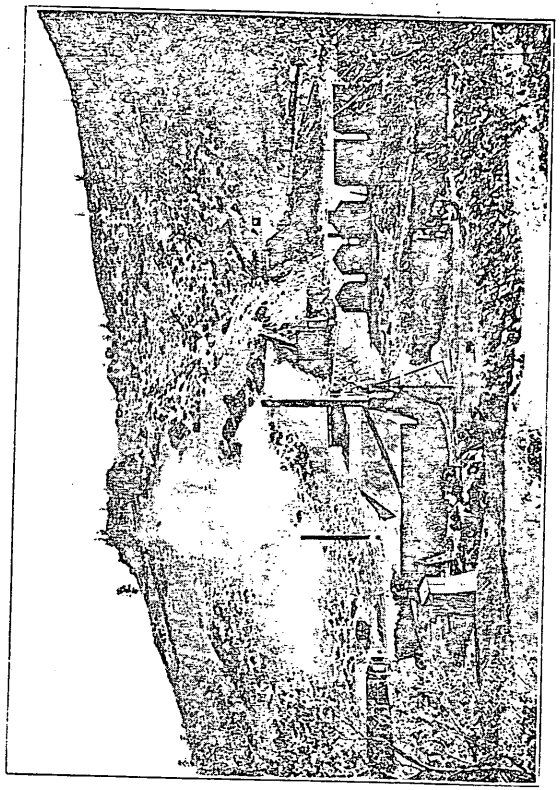
Such is the business of copper mining. Copper mining has grown to be a settled and stable industry, instead of a hazardous speculation. Better machinery has been in



Bird's-eye View of the Indian Queen Mining Property and Surrounding Country, Showing Rocky Mountains in the Distance

vented, reducing the cost in the way of treatment, and mines are being worked in a more scientific and business-like manner than in former years.

It is now generally conceded that money judiciously invested in copper mining enterprises yields much larger returns, with no more attendant possibilities of absolute loss, than in any other form of mining. Statistics sustain the statement that there is more money invested in mining than



View of Smelter and Mine (Actual Size of Smelter Shown)

there is in banking, and the former pays a much handsomer dividend; that mining produces quicker and larger profits than any other industrial pursuit, a fact which is evidenced by the numerous millionaires and thousands of wealthy people whose fortunes have been derived solely from this source.

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Indian Queen Mining and Smelting Company

The production could have been doubled during this period but for difficulty in securing coke from the coke regions.

FACTS AND FIGURES

MATTE SHIPMENTS FROM THE INDIAN QUEEN MINE

JULY 12th, 1903, TO JUNE 1st, 1904

LOT	Lbs. Weight	Lbs. Copper	Ozs. Silver	Ozs. Gold
1	20,761	14,742	372.7	0.26
2	40,060	22,957	515.2	1.11
3	34,817	19,055	457.3	0.86
4	36,236	19,490	453.8	0.99
5	35,996	20,103	430.7	0.92
6	33,550	19,124	386.0	0.50
7	37,220	20,667	416.6	0.55
8	35,890	19,452	490.0	0.72
9	34,248	17,740	445.1	0.68
10	33,410	18,007	443.6	0.84
11	43,390	22,905	519.6	1.08
12	28,760	14,725	337.9	0.58
13	44,290	22,145	555.8	1.10
14	42,620	23,355	530.3	0.85
15	43,410	24,006	545.7	0.75
16	41,810	21,866	555.9	1.25
17	44,900	24,994	601.7	1.37
18	42,210	21,316	521.2	0.85
19	42,210	21,316	521.1	0.84
20	45,200	24,046	628.3	0.90
21	40,840	20,420	575.8	1.02
22	37,990	19,640	469.1	1.00
23	48,245	30,313	724.0	1.20
24	40,850	20,905	512.4	1.19
25	47,670	22,878	606.4	5.97
26	20,000	8,988	363.5	1.87
27	37,330	18,291	578.1	1.49
28	34,900	16,263	416.7	2.09
29	36,848	17,611	442.2	0.92
30	37,500	18,750	468.7	1.12
31	38,740	18,595	464.9	0.97
32	31,850	15,829	382.2	1.43
33	37,370			
34	22,984	11,784	248.0	0.72
35	32,246	19,616	428.6	0.92
36	34,920	18,774	436.0	1.02
37	28,460	17,863	394.5	0.97
38	27,000	16,100	337.5	0.54
39	33,620	18,155	400.0	0.84
40	37,910	20,926	439.7	0.76

Statement of Indian Queen Matte, etc., Received at Butte & Boston Smelter from August 24th, 1903.

Date Received	Dry Weight Pounds	Assays			Total Value
		Silver Ounces	Gold Ounces	Pr Ct Copper Fire Assay	
1903					
Aug. 24, Matte	33,348	23.	.03	57.	$ 1,989.71
29, "	32,950	23.1	.03	56.7	1,977.99
29, Ore	1,218	17.	.03	46.5	189.90
Sept. 3, Matte	35,890	27.3	.01	54.2	2,110.33
11, "	31,248	26.	.01	51.8	1,916.52
19, "	33,410	26.5	.05	53.9	1,915.90
26, "	43,300	24.	.05	52.9	2,363.75
26, "	28,760	23.5	.01	51.2	1,517.23
Oct. 1, "	44,290	25.1	.05	50.	2,273.18
8, "	42,620	24.9	.01	54.8	2,332.16
12, "	41,430	23.8	.03	54.3	2,231.42
12, Metal	1,980	41.	.12	70.8	147.69
16, Matte	41,810	26.6	.06	52.3	2,224.08
21, "	44,900	26.8	.07	55.6	2,529.66
Dec. 6, "	39,870	27.	.04	58.3	2,124.87
7, Metal	8,255	48.5	.26	89.2	722.23
11, Matte	33,810	24.1	.05	49.7	1,565.57
12, Metal	7,040	37.4	.22	67.8	471.78
12, Matte	40,820	25.8	.09	48.9	1,896.29
17, Metal	6,850	23.3	1.20	42.6	352.81
28, Matte	17,730	36.	.12	44.9	826.57
28, Metal	2,270	39.	.71	45.2	120.93
1904					
Jan. 12, Matte	37,330	31.	.08	49.	1,890.02
Feb. 14, "	36,848	24.	.05	47.8	1,687.35
27, Metal	1,480	32.6	.48	46.2	228.05
March 1, Matte	38,740	25.3	.08	49.4	1,838.99
16, "	31,850	28.	.09	50.3	1,571.16
22, "	36,370	24.7	.05	54.1	1,911.61
22, Metal	1,008	56.	.60	77.2	87.36
16, "	4,630	37.	.47	49.5	253.86
April 4, Matte	21,254	23.3	.04	48.4	1,045.69
17, "	28,100	23.6	.03	56.4	1,586.67
17, Metal	1,734	45.5	.34	69.1	133.88
27, Matte	32,260	23.6	.03	50.4	1,660.09
17, Metal	4,146	46.9	.24	80.8	361.39
27, "	2,660	47.7	.40	77.5	230.86
May 3, Matte	23,930	23.2	.025	58.5	1,411.15
4, Metal	4,530	52.6	.30	81.8	413.14
18, Matte	23,920	21.2	.03	58.6	1,405.66
25, "	33,620	23.8	.05	52.7	1,759.17
25, Metal	1,930	31.9	.16	49.4	101.30
25, "	1,340	54.5	.42	87.3	127.95
June 2, Matte	37,910	23.2	.04	53.9	2,003.16
14, "	42,170	21.1	.04	49.1	1,943.83
23, "	23,210	25.5	.06	47.7	1,083.79
	1,093,799				$58,536.70

The above is a correct transcript of shipments on the B. & B. books.

JOHN GILLIE, Superintendent.

Carl Kennedy

P. O. Box 1771
SEATTLE 11

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Indian Queen Mining and Smelting Company

Montana Ore Purchasing Co.

F. AUG. HEINZE
President and General Manager

Butte, Montana, July 9, 1904.

Re: Shipment of Matte.

Indian Queen Mining and Smelting Co.,
Butte, Montana.

Gentlemen:

Acknowledging receipt of yours of the 7th inst., re shipment of matte to our smelter, we beg to advise you that we have received the following lots of matte shipped by you, and have paid you returns on same as per statement below:

1903			
July	12	Lot No. 8,404 / 8,405	$1,748.46
"	12	" 8,433	1,900.39
"	29	" 8,462	175.79
August	8	" 8,463	1,742.67
"	8	" 8,471	1,673.18
"	12	" 8,472	81.92
"	12	" 8,482	1,924.97
"	17	" 8,483	75.70
"	17	"	$9,323.08

Yours very truly,

MONTANA ORE PURCHASING CO.
R. A Carnochan.

PITTSMONT SMELTER SHIPMENTS

The following shipments were made to the Pittsmont Smelter, at Butte, Montana, during the month of February 1904:

February	7th	$1,651.82
"	25th	1,727.06
		$3,378.88

The Taylor & Brunton Ore Co.

BUTTE, MONTANA

Butte, Mont., July 8, 1904.

Statement of moneys paid for copper matte shipped from the Indian Queen Mine on the following dates:

Nov. 4th, 1903	Lot 54	$ 4,340.29
" 12th, 1903	" 79	2,568.26
" 18th, 1903	" 105	2,153.54
Dec. 3rd, 1903	" 165	2,009.78
		$11,071.87

J. R. WOODBRIDGE,
Manager.

REPORT OF G. H. HEBERLEIN, M. E.

LOCATION.—The Indian Queen Mine is situated six miles from Apex Station, on the main line of the Oregon Short Line Railroad, in Beaverhead County, Montana, just over the Divide from Butte. The elevation at the mine is about the same as at Butte, and is 5800 feet above sea level. The climate is mild and permits mining operations to continue throughout the year. A good wagon road connects the mine and smelter with the railroad; and shipments of supplies from Butte to the mine, or of copper in the opposite direction, can be made in any season.

GEOLOGY.—The country rock at the Indian Queen is quartz monzonite or granite, as at Butte, and dolomitic limestone. The ore bodies occur at the contact of these two formations. The contact of an eruptive with a sedimentary rock is a favorite location for bodies of copper ores, and similar deposits are proving highly productive in Arizona, New Mexico and other Western States and Territories.

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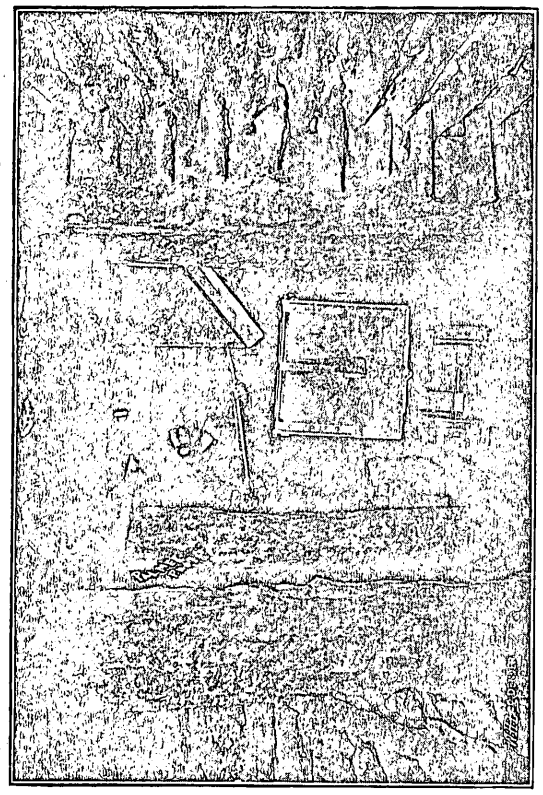
Indian Queen Mining and Smelting Company

The gangue is composed of minerals which contain lime, iron and manganese, as well as quartz, and is therefore smelted without difficulty. In this respect this mine



EMPTYING AN ORE CHUTE—INDIAN QUEEN MINE

has an advantage over the ores of Butte, which require the addition of lime and iron in order to make a smelting mixture.

The copper ores here are chiefly oxidized to the depth of 350 feet, and consist of the red and black oxides of copper, the green and blue carbonates of copper and a little copper glance or sulphide of copper. Below that level they are unoxidized and the ore minerals are copper glance, chalcopyrite, bornite and pyrite. Arsenic, antimony, bismuth, lead and other objectionable ores are conspicuous by their absence.

The main shoot of ore in the Indian Queen is continuous so far as developed, a distance of some 300 feet. The width of the ore varies from two to twenty-five feet. This ore shoot has been partially explored at the depth of 486 feet below the outcrop, and there contains first-class copper sulphide ores, mostly copper glance and bornite.

A second ore shoot has been explored to the depth of 150 feet below the outcrop, and there contains high-grade oxidized ores, chiefly carbonates. A cross-cut 130 feet in length will soon encounter this body of ore at the depth of 340 feet, on the level of the tunnel.

DEVELOPMENTS.—The Indian Queen Mine has been developed by tunnel and shaft. The tunnel now has a length of 900 feet, and is in good working order. The breast of the tunnel is in ore and in virgin ground. From this tunnel a shaft has been sunk to the depth of about 150 feet in sulphide ore. The shaft is not well situated for mining the ore which surrounds it, and is too small for a working shaft. It should be replaced by another sunk at one side of the ore, and will then serve to aid in ventilation. This proposed new shaft will make it possible to mine the ore already developed at minimum cost, and will also serve to explore the southern end of the property, where another ore shoot is known to exist, the value and extent of which are unknown.

EQUIPMENT.—For mining ore in the shaft below the tunnel there is a six-horse-

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Indian Queen Mining and Smelting Company

power gasoline engine, which also operates a Number 3 Hooker pump. The small pump is ample to take care of the water at the depth of 486 feet, and the pumping expense is trifling.

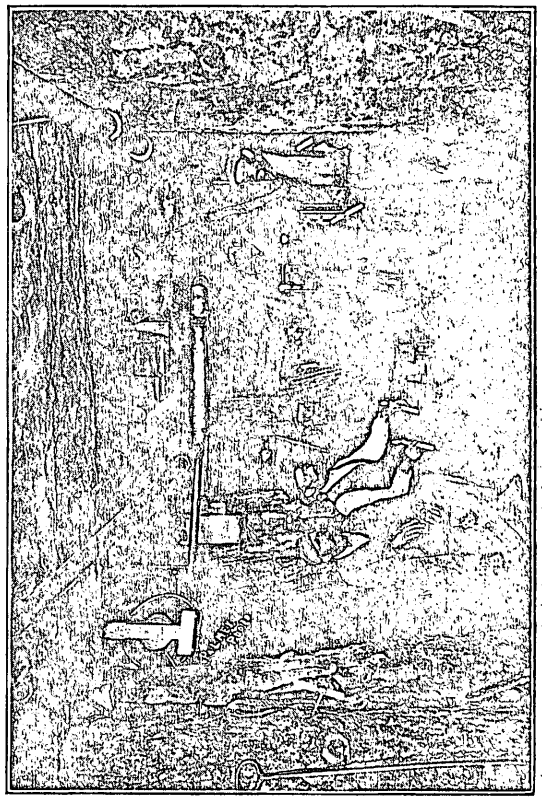
For several months past there has been in operation at the mine a 30-ton water jacket blast furnace, run by a 25-horse-power boiler and a 20-horse-power engine, with a rotary pump for emergency.

PRODUCTION.—With the above plant there has been produced about ONE MILLION THREE HUNDRED POUNDS OF COPPER MATTE from 6319 tons of ore during the last ten months. The average assay value of this matte was 54 per cent copper, 26.5 ounces silver and 0.07 ounces gold per ton. Operations were seriously hindered by the strike of laborers in the coke region last winter. Otherwise the production would have been much greater.

IMPROVEMENTS CONTEMPLATED.—In one item of cost alone there can be effected a saving of $2,000 per month. This item is the cost of power. It is proposed to develop a water power which will practically do away with the consumption of coal and operate a larger plant when one is required. There is abundance of water and ample head right at the mine to provide for this saving, which is estimated to amount to over 35 per cent of the cost of smelting.

The construction of a converter plant will naturally follow out of the profits of the mine, and will effect a further saving of some 20 per cent in the smelting expenses.

CONCLUSION.—This is no mere prospect. It is a developed mine, with a most enviable record as a producer of high grade copper ore. The ores thus far treated have an average value of more than twice that of the ores mined in Butte. The country rock is the same, with the addition of limestone, which is wanting in the Butte ores, and has to be mined separately and mixed with the latter in order to smelt them.



MINING STATION—INDIAN QUEEN MINE.

The mine is not in an inaccessible part of the world, but in the immediate vicinity of the largest mining camp on this continent, where miners, mechanics and engineers and all kinds of mining supplies can be quickly and cheaply procured. In brief, there is

U. S. Geological Survey. Bulletin 574
Utopia Dist. Location. Page 61, 1914.

The Utopia Mining district is situated on Birch Creek about 5 miles west of, and from 1,000 to 1400 feet above Apex station on the Oregon Short Line Railroad. Cu. mines extend from Birch Creek north-eastward about 2 miles. Magnetite iron ores occur south of the creek.

History

The district was discovered not long after the influx of miners into the region in 1862 and 1863, caused by the opening of the rich placer mines at Bannock and Virginia City. But for years it was not developed, because mines yielding principally cu. were then too far from smelters and from markets to be of much importance. Progress in the developments of the district was very slow. A few shafts of a mazimum depth of about 100 ft. were sunk, and a few tons of ore were shipped for testing purposes at various times during the later sixties and seventies. Even the advent of a railroad within about 6 miles of the district in 1882 caused no marked activity for several years. Finally about the close of the century, the Beaverhead Mining and Smelting Co. opened the Indian

II.

Queen Mine. Previous development work was directed largely to opening the Greenwich & Treasury claims, about 2 miles northeast of the Indian Queen in the foot-hills overlooking the Beaverhead Valley, and not directly on Birch Creek. Early in 1903 the company installed a 50 ton blast furnace which produced 990,000 lbs. of cu. matte and metal in 1903, of a net value of $57,600, and 770,000 lbs. in 1904 of a net value of $40,900.

Geology

In the Utopia district, sedimentary rocks are in contact with an intrusive batholith of monzonitic type. The intrusive mass extends into the mountains on the northwest plate III A., and the upturned sedimentary rocks rest in eruptive unconformity upon it, striking northeast and dipping southeast. The sedimentary series may be summerized as follows:

III.

Stratigraphic section on Birch Creek.
Thickness approximate.

Sands, gravels, clays, volcanic ash nearly flat (tertiary) (?).	
Green shale, dipping about 75 degrees southeast	1,700.
Gray sandstones weathering grayish brown	200.
Fossiliferous gray limestone, grading downward to black shale	250.
Red and green shales, with limestone layers	350.
Gray limestone, with shaly layers	150.
Red and green shales with gray sandstone layers	400.
Reddish gray sandstone	250.
Red shale	150.
Reddish shaly sandstone	350.
Folding and overthrust faulting	500.
Covered, probably shale	(?).
Hard brown sandstone	120.
Yellowish green shale	40.
Quartsite, showing folding, dipping 45 degrees (quadrant) ?	700.
Gray limestone (Madison) ?	600.
Dark shale (Threeforks ?)	50.
Gray to blue limestones (Jefferson and older)	1000.
Quartz Monzonite (intrusive).	

-Carl Kennedy

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Western Mining World Vol. 12 #16 Page 180 April 21,1900

The Birch Creek Cu. Mining & Smelting Co. is the name of a new company organized recently by Butte capitalists for the purpose of operating the Indian Queen Mine on Birch Creek, Beaverhead County, about 12 miles from Dillon, says the Inter Mountain. A one-half interest in the Indian Queen Mine was owned by Sam Marcheneau of this city. The new company is composed of the following: P. H. Dawe, Pres., Joseph Annear, V. Pres., Ben Annear, Treas. and Sec't., and Tom Ellis. The Indian Queen has been worked in a desultory fashion for the past few years. It has a shaft 200 ft. in depth and a drift 175 ft. in length, which is all in ore. The ore is of a carbonate character, although small stringers of sulphide ore have been encountered in the tunnel, which is being driven to cross cut the lead, and which is now in 45 ft. It is estimated that the vein will be reached at a distance of 600 ft., which will give a depth of 450 ft. from the surface. No water has yet been encountered The vein is from 5 to 7 ft. wide. While assays as high as 20% cu. have been obtained from the ore, shipment of two carloads to the Colorado Smelter in Butte, is about 12%. If the ore body continues as rich below, as it is near the surface, plans will be perfected for the building of a smelter on Birch Creek.

(Staff corresp. Helena) Western Mining World
Vol. 18 # 17 Page 18 April 25, 1903.

The Dillon Tribune reports that a smelter has been purchased and will be in operation in a few weeks on the Indian Queen Mine at Birch Creek, Beaverhead County. It is said the various claims on the Creek will furnish plenty of ore for the smelter. Seventy-five cars of high grade ore have already been shipped from the Indian Queen, and there are large quantities in sight. The report that the Ajax has been bonded is denied. On the contrary, it is asserted that a company will be formed by the owners. A recent clean-up of 17 days run gave $2,400 in gold. The concentrates that are left will run from 25% to 40% lead, 7 to 8 oz. silver, $25 gold. The capacity of the mill will be increased.

M.& S. Press Aug. 22, 1903 Page 122
Sp. Correspondence

At the Birch Creek smelter of the Western Mining Co. operating the Indian Queen Mine at Farlin, Sup't. G. A. Heberlun is treating 423 tons of dry ore per day, and shipping 20 tons of matte every four days. The matte assays 55% cu., 30 to 40 ozs. silver, .10 to .25 gold. T. F. Stevens is manager of the company.

M.& S. Press Aug. 22, 1903 Page 122
Sp. Correspondence

M.& S. Press Aug.13, 1904 Page 112

At the Indian Queen Mine near Farlin, another vein of ore, 12 ft. wide, has been opened up and runs 6% cu. the entire width of the vein. The ore of the vein is said to be self-fluxing. The Co. will sink a double compartment shaft 500 ft. in the granite outside of the tunnel and will put in a stronger hoist. A steam engine is now used for all power, but this will be replaced with H2O power. A ditch 1500 ft. long is going to be run from Birch Creek, which will give a fall of 30 ft. By the present method, it costs about $250 per ton to handle the ore. The new shaft will also open up the sulphide ores. About 60 men are worked by the Indian Queen Co.; three shifts a day are run at the smelter and two shifts a day at the mine, each shift being 8 hours. G. A. Heberlein is Sup't. of the mine and smelter. The Indian Queen Mine & Smelter Co. also owns the Bridge Gulch & Beaverhead Claim which is an extension of the Indian Queen Mine.

Mining World Vol. 19 Nov. 14, 1903 Page 30

Sup't. Heberlein has 50 men employed at the Indian Queen Mine & Smelter plant at Farlin, Montana.

Mining World Vol. 19, Page 32 Sept. 19, 1903

Messrs. Stevens, Ellis, and Robinson who have been operating the Indian Queen on Birch Creek under a lease and bond, have made a large payment and have formally taken over the ownership of the mine. The bond was for $45,000 and the original owners were Morcheneau and Farlin, the Farlin interests being owned by the heirs of G. W. Farlin who died over a year ago. The men who bonded the mine have not been disappointed in the mine--in fact, it has surpassed their greatest hopes. Everywhere that development has been made, vast bodies of ore have been revealed. The smelter is kept running at its full capacity, and the only regret is that it is not larger since it is running smoothly and doing excellent work. It is still the intention of the owners to greatly enlarge the smelter since there is plenty of ore to run one of several times the capacity. It is sincerely hoped that the enlargement will be made, as it means much to the mining interests in the district.

There are many promising groups of claims adjoining the Indian Queen but of course their value so far is largely determined by the showing of the Indian Queen Mine.

Mining World Vol. 22 Page 170 Feb. 4, 1905

The Indian Queen Mine in the Birch Creek district in Beaverhead County recently sold by the Indian Queen Mine & Smelting Co. to Sam Barker Jr. of Butte, has been actively operated by the new owner. The sale was made through Reynolds & McKowell, and the purchase price was $200,000. Since the property has changed hands, a force of about 35 men has been employed at the mine, sinking a new shaft and improving the surface buildings and the old workings, with a view to operating the property upon an extensive scale. The Indian Queen is a cu. mine, and during the last few years, it has yielded considerable valuable ore--some of which was reduced at the mine, while a good deal was treated at Butte and Anaconda. During the past year, nearly $100,000 worth of ore was taken from the mine.

Ore Deposits
by Samuel Emmons and others page 374

No attempt will be made to discuss or describe contact deposits of the Kristiania type. The Jimenery Copper Mine, Chihuahua, Mexico, is a typical example of this class, and the Indian Queen Mine at Farlin, Beaverhead County, Montana, is another example in which later fracturing and enrichment have taken place. (Also Bisbee Arizona.)

Examples of the Cananea type of contact metamorphic deposits are less common, though the two noted herein are now rated among the most productive mines.

(Chihuahua, Mexico, the 11th district in the world--1906).

The Copper Mines of the World
by Walter Harvey Weed 1907 page 336

The Indian Queen Mine at Farlin, Beaverhead County, is the largest single producer outside of the Butte District. The ore occurs in irregularly lenticular masses of chalcopyrite and pyrite with glance, lying in fault clays along a movement plane between granite and limestone.

The limestones show contact metamorphism, but the ores do not occur as a contact deposit, but are the result of hydrothermal action.

Carl Kennedy

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U.S. Geological Survey 1908 page 446

Utopia District; one car of copper ore containing an average of 2.2% was shipped from the Greenstone Mine. Lessees operating the Indian Queen Mine made regular shipments of 15% copper ore, averaging about 4 oz. in gold. Some of the ore was treated in the furnaces installed on the Silver Fissure property in the Polaris District.

U.S. Geological Survey 1909

The Greenstone and the Indian Queen properties were reported as producers in 1909, the ore shipped containing principally copper with a little gold and silver. The latter property is opened by a shaft 530 ft. deep.

Mineral Resources

1903 Pge. 212	Produced Cu. ore.
1905 Pge. 249	High grade cu. ore was shipped to smelter.
1906 Pge. 273	Shipping high grade cu. ore.
1907 Pge. 320	Continues to operate under bond. Gold and silver.
1908 Pge. 446	Made regular shipments of 15% cu. ore. Averaging 4 oz. silver. Largest shipper outside Butte.
1909 Pge. 367	Made small shipments of ore containing cu. with gold and silver.
1910 Pge. 478	Produced small tonnage of cu. ore containing ore with gold and silver.
1911 Pge. 621	Shipping.
1912 Pge. 752	Cu. and lead ore.
1913 Pge. 599	Cu. sulphide ore and silver, gold.
1914 Pge. 744	Idle.
1915 Pge. 589	Shipping dump.
1917 Pge. 344	Shipping cu. and silver.
1919 Pge. 510	Producing Cu. ore.
1923 Pge. 459	Shipped one test lot of Cu. ore.

Telephone 3-3302

Hand Sample Serial 49279

ASSAY CERTIFICATE

UNION ASSAY OFFICE, Inc.

J. V. SADLER, President
A. C. SELBY, Vice-Pres. & Treas.
A. C. SELBY, Jr., Secretary

Salt Lake City, Utah

Mine U. S. 91 Carl B Kennedy
Pelican 421 Sullivan Road

RESULTS PER TON OF 2000 POUNDS

August 4, 1945

NO.	CLASS	GOLD Oz. per Ton	VALUE GOLD	SILVER Oz. per Ton	LEAD Per Cent Wet	COPPER Per Cent	INSOL. Per Cent	ZINC Per Cent	SULPHUR Per Cent	IRON Per Cent	LIME Per Cent	Per Cent
		0.010		8.0		23.90						

Kerlyn Vein 50' level

Marked A Sketch Map 19

Remarks

OFFICIAL
COPY
O. M. E.
RECEIVED
APR 6 1967
INITIALS | DATE

Carl Kennedy

40

P. O. Box 1771
SEATTLE 11

Chemical Analysis
Assaying · Testing
Sampling · Weighing
Checking
Inspecting
Cement · Concrete
Aggregates

LEWIS E. JEKLIN

CHEMIST · ASSAYER · TESTING

517-518 Security Building · MA 7-5772

TACOMA ASSAY OFFICE

TACOMA 2, WASHINGTON

Gold
Silver
Platinum
Mercury · Amalgan
Buyer · Refining

Assay Certificate

For:— Rex Land Co.
Box 1771
Seattle, 11, Wn.

DATE Dec. 3, 1964

REPORT NO. 20,555-x

Report on: Hand Sample Copper Ore.

Based on Sample TAKEN Dec. 1, 1964

Gold - oz. per ton	0.04	-	$ 1.40
Silver	0.25	-	$ .32
Copper	2.15 %	-	$ 15.05

5' wide Marked B Sketch Map 19

Shipments or Assays

Cu	Ag	Au	SiO_2	Fe
6.86	4.0	.010	17.7	34.0
10.36	6.8	.010	14.6	38.6

Marked C Sketch Map 19

GOLD	AT $	35.00	PER OZ.
SILVER	AT $	1.29	PER OZ.
COPPER	AT $	.35	PER LB.
LEAD	AT $		PER LB.

MME Form 7
(2/63)

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Date	Surname	Code
9/28	Peterson	120
9/28/67	Kirkham	120
9/28	Johnson	110
10/4	Gilgand	
10/4	Clapp	
		220
		120M

AIRMAIL

Mr. Carl B. Kennedy
President
Rex Land Company
P.O. Box 1771
Seattle, Washington 98111

Re: OME-6619 (Copper-Silver)
Rex Land Company
Greenstone Mine
Beaverhead County, Montana

Dear Mr. Kennedy:

Careful study of your application for financial assistance to explore the subject property and of other information available to us indicates that the probability of disclosing significant ore reserves on the property is not sufficiently promising to justify Government participation in the proposed exploration. Accordingly, we regret to inform you that your application for assistance is denied.

We wish to thank you for your interest in the minerals exploration program and for bringing your property to our attention.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
OME Region I
Mr. Peterson
130

BLong/bl 9/28/67

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
9/27	Kirkham	120
		120
9/27	Johnson	110
		220
		120M

Memorandum

To: The File

From: Edward C. Peterson

Subject: OME-6619 (Copper-Silver)
Carl B. Kennedy (Rex Land Company)
Greenstone Mine
Beaverhead County, Montana

Justification for Denial of Application

Although high-grade copper occurrences may be found in some areas of the subject property, available geologic information indicates that the ore bodies are small and scattered with little possibility of discovering any significant ore reserves with the proposed work.

Weak copper oxide staining was observed in some areas of the underground workings which were accessible to the field examiner. However, these zones are extremely narrow, and assays of samples taken of the most favorable appearing material showed weak mineralization. Total production from the property is estimated to be about 122 tons of ore with a present valve of $3,950,00.

I concur with the field examiner and recommend that the application for assistance be denied.

Edward C. Peterson

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
Mr. Peterson

ECPeterson/bsl 9/27/67

23263

One

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
So. 157 Howard Street
Spokane, Washington 99204
September 12, 1967

OFFICIAL COPY

	CODE
Jla	130
BLL	120 M
JHJ	110
FR	120 P

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region I

Subject: Application Examination Report
OME-6619 (Copper-Silver)
Rex Land Company
Greenstone Mine
Beaverhead County, Montana

On May 29, 1967, the Greenstone mine was inspected in the company of Carl B. Kennedy and his sister, Mrs. Farlyn E. Ubigau. The property is located in the Utopia Mining District, secs. 11 and 14, T. 5 S., R. 10 W. The property comprises one patented and nine unpatented mining claims recorded at the Beaverhead County Courthouse, Dillon, Montana, as follows:

Patented

Claim	Patent No.
Greenstone	15654

Unpatented

Claim	Book	Page
Jerricoe	101	407
Kenlyn	"	408
Fairview	"	409
Northern Star	"	410
Saddle Back	"	411
Subuene	"	412
Timber Queen	"	413
Paystreak	126	301
Albatross	"	444

GEOLOGIC SUMMARY

Rocks in the area are Paleozoic limestone (Jefferson?) and quartzite (Quadrant?) that have been intruded by quartz monzonite related to the Boulder batholith of Tertiary Age. Aplitic dikes, irregular in form, cut the quartz monzonite and the sedimentary rocks. In general, the sedimentary rocks strike northeasterly and dip steeply to the southeast and the intrusive contact strikes nearly north-south. Near the limestone-quartz monzonite contact is a tactite zone varying from 3 to possibly as much as 24 feet*. A major fault of undetermined dip strikes about N 60° W. South of the fault on the Greenstone property the rocks from west to east are quartz monzonite, tactite, and quartzite (Pattee, 1960, fig. 18). The monzonite-tactite contact has been shifted about 130 feet easterly north of the fault. Ore occurs in irregular shoots and bunches along faults near the limestone-monzonite contact and to a lesser extent along faults near the quartzite-monzonite contact (Winchell, 1914, p. 62-63, and Patee, 1960, p. 19).

The Greenstone mine has been developed near and along the quartzite-monzonite contact by a 235-foot veritical shaft from which short levels have been turned, one at a depth of 30 feet is about 55 feet long, one at 50 feet is about 50 feet long and one at 220 feet is about 125 feet long; by a 50-foot incline shaft; and by two adits, one 342 feet long and one 196 feet long. The shaft was inaccessible to the examiner.

About 120 feet southwesterly from the shaft Adit No. 1 has been driven N. 17° W. for 110 feet, then N. 32° E. for 170 feet, and finally N. 10° E. for 62 feet, a total distance of 342 feet. (See applicant's fig. 19, p. 25). For 330 feet the adit walls were hard limestone mostly altered to tactite cut at one place by a narrow dike of quartz monzonite; no evidence of copper mineralization was seen. In the final 10-12 feet the walls were crushed and sheared from a footwall fault striking about N. 45° E. and dipping 40°-55° NW. Since figure 19 was prepared the applicant drove a spur drift about 15 feet long to the northwest and belled out to the east the face of the main drift. The last 10 feet of the spur drift is in a heavily sheared zone of indeterminate strike and dip but in general parallel to the footwall fault. Bands up to several inches thick in the sheared zone contain irregularly shaped and spaced pods of malachite and are heavily stained by copper oxides; no sulfides were noted. The applicant's sample "B", taken across a 5-foot width of the shearing in the main drift just beyond the footwall fault, assayed 0.04 ounce gold and 0.25 ounce silver per ton and 2.15 percent copper. A sample taken by the examiner in the belled out part of the main drift at the face assayed 1.9 ounces silver per ton and 1.36 percent copper over a width of 3 feet. Both samples were taken from the same shear zone which is the one cut by the northwest spur drift.

*wide

About 235 feet N. 5° E. of and 65 feet higher than the portal of Adit No. 1 is Adit No. 2. Driven about 100 feet on an average bearing of N 45° W., Adit No. 2 connects with the bottom of an inclined winze now inaccessible but said to be 50 feet deep. Here the drift was turned to follow a copper oxide stained zone about N. 13° E. for 50 feet; it was again turned and driven a total of 46 feet on an average bearing of N. 52° W.

For the first 100 feet the drift is in hard limestone and tactite. At about 100 feet the drift crossed a fault that strikes about N. 50° E. and dips about 60° NW. just beyond which it connected with the inclined winze. There is a stope that extends for about 15 feet northerly from the winze, is about 8 or 10 feet wide tapering to the north and up the winze. The applicant took two samples from the stope when it was accessible. Respectively, they assayed 0.01 ounce gold and 4.0 ounces silver per ton and 6.86 percent copper over a width of 1.5 feet and 0.01 ounce gold and 6.8 ounces silver per ton and 10.36 percent copper over a width of 10 inches.

North of the stope are two northwest striking, 45° NE. dipping faults and for the last 35 feet the drift follows a shear zone that strikes about N. 20° W. and dips 50°-60° NE. Beyond the stope copper oxide staining decreases rapidly to the northwest striking faults and was observed at only one or two places along the shear whereit was very weak.

The inclined winze and the stope were both inaccessible, but the winze collar was visited, as was an old shallow pit about 70 feet to the north. Copper oxide staining about the shaft collar was not extensive and suggests along with the size of the stope below, that the winze was sunk on a chimneylike deposit. A few lightly copper-stained spots were noted at the pit. A sample taken from the pit by Pattee (1960) assayed 0.70 percent copper over a width of 12 feet.

There are no known ore reserves on this property.

PRODUCTION

Essentially, all the recorded production of gold, silver, and copper from the Utopia district came from two mines: the Greenstone mine and the Indian Queen mine about 2 miles to the southeast. Production from the district from 1903-1912 has been compiled from various sources by Winchell (1914, p. 65) and totals:

Tons ore	Ounces gold	Ounces silver	Pounds copper	Present value*
4,649	166.47	37,566	1,687,098	$710,785.89

*Au = $35/oz; Ag = $1.70/oz; Cu = $0.38/lb

Winchell does not break this production down by mines, however, the applicant tabulates production from the Greenstone mine for the years 1909, 1916, and 1949 which totals:

Tons ore	Ounces gold	Ounces silver	Pounds copper	Present value
121.8	3.602	236.61	8,986	$3,942.99

The 1949 production was made by the applicant from the 30 and 50 levels and comprised 43.4 tons of ore yielding 0.217 ounce gold, 52.08 ounces silver, and 2,699 pounds copper worth $1,121.75. The balance of the production from the Greenstone mine was made by other operators and presumably came from the stope starting at the bottom of the winze. It comprises 78.4 tons yielding 3.385 ounces gold, 184.53 ounces silver, and 6,287 pounds copper worth $2,821.24.

If the applicant's reported production from the Greenstone mine is deducted from Winchell's reported production for the district, the estimated production from the Indian Queen would be in the order of 4,527 tons of ore yielding 162.87 ounces gold, 37,329 ounces silver, and 1,678,112 pounds copper worth $706,842.90 This production has come from two contact veins that have been developed by two shafts, 150 feet deep and 220 feet deep, respectively, and by a tunnel 820 feet long; workings total 1,600 feet (Stevens, 1906, p. 581).

CONCLUSIONS AND RECOMMENDATIONS

As nearly as can be determined from the available information and from what was seen on the Greenstone property, the geologic environment is similar to that at the Indian Queen mine, but here the similarity ceases.

A comparison of production of ore in tons and of copper in pounds per foot of workings as well as a comparison of the average grade of the production from the Indian Queen mine with that from the Greenstone mine shows a marked decrease in both at the Greenstone as follows:

Mine	Tons/ft ore	Pounds/ft copper
Indian Queen	2.8	104.9
Greenstone	0.12	8.5

Mine	Ounces/ton Au	Ounces/ton Ag	Percent Cu
Indian Queen	0.036	8.26	18.53
Greenstone	0.030	1.94	3.69

Only one small stope, essentially mined out, was seen. From Kennedy's description the stope or stopes mined from the shaft were also small. The sheared zone containing small irregularly spaced pods of malachite in Adit No. 1 did not appear to offer much chance of having any great extent.

Thus, the intensity of mineral deposition is markedly less than that at the Indian Queen mine, and all available evidence indicates that although there are deposits of high-grade copper on this property, the ore bodies are small and scattered. It is therefore concluded that the chance of making a significant discovery of copper-silver ore is less than fair.

It is recommended that the application be denied.

D. R. MacLaren

Distribution:
OME
USGS(SRO)
Docket
MacLaren

BIBLIOGRAPHY

Stevens, H. J., 1906, A manual of the copper industry of the world; The Copper Handbook, v. VI.

Winchell, A. N., 1914, Mining districts of the Dillon Quadrangle, Montana, and adjacent areas: U. S. Geol. Survey Bull. 574, p. 61-65.

Pattee, Eldon C., 1960, Tungsten resources of Montana; deposits of the Mount Torrcy batholith, Beaverhead County: U. S. Bureau of Mines RI 5552, p. 12-22.

GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane, Washington 99204
May 12, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
MAY 15 1967

INITIALS	CODE
	120
	110
HK	120

Mr. Carl B. Kennedy
President
Rex Land Company
P. O. Box 1771
Seattle, Washington 98111

Re: OME-6619 (Copper-Silver)
Rex Land Company
Greenstone Mine
Beaverhead County, Montana

Dear Mr. Kennedy:

It will be advisable in order to make a proper examination relative to your OME application to look at some of the croppings in the target area you wish to explore.

If you will notify me when the snow is gone, I will arrange to visit the property as soon as possible thereafter.

Sincerely yours,

D. R. MacLaren
Field Officer, OME
Region I

DRMacLaren/mls

cc: OME

Director's Reading File

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
5/9	Johnson	110
5/9/67	Kirkham	120
5/9	CAC	220
		120M

Memorandum MAY 9 1967

To: Field Officer, OME Region I

From: Chief, Office of Minerals Exploration

Subject: OME-6619 (Copper-Silver)
Rex Land Company
Greenstone Mine
Beaverhead County, Montana

The subject application is being sent to you for further review, a field examination if you deem it necessary, and a report thereon.

We are enclosing copies of a letter dated May 5, 1967, a work bid dated May 1, 1967, and a Lease and Purchase Option dated April 24, 1967, received in reply to our letter of April 10, 1967, to Mr. Carl B. Kennedy, President, Rex Land Company, requesting additional information.

If you recommend an exploration contract on this property we will need Lien and Subordination Agreements from the Lessors who signed the above mentioned Lease and Option to Purchase. If Rex Land Company is not the owner of the nine unpatented claims, we also will need Lien and Subordination Agreements from the owners of these claims. In addition, a recent financial statement will be required from the Rex Land Company.

A map of all of the claims to be included in the project showing the proposed work also will be required. Your estimates by categories of the costs for performing the proposed work will be necessary as usual for preparation of a contract, if recommended.

Based upon the production records of the Greenstone mine submitted in the application, it appears that copper is the principal mineral in value and, consequently, if an exploration contract can be granted it would call for only 50 percent Government participation.

Our comments are offered for your guidance and to point out questions that have arisen in this office. This, should not be construed as limiting your comments or recommendations in any way.

FRANK E. JOHNSON

Frank E. Johnson

cc: Director's reading file
Division file
Economic Geology file
OME file
OME reading file
130 - 120-M

Enclosures

FEJohnson/bih 5/9/67

23263

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(2/63)

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Date	Surname	Code
5/9	Johnson	110
5/9	Kirkham	120
		220
		120

Mr. Carl B. Kennedy
President
Rex Land Company
P. O. Box 1771
Seattle, Washington 98111

MAY 9 1967

Re: OME-6619 (Copper-Silver)
Rex Land Company
Greenstone Mine
Beaverhead County, Montana

Dear Mr. Kennedy:

Thank you for your letter of May 5, 1967, enclosing additional information relating to the subject application.

Although further information may be required, including additional bids on the proposed work, we are referring your application for consideration and possible field examination to Mr. D. R. MacLaren, OME Field Officer, Region I, South 157 Howard Street, Spokane, Washington 99204.

Mr. MacLaren will contact you if he requires additional information and to arrange for an onsite examination of the property, if necessary.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

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

FEJohnson/bih 5/9/67

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MMB Form 7
(2/63)

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Date	Surname	Code
4/10	Johnson	110
4/10/67	Kirkham	120
		220

Mr. Carl B. Kennedy
P. O. Box 1771
Seattle, Washington 98111

Re: OME-6619 (Copper-Silver)
Carl B. Kennedy
Greenstone Mine
Beaverhead County, Montana

Dear Mr. Kennedy:

We have made a preliminary review of your application and find that additional information is needed in order to continue processing the application.

The identity of the Applicant is not clear to us. On the application form the name of the Applicant is given as Carl B. Kennedy, but the business organization is indicated as being a corporation with corporate officers or partners listed as Carl B. Kennedy, President, and Farlyn E. Ubigau, Vice President. These parties have signed the certification presumably as partners. Bank correspondence is with Carl B. Kennedy, President, Rex Land Company.

Please advise as to the correct name of the Applicant and whether an individual, corporation, or partnership. Also, state whether the mining claims to be explored are owned by the Rex Land Company or by Carl B. Kennedy, or by Carl B. Kennedy and Farlyn E. Ubigau as individuals, or partners.

Since the bank replies do not refer to the copies of letters requesting loans and the correspondence is with the Rex Land Company, if the latter is not the Applicant, copies of new correspondence with the banks will be required. The requests for loans should be for the amount that would be needed from the Government for the proposed exploration.

An individual cannot act as both supervisor and independent contractor on an exploration project. Bids from at least two independent contractors are required for the proposed work.

23263

This request for additional information should not be construed that an exploration contract will be granted. Upon receipt of the information it will be given prompt and careful consideration.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

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

FEJohnson/bih 4/10/67

April 6, 1967

Mr. Carl B. Kennedy
P. O. Box 1771
Seattle, Washington 98111

Subject: OME-6619

Dear Mr. Kennedy:

Your application for exploration assistance, dated March 30, 1967, submitted to our office at Spokane, Washington, has been assigned Docket No. OME-6619.

Please identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to Region I