DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
~~Defense Minerals Exploration Administration~~
OFFICE OF MINERAL EXPLORATION

OFFICIAL DOCKET FILE

Idm-E NO._____

OME
~~DMEA~~ NO. 6480

Application
- [ ] Denied
- [x] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

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

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

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

Additional Folders:

Left Side

Folders No._____: Reports

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

Right Side

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

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

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Bldg. 20, Denver Federal Center
Denver, Colo. 80225

July 12, 1965

Memorandum

To: George C. Selfridge, Chief
Office of Minerals Exploration
Geological Survey
Washington, D. C. 20240

From: Acting Field Officer, OME, Region III

Subject: Application for OME aid (Silver)
Columbus Exploration Co.
Keno-Patsie Operations
Ouray County, Colorado

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JUL 14 1965
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Enclosed is the subject application for OME aid for silver exploration in the amount of $107,800.00. One copy of the application is being retained in this office.

The Applicant stated that the lease on the Stanley and Kremlin claims will be forthcoming as will also the subordination agreements.

It is noted that the Applicant mentions drilling in lieu of crosscutting, which certainly appears to be preferable.

Hugh M. Connors

Hugh M. Connors

H.M.C. (7-12-65)
cc: File
Chron

MME Form 40
July 1962

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Budget Bureau No. 42–R1368
Approval expires Dec. 31, 1963

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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.)*

JOSEPH DESLOGE D/B/A
COLUMBUS EXPLORATION COMPANY
3940 EASTON AVENUE
ST. LOUIS, MISSOURI 63113

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER 6480

DATE RECEIVED 7-14-65

REGION III

DIVISION CODE

BUSINESS ORGANIZATION *(Check one)*

INDIVIDUAL	X
CORPORATION	
PARTNERSHIP	
OTHER *(Specify)*	

STATE IN WHICH FIRM IS ORGANIZED

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE

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

ESTIMATED COST OF PROJECT $ from $96,800.00 to $107,800.00

PROPERTY NAME	LOCATION COUNTY	STATE
Keno-Patsie Operations	Ouray	Colorado

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 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.

JUL - 5 1965
DATED

BY *(Signature)* Joseph Desloge

Owner
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.11879

OFFICIAL
COPY
O. M. E.
RECEIVED
JUL 14 1965

INITIALS	CODE

APPLICATION FOR A LOAN FROM

THE OFFICE OF MINERALS EXPLORATION TO

JOSEPH DESLOGE, SR. D/B/A COLUMBUS EXPLORATION COMPANY

ON THE KENO-PATSIE MINE, OURAY COUNTY, COLORADO

JUL -5 1965

DATE: JUL -5 1965

Joseph Desloge, Sr.

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Refer to 1 (a)

Financial Eligibility

Exhibit 1 is an Application for a Loan to The U. S. National Bank of Grand Junction dated March 6, 1965 accompanied by a claim map and a rejection signed by LeRoy Bacon, Executive Vice-President, dated March 8, 1965

Exhibit 2 is an Application for a loan to The Citizens State Bank, Ouray, Colorado. (Claim Map not included) Also, a rejection signed by David Wood, Vice-President, dated March 10, 1965.

Refer to 1 (b)

The applicant is Joseph Desloge, Sr. d/b/a/ Columbus Exploration Company (address: 3940 Easton Avenue, St. Louis, Missouri - 63113), as attested by Exhibit 3, a sworn statement from Joseph Desloge Sr. that he is the sole owner of Columbus Exploration Company.

Refer to 1 (c)

I shall pay the full cost of the work performed each month expecting to be reimbursed by The Office of Minerals Exploration to the extent of their proportionate share after the accounting for the month has been rendered to them.

Joseph Desloge, Sr.
d/b/a Columbus Exploration Company

Date: JUL -5 1965

Refer to 2 (a)

Beneath this heading are Exhibits 4 to 12 which are copies of leases and options to purchase as follows:

Exhibit 4

Lease dated September 1, 1960 on The Keno Claim Patent No. 2216, from the owner, Joseph H. McClellan, Lovington, Virginia to E. W. Creel and E. M. Creel.

Exhibit 5

Lease dated August 3, 1962 on The Keno Claim from Joseph McClellan to E.M. Creel and Betty T. Peck (Resulting from death of E. W. Creel).

Exhibit 6

Sub-lease on The Keno Claim from E. M. Creel and Betty T. Peck to John J. Barrett and also leasing to John J. Barrett the following unpatented claims recorded in the Ouray County Courthouse, Ouray, Colorado:

Claim Name	Book	Page
Jim	93	506
Amended	149	278
Steel Galena	93	506
Amended	149	275
Columbine	93	507
Amended	149	275
Columbine No. 1	93	507
Amended	149	276
Columbine No. 2	93	507
Amended	149	276
Columbine No. 3	93	507
Amended	149	275
Lucky Jones	183	473
Lucky Jones No. 1	183	474

Exhibit-1

March 6, 1965

Mr. LeRoy Bacon, Vice-President
U. S. National Bank of Grand Junction
Grand Junction, Colorado

Dear Mr. Bacon,

In reference to our telephone conversation concerning a loan on The Keno-Patsie mining operation, I am enclosing, herewith, a formal application.

We would appreciate it if you would process this application at your earliest convenience as we desire to seek assistance elsewhere if you determine that you cannot grant us the loan.

Thank you very much.

Very truly yours,

E. V. Reinhardt

E. V. Reinhardt

Encl.

EVR:gw

March 6, 1965

Mr. LeRoy Bacon, Vice-President
U. S. National bank of Grand Junction
Grand Junction, Colorado

Dear Mr. Bacon,

The purpose of this letter is to request a loan of $75,000 from your bank to cover the cost of driving tunnels beneath two ore-bearing outcrops in Ouray County, Colorado:

Persons Requesting Loan

As the geologist immediately responsible for the performance of this work, I have been authorized by Donald D. Saxby, Chief Geologist of The Minerva Oil Company, Crystal Mine, Elizabethtown, Illinois, to apply for this loan. Mr. Saxby is also the Chief Geologist of The Columbus Exploration Company operating the Keno Mine In Ouray County and it is this Company which is applying for the loan. The Columbus Exploration Company is owned by Joseph Desloge, Sr. whose address is 3840 Easton Avenue, St. Louis, Missouri. Mr. Desloge's financial responsibility may be checked by addressing an inquiry to The Boatmens' National Bank, St. Louis, Missouri.

Lands Controlled By Columbus Exploration Company

Columbus Exploration holds leases bearing royalties of 10% of the net smelter returns on a large block of ground located on Brown Mountain, in Section 30, T. 43 N., R. 7 W. and in Section 25, T. 43 N., R. 8 W., Ouray County. Included with the leases are options to purchase the lands at reasonable amounts and any royalties paid apply toward the purchase.

The claims which are pertinent to this application are The Keno, patent No. 2216, ~~The Stanley, patent No. 8571~~, and The Jim, Steel Galena, Helen, Patsie, Lost Day No. 1 and Lost Day No. 2 all unpatented. All the claims are shown on the accompanying map.

Exploration for which the Requested Loan will be Spent.

The loan, if granted, would be spent on two projects outlined below:

1. A tunnel has now been driven about 600 feet on The Keno Claim on a vein averaging 2.5 feet wide. An estimated 30,000 tons of ore have been developed approximating the following grade: gold-0.03 oz. per ton; silver - 5.00 ounces per ton; lead - 4.0%; zinc - 6% and copper - 0.80%. Such material can be mined profitably from a narrow vein only if a mill is in operation on the ground. A minimum of 100,000 tons of ore is a requirement for the construction of a 100 ton per day mill. As Columbus Exploration Company now has less than one-third of the

developed ore required for a small mill, an additional tonnage of ore must be found. As about 300 feet of the 600 feet driven in The Keno Tunnel have been in ore, there is a reasonable expectation that, if an additional 600 feet were driven on the vein, 300 feet would be in ore-grade material and, as this portion of the tunnel would lie at greater depth below the surface, a larger tonnage of ore would be developed. It can be reasonably expected that 40,000 tons of ore would be exposed in driving the 600, additional feet of tunnel on the Keno Vein making a total of 70,000 tons of ore.

The cost of driving the tunnel would be about $40.00 per foot creating a gross cost of $24,000.

2. During the early years of the San Juan mining excitement, two negro boys found good lead-silver ore in the southwest corner of The Lost Day Claim. Because of their race, they were unpopular and were compelled to abandon their work. In 1942, Jake Alexander of Ouray resumed work on the Lost Day, produced some high grade lead-silver ore and traced the ore southward where he and Ben Simpson of Grand Junction located the Patsie and Helen claims. During the years 1948, '49 and '50, Simpson and Alexander dug open cuts on the Patsie Claim with a bull-dozer and sold more than 2000 tons of ore which netted from the smelter $118,000. The average grade of the shipments was 25% lead and 60 ounces of silver to the ton. No attempt was made to mine underground and the deepest cuts are about 30 feet below the surface.

In the Keno Tunnel, at distances of 300 to 410 feet from the portal, a series of mineralized northward trending fractures were cut crossing the Keno Vein. Long holes drilled into these fractures demonstrate that their grade improves toward the north. It is now proposed to drive on the east wall of these fractures beneath the Patsie and Lost Day exposures on the surface. To reach a point 600 feet below the Simpson-Alexander cut on the Patsie will require driving 600 feet of drift with an additional 600 feet to arrive at a point below the old working on The Lost Day. The cost of driving these 1200 feet of drift will be about $48,000. The work is expected to develop sufficient ore of excellent quality to complete the requirements of a 100 ton per day mill and possibly to allow plans for a 200 ton a day mill.

The remaining $3000 of the requested $75,000 would be used to make an alternate exit from the mine which has been demanded by The State Mine Inspector as a safety-measure.

Security

As security we would propose to pay you a reasonable royalty on the net smelter returns from all ores shipped until the loan with interest had been repaid.

We are of the opinion that this enterprise has exceptional merit. Should you reach a decision that your bank would care to aid us in the venture, we would be most appreciative.

Yours very truly,

Elmer V. Reinhardt

Elmer V. Reinhardt

EVR:gw

March 8, 1965

Mr. Elmer V. Reinhardt
Consulting Geologist
P. O. Box 1114
Grand Junction, Colorado

Re: Columbus Exploration Company
Request for $75,000.00 Loan

Dear Mr. Reinhardt:

This letter is to advise you that our bank has reviewed the Columbus Exploration Company request for a $75,000.00 loan. Inasmuch as the demand for loans locally is rather heavy and due to the fact that Columbus Exploration Company is not operating in our territory we find it necessary to decline your request.

N C

Thanking you for giving us the opportunity to serve you, I am

Very truly yours,

LeRoy Bacon

LeRoy Bacon
Executive Vice President

LB:lf

Exhibit-2

March 6, 1965

Mr. Dave Woods, Vice-President
Citizens State Bank of Ouray
Ouray, Colorado

Dear Mr. Woods,

In reference to our telephone conversation concerning a loan on The Keno-Patsie mining operation, I am enclosing, herewith, a formal application.

We would appreciate it if you would process this application at your earliest convenience as we desire to seek assistance elsewhere if you determine that you cannot grant us the loan.

Thank you very much.

Very truly yours,

E. V. Reinhardt

E. V. Reinhardt

Encl.

EVR:gw

EXHIBIT-2

March 6, 1965

Mr. Dave Woods, Vice-President
Citizens State Bank of Ouray
Ouray, Colorado

Dear Mr. Woods,

The purpose of this letter is to request a loan of $75,000 from your bank to cover the cost of driving tunnels beneath two ore-bearing outcrops in Ouray County, Colorado:

Persons Requesting Loan

As the geologist immediately responsible for the performance of this work, I have been authorized by Donald B. Saxby, Chief Geologist of The Minerva Oil Company, Crystal Mine, Elizabethtown, Illinois, to apply for this loan. Mr. Saxby is also the Chief Geologist of The Columbus Exploration Company operating the Keno Mine in Ouray County and it is this Company which is applying for the loan. The Columbus Exploration Company is owned by Joseph Desloge, Sr. whose address is 3940 Easton Avenue, St. Louis, Missouri. Mr. Desloge's financial responsibility may be checked by addressing an inquiry to The Boatmens' National Bank, St. Louis, Missouri.

Lands Controlled by Columbus Exploration Company

Columbus Exploration holds leases bearing royalties of 10% of the net smelter returns on a large block of ground located on Brown Mountain, Ouray County, in Section 30, T. 43 N., R. 7 W. and in Section 25, T. 43 N., R. 8 W. Included with the leases are options to purchase the lands at reasonable amounts and any royalties paid apply toward the purchase.

The claims which are pertinent to this application are The Keno, patent No. 2216, The Stanley, patent No. 2571, and The Jim, Steel Galena, Helen, Patsie, Lost Day No. 1 and Lost Day No. 2 all unpatented. All the claims are shown on the accompanying map.

Exploration for which the Requested Loan will be Spent

The loan, if granted, would be spent on two projects outlined below:

1. A tunnel has now been driven about 600 feet on The Keno Claim on a vein averaging 3.5 feet wide. An estimated 30,000 tons of ore have been developed approximating the following grade: gold - 0.03 oz. per ton; silver - 5.00 ounces per ton; lead - 4.0%; zinc - 6% and copper - 0.80%. Such material can be mined profitably from a narrow vein only if a mill is in operation on the ground. A minimum of 100,000 tons of ore is a requirement for the construction of a 100 ton per day mill. As Columbus Exploration Company now has less than one-third of the

developed ore required for a small mill, an additional tonnage of ore must be found. As about 300 feet of the 600 feet driven in The Keno Tunnel have been in ore, there is a reasonable expectation that, if an additional 600 feet were driven on the vein, 300 feet would be in ore-grade material and, as this portion of the tunnel would lie at greater depth below the surface, a larger tonnage of ore would be developed. It can be reasonably expected that 40,000 tons of ore would be exposed in driving the 600, additional feet of tunnel on the Keno Vein making a total of 70,000 tons of ore.

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In the Keno Tunnel, at distances of 300 to 410 feet from the portal, a series of mineralized northward trending fractures were cut crossing the Keno Vein. Long holes drilled into these fractures demonstrate that their grade improves toward the north. It is now proposed to drive on the east wall of these fractures beneath the Patsie and Lost Day exposures on the surface. To reach a point 600 feet below the Simpson-Alexander cut on the Patsie will require driving 600 feet of drift with an additional 600 feet to arrive at a point below the old working on The Lost Day. The cost of driving these 1200 feet of drift will be about $48,000. The work is expected to develop sufficient ore of excellent quality to complete the requirements of a 100 ton per day mill and possibly to allow plans for a 200 ton a day mill.

The remaining $3,000 of the requested $75,000 would be used to make an alternate exit from the mine which has been demanded by The State Mine Inspector as a safety measure.

Security

As security we would propose to pay you a reasonable royalty on the net smelter returns from all ores shipped until the loan with interest has been repaid.

We are of the opinion that this enterprise has exceptional merit. Should you reach a decision that your bank would care to aid us in the venture, we would be most appreciative.

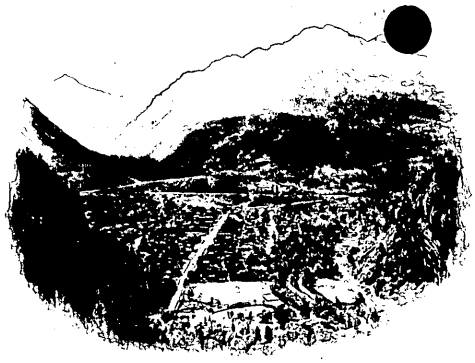
Yours very truly,

E. V. Reinhardt

E. V. Reinhardt

Encl.

EVR:gw



THE CITIZENS STATE BANK

OF OURAY

OURAY · COLORADO

March 10, 1965

Mr. Elmer V. Reinhardt
Consulting Engineer
P.O. Box 1114
Grand Junction, Colorado

Re: Application for Loan
Keno-Patsie Mining Operation

Dear Mr. Reinhardt:

We have taken your application for a loan of $75,000.00 for the Keno-Patsie Mining Operation up with our directorate, and after a review of the propositions, as set forth in your letter to us, we are afraid that we would not be able to grant your request. The reason for this is primarily based on the size of the loan in relation to the size of this bank, the security which is to be provided for the loan and because of the type of loan.

N.C.

We are sorry that we are unable to be of help to you in this matter, but hope that you will feel free to call on us for assistance in any other banking matter.

With best regards,

Sincerely,

David G. Wood

David G. Wood
Cashier

DGW:i
Encls

EXHIBIT - 3

STATE OF MISSOURI)
) SS
CITY OF ST. LOUIS)

AFFIDAVIT RE COLUMBUS EXPLORATION CO.

Joseph Desloge, Sr., being duly sworn upon his oath, states that he is an individual doing business as Columbus Exploration Company, and is the sole owner of said business, and that his address is 3940 Easton Avenue, St. Louis, Missouri 63113.

Joseph Desloge

Subscribed and sworn to before me this 5th day of March, 1965.

Notary Public for the County of St. Louis
which adjoins the City of St. Louis.
My Commission Expires Aug. 23, 1965

Viola L. Rembold
Notary Public

Exhibit 4

COPY

MINING LEASE

THIS AGREEMENT of lease, made and entered into this 1st day of September, A. D. 1960, by and between JOSEPH H. McCLELLAN, party of the first part, and E. W. CREEL and E. M. CREEL, parties of the second part,

WITNESSETH:

The said party of the first part, for and in consideration of the rents, covenants and agreements herein after expressed to be paid, kept and performed by the said parties of the said second part, has leased, let and demised and by these presents does lease, let and demise unto the said parties of the second part, the following described premises, to-wit:

> The Keno Mining Claim, U. S. Survey Number 2216, situated on the West Slope of Brown Mountain in Red Mountain Mining District in Ouray County, in the State of Colorado.

To have and to hold, for the purpose of prospecting, developing and mining, with no power to assign or sub-let the whole or any part of said premises without the written consent of the party of the first part, for the term of five (5) years with the privilege of an extention of time at the expiration of this agreement as may be agreed upon by all interested parties at the expiration of this agreement, from the date hereof. Said parties of the second part, for and the consideration of the premises aforesaid have covenanted, contracted and agreed and by these presents do covenant, contract and agree with said party of the first part, his heirs, executors, administrators, successors or assigns to commence work on said premises on or before the first day of June A. D. 1961, and to work with reasonable diligence, in a thorough and workmanlike manner; performing thereon at least twenty (20) shifts of eight (8) hours and of three (3) men for each shift during at least five (5) calendar months of each calendar year during the life of this agreement. It is further agreed by the parties of the second part that they will keep all usable and necessary workings for the largest ore production, securely timbered in all parts during the term of this lease. It is further agreed that parties of the second part may use any standing timber to the extent that the same is available on the Keno Claim for mine timbers and for the construction of necessary buildings, ore-bins and other

equipment for the promotion of a larger ore production, in the course of the working of said Keno Claim.

It is further agreed that as rental for this lease the parties of the second part shall pay to the party of the first part upon all ore mined and sold from said premises the following royalty, to-wit:

Ten (10) per cent of the value of all ore of the value of less than One Hundred Dollars ($100.00) per ton and fifteen (15) per cent of the value of all ore of the value of One Hundred Dollars ($100.00) or more per ton.

The above schedule of royalties shall be based on smelter and mill returns per ton of ore less railway or truck transportation and smelter charges, if sold or delivered to a smelter, and less railway or truck transportation and mill charges, if sold or deliverd to a mill. If sold or delivered to any other consignee, only transportation charges shall be deducted from said returns. Settlement for royalty shall be made upon each and every shipment, according to the established custom of the smelter or mill receiving such product. The net smelter or mill returns are to be paid out and divided by such smelter or mill at the time of settlement for the ore, so that the above specified royalty is paid directly to Joseph H. McClellan, whose address is Lovingston, Virginia, and the remainder to parties of the second part. Duplicate mill or smelter settlement sheets to be furnished to party of the first part and to parties of the second part at the time of payment of such proportionate part to each. A copy of the necessary portion of this lease shall be furnished such smelter or mill by parties of the second part when shipment begins, for its information in making division of the proceeds.

It is further agreed that the parties of the second part will provide workmen's Compensation Insurance coverage for their employees.

Said parties of the second part further agree that the said party of the first part, his agent or attorney shall have the right at any and all times to enter upon and descend into any and all parts of said premises and that the said parties of the second part will render to him or his agent or attorney all the assistance in their power in so doing.

Said parties of the second part further agree that in case they fail to con-

mence work on said premises as afpresaid, or to work the s e with reasonable diligence and in a workmanlike manner, or to keep the same securely timbered, or render said statements or to pay said rental as aforesaid or in any respect to keep and fulfill any and all agreements herein expressed or implied, then and in that case, it shall be lawful for the said party of the first part, his agent or attorney to declare this lease void and of no effect thereafter and without process of law to enter upon and take possession of said premises and also at the expiration of this lease by limitation, said parties of the second part agree to surrender, yield and deliver to said party of the first part, his heirs, administrators, executors and assigns quiet and peaceable possession of said premises in good condition.

Lessee shall keep the demised premises free and clear of labor and material liens and encumbrances, and shall keep and maintain written or printed notices at all times posted in a conspicuous place near each and every entrance to the mine and in conspicuous places in the bunk and boarding houses. Such notice in clear and legible characters shall be in substance as follows:

"NOTICE TO ALL EMPLOYEES, OR OTHERS, ON THIS PROPERTY."

"Notice is hereby given to all parties performing labor or furnishing skill, materials, machinery, or other fixtures or supplies of any kind in, to, or on any mine upon these properties, known as "Kenc Claim", or in, to, or on said properties, or any part thereof, that the undersigned, lessees of said property, will not be responsible for any labor performed, or any skill, materials, machinery, fixtures or supplies of any kind furnished in, to, or upon said property or any part thereof; nor shall the interest of said owner be subject to any lien for the same. And all persons are HEREBY NOTIFIED that this property, aforesaid, has been leased to, and are now being operated by E. W. Creel and E. M. Creel, or their successor in interest, and associated, to whom all persons must look for payment.

Dated this _____ day of _____, A. D. 1960.

JOSEPH H. McCLELLAN

And the Lessee is hereby appointed the agent of the lessor for the sole and only purpose of posting and keeping posted such notice on said leased premises.

The lessor shall pay the advalorem taxes on the said property and the lessee or any sub-lessee of the premises shall pay all production taxes and improvements when due.

The lessor shall have a lien upon all tools, equipment and machinery of the lessee, until all royalties, taxes and other sums payable by the lessee have been paid.

/s/ JOSEPH H. McCLELLAN
Party of the first part

/s/ E. W. CREEL

/s/ E. W. CREEL
Parties of the second part

Exhibit 5

COPY

LEASE ADDENDUM

THIS AGREEMENT, Made and entered into this 3rd day of August 1962, by and between JOSEPH H. McCLELLAN of Lovingston, Virginia, hereinafter called "Lessor", and E. M. CREEL and BETTY T. PECK of Grand Junction, Colorado, hereinafter called "Lessees";

WITNESSETH:

WHEREAS, on September 1, 1960 Lessor entered into a lease with E. W. Creel and E. M. Creel as Lessees covering the following described mining claim:

> The Keno Mining Claim, U. S. Survey No. 2216, situtated on the West slope of Brown Mountain in Red Mountain Mining District in Ouray County, in the State of Colorado, together with the right only to use the standing timber and all improvements thereon for the sole improvement and work on this mining claim;

and

WHEREAS, E. W. Creel departed this life January 6, 1962; and

WHEREAS, Lessees are the sole and only heirs at law, legatees and devisees of E. W. Creel and are also the Co-Executors of his estate; and

Whereas, Lessees are equitable owners of other contiguous mining claims; and

WHEREAS, the present market for base metals is depressed to the extent that active mining operations are not justified in view of the ore value shown on the Keno claim; and

WHEREAS, the parties hereto desire to extend and modify the terms and provisions of the above described lease,

NOW THEREFORE, for and in consideration of the sum of Ten Dollars paid by each of the parties to the other, receipt of which is hereby expressly acknowledged, and in further consideration of

the mutual covenants as hereinafter contained, it is mutually agreed that the terms and conditions of the September 1, 1960, lease as above described are hereby modified as follows:

1. The term of said lease is hereby extended until September 1, 1970, and so long thereafter as mining or transporting operations as hereinafter described are carried on with the right to surrender said lease as therein described;

2. The following sentence shall be added to and shall modify Section 1 on page 1 of said lease:

> Provided, however, that so long as the ore values in the opinion of the Lessees are or hereafter become unprofitable to mine, rather than to mine same at a loss or to lose low grade ores, Lessees shall be excused from the provisions of Section 1 as hereinabove set forth.

3. Any notice to Lessees as provided for in Section 6 on page 2 of the original lease shall be given to Lessees, in care of Traylor, Ela, Khadder & Harshman, P. O. Box 266, Grand Junction, Colorado.

4. Regardless of whether or not Lessees are carrying on mining operations on the Keno Claim itself, Lessor hereby grants to Lessees the privilege of using the Keno Tunnel for the purposes of transporting ores mined on other contiguous claims upon payment to Lessor the sum of $0.10 per ton for all such ores hauled through the Keno tunnel as based on the tonnages shown on the mill returns.

5. In the event that Lessor elects to sell the Keno Claim during the term of this lease, Lessor hereby grants to Lessees the first right of refusal of said Keno mining claim for the same price and terms and conditions as set forth in any bona fide offer in writing received from third persons.

6. All of the other terms and conditions of the original lease dated September 1, 1960, shall remain in full force and effect.

This agreement shall be binding upon and shall inure to the benefit of the heirs, legal representatives and assigns of the parties hereto.

/s/ J. H. McClellan
Joseph H. McClellan
Lessor

/s/ E. M. Creel
E. M. Creel

/s/ Betty T. Peck
Betty T. Peck
Lessees

Exhibit 6

COPY

ADDENDUM

THIS AGREEMENT made and entered into this _____ day of July, 1964, by and between E. M. CREEL and BETTY T. PECK, whose address for the purpose of this agreement shall be 945 Chipeta Avenue, Grand Junction, Colorado, hereinafter referred to as Lessors and JOHN J. BARRETT, whose address for the purpose of this agreement shall be Box 146, Canon City, Colorado, hereinafter referred to as Lessee;

WITNESSETH:

WHEREAS on July 15, 1963, Lessors leased unto Lessee the following described patented lode mining claim, to-wit:

> The Keno Mining Claim, U. S. Survey No. 2216, situated on the West Slope of Brown Mountain in Red Mountain Mining District in Ouray County, in the State of Colorado, together with the right only to use the standing timber and all improvements thereon for the sole improvement and work on said Keno claim;

and

WHEREAS, Lessors are the owners of unpatented lode mining claims which are contiguous to the Keno Claim and are described as follows:

Jim
Steel Galena
Columbine
Columbine #2 and Columbine #3
Columbine #1
Lucky Jones
Lucky Jones #1

and

WHEREAS, the parties mutually desire to modify the terms of the lease of July 15, 1963 as above described:

NOW, THEREFORE, for and in consideration of the sum of $10 and other valuables paid by each of the parties to the other, receipt of which is hereby expressly acknowledged, IT IS MUTUALLY AGREED AS FOLLOWS:

1. It is expressly agreed that the 100 linear feet per year of tunnel advance required under said lease shall be driven toward

Exhibit C

the above mentioned contiguous unpatented lode mining claims to be used as an access tunnel for the purpose of mining and developing said unpatented lode mining claims and for the use of transporting ores therefrom and for the benefit of said unpatented mining claims.

2. Except as above modified, all of the other terms and conditions of the lease of July 15, 1963 shall remain in full force and effect.

WITNESS their hands and seals:

/s/ E. M. Creel
E. M. Creel

/s/ Betty T. Peck
Betty T. Peck

LESSORS

/s/ John J. Barrett
John J. Barrett

LESSEE

Exhibit 7

Consent of Joseph H. McClellan to John J. Barrett to assign the lease on the Keno Claim to Joseph Desloge, Sr. d/b/a Columbus Exploration Company. Document dated July, 1963.

Exhibit 8

Formal assignment, dated November 25, 1964, of the lease on The Keno Claim by John J. Barrett to Joseph Desloge, Sr. d/b/a Columbus Exploration Company to replace an oral agreement of about July 15, 1964.

Exhibit 9

Sub-lease dated July, 1963 on Keno Claim from E. M. Creel and Betty T. Peck to John J. Barrett.

Exhibit 10

Option to Purchase (Date: December 13, 1964) the following claims from E. M. Creel and Betty T. Peck by Joseph Desloge, Sr. d/b/a Columbus Exploration Company: Jim, Steel Galena, Columbine, Columbines Nos. 1, 2 and 3, Lucky Jones and Lucky Jones No. 1

Exhibit 11

Option to Purchase (Date: January 15, 1965) the following claims from Earl A. Alexander of Ouray, Colorado and from Ben H. Simpson, Kermit J. Hampton and Dorothy J. Hampton, all of Grand Junction, by Joseph Desloge, Sr. d/b/a Columbus Exploration Company: (Recorded in the Ouray County Courthouse, Ouray, Colorado)

Claim Name	Book	Page
Lost Day	93	191
Lost Day No. 2	93	192
Ozark - Patent No. 7053 (Recorded in Book 139, Page 219)		

Exhibit 12

Lease, dated February 17, 1965, on the following claims from Key Atomic Minerals Company to Joseph Desloge, Sr. d/b/a/ Columbus Exploration Company: (Recorded in the Ouray County Courthouse, Ouray, Colorado)

Claim Name	Book	Page
Patsie	79	443
Helen	123	252
Marion	123	495
Marion No. 1	123	496
Marion No. 2	123	496
Marion No. 3	123	497
Marion No. 4	123	497
Marion No. 5	123	498
Marion No. 6	123	498
Marion No. 7	123	499
Marion No. 8	123	499
Marion No. 9	123	500
Marion No. 10	123	500
Marion No. 11	123	501
Marion No. 12	123	501

Exhibit 12-A

A lease on The Stanley Claim, Patent No. 2571 and on The Kremlin Claim, Patent No. 2570 has been applied for and it is expected that it will be signed in the near future. A copy of this document will be forwarded to you as Exhibit 12-A immediately after it is signed.

Exhibit 7

COPY

CONSENT TO ASSIGNMENT

WHEREAS, on September 1, 1960 the undersigned, JOSEPH H. McCLELLAN, as Lessor and E. W. CREEL AND E. M. CREEL, as Lessees, entered into a mining lease of the following described patented mining claim, to-wit:

> The KENO MINING CLAIM, U. S. Survey No. 2216, situated on the West Slope of Brown Mountain in Red Mountain Mining District in Ouray County, Colorado,

which said lease was modified by that certain Lease Addendum dated August 3, 1962 entered into between JOSEPH H. McCLELLAN, as Lessor and E. M. CREEL and BETTY T. PECK, as Lessees,

AND WHEREAS, on July_____, 1963 the said E. M. CREEL and BETTY T. PECK sub-leased the aforesaid KENO MINING CLAIM to JOHN J. BARRETT with the approval and consent of JOSEPH H. McCLELLAN,

AND WHEREAS, the said JOHN J. BARRETT desires to assign all of his right, title and interest in the aforesaid sub-lease to JOSEPH DESLOGE, SR., d. b. a. COLUMBUS EXPLORATION CO.,

NOW, THEREFORE, the undersigned, JOSEPH H. McCLELLAN does hereby consent to the assignment by JOHN J. BARRETT of all his right, title and interest in that certain sub-lease of the KENO MINING CLAIM, U. S. Survey No. 2216, heretofore entered into by and between E. M. CREEL and BETTY T. PECK, Lessors and JOHN J. BARRETT, Lessee, dated July_____, 1963 to JOSEPH DESLOGE, SR., d. b. a. COLUMBUS EXPLORATION CO.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and seal this _____day of December, A. D. 1964.

/s/ Joseph H. McClellan
_____(Seal)
Joseph H. McClellan

Exhibit 8

COPY

ASSIGNMENT

THIS ASSIGNMENT, made and entered into this 25th day of November, A. D. 1964, by JOHN J. BARRETT, Box 146, Canon City, Colorado,

WITNESSETH

WHEREAS, on September 1, 1960 JOSEPH H. McCLELLAN, the owner of the KENO MINING CLAIM, U. S. Survey No. 2216, entered into a mining lease with E. W. CREEL and E.M. CREEL, covering said mining claim,

AND WHEREAS, the aforesaid parties amended by an Addendum the said mining lease, which Addendum is dated August 3, 1962, which said addendum is executed by the said Joseph H. McClellan and E. M. Creel and Betty T. Peck, as sole and only heirs of E. W. Creel, copies of which mining lease and addendum are attached hereto, marked Exhibit A and Exhibit B respectively,

AND WHEREAS, on July 15, 1963 E. M. CREEL and BETTY T. PECK entered into a sub-lease denominated MINING LEASE with JOHN J. BARRETT, covering the KENO MINING CLAIM, U. S. Survey No. 2216, a copy of which is attached hereto, and marked Exhibit C.

AND WHEREAS, on the _____day of July, A. D. 1964 the said E. M. CREEL and BETTY T. PECK entered into an Addendum agreement to the aforesaid mining lease with John J. Barrett, a copy of which Addendum agreement is attached hereto, and marked Exhibit D.

AND WHEREAS, on or about July 15, 1964 the said JOHN J. BARRETT orally agreed to assign, transfer and set over to JOSEPH DESLOGE, d. b. a. COLUMBUS EXPLORATION CO. all of his right, title and interest in said Mining Lease and Addendum thereto in consideration of the said Joseph Desloge driving the tunnel on the said Keno Claim in accordance with said Mining Lease and Addendum thereto,

AND WHEREAS, the said Joseph Desloge in July of 1964 commenced to diligently drive said tunnel on said Keno Mining Claim and has in pursuance thereof expended considerable sums of money,

NOW, THEREFORE, in consideration of the payment by Joseph Desloge to John J. Barrett of the sum of One Dollar ($1.00), the receipt of which is acknowledged, and in further consideration of JOSEPH DESLOGE, d. b. a. COLUMBUS EXPLORATION CO. continuing to drive said tunnel on said Keno Mining Claim, and in order to reduce the aforesaid oral agreement to writing, the undersigned, JOHN J. BARRETT, does hereby assign, transfer and set over to JOSEPH DESLOGE, d. b. a. COLUMBUS EXPLORATION CO. all of his right, title and interest in and to that certain Mining Lease and Addendum hereinabove referred to, PROVIDED HOWEVER, that in the event that Joseph Desloge elects to terminate work on said tunnel and abandon

the work thereon, he shall re-assign said Mining Lease and Addendum to the undersigned, John J. Barrett.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and seal the day and date first hereinabove written.

John J. Barrett (Seal)
John J. Barrett

ipk/ek
1-8

Exhibit 9

COPY

MINING LEASE

THIS AGREEMENT made and entered into this _____day of July, 1963 by and between E. M. CREEL and BETTY T. PECK, whose address for the purpose of this agreement shall be 945 Chipeta Avenue, Grand Junction, Colorado, hereinafter referred to as Lessors and JOHN J. BARRETT, whose address for the purpose of this agreement shall be Box 146, Canon City, Colorado, hereinafter referred to as Lessee;

W I T N E S S E T H:

WHEREAS on August 3, 1962 the Lessors, as the sole and only heirs at law, legatees and devisees of E. W. Creel, deceased, entered into a Lease Addendum agreement with Joseph H. McClellan of Lovingston, Virginia, amending and extending a previous agreement dated September 1, 1960 between Joseph H. McClellan as Lessor and E. W. Creel and E. M. Creel as Lessees, covering the following described patented lode mining claim, to wit:

> The Nemo Mining Claim, U.S. Survey No. 2216, situated on the West Slope of Brown Mountain in Red Mountain Mining District in Ouray County, in the State of Colorado, together with the right only to use the standing timber and all improvements thereon for the sole improvement and work on said Nemo claim;

AND WHEREAS, the Lessors are equitable owners of other contiguous mining claims; and

WHEREAS, the Lessors cannot assign or sublet, in whole or in part, the above described lease and amendment thereto without the written consent of Joseph H. McClellan first had and obtained; and

WHEREAS, the parties hereto desire to enter into an agreement to sublet the above described lease and addendum thereto;

NOW, THEREFORE, for and in consideration of the sum of Ten ($10.00) Dollars, paid by each of the parties to the other, receipt of which is hereby expressly acknowledged and subject to the written consent of Joseph H. McClellan, which consent is made a part of this agreement, Lessors do hereby sublease unto Lessee the mining rights to the above mentioned Kano claim, subject to the following terms and conditions:

1. Lessee shall become entitled to immediate possession of said mining claim upon the execution of this sublease by Lessors.

2. Commencing on or before September 1, 1963, Lessee shall commence mining operations in and upon said mining claim and shall do and perform a minimum of 100 linear feet of advance of drifts, raises or cross-cuts, or any combination thereof prior to July 1, 1964 and shall thereafter perform an additional 100 linear feet of advance on said mining claim during each twelve months period thereafter during the term of this agreement.

3. Lessee shall perform all work in strict conformity of all mining laws and regulations, including by way of example, but not by way of limitation, the maintenance of workman's compensation insurance at all times and Lessee further agrees to indemnify and save harmless Lessors and Joseph H. McClellan of and from any and all liabilities of whatsoever kind or character arising out of or occasioned by the mining operations to be conducted by Lessee hereunder. Lessee further agrees to maintain mine openings necessary for maximum ore production in a safe and useable condition at all times.

4. Lessee shall have the right to use any standing timber available on said mining claim for mine timbers or for the construction of necessary buildings, ore bins, or other structures required for

maximum ore production from the mine workings on said Emmo claim, provided, however, that upon termination of this agreement for any cause, all of such structures shall revert to the Lessors or Joseph H. McClellan, as the case may be, and Lessee shall have no further rights therein.

5. Lessee shall pay the royalty of fifteen (15%) per cent of the net returns for all ores produced and sold from said mining claim for One Hundred ($100.00) Dollars per ton or less and a royalty of twenty (20%) per cent of the net returns for all ores produced and sold from said mining claim for more than One Hundred ($100.00) Dollars per ton. "Net Returns" shall mean and be the net amount received by Lessee from the sale of ores, concentrates, bullion or minerals produced from the leased premises after deducting all transportation costs from the mine to the point of sale and all costs charged by the purchaser for milling or smelturing of said ores.

6. The purchaser of said ores, concentrates, bullions or minerals shall be directed to pay the royalties directly to the Lessors and to Joseph H. McClellan in the proportion as follows:

Ore Values of $100.00 per Ton or Less:

Joseph H. McClellan	10%
E. M. Creal	3-3/4%
Betty Y. Peck	1-1/4%

Ore Value of more than $100.00 per Ton:

Joseph H. McClellan	15%
E. M. Creal	3-1/4%
Betty Y. Peck	1-1/4%

All royalty payments shall be mailed to the address designated by each payee and shall be accompanied by a duplicate copy of all settlement sheets. Lessee shall furnish each payee with a true copy of all such directions given to any purchaser.

7. Lessee shall pay all taxes, including production taxes which may be assessed against said mining claim or against the ore produced and saved therefrom when same are due and payable during the life of this agreement, and Lessee further agrees to furnish to Joseph H. McClellan receipts showing payment of same.

8. Lessors and Joseph H. McClellan, or their agents or attorneys shall have the right to enter upon and inspect the workings on said claim at all times at their risk.

9. Lessee agrees to segregate all mineral bearing material not sold as ore from the waste rock and to pile or dump such mineral bearing material near the mine entrance in such a manner as to allow recovery of same. "Mineral bearing material" is defined as being broken rock containing minerals which the Lessee does not consider as having sufficient value to market during the term of this agreement. This shall not be construed as requiring the Lessee to hand sort or otherwise segregate minor amounts of mineral contained in broken rock normally considered as waste material. Title to this material shall revert to the Lessors or Joseph H. McClellan, as the case may be, upon the termination of this agreement and the Lessee shall thereupon forfeit any and all rights to said mineral bearing materials.

10. Lessors except and reserve the right to use the Rano Tunnel for the purpose of transporting ores from contiguous claims now under the control of the Lessors, provided that such transportation of ores shall be carried on in such a manner as to not interfere with the mining operations being conducted by the Lessee on the Rano claim and provided, further, that Lessors shall pay to Lessee the sum of ten (10¢) cents per ton and shall also pay to Joseph H. McClellan the sum of ten (10¢) cents per ton for all such ores hauled

through the Kane Tunnel as based on tonnages shown on the mill returns. Lessors also except and reserve the right to erect facilities located on the Kane claim for the purpose of loading and storing ores mined on contiguous claims at their sole cost and expense, provided that such facilities shall be erected and maintained by Lessors in such a manner as to not interfere with Lessee's mining operations.

11. It is agreed that upon violation by Lessee of any of the covenants in this lease, the term of this lease shall at the option of Lessors, expire, and said mining claim shall become forfeited to Lessors, and Lessors or their agent may thereupon enter upon said mining claim and dispossess all persons occupying the same without process of law to enter upon and take possession of said premises, or, at the option of Lessors, Lessee and all persons found in occupation thereof may be proceeded against as guilty of unlawful detainer, PROVIDED, HOWEVER, that if said lease is forfeited upon the election of Lessors by reason of the failure of Lessee to perform the covenants thereon, Lessors shall give Lessee notice in writing, by registered mail sent to Lessee at his address, or by personal service to Lessee, notifying him of such failure to perform and setting out in said notice the substantial facts as to any such default or breach, and upon failure or refusal by Lessee to cure and correct such default within thirty (30) days from the receipt of such notice, Lessee shall surrender and deliver up the possession of said mining claim, in quiet and peaceable possession of said premises in good condition, and his rights under this lease shall thereupon cease and terminate.

12. Lessee shall have the right to surrender this lease at any time by giving Lessors thirty (30) days' written notice by registered mail sent to them at their above address, of Lessee's intention to so surrender and upon the mailing of such notice this lease shall be at an end without any further liability upon Lessee other than

his liability to pay all production and property taxes which have been levied upon said mining claim and which became due in and during any of the years covered by the terms of this lease.

13. The term of this sublease shall be from July 1, 1963 until December 31, 1968.

14. It is expressly understood and agreed that Lessee shall not assign or sublet in whole or in part his rights under this agreement without the written consent of Lessors and Joseph H. McClellan first had and obtained.

This agreement shall be binding upon and shall inure to the benefit of the heirs, legal representatives and duly authorized assigns of the parties hereto.

Witness their hands and seals:

E. M. Greel

Betty T. Beck LESSORS

John J. Barrett LESSEE

I hereby approve of the terms and conditions of the above described sublease.

Joseph H. McClellan

Exhibit 10

COPY

OPTION TO PURCHASE

THIS AGREEMENT of option made and entered into this 13 day of December, 1964.

W I T N E S S E T H:

FOR AND IN CONSIDERATION of $1.00 in hand paid by COLUMBUS EXPLORATION CO., the sole owner of which is JOSEPH BELLOGE, SR., whose address is 314 North Broadway, St. Louis, Missouri, hereinafter referred to as "Optionee", to BETTY T. PECK and Ed M. GREEL, whose address for the purpose of this agreement is 945 Chipeta Avenue, Grand Junction, Colorado, hereinafter referred to as "Optionors", the receipt of which payment is hereby acknowledged, and for other good and valuable consideration, said Optionors do hereby grant unto Optionee an option to purchase the following described mining claims, to-wit:

Jim	Columbine No. 1
Steel Galena	Lucky Jones
Columbine	Lucky Jones No. 1
Columbine No. 2 and Columbine No. 3	

All of which mining claims are unpatented and are situated on the West Slope of Brown Mountain in Red Mountain Mining District, Ouray County, Colorado,

subject to the following terms and conditions:

1. This option may be exercised any time between January 4, 1965 and January 6, 1965 by tendering to Optionors the sum of Ten Thousand Dollars ($10,000.00) which shall be a credit against the total purchase price of Forty Thousand Dollars ($40,000.00).

IN THE EVENT OF EXERCISE OF SAID OPTION IN THE MODE AND MANNER AND WITHIN THE TIME PERIOD ABOVE SET FORTH, IT IS MUTUALLY AGREED:

2. The total purchase price shall be Forty Thousand Dollars ($40,000.00), provided, however, that the $10,000.00 paid to exercise this option shall be a credit against same, and the balance of Thirty Thousand Dollars ($30,000.00) shall be paid in equal annual installments of Six Thousand Dollars ($6,000.00) each year, or an amount equal to ten percent (10%) of the net smelter returns, whichever shall be the greater, which annual installments shall be due on the anniversary dates of the exercise of said option. Optionee shall have the privilege of prepayment in any amount at any time.

Net smelter returns shall be defined as the net amount received by Optionee from the proceeds of any ores, concentrates, bullion or minerals produced from the

above described mining claims after the actual cost of transportation from the mine to the smelter or mint and after the cost of the smelter treatment and mint charges have been deducted, including all deductions made by the smelter in its settlements with Optionee for ores and concentrates purchased by the smelter.

3. During each year that this Agreement is in effect Optionee agrees that he will perform or cause to be performed prior to July 1 of each year the annual labor required for the retention of said claims, and to make and file prior to July 15 of each year an affidavit so stating, as required by law.

4. Optionee agrees to furnish to Optionors, upon request, from time to time, as compiled and prepared, copies of all maps, reports and other data resulting from the examination and investigation of such mines and mining claims.

5. To permit Optionors or their agents, to enter in and upon all parts of said claims for the purpose of inspection at any and all reasonable times, all at the sole expense and risk of Optionors, and without interferences with Optionee's operations.

6. To work said claims in a proper and customary miner-like fashion, in a manner necessary to good and economical mining, so as to take out the greatest amount of ore possible with due regard to the development and preservation of same as workable mining property and not to "highgrade" the ores, that is not to mine and deliver the better grade ore and leave ore of lower but commercial grade unmined to the loss or detriment of the Optionors, and to timber underground wherever and whenever necessary if mining practices under the circumstances then obtaining should so indicate and to keep at all times all drifts, shafts, tunnels and other passages thoroughly clean and clear of loose rocks and rubbish of all kinds. In the event of any dispute between the parties as to what constitute ore of "lower but commercial grade" such dispute shall be determined by arbitration by a board of three arbitrators, one to be selected by each of the parties and the third to be selected by the first two. The decision of such board of arbitrators shall be binding upon all parties and the expense of arbitration shall be borne equally.

7. To pay all just claims and demands of material men and laborers and others who may supply labor or material for the exploration, development and mining

operation conducted upon said premises, and not to cause or permit to be placed upon said premises, any liens, claims or demands of any nature whatsoever, and Optionee agrees to post and keep posted upon any of the herein described claims where work is being done, and in a conspicuous place, a notice advising all creditors that the claims are being purchased by Optionee and all creditors must look to said Optionee for the payment of any accounts incurred in the operation of said claims.

8. To take out, carry and maintain full industrial insurance with the Colorado State Industrial Commission, for any and all persons employed in or upon said claims, and to conduct all operations thereon so as to comply fully with the laws of the United States and of the State of Colorado, relating to mining, safety regulations, and in every other respect; and further, to save and keep the Optionors harmless of and from all claims and liability of every kind and nature which may be incurred in the performance of this contract.

9. Optionee shall pay all taxes levied and assessed upon any ores mined and sold from said claims together with any taxes assessed against said mining claims.

10. After payment is made to Optionors in full, said Optionors agree to execute and deliver to Optionee a warranty mining deed conveying said mining claims to Optionee. Such deed shall convey good and merchantable title free and clear of all liens and encumbrances and subject only to any reservations that may be contained in any patents hereafter issued by the United States Government covering said claims.

11. Should Optionee fail to exercise said option within the time and in the mode and manner as hereinabove set forth, he shall forfeit only the sum paid as consideration for this option and such sum shall constitute the only liability of Optionee for such refusal to exercise said option and the same shall thereupon expire and become null and void and of no further force and effect.

12. In the event said option is exercised in the time and in the mode and manner as hereinabove set forth, and the initial payment of $10,000.00 is made to Optionors, then time shall be of the essence insofar as the succeeding annual payments are concerned. In the event that Optionee shall fail to pay the annual payments provided herein on or before the due dates of same, Optionors may, at their discretion, notify Optionee at the address herein given of the default in payment,

by certified mail, return receipt requested, and in the event said default in payment has not been cured within thirty (30) days of the mailing of said notice, then this agreement shall become forfeited without further notice and the Optionors shall be entitled to retain all previous payments made hereunder in lieu of rent and as liquidated damages.

13. Subject to the written consent of Joseph H. McClellan, Optionors hereby consent to the assignment by John J. Barrett of a certain lease covering the Keno claims, U.S.Survey No. 2216, to Joseph Desloge, Sr., doing business as Columbus Exploration Co., and agree to the modification thereof in the following respects:

(a) In the event of such assignment, the term of said lease shall be extended to coincide with the term of this option agreement, provided, however, that any termination of this option agreement shall also automatically terminate said lease.

(b) The provision as to royalties be modified to provide for the payment of the following royalties:

On Ore values of $100 per ton or less:

To Joseph H. McClellan	6 2/3 per cent
To Betty T. Peck and E. M. Creel	3 1/3 per cent

Changes on this page are approved:

COLUMBUS EXPLORATION CO.

by: _____

Duly authorized thereunto

On Ore values of more than $100 per ton:

To Joseph H. McClellan	11 1/4 per cent
To Betty T. Pack and E. M. Creel B.T.P.	5 3/4 per cent

(c) In the event of exercise of this option by payment of the purchase price in full, Optionors will assign to Optionee all of their rights in said Keno claim, excepting and reserving the right to receive ten (10¢) cents per ton for all ores transported through said Keno Tunnel.

14. Optionee shall have the right to assign, sublet, sell or contract to sell his rights under this agreement to Minerva Oil Company or to any other corporation controlled by Optionee and his associates, but no assignment shall relieve Optionee of his obligations hereunder without the written consent of Optionors.

15. Notwithstanding any other provision of this Option to Purchase, Optionee may surrender his rights hereunder at any time without further obligation of any kind to make payments or to perform any other act hereunder, except that if such surrender occurs after July 1st in any year, Optionee shall still be responsible for completion of any assessment work necessary on the claims for that year. Such

Changes on this page are approved:

COLUMBUS EXPLORATION CO.

by: Pliny F. Jobe

Duly authorized thereunto

surrender shall be effected by notice in writing to Optionors addressed to their attorneys, Traylor, Eis, Kladder and Harshman, 201 Electric Building, Grand Junction, Colorado, and Optionors shall be entitled to retain all amounts paid hereunder up to the date of such notice and shall not be entitled to further payments.

16. This agreement shall be binding upon and shall inure to the benefit of the heirs, legal representatives and duly authorized assigns of the parties hereto.

Betty T. Peck
Betty T. Peck

E. M. CRENL

By Betty T. Peck
Betty T. Peck, his attorney in fact

OPTIONORS

COLUMBUS EXPLORATION CO.

By Joseph Desloge
Joseph Desloge, Sr.

OPTIONEE

For Joseph Desloge
Helen L. Kimbald

Exhibit 11

COPY

OPTION TO PURCHASE

THIS AGREEMENT of Option made and entered into this 15th day of January, A. D. 1965,

WITNESSETH:

FOR AND IN CONSIDERATION of one dollar in hand paid by COLUMBUS EXPLORATION CO., the sole owner of which is JOSEPH DESLOGE, SR., whose address is 314 North Broadway, St. Louis, Missouri, hereinafter referred to as "Optionee", to EARL A. ALEXANDER, whose address is Ouray, Colorado, BEN H. SIMPSON, whose address is 804 Chipeta, Grand Junction, Colorado, KERMIT M. HAMPTON and DOROTHY J. HAMPTON, whose address for the purpose of this agreement is 804 Chipeta, Grand Junction, Colorado, hereinafter referred to as "Optionors", the receipt of which payment is hereby acknowledged, and for other good and valuable consideration, said Optionors do hereby grant unto Optionee an Option to Purchase the fo lowing described mining claims, to-wit:

> Lost Day Lode Mining Claim, an unpatented mining claim situated in the Red Mountain Mining District, County of Ouray, State of Colorado, the location certificate of which is recorded in the Office of the County Clerk and Recorder of Ouray County, Colorado in Book 93 at Page 191.
>
> Lost Day No. 2 Lode Mining Claim, an unpatented mining claim situated in Red Mountain Mining District, County of Ouray, State of Colorado, the location certificate of which is recorded in Book 93 at Page 192 of the books and records of the Office of the County Clerk and Recorder of Ouray County, Colorado.
>
> OZARK, a patented Lode mining claim situated in Red Mountain Mining District, County of Ouray, State of Colorado, the patent of which is recorded in the books and records of the Office of the County Clerk and Recorder of Ouray County, Colorado in Book 139 at Page 219, as Patent No. 7053.

all of which mining claims are situated on the West slope of Brown Mountain, Ouray County, Colorado, subject to the following terms and conditions:

1. This option may be exercised any time on or before February 15, 1965 by tendering to Optionors the sum of Four Thousand ($4,000.00) Dollars which shall be a credit against the total purchase price of Thirty Thousand ($30,000.00) Dollars.

IN THE EVENT OF EXERCISE OF SAID OPTION IN THE MODE AND MANNER AND WITHIN THE TIME PERIOD ABOVE SET FORTH, IT IS MUTUALLY AGREED:

2. The total purchase price for the above set forth mining claims shall be Thirty Thousand ($30,000.00) Dollars, provided, however that the Four Thousand ($4,000.00) Dollars paid to exercise this option shall be a credit against the same, and the balance of Twenty Six Thousand ($26,000.00) Dollars

shall be paid in equal annual instalments of Five Thousand Two Hundred Dollars ($5,200.00) each year, or an amount equal to ten (10%) percent of the net smelter returns, whichever shall be the greater, which annual instalment shall be due on the anniversary date of the exercise of said option. Optionee shall have the privilege of prepayment in any amount at any time.

Net smelter return shall be defined as the net amount received by Optionee from the proceeds of any ores, concentrates, bullion or minerals produced from the above described mining claims after the actual cost of transportation from the mine to the smelter or mint and after the cost of the smelter treatment and mint charges have been deducted, including all deductions made by the smelter in its settlements with Optionee for ores and concentrates purchased by the smelter.

3. During each year that this agreement is in effect Optionee agrees that he will perform or cause to be performed prior to August 1st of each year the annual labor required for the retention of the unpatented mining claims, and to make and file prior to September 1 of each year an affidavit so stating, as required by law.

4. Optionee agrees to furnish to Optionors upon request from time to time, as compiled and prepared, copies of all maps, reports and other data resulting from the examination and investigation of such mines and mining claims.

5. To permit Optionors or their agents, to enter in and upon all parts of said claims for the purpose of inspection at any and all reasonable times, all at the sole expense and risk of Optionors, and without interferences with Optionee's operations.

6. To work said claims in a proper and customary miner-like fashion, in a manner necessary to good and economical mining, so as to take out the greatest amount of ore possible with due regard to the development and preservation of same as workable mining property, and to timber underground wherever and whenever necessary if mining practices under the circumstances then obtaining should so indicate and to keep at all times all drifts, shafts, tunnels and other passages thoroughly clean and clear of loose rocks and rubbish of all kinds.

7. To pay all just claims and demands of material men and laborers and others who may supply labor or material for the exploration, development and mining operation conducted upon said premises, and not to cause or prevent to be placed upon said premises any liens, claims or demands of any nature what-

soever, and Optionee agrees to post and keep posted upon any of the herein described claims where work is being done, and in a conspicuous place, a notice advising all creditors that the claims are being purchased by Optionee and all creditors must look to said Optionee for the payment of any accounts incurred in the operation of said claims.

8. To take out, carry and maintain full industrial insurance with the Colorado State Industrial Commission, for any and all persons employed in or upon said claims, and to conduct all operations thereon so as comply fully with the laws of the United States and of the State of Colorado, relating to mining, safety regulations, and in every other respect; and further, to save and keep the Optionors harmless of and from all claims of liability of every kind and nature which may be incurred in the performance of this contract.

9. Optionee shall pay all taxes levied and assessed upon any ores mined and sold from said claims together with any taxes assessed against said mining claims.

10. After payment is made to Optionors in full, said Optionors agree to execute and deliver to Optionee a warranty mining deed conveying said mining claims to Optionee. Such deed shall convey good and merchantable title free and clear of all liens and encumbrances and subject only to any reservations that may be contained in any patents hereafter issued by the United States Government covering said claims.

11. Should Optionee fail to exercise said option within the time and in the mode and manner as hereinabove set forth, he shall forfeit only the sum paid as consideration for this option and such sum shall constitute the only liability of Optionee for any such refusal to exercise said option and the same shall thereupon expire and become null and void and of no further force and effect.

12. In the event said Option is exercised in the time and in the mode and manner as hereinabove set forth, and the initial payment of $4,000.00 is made to Optionors, then time shall be of the essence insofar as the succeeding annual payments are concerned. In the event that Optionee shall fail to pay the annual payments provided herein on or before the due dates of same, Optionors may, at their discretion, notify Optionee at the address herein given of the default of payment, certified mail, return receipt requested, and in the event said default in payment has not been cured within thirty (30) days of the mailing of said notice, then this agreement shall become forfeited without further notice and the Optionors shall be entitled to retain all previous payments made

Exhibit 12

COPY

MINING AGREEMENT

THIS AGREEMENT OF LEASE made this 17th day of February, A. D. 1965 by and between KEY ATOMIC MINERALS CORPORATION, a Nevada corporation, first party, hereinafter called Lessor, and JOSEPH DESLOGE, SR., d/b/a COLUMBUS EXPLORATION CO., whose address is 3940 Easton Avenue, St. Louis, Missouri, second party, hereinafter called Lessee,

WITNESSETH

WHEREAS, COLUMBUS EXPLORATION CO. desires to explore and develop and mine the mining claims herein described for ores and minerals;

NOW, THEREFORE, the Lessor, in consideration of the royalties herein reserved and the covenants to be performed by the Lessee, does, by these presents, lease, demise, and let unto the Lessee all the herein described unpatented mining claims owned by them situated, lying and being in Red Mountain Mining District, County of Ouray, and State of Colorado, to-wit:

NAME OF CLAIM	OURAY COUNTY RECORDS BOOK AND PAGE OF LOCATION CERTIFICATES	
	BOOK	PAGE
HELEN No. 2	156	250
PATSIE	79	443
HELEN	123	252
MARION	123	495
MARION No. 1	123	496
MARION No. 2	123	496
MARION No. 3	123	497
MARION No. 4	123	497
MARION No. 5	123	498
MARION No. 6	123	498
MARION No. 7	123	499
MARION No. 8	123	499
MARION No. 9	123	500
MARION No. 10	123	500
MARION No. 11	123	501
MARION No. 12	123	501

TO HAVE AND TO HOLD the above described unpatented mining claims for the term of Fifteen (15) years from and after the date hereof, and for so long as mining shall continue on the above described unpatented mining claims, or ores or minerals are produced from said lands, unless sooner terminated in the manner hereinafter provided, subject to the following terms and conditions, to-wit:

1. Columbus Exploration Co. shall have the exclusive right and privilege of exploring for, developing, mining and producing all ores and minerals that may be found in and under the above described mining claims, and of concentrating and otherwise preparing such ores and minerals for market, and removing and selling all of such ores, concentrates, and minerals, and also the right to use

as much of the surface of said lands as is reasonably necessary for drilling, sinking shafts, erecting buildings and other structures, making excavations, roadways, ditches, placing machinery, storing minerals, waste and waste waters, including the right-of-ways for ingress and egress, and all other rights and privileges, incident to, or convenient for such operations, including the free use of water, soil or rock from said lands, and the further right to make underground passages or entries under said lands to or from neighboring lands.

2. Columbus Exploration Co. agrees to well and sufficiently timber, with strong, well-fitted and durable timbers, all of the workings which may be developed or used by the Lessee in the premises hereby leased, at all points where proper, in accordance with good mining and for proper ventilation, and to properly repair and replace all the timbering which may be rendered insufficient by any cause whatsoever; to keep the timbers of said workings at all times in good, safe and serviceable condition and to remove no solid timbering, cables, wiring, tracks, rails from the said premises without the written consent of the Lessor, its agent or representative.

3. MARKETING: Products shall be marketed at the best terms obtainable from any reasonable smelter or mill with due regard to differences in freight rates; all ore shall be sold in the name of Lessee, Columbus Exploration Co., with duplicate settlement sheets furnished to Lessor by the purchaser.

4. MINING AND SHIPPING. All work done by the Lessee in or upon the demised premises, and all ore opened by such operations shall be done in mine-fashion in manner necessary to good and economical mining. All ores developed shall be mined and shipped at the earliest reasonable dates with due regard to metal markets, and to the development and preservation of said premises as a workable mining property.

5. RECORDS AND INSPECTION. Lessee's maps and records of all mining operations upon the demised property shall be available to Lessor upon request, but not more often than once each month; and the Lessor may enter said property at all reasonable times for the purpose of inspection and the taking of assay samples; to take samples from any ores awaiting shipment or treatment; to have surveys made of the working by the Lessor's surveyor over, under or above ground if the Lessor shall so determine, and also to furnish the Lessor copies of all surveys or maps made by or for the Lessee upon the request of said Lessor, and

shall facilitate in every way such inspection, surveys and samplings, as above provided.

6. All work and labor required to be done by said Lessee, and all materials herein required to be furnished by him, shall be considered, and shall be paid by him as such Lessee, in addition to all royalties herein provided to be paid.

7. LIENS AND NOTICES. Lessee shall keep the demised property free and clear of labor and material liens and encumbrances, and shall keep and maintain written or printed notices at all times posted in a conspicuous place near each and every entrance to the mine and in conspicuous places elsewhere. Such notice in clear and legible characters shall be in substance as follows:

"NOTICE TO ALL EMPLOYEES, OR OTHERS, ON THIS PROPERTY."

"Notice is hereby given to all parties performing labor or furnishing skill, materials, machinery, or other fixtures or supplies of any kind in, to, or on any mine upon these properties, known as THE PATRIE, HELEN, MARION, MARION 1 through 12 inclusive, or in, to, or on said properties, or any part thereof, that the undersigned, the owner of said properties, will not be responsible for any labor performed, or any skill, materials, machinery, fixtures or supplies of any kind furnished in, to or upon said properties or any part thereof; nor shall the interest of said owner be subject to any lien for the same. And all persons are hereby notified that these properties aforesaid, have been leased to, and are now being operated by COLUMBUS EXPLORATION CO., LESSEE, OR ITS SUCCESSORS IN INTEREST, to whom all persons must look for payment.

Dated this _____ day of _____ A. D., 1965.

KNY ATOMIC MINERALS CORPORATION,
OWNER.

And the Lessee is hereby appointed the agent of the Lessor for the sole and only purpose of posting and keeping posted such notice on said leased premises.

8. ROYALTIES. Lessee shall pay to the Lessor royalties on all ore or metals extracted and sold from the demised premises as hereinafter set forth:

10% net smelter or mill returns on ores to the value of $100.00 per ton.

15% net smelter or mill returns on ores in excess of the value of $100.00 per ton.

Net smelter or mill return is defined as the net proceeds from the smelting or milling of said ores less the cost of transportation of said ores from the mine to smelter or mill and less the cost of treatment at the smelter or mill but does not include any of the costs of mining or producing said ore.

Lessee shall furnish Lessor with copies of all settlement sheets for ores or ore products sold to smelters, mills, ore purchasers, or the United States Mint, within ten days of the date of each settlement.

Duplicate settlement sheets are to be furnished to each party at the time of payment of such proportionate part of each; a copy of the necessary portion of this lease shall be furnished the smelter or other ore purchasing agency by the Lessee, when shipments begin, for its information in making division of the proceeds. The production taxes payable to the County of Ouray, State of Colorado, applicable to the actual mining of the leased mining claims shall be paid by the Lessee, and the Lessee agrees to hold the Lessor harmless from any and all claims for production taxes which may be made by said County.

Settlement of said royalties shall be made upon each and every shipment, according to established custom of the smelter, mill, United States Mint, or other purchasing agency receiving such product. Ore may be milled or shipped crude direct to the smelter so as, in the judgment of the Lessee to yield the best returns to the property from which the ores come, PROVIDED, however, any ore of shipping or smelting grade of Fifty Dollars ($50.00) per ton or over shall not be milled unless the same or higher results to the mine and in royalties to the Lessor can be obtained by so doing.

9. TAXES. Lessee shall pay any and all State of Colorado taxes, that is, general property taxes and other taxes assessed as on non-producing mines against the Lessor's ownership in the demised premises during the term of this lease. The general property taxes due the County of Ouray, State of Colorado, for the year 1965 due and payable in 1966 and for subsequent years during the term of this lease shall be paid by the Lessee.

10. ASSESSMENT WORK. The annual assessment work on each and every unpatented claim above described shall be done and performed by the Lessee for each year of the lease herein, and affidavits of annual labor shall be recorded in the name of the Lessor by the Lessee, which affidavits shall be delivered to the Lessor after the recording thereof, PROVIDED, that actual mining of the above described mining properties shall constitue as permitted by the mining statutes of the United States said annual assessment work, and PROVIDED that consistent with said statutes, assessment work on any one claim shall ensure to the benefit of adjacent or contiguous claims.

11. STATE AND FEDERAL LAWS. Lessee shall comply with the Workmen's Compensation laws of the State of Colorado and with the Social Security Un-

employment Insurance, and all other State and Federal laws relating to Lessee's operations and shall save Lessor harmless from any claim for damages or liability by reason thereof.

12. ASSIGNABILITY. The rights of either party hereunder may be assigned in whole or in part and the provisions hereof shall extend to the heirs, successors and assigns of the parties hereto, but no change in the division or ownership of the lands, or royalties, however accomplished, shall operate to enlarge the obligations or diminish the rights or privileges of either of the parties hereto. In the event the Lessee shall deem it advisable and expedient to obtain from the Office of Minerals Exploration, financial participation in the exploration and development of the leased mining claims, the Lessor agrees to comply with all of the rules and regulations of said Office of Mineral Exploration in connection therewith, provided, however, that the Lessee shall hold the Lessor harmless from any and all financial obligations in connection with any such financial participation.

13. It is FURTHER MUTUALLY AGREED that upon the termination of the within lease, the said Lessee shall deliver to the said Lessor said leased premises and properties, with the appurtenances and all improvements, in good order and condition, with all drifts, shafts, tunnels, ore chutes and other passages used by them under this lease properly timbered and thoroughly cleared of loose rock and rubbish and properly drained, and the mine ready for immediate continued work (accidents not arising from negligence alone excusing), without demand or further notice.

14. DEFAULTS. If the Lessee shall fail to perform any term or condition on Lessee's part to be performed, the Lessor may give Lessee notice in writing specifying failure, and the Lessee shall have Thirty (30) days thereafter from the date of mailing said notice to remedy such default, or be diligently in the process of doing so, and upon failure or refusal by Lessee with such Thirty (30) days period to remedy such default, or be diligently in the process of doing so, all of the rights of Lessee under this Agreement shall terminate.

15. TITLE. It is specifically agreed and represented by the Lessor that title to the above described mining properties is vested solely in the Lessor, and that said title is unencumbered and free and clear of any and all liens except that of one Lester F. Clark, and that Lessor will hold the Lessee harmless from said claim of said Lester F. Clark, and will discharge and satisfy any judgment which may hereinafter be obtained by the said Lester F. Clark.

16. TERMINATION. The Lessee may at any time surrender the within lease by giving Thirty (30) days notice in writing to the Lessor of his intention so to do, and the Lessee shall be relieved of all obligations under said lease provided that the obligations of the said Lessee under the within lease have been complied with, in particular but not being limited to the payment of the royalties provided, the payment of taxes provided, and the assessment work provided in the within lease.

17. NOTICES. Notices to the Lessor shall be given by Certified United States Mail, Return Receipt Requested, at the following address:

KEY ATOMIC MINERALS CORPORATION
c/o John J. Barrett
Box [illegible]
Gunnison, Colorado

Notice to the Lessee shall be given by Certified United States Mail, Return Receipt Requested, at the following address:

Joseph Desloge, Sr., d/b/a
COLUMBUS EXPLORATION CO.
3940 Easton Avenue
St. Louis, Missouri

This lease reduces to writing that certain verbal agreement of lease heretofore entered into between the parties on July 1, 1964 and for all effective purposes the within lease relates back and is effective as of July 1, 1964.

This lease shall be binding upon and enure to the benefit of the heirs, personal representatives, successors and lawful assigns of the parties hereto.

IN WITNESS WHEREOF, the Lessor has caused this instrument to be signed with its corporate name, under the corporate seal, properly affixed and attested, by its respective President or other executive officer thereunto duly authorized, attested by its Secretary, and the Lessee has hereunto set his hand and seal, all on the day and year first hereinabove written.

KEY ATOMIC MINERALS CORPORATION,
A Nevada Corporation

By: _____
President

ATTEST:

_____
Secretary, Key Atomic Minerals Corporation

_____(Seal)
d/b/a COLUMBUS EXPLORATION CO.

Refer to 2 (b)

Exhibit 13 is a claim map showing the following claims and how they are situated in relation to Section 31, T. 43 N., R. 7 W., N.M.P.M. Ouray County, Colorado:

Keno, Stanley, Kremlin, Jim, Steel Galena, Columbine, Columbine Nos. 1, 2 and 3, Lucky Jones, Lucky Jones No. 1, Patsie, Helen, Ozark, Lost Day, Lost Day No. 2. Patent numbers of the four patented claims are shown on the map. The numbers of books and pages where the twelve unpatented claims are recorded have been stated under Section 2 (a).

Exhibit 14 is a claim map showing the Marion Claim and the Marion Claims Nos. 1 to 12, inclusive, and how they are situated in relation to Sections 19 and 30, T. 43 N., R. 7 W., N.M.P.M., Ouray County, Colorado. The book and page number where the Marion claims have been recorded in the Ouray County Courthouse have been stated under Section 2 (a).

The unpatented claims are older than any other locations in the area and, in the event of conflict, would take precedence over any other unpatented claims. There is some conflict, however, with patented claims not under the ownership of Columbus Exploration Company:

1. The Lost Day No. 2 is in conflict with patented claims Chimney Corner and Garibaldi.

2. The Helen is in conflict with patented claims Traingle, Kentucky Giant, Molly Bell and Indiana.

3. The Patsie is in conflict with the Mollie Bell.

4. The Keno takes precedence over The Ford and The Nettie B. as it has a much lower patent number.

None of the conflicts are near sites where exploration will be proposed.

We would expect the entire property to be subject to Government Royalty until the loan is paid off with interest.

The property has been known variously in the past as The Lost Day, Patsie, Ozark and Keno depending on the part of the property which was in operation at the time. It is now known as The Keno-Patsie Operation.

Refer to 2 (c)

Exhibit No. 15 is copies of MME Form 52 duly signed by Lessors and Mortgagors. (Note: All subordination agreements haven't yet been arranged. They will be forwarded to you within a month.)

Refer to 3 (a)

A drift on The Keno Vein has now been driven 575 feet where caving ground was encountered. The drift was turned to the northwestern side of the vein and, as of this date (July 1, 1965) is not yet back on the vein.

A trench was dug on the Lost Day Claim during the early 1940's resulting in a substantial production of cerrusite-silver-ore.

An area about 300 feet long from north to south and 100 feet wide from east to west was dozed on the Patsie Claim to depths ranging from 5 feet to 30 feet in 1948, 1949 and 1950 which resulted in a production in excess of $118,000 in cerrusite-silver-ore.

All three worked areas are shown on the map - (Exhibit 13). Aside from these locations, there is a caved tunnel on The Ozark Claim and a few open pits some of which display minerals of lead and zinc and a tunnel 600 feet long near the southern end line of The Helen Claim driven by Key Atomic Minerals Company in 1957 and 1958 to explore the ground below the Patsie Pit. Due to lack of finances, their objective was not reached and the work was suspended without cutting the vein.

The Keno Tunnel is equipped with a 600 c.f.m. Gardner-Denver rotary type compressor, an air-trammer, an Eimco mucking machine, 3 mine cars, a sponge pump for drilling water, a stand-by 345 c.f.m. Copco compressor, air receiver, large pressure tank, rails, pipe (2 inch), vent pipe to the face, 1 LeRoy jackhammer and jack-leg, 1 Gardner-Denver jackhammer and jack-leg, an oxyacetylene welding torch and numerous small tools.

Refer to 3 (b)

Columbus Exploration Company is at present the sole operator on all of the properties described.

Refer to 3 (c)

Past production on The Keno Claim has been small. A substantial amount of ore which could be profitably mined if a mill were on the ground has been opened up on the Keno Vein. Former operators, looking for high-grade, threw the medium grade ore over the dump and shipped little or no ore.

Past production from the Lost Day Claim was made during the early days of the District and again in 1942 by Earl Alexander and Ben Simpson. Fantastic stories have been told about the high silver value of the ore but all settlement sheets have been lost. The size of the trench from which the ore was removed would indicate that no more than 75 to 100 tons of ore were shipped.

The production on The Patsie Claim was made by Ben Simpson in 1948, 1949 and 1950. In 1957, Earl Alexander loaned the settlement sheets to E. V. Reinhardt who was making an examination of the property for Mayflower Mining Company. The present location of the settlement sheets is unknown. Reinhardt's report to Mayflower is included as Exhibit 15-A and shows that 1,394.507 dry tons of ore were shipped from The Patsie pit which had a weighted average grade of 38.03 ounces of silver and 25.7% lead. The gross smelter returns were $118,039.32.

Refer to 3 (d)

1. Exhibit 16 is a report on the Keno Vein accompanied by an assay map. A detailed estimate of the value of the ore is made in the report. Note that there are two lists of assays. Those in the lower right hand corner of the map were the results of assaying done in Telluride. A visual examination of the channels where samples were cut indicated that the assays were incorrect. A complete new set of samples were, therefore, cut and were sent to W. H. Smith, Leadville, Colorado. His assays are shown in the upper left hand corner of the map. It is Smith's assays that were used in the calculation.

It is believed that there is a substantial reserve of ore of exceptional quality below the Patsie-Lost Day trenches and open-cuts but there are no assay data to demonstrate its presence, the cuts being filled with so much debris that sampling at present cannot be done.

Refer to 3 (e)

In order to understand the following description of the geology, one will have to observe the Claim map (Exhibit 13) and the map of the Keno Tunnel accompanying the Report on The Keno Vein (Exhibit 16).

1. From the portal of The Keno Tunnel to the vicinity of Survey Station No. 8, The Keno Vein is in an andesitic flow-breccia so intensely altered over a width of 50 feet that it has lost the color and much of the appearance of the original rock.

At Survey Station No. 8 a series of small, vertical faults, striking north and extending over a width of 110 feet to Survey Station 21 plus 10 feet, caused the Keno Vein to horse-tail over a width of 50 feet. Most of the vein through the fault zone is timbered and cannot be sampled but it may be possible to mine some portions of it profitably.

After passing the fault zone, the walls of the vein lost most of their alteration and the vein became a soft, poorly consolidated mixture of kaolin,

COPY

REPORT ON THE PATSIE
LEAD-SILVER MINE
OURAY COUNTY, COLORADO.

EXHIBIT NO. 15A

Submitted to: Mr. Bernard Esunas, President
Mayflower Mining Company

Date: July 23, 1957

By: E. V. Reinhardt, Geologist

REPORT ON THE PATSIE
LEAD-SILVER MINE
OURAY COUNTY, COLORADO.

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REPORT ON THE PATSIE
LEAD-SILVER MINE
OURAY COUNTY, COLORADO.

A B S T R A C T

Purpose of Report

The purpose of the report is to appraise the Patsie and adjoining claims for a possible purchase.

Conclusion

1,394 tons of ore with a net smelter value of $118,000 have been shipped from dozer cuts over a length of 600 feet along the vein. The vein strikes N. 30° E. and dips 60! to 65! to the north. At present, it is covered with caved material and cannot be seen, but is reported to average 5 feet in width. The grade of the ore shipped has been 25% lead and 38 ounces of silver. Ore of this grade should net, above smelter charges and cost of mining, $36.00 per ton. It is believed probable that there are at least 50,000 tons of such ore on the property which will net $1,800,000.00.

Recommendations

It is recommended that an attempt be made to acquire 3 properties for $40,000 each making a full purchase price of $120,000. No more than $30,000 should be paid initially. Thereafter, a 600-foot crosscut should be driven to the vein at a cost of $24,000 and a drift on the vein will cost an ad= ditional $24,000. Equipment will cost about $50,000. The full cost of the program will, therefore, be:

Payment on purchase	$30,000.00	
Equipment	50,000.00	
Crosscut	24,000.00	
Drift	24,000.00	
	$128,000.00	Total

? It is recommended that this work be done only if the down-payments can be held to $30,000.00

REPORT ON THE PATSIE LEAD-SILVER MINE OURAY COUNTY, COLORADO.

Purpose of the Report.

The purpose of this report is to appraise the Patsie, Helen and adjoining claims for a possible purchase.

Location, Access and Market

The properties under discussion are located in Sections 31 and 32, T. 43 N., R. 7 W., Ouray and San Juan Counties, Colorado. In relation to geographic features, the properties are on the southern slope of Brown Mountain, north of Gray Copper Gulch.

They are accessible from the town of Ouray southward over paved highway 550 for 9 miles to Ironton Park; thence east over an unimproved road up Gray Copper Gulch for 1 mile; thence northerly over a steep mountain road for 2 miles to the uppermost workings on the property at an elevation of 11,700 feet above sea-level.

7 Ore of the grade that has been produced in the past can be marketed readily at the A.S.& R. smelter at Leadville, Colorado or at the Midvale smelter of U.S. Smelting and Refining near Salt Lake City. As development proceeds, lower grade ores would undoubtedly be encountered. If such ores are found in quantities to justify the erection of a mill, one should be considered at a later date.

Ownership (Refer to Map in Pocket)

The claims under immediate consideration are the Lost Day 1 and 2, the Patsie and the Helen, all unpatented, each 600 feet wide by 1500 feet long and the old patented Ozark claim with dimensions of 300 feet by 1130 feet. These 5 claims are owned by Earl A. Alexander of Ouray and a Mr. Simpson of Grand Junction, Colorado. Mr. Alexander has been granted the right by Mr. Simpson to dispose of the claims as he sees fit. The northwest corner of the Patsie and most of the north end of the Helen are invalidated by the old patented claims Molly Bell, Indiana and Kentucky Giant.

As the known portion of the vein does not lie entirely on the Alexander-Simpson ground, it seems scarcely equitable to deal exclusively for the claims listed above. To complete an adequate acreage of land, two patented claims, each 300 feet by 1500 feet, known as the Kremlin and Stanley should be obtained from Ed Creel of Grand Junction. Mr. Creel has stated that his price for the 2 claims is $40,000 with $10,000 in advance, the remainder to be paid over a period of 3 years.

Two claims lying south of the Helen and Patsie known as the Jim and Steel Galena have to be obtained from Gibson and Porter who can be contacted in Ouray. The southerly extension of the vein strikes into these claims. Gibson and Porter also own the Columbine and the Columbines 1, 2 and 3 which, although of little value to the project at hand, would probably have to be purchased in conjunction with the Jim and Steel Galena. This would complete the required initial acquisition of ground. Porter and Gibson were not contacted. It is believed, however, that the 3 groups can be obtained for $120,000 with an initial payment of $10,000 to each group, totalling $30,000.

Later, if development seemed to warrant it, the Big 4 Nos. 1, 2 and 4 and a number of patented claims shown on the west side of the map, would have to be purchased from the Hicks Brothers of Ironton Park. These claims lie, for the greater part, in an intensely faulted area which is not favorable geologically. Without them, however, access to the property here under consideration at depths greater than 600 feet would be difficult and costly.

Geology

Formation:

The area surrounding the claims is composed of the San Juan volcanic series of lava flows. Adjacent to the vein the rocks have been so intensely altered that their original appearance and mineralogical content have been obliterated. Removed from the vein, the rocks are an andesite flow-breccia.

Structure:

The Silverton caldera is a block of ground, roughly 9 miles wide from north to south by 15 miles long from east to west, which has been depressed about 2,200 feet. It is bounded by large faults one of which, forming the northern side of the caldera, runs the length of Gray Copper Gulch. The Patsie claim, therefore, is situated about 1½ miles north of the north boundary of the caldera.

The most productive veins of the San Juan district have lain outside the caldera and radially to it. The vein on the Patsie claim strikes about N. 30! E. and is, therefore, radial to the caldera.

Annual creep of the surface material during the Spring thaws broke the outcrop and allowed it to move down the hill. Repetition of this movement year after year, transferred large chunks of ore several hundred feet from the outcrop. Float formed in this manner was the first ore found on the property. Dozing was instituted and as it proceeded toward the vein, more and more float was found and saved. Eventually the vein was encountered, striking N. 30° E. and dipping 60° to 65° to the southeast. Most of the work on the vein has been confined to open cuts, one of which has reached a depth of 60 feet. Two little shafts, one vertical, the other inclined, were sunk to depths of 30 feet or 40 feet. Both are now caved. Dozing on the vein extends intermittently over a length of 600 to 700 feet. The vein is covered with caved material at all points and cannot be examined at present without the aid of a dozer.

Shipping records:

About 1,394 tons of ore have been shipped from the mine and the settlement sheets are in my possession. The shipments indicate that the ore is low in copper and zinc, high in lead and of extraordinary grade in silver. All of the float and much of the vein material shipped to the present have been the carbonate of lead (cerrusite) but, at comparatively shallow depths, galena, the sulphide of lead, will become the principal ore mineral. There may be some reduction in the content of silver in the sulphide zone but a substantial amount of silver may be expected throughout.

Following is a list of shipments showing the total tonnage on record and the weighted average grades in silver and lead:

Dry Tons	Net Value	%Pb.	Ozs.Ag.	Tons x Pb	Tons x Ag.	Wt.Av.Ag.	Wtd.Av.Pb.
40.333	3239.55	26.0	38.45	1048.658	1552.705		
2.184	712.82	49.19	275.11	107.431	600.600		
32.799	8847.99	19.7	271.00	646.160	8888.880		
22.535	5841.07	18.87	273.00	427.500	6142.500		
16.334	4188.20	18.2	266.00	264.060	4335.800		
18.266	4766.33	12.2	286.40	223.260	5269.760		
21.399	3134.38	24.15	120.00	516.810	2568.000		
40.053	4908.83	22.45	93.45	898.000	3738.000		
10.253	1015.15	19.6	73.3	200.900	751.325		
24.101	2194.20	18.65	66.35	449.465	1599.035		
37.713	3648.59	22.4	62.55	844.480	2358.135		
42.295	4791.23	34.45	57.83	1445.120	2444.940		
25.256	2238.44	29.1	43.02	736.230	1087.900		
12.499	581.83	12.0	38.80	150.000	485.000		
12.355	784.17	29.24	17.52	362.080	217.248		
23.746	890.49	16.5	18.8	374.550	445.560		
25.550	1411.38	23.15	20.8	589.050	530.400		
12.613	609.84	21.2	18.6	267.120	234.360		
22.365	2567.05	31.0	18.95	693.315	423.360		
22.696	970.48	22.2	14.9	503.940	338.230		
41.992	3375.07	33.5	21.95	1407.000	921.900		
7.726	600.70	24.9	31.9	191.730	245.630		
14.475	1080.27	31.25	11.25	452.400	163.125		
24.790	2328.50	33.6	10.6	833.280	262.880		
21.751	1196.31	21.4	8.80	464.380	190.960		
40.696	1824.56	19.15	6.4	777.490	259.840		
21.718	1939.63	26.1	10.4	566.370	225.620		
13.768	1302.44	28.0	8.65	385.560	119.370		
14.586	1170.63	24.0	8.8	349.920	128.304		
21.991	1468.12	20.6	7.5	452.200	165.000		

Dry Tons	Net Value	% Pb	Ozs.Ag.	Tons x Pb.	Tons x Ag.	Wt.Av.Ag.	Wtd.Av.Pb.
37.175	2111.54	18.2	6.1	676.494	226.737		
34.707	3446.45	31.98	10.0	1110.400	347.070		
41.216	2885.94	23.8	7.15	981.036	294.723		
36.594	3592.80	31.65	9.95	1156.560	364.170		
37.974	3496.65	29.20	8.40	1109.600	319.200		
38.075	2821.40	25.3	6.25	961.400	237.500		
37.549	2573.45	27.3	7.7	1025.115	289.135		
25.181	1671.01	30.6	7.1	770.508	178.778		
43.675	2655.00	27.3	10.0	1193.010	436.675		
42.051	2756.44	28.7	10.75	1205.400	451.500		
27.000	927.00	29.4	10.6	793.800	286.200		
13.566	441.84	24.1	12.0	327.037	162.840		
25.298	799.09	24.75	11.97	624.663	303.480		
33.320	791.19	29.6	10.9	985.680	362.970		
21.945	788.16	35.5	12.3	777.450	269.370		
37.102	781.37	22.6	12.4	836.200	458.800		
13.731	340.53	27.9	9.6	382.230	131.520		
11.019	365.50	35.7	12.0	392.700	132.228		
37.492	1070.04	29.0	10.35	1087.500	388.125		
12.592	762.95	26.3	9.7	331.380	122.220		
7.956	347.94	24.05	11.0	190.944	87.516		
10.409	741.33	33.1	11.5	344.240	119.600		
7.566	345.66	36.9	14.2	279.720	107.352		
21.991	1468.12	20.6	7.5	453.200	165.000		
13.037	919.93	21.45	8.3	278.850	107.900		
23.975	799.09	24.75	11.97	591.525	287.280		
13.542	310.65	25.9	9.6	349.650	129.600		
1394.507	$118,039.32			35855.751	53038.496	38.03 oz. silver	25.7% lead.

$118,000 divided by 1394 equals $84.00 per ton (Av. Value)
35855.751 divided by 1394.507 equals [illegible] silver 25.7% lead.

53038.496 divided by 1394.507 equals 38.03 oz. silver [illegible]

It will be noted that most of the shipments have assayed from 7 ozs. of silver to 14 ozs. A few at the head of the list ran from 200 ozs. to 300 ozs., bringing the average to 38 ounces. It is believed that the general tenor of the ore-shoot is about 25% lead and 10 ounces of silver but that, contained within the ore-shoot, there is a comparatively small body of high grade silver ore. As its continuity cannot be depended upon, the higher figures should not be used in any calculations.

Conclusion and Recommendations

No ore is exposed at this time. With a small amount of dozer-work, exceptionally good lead-silver ore could be uncovered. The ore-shoot has a known length of at least 600 feet. Its width was reported to range from 1.5 feet to 9.0 feet. The depth to which it will go is unknown but it should extend to at least 300 feet of depth. This would make a tonnage of ore as follows:

$$\frac{600(\text{length}) \times 5\ (\text{width}) \times 300\ (\text{depth}}{2(\text{Sloping hill}) \times 9(\text{Conversion factor})} = 50{,}000$$

probable tons of ore with a net smelter value of $84.00 per ton less $28.00 for a reduction in silver to an average of 10 ozs. or $56.00 per ton. Hauling and mining will further reduce the net value to $36.00 per ton. $36.00 x 50,000 = $1,800,000.00 net.

It is not assured that this amount of ore is present. The probability of its presence seems likely enough to justify the expenditure of $30,000 for the first payment on the properties; $50,000 to equip the property, $24,000 to drive a 600-foot crosscut at 300 feet of depth and $24,000 to drive 600 feet on the vein. Total expenditures would be:

Purchase	$30,000.00
Equipment	50,000.00
Crosscut	24,000.00
Drift	24,000.00
	$128,000.00

I recommend that the above work be done only if the 3 groups of claims can be obtained for a down-payment of $30,000.00.

COPY

KNOWN ORE-RESERVES IN THE KEMO VEIN

OURAY COUNTY, COLORADO.

EXHIBIT - 16

March 17, 1965
Grand Junction, Colorado

Elmer V. Reinhardt

Elmer V. Reinhardt

KNOWN ORE-RESERVES IN THE KENO VEIN
OURAY COUNTY, COLORADO

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KNOWN-ORE RESERVES IN THE KENO VEIN
OURAY COUNTY, COLORADO

Summary

From a point 120 feet from the portal of The Keno Tunnel inward for an additional 180 feet, a body of ore has been exposed averaging 3.75 feet wide which will yield about 9000 tons of ore above the tunnel with a net value of $72,000. An additional 9000 tons of ore of similar grade should lie below the floor making a total of 18,000 tons with a net value before taxes of $132,000. These figures are based on the assumption that a sufficient tonnage of ore can be discovered to justify the construction of a mill.

Calculations in the report demonstrate that the mineralized material in the Keno Vein where it crosses the N-S fault zone is too narrow, erratic and low grade to be termed ore.

The Keno Vein has been offset by faulting on the wall of the rhyolite about 60 feet west of the present face of the tunnel. It is assured that the vein continues northeastward beyond this point and it is believed that it can be found without too much difficulty. When it is found again, it will be in firmer rock than it is for the last 200 feet of exposure and it is considered quite probable that it will contain ore of about the same width and quality as in the ore-shoot near the portal of the tunnel.

Recommendations

1. Attempt once more to find the Keno Vein with long drill holes. If it is not found, contract 200 to 300 feet of diamond drilling from the face of the tunnel to determine the location of the vein and the extent of the rhyolite.

2. While this is being done, drive the drift on the east wall of the N-S fault zone toward the Patsie ore-body.

3. When the Keno Vein is found resume the drive toward it.

KNOWN ORE-RESERVES IN THE KENO VEIN
OURAY COUNTY, COLORADO

Purpose of the Report.

While sampling the walls of the drift on the Keno Vein, it was observed that the ore-streak of the vein had been left in the wall over rather extended distances both by the old operators and by Columbus Exploration. Because of this fact, it was considered necessary to resample the vein systematically at 10 foot intervals by means of channel-cuts where the vein was exposed and by means of catching the cuttings of holes drilled in the wall where it was not exposed. This work was done during the last week in January, 1965 and the samples were sent to Telluride for assaying. The results from Telluride are shown in the lower right hand corner of the assay map. A visual examination of the channel-cuts indicated that the assays were incorrect. Accordingly, a complete, new set of samples were cut from the same channels and were sent to W. H. Smith in Leadville, Colorado. Smith's results, shown in the upper left hand corner of the map are in agreement with the visual examination of the channel-cuts and are used exclusively in the following estimates. The numbers and locations of both sets of samples are the same except that an "A" has been added to the numbers of the samples sent to Smith.

There is no proven ore on the Keno Vein because there are no raises to demonstrate the vertical continuity of the ore.

The purpose of this report is to estimate the tonnage and grade of probable ore now exposed in The Keno Vein on the basis of Smith's assays.

Description of the Vein

The 100 feet of the tunnel nearest the portal is a cross-cut to the vein. At the point where the vein was first cut, it is a fissure with altered rock in both walls but with practically no content of sulfide-minerals. From this point toward the northeast, the metal-content of the vein increases and at Station 4 plus 12.5 feet, the vein seemed to contain sufficient values to start sampling. Here, sample No. 143A was cut. The vein is in the drift from sample-station 143A to 146A. There it veers into the southeast wall and samples 147A and 148A were obtained as cuttings from drill holes.

At sample-station 148A plus 3 feet, a crack crosses the drift striking N. 15° W.on which there was movement of the N.E. segment of the Keno Vein about 4 feet to the north, placing it again in the back of the drift.

At sample-station 152A plus 3 feet, a fracture striking N. 10° E. also offsets the Keno Vein about 3 feet to the north, moving it from the south side of the drift to the north side.

In this ore-body, the vein is hard, the gangue-minerals being quartz and rhodonite. Kaolin, talc and fluorite are not present. The walls, although softer than the vein, are firm enough to permit a shrinkage system of mining. Mining costs will, therefore, be lower than in some other parts of the mine.

From sample-station 157A to 163A, the vein is in the drift. From sample-station 143A to 163A, the vein is composed of quartz with crystals and small masses of rhodonite occasionally present. The quartz is heavily impregnated with galena, sphalerite, chalcopyrite and an occasional small amount of tetrahedrite. The vein is hard, its dip is steep to the southeast and the walls are firm. Accordingly, in this portion of the vein, a shrinkage system of mining could be used.

At sample-station 163A plus 12 feet, a north-south fracture dipping 70° west crosses the drift. This fracture marks the western wall of the prominent set of N-S faults that show in the walls of the Keno Drift over a width of 115 feet to sample-station No. 171. The lagging on the sets are too closely spaced to observe whether or not the Keno Vein is offset or to allow sampling. At sample-station 164A, I was able to climb on top of the timber and cut a sample which assayed ore-grade. At sample-station 164A plus 8 feet, a second N-S vertical fracture offsets the Keno Vein into the south wall of the drift and sample No. 165A was obtained partly as a channel cut and partly as drill-hole cuttings.

In this portion of the ore-body, quartz and rhodonite are absent or sparse and the principal gangue-mineral is kaolin. As both the vein and the walls are soft, shrinkage-mining is out of the question; a cut-and-fill system will have to be employed which will raise the cost of mining to twice the figure necessary for shrinkage-mining.

From sample-station 166A to 169A, inclusive, the vein is in the south wall of the drift.

At sample-station 169A plus 8 feet, the vein again shifts to the north into the drift. As the vein is soft, it was timbered for the next 40 feet and cannot be sampled. The back-lagging are spaced from 1 to 4 inches apart allowing a good visual examination. It appears to be ore of about the same quality as the ore-body represented by samples 164A to 169A. In addition to sulfides set in a matrix of kaolin, quite a large percentage of green fluorite is also present.

At sample-station 171, the most prominent of all the N-S fractures crosses the drift. This is the fracture that marks the eastern wall of the N-S fault zone and that causes a change in rock from latite (continuous from the portal to this point) to andesite-flow-breccia. The andesite remains in the drift from this point to Survey Station 24 plus 26 feet where another fault striking N. 25° W. changes the formation to rhyolite which continues to the face of the drift on March 10, 1965.

This fracture shifts the vein into the south wall where it remains to sample-station 175. Drill holes 171 to 175 show that the metal-content is very low and looking through the cracks in the timber from sample-station 175 onward to the face, corroborates the assay data. Little is visible in the vein except pyrite and chlorite.

Concerning the relative ages of the Keno Vein and the N-S faults, there has been far more movement in a N-S direction than is indicated by the small offsets of the Keno Vein. It would seem, therefore, that the following sequence of events took place:

1. North-south faulting occurred. As the average dip is steeply to the west and as the movement was probably normal, the western side dropped in relation to the eastern side.

2. Northeast fracturing cut both segments of the N-S fault blocks.

3. Minor re-adjustment on the N-S system created small offsets in The Keno northeast fracture.

4. Mineral-bearing solutions originating from two separate parts of the Silverton Caldera introduced gold, silver, copper, lead, zinc, quartz and rhodonite into the northeast fracture and also introduced into the N-S system the same suite of metals plus fluorite and talc.

At Survey Station 22, the vein became a mixture of kaolin and talc which caved so badly that it was determined to by-pass this segment of the vein. At Survey Station 23 the by-pass was started in the north wall. At Survey Station 24 plus 26 feet, a fault zone was cut which changed the formation from andesite-flow-breccia to an extremely fine-grained, glassy, hard rhyolite. This was believed to be a dike, but, as the rhyolite has now been penetrated 60 feet without a resumption of the andesite, the thought arises that this may be a rhyolite flow shifted by faulting to the elevation of the Keno Tunnel. The drift has arrived at a point where the Keno Vein should be exposed but a 30 foot hole drilled in the south wall failed to cut it. The drift will be continued for a few more rounds and, if it remains in rhyolite, a diamond drill should be set up to determine the location of the vein. That the vein has been displaced rather than cut off is demonstrated by cuts exposing it on the hill above the tunnel, by the presence of ore on the dump of the old, caved Ozark tunnel believed to be on the same vein and by aerial photographs on which the vein can be traced quite clearly for thousands of feet into Poughkeepsie Gulch. The ore-tenor of the vein when found is unknown but the likelihood that it will contain ore is good.

The ore-body will be estimated in two segments as there is a break in the values from sample-station 161A to 164A. Further, the segment of vein represented by samples 143A to 161A is hard and amenable to shrinkage methods of

mining but the portion represented by samples 164A to 169A and the unsampled, timbered area northeast of sample-station 170 is soft and must be mined by cut-and-fill methods. As this method of mining is twice as costly as shrinkage, the value of the two ore-bodies cannot be estimated as a unit.

Ore represented by Samples 143A to 161A

Some of the samples were cut less than mining width and their grade has to be reduced by the following proportion:

$$\frac{\text{Assay grade}}{\text{Mining grade}} = \frac{\text{Mining width}}{\text{Assay width}}$$

Sample No.	Assay Width	Oz. Au	Oz. Ag	% Pb	% Zn	% Cu
143A	3.0	0.02	3.1	9.4	11.4	0.40
Revised	3.5	0.017	2.6	8.1	9.8	0.34
144A	3.0	0.015	1.6	3.2	3.2	0.30
Revised	3.5	0.013	1.4	2.7	2.7	0.26
145A	3.0	0.025	3.0	5.7	5.4	0.50
Revised	3.5	0.021	2.6	4.9	4.6	0.43
146A	3.0	0.02	3.6	6.6	3.5	0.6
Revised	3.5	0.017	3.1	5.6	3.0	0.51
147A	3.5(Drill Hole)	0.015	2.8	4.8	11.9	1.1
148A	4.0(Drill Hole)	0.03	4.0	4.9	3.6	1.3
149A	4.6	0.035	7.1	4.0	6.4	1.6
150A	3.5(Drill Hole)	0.025	2.6	3.4	4.5	0.7
151A	3.5	0.03	4.4	1.6	5.9	0.9
(2.5' of channel 1' drill hole)						
152A	4.2	0.02	4.6	7.1	8.6	0.7
153A	3.2	0.03	1.5	1.7	4.1	0.4
Revised	3.5	0.027	1.4	1.5	3.7	0.36
154A	3.0	0.035	8.8	9.4	9.3	0.90
Revised	3.5	0.03	7.5	6.3	7.9	0.77
155A	3.5	0.03	8.0	2.8	7.9	0.70
156A	3.6	0.02	5.5	4.1	5.9	0.40
157A	3.9	0.02	4.1	2.5	6.9	0.60
158A	4.2	0.03	2.6	2.7	6.7	0.40
159A	3.6	1.28	21.4	6.7	10.8	0.90
As the preceding sample is out of proportion, it will not be used)						
160A	3.5	0.02	3.2	3.9	7.6	0.20
161A	4.5	0.03	2.2	3.8	7.9	0.50

Multiplying the widths of the samples by the assays for the various metals and dividing the sum of these figures by the sum of the widths gives the following weighted average grade of ore represented by samples 143A to 161A, exclusive of sample 159A. Average width is 3.75 feet.

Au	Ag	Pb	Zn	Cu
0.024	3.9	4.1	6.4	0.67

Based on the experience of mill operators in the San Juan District, the following recoveries may be expected:

Gold 90% going mostly into the lead-concentrate
90% of 0.024 = 0.0216 recoverable in Pb.

Silver 85% with 80% going to lead concentrate and 5% to the zinc concentrate
.80 × 3.9 = 3.12 oz. per ton in Pb.
.05 × 3.9 = 0.195 oz. per ton in Zn.

Lead 95% × 4.1 = 3.895% recoverable in Pb.

Copper 90% recoverable with 80% going to the lead concentrates and 10% to the zinc concentrate.
0.67 × .80 = 0.536% recoverable in Pb
0.67 × .10 = 0.067% recoverable in Zn.

Zinc About 5% of the zinc is lost in the lead concentrate and about 10% in the tailings leaving a probable recovery of 85%
6.4 × .85 = 5.44% recoverable.

Value of the lead concentrate based on the schedule sent by Elaine Watts; ore-buyer for U. S. Smelting and Refining.

A ratio of concentration of 14 to 1 can probably be maintained in a mill. Then:

Gold: 0.0216 x 14 = 0.3024 oz. in the Pb concentrate
Silver: 3.12 x 14 = 43.68 oz. in the Pb concentrate
Lead: 3.895 x 14 =54.53% in the Pb concentrate
Copper: 0.536 x 14 = 7.504% in the Pb concentrate

Gold:	Deduct 0.01 oz. Pay for remainder at $31.82 per ounce - 0.2924 x $31.82=	$ 9.30
Silver:	95% times market price less 1¢ 43.68 x .95 x $1.28 =	53.11
Lead:	Pay for 90% of dry assay at market price less $0.0256/lb. .5453 x .90 x 2000 x $0.1344 =	131.92
Copper:	Pay for 90% of dry assay at market price less $0.095/lb. .07504 x .90 x 2000 x $0.2425 =	32.75
	Gross value of lead concentrates	$ 227.08
	Less smelter charge and penalties	14.00
		213.08
	Less freight Ridgeway to Tooele $6.40 + 10% for wet weight	7.04
		206.04
	Less haul to Ridgway - $1.50 + 10%	1.65
		204.39
	Less royalty of 10% -	20.44
	Net value per ton of concentrate	$183.95

$183.95 divided by 14 (Ratio of concentrate) = $13.14 - Value of the gold, 80% of the silver, 80% of the copper and 95% of the lead in one ton of crude ore.

Value of the zinc concentrate based on the schedule sent by Reed F. Welch, ore-buyer for American Smelting and Refining.

A ratio of concentration of 9.5 to 1 will have to be maintained to make a product acceptable to the zinc smelter. Then the grade of the zinc concentrate will be

Silver: 0.195 x 9.5 = 1.8 ozs. in zinc concentrate
Copper: 0.067% x 9.5 = 0.63% in zinc concentrate
Zinc: 5.44% x 9.5 = 51.68% in zinc concentrate

Payment:

Gold:	Pay for 75.2% at $32.81575 per ounce. Minimum 0.01 oz.-No Pay	
Silver:	Deduct 1.5 ozs. Pay for 95% of remainder at market price. (1.8 - 1.5) x .95 x $1.29 =	$ 0.37
Copper:	Over 1% pay for 65% at market price less $0.08. No pay.	
Zinc:	Pay for 85% at market price less 0.4 cents per lb. .5168 x 2000 x .85 x $0.14 =	123.00
	Gross smelter value (Zinc)	$123.37
	Less smelter charge and penalties	53.78
		69.59
	Less freight to Amarillo + 10%	14.04
		55.55
	Less haul to Ridgeway + 10%	1.65
		53.90
	Less 10% royalty	5.39
		$48.51

$48.51 divided by 9.5 (ratio of concentrate) = Net value of 1 ton of crude ore in zinc.	5.11
Net value of 1 ton crude ore in Au, Ag. Pb and Cu =	$13.14
	$18.25
Less mining a narrow vein by shrinkage methods	6.00
	12.25
Less milling in a mill proposed for possible later construction	4.25
Approximate value per crude ton before taxes	$ 8.00

Tonnage of ore available in the ore-shoot represented by samples 143A to 161A

Without raises in the ore, there can be no assurance that the ore will extend above the back of the drift. A reasonable assumption can be made, however, that it will extend to the surface.

The slope of the hill above the Keno Tunnel cannot be surveyed at this time. It is steep and will not vary more than one or two degrees from a 30° slope.

It is 120 feet horizontally from the surface to the southwest end of the ore-shoot and 300 feet to the northeast end.

Cotan 30° = .57735 x 120 = 69 feet of backs S.W. end
Cotan 30° = .57735 x 300 = 173 feet of backs N.W. end
242 divided by 2 = 121 feet average height of backs above the drift in the ore shoot

$$\frac{3.75 \text{ (average width)} \times 121 \text{ (average height)} \times 180 \text{ (length)}}{9 \text{ (Conversion factor cu. ft. to tons)}} = 9075 \text{ tons}$$

or in round numbers 9000 tons having a net value before taxes of $8.00per ton or $72,000 in the ore-body, provided a tonnage of ore can be proven to justify the construction of a mill.

Estimate of the value of the ore-body represented by samples 164A to 169A

Sample No.	Width	Oz. Au	Oz. Ag	% Pb	% Zn	% Cu
164A	2.5	.02	5.9	6.6	10.4	1.3
Revised	3.5	.016	4.2	4.7	7.4	0.93
165A	5.2	.03	3.0	2.7	6.0	0.7
166A	4.0	.02	2.0	1.6(4)	4.2	0.6
167A	3.0	.025	2.6	2.4	7.2	0.7
Revised	3.5	.021	2.2	2.1	6.2	0.6
168A	3.0	.03	4.3	4.4	8.3	1.2
Revised	3.5	.026	3.7	3.8	7.1	1.0
169A	2.0	.015	2.8	3.8	8.1	0.6
Revised	3.5	0.086	1.6	2.2	4.6	0.35

This gives an average revised width of 3.8 feet and a weighted average grade of

Oz. Au.	Oz. Ag	% Pb	% Zn	% Cu
0.021	2.8	2.74	5.9	0.70

Such a weighted average grade indicates a probable recoverable grade as follows:

Lead-copper concentrate: Gold - 90% x .021 = 01.89 oz. per ton
Silver- 80% x 2.8 = 2.24 ozs. per ton
Lead - 95% x 2.74 = 2.603%
Copper- 85% x .7 = 0.595%

Zinc concentrate: Gold - Negligible
Silver- 5% x 2.8 = 0.14 oz.
Copper- 5% x 0.70 = 0.035%
Zinc - 85% x 5.9 = 5.015%

Assume a ratio of concentration in the lead-circuit of 20 to 1. Then the concentrate will assay:

Au	Ag	Pb	Cu
0.378	44.80	52.06	11.9

Pay from the smelter:

Gold - 0.378 x $31.82 =	$ 12.03
Silver- 44.80 x .95 x $1.28	54.48
Lead - .5206 x .90 x 2000 x $0.1344 =	125.94
Copper- .119 x .90 x 2000 x $0.2425 =	51.94
Gross value - Pb. Cu Concentrate	$ 244.39
Less smelter charge	14.00
	230.39
Less freight	7.04
	$223.35

	(Brought forward)	$223.35
Less haul		1.65
		221.70
Less royalty		22.17
Net value per ton of concentrate		$199.53

$199.53 divided by 20 (ratio of conc.) = $9.98 value per crude ton of ore in Gold, Silver, Copper and Lead. Assume a ratio of concentration of 9.5 to 1 in the zinc circuit. Then the zinc concentrate will contain

Silver	0.14 x 9.5 = 1.33 ozs.
Copper	.035 x 9.5 = 0.3345%
Zinc	5.015 x 9.5 = 47.6425%

Pay from the smelter:

Gold	No pay	
Silver	No pay	
Copper	No pay	
Zinc	.476425 x 2000 x .85 x $0.14 =	$ 99.39
Less smelter charge and penalties		53.78
		45.61
Less freight		14.04
		31.57
Less haul		1.65
		29.92
Less 10% royalty		2.99
		$26.93

Value of a ton of crude ore in zinc $26.93 divided by 9.5 =	$ 2.83
Value of a ton of crude ore in Au, Ag, Pb, Cu.	9.98
	$ 12.81
Less a mining cost for cut-and-fill method of at least	10.00
	2.81
Less milling	4.00
Loss	$1.19

Because the ore is narrow, low grade, erratic and difficult to mine, the figures indicate that the vein in the area where it crosses the N-S fault zone should not be mined and no calculations of tonnage will be made.

When the vein is found again beyond the present face, it will be in firmer ground creating a reasonable expectation that more ore of the quality and width shown by samples 143A to 161A will be found. Higher backs above the drift should also yield more tonnage per foot of development than in the area where ore is now exposed.

In review, there are at present about 9000 tons of probable ore now developed above the tunnel level with a net value of about $72,000. By sinking a winze 140 feet deep or driving a lower tunnel at a cost of $12,000, a similar tonnage could probably be developed below the floor of the drift which would net about $60,000 making an over-all tonnage of 18,000 with a net value before taxes of $132,000.

Such a tonnage represents about 20% of the quantity of ore needed for the construction of a mill and additional ore must be found before the erection of a mill is considered.

Recommendations

1. Attempt once more to find the Keno Vein with long drill holes. If it is not found, contract 200 to 300 feet of diamond drilling from the face of the tunnel to determine the location of the vein and the extent of the rhyolite.

2. While this is being done, drive the drift on the east wall of the N-S fault zone toward the Fatsis ore-body.

3. When the Keno Vein is found resume the drive toward it.

talc, and pyrite with occasional nodules of fluorite. The combined lead-zinc-copper content dropped to less than 3%. This condition continued to the point where caving occurred as shown on the map.

A by-pass of the cave was started which cut a fault-zone striking N. 25° W. and dipping steeply toward the northeast. The eastern side of the fault was composed of a hard, glassy rhyolite in which the by-pass was continued for 130 feet to a point 30 feet beyond the projected intersection of the Keno Vein. There, one horizontal diamond-drill hole was extended 227 feet in a direction S. 38° E. It was in rhyolite for 27 feet and the remainder of the hole was in andesite. The contact between the two formations, as shown in the core had a dip of about 50°. A second, horizontal hole was drilled in a direction N. 38° W. which remained in rhyolite throughout its length of 250 feet. Neither hole cut the vein.

By the time the drilling was completed, sufficient snow had melted to allow an examination of the surface. The outcrop of the rhyolite was quickly found and its configuration on the surface indicates that it is an irregularly shaped plug roughly 300 feet in diameter. Further, the outcrop of The Keno Vein was found northeast of the plug continuing with little or no offset. It is unknown whether the rhyolite is younger than the vein or whether it was an unfavorable formation in which the vein became so obscure as to have escaped our notice.

The by-pass has now been turned to a direction N. 52° E., parallel to the direction of the vein, and it is expected that, as soon as the northeastern contact of the rhyolite is cut, a minor amount of cross-cutting in the andesite will find the continuation of The Keno Vein.

2. The rock accompanying the ore on the Patsie-Lost Day Claims is highly altered, kaolinized andesite bleached to a light yellowish-grey color in a zone 60 feet to 100 feet wide. The fractures shown in the cuts strike north-south and dip steeply to the east. Their southern extension projects to a point near the present face of the Keno Tunnel but to this date, none of them has been cut. This may result from the presence of the rhyolite which may be younger than the fractures, or it is possible that the tunnel has not yet been extended far enough to the east to cut them.

The ore minerals in The Keno Vein are galena, sphalerite, chalcopyrite and, rarely, tetrahedrite. The ore-minerals on the Lost Day and Patsie were cerrusite and an unknown silver-mineral. At the elevation of the Keno Tunnel, The Patsie ore-body is expected to consist of galena, tetrahedrite, and minor amounts of sphalerite.

Any discrepancies observed between the geologic descriptions given in the various reports and the description given above demonstrate the gradual unfolding of the geologic story. This account may be superseded by another account as additional data are collected.

Refer to 3 (f)

1. We expect to find ore by driving north from The Keno Drift to points beneath the Patsie-Lost Day open pits. We are watching the walls of the drift with care for N-S fractures on which to drift. Should they not be found, we will drive on survey-lines under the pits with the thought that the fractures may have been locally obliterated by the rhyolite-plug.

2. We expect to find ore by driving northeast on the continuation of The Keno Vein because it contains ore in the segment already explored and ore has been mined from it at The Forrest Mine, two and one-half miles to the east. The intervening portion of the vein between The Keno and The Forrest is unexplored.

Assay data on The Keno Vein are on Exhibit 16 and shipping records from The Patsie are included with Exhibit 15-A.

Refer to 3 (g)

In addition to Exhibits 15A and 16, two additional reports by E. V. Reinhardt are included as Exhibits 17 and 18.

REPORT ON THE PROPERTIES OF THE

C. & C. MINING COMPANY

OURAY AND SAN JUAN COUNTIES, COLORADO.

EXHIBIT NO. 17

Submitted to: E. W. Creel

Date: December 30, 1960

By: E. V. Reinhardt

E.V.Reinhardt, Geologist

C O P Y

REPORT ON THE PROPERTIES OF THE C. & C. MINING COMPANY OURAY AND SAN JUAN COUNTIES, COLORADO

Purpose and Scope of this Report

The purpose of this report is to outline the geology of a group of claims in Ouray and San Juan Counties, Colorado, owned and held by lease by the C. and C. Mining Company of Grand Junction, Colorado.

I have supervised the work performed on the Patsie and Helen Claims adjoining the C. and C. Group on its western side over a period of 18 months. My work on the C. and C. Group is confined to a brief examination of the Keno Tunnel during the month of December, 1960 and to studies of the ore-body on the Patsie Claim, adjoining the southwestern ends of the Stanley and Kremlin Claims held by C. and C. under a leasing arrangement. This report, therefore, is not complete but is based upon a rather thorough knowledge of the general geology of the region, a brief examination of the Keno Tunnel and a close observance of ore occurrences near the southwestern end line of the Stanley and Kremlin Claims.

Location, Access & Market

The property of the C. & C. Mining Company is located in Sections 32 and 33, T. 43 N., R. 7 W. and in Section 4, T. 42 N., R. 7 W., N.M.P.M., Ouray and San Juan Counties, Colorado. In relation to geographic features, the portion of the claims in Ouray County is on the southern slope of Brown Mountain, east of Ironton Park, and the portion in San Juan County is on the southeastern slope of Brown Mountain.

The principal work done on the property, at present, is the tunnel on the Keno claim which is accessible from Ouray southward over paved Highway 550 for 9 miles to Ironton Park, thence, east over an unimproved road up Gray Copper Gulch for 1/2 mile; thence, southeasterly over a steep mountain-road for an additional 1-1/2 miles to the mine at an elevation of about 10,800 feet.

Ore of a grade such as has been mined from the Patsie Claim adjoining C. & C.'s Stanley and Kremlin claims can be marketed at the Midvale Smelter near Salt Lake City, Utah. Ore, such as the material exposed in the Keno Tunnel, would have to be concentrated and the lead and zinc minerals would have to be separated before consignment to a smelter. There is no concentrator in the area at present which will accept custom-ore and a sufficient tonnage will have to be blocked out on the C. & C. properties to justify the erection of a mill before ore in appreciable quantities can be marketed. Small tonnages of high-grade may be encountered that can be sent directly to the smelter.

Ownership

The property consists of 4 old, patented claims known as the Stanley, Kremlin, Ozark and Keno and of 28 unpatented claims as shown on the accompanying map. There is considerable overlapping of the claims and the 4 patented claims cover 10 acres, each, so that the total acreage is only about 520 instead of the 640 acres that would be covered by 32 full claims 600 feet wide by 1,500 feet long.

The C. & C. Mining Company holds the C. and C. Mining Claim and the C. and C. Mining No. 1 by right of location. The other claims are leased from a number of owners and require royalties of 10% to 15% of the net smelter-returns.

General Geology

Formations:

The area covered by the property of the C. & C. Mining Company is composed of the San Juan Series of lava flows. The rock at the surface is an andesite flow-breccia.

Structure:

The Silverton Caldera is a block of ground, roughly 9 miles wide from north to south by 15 miles long from east to west, which has been depressed about 2,200 feet. The caldera is bounded by large faults one of which,

forming its northern side, runs the length of Gray Copper Gulch. The C. & C. property is located on Brown Mountain, south of Gray Copper Gulch at distances ranging from 1/2 mile to 2 miles north of the northern boundary of the caldera.

The most productive veins of the San Juan District have lain outside the caldera and radially to it. The strikes of the network of veins on the C. and C. property range from north to northeast with dips to the east and southeast so that all are radial to the caldera and at about the correct distance from it to have received the maximum mineralization.

Geology of the C. and C. Property

Of the many veins known to exist on the property, I am acquainted with only two: 1. The Keno-Ozark Vein and 2. The Patsie Vein.

1. The Keno-Ozark Vein

The Keno Tunnel is about 350 feet long and is not on the vein throughout its length. The vein strikes N. 50° E. and dips 70° S.E. In most of the area where the vein is exposed, it is composed primarily of quartz a few inches to 2 feet wide and the andesite in the walls shows little alteration. About 20 feet from the present face of the tunnel, the vein enters a zone of intense alteration in which all the dark colored minerals of the andesite have been altered to gray and an abundance of sericite has been introduced into the rock. At the point where the change came in the wall-rock, a radical change also came in the vein: It broke into at least 2 branches; it became wider and the content of gold, silver, copper, lead and zinc increased. One split of this vein, on its northwestern side, is exposed in a raise driven 12 feet above the back of the drift and in the northwest wall. It is composed of quartz, generously impregnated with sulphide minerals. This may be termed the footwall vein. The assay of a sample cut 26 inches wide across the vein resulted as follows:

Width	Oz. Au.	Oz. Ag.	% Cu.	% Pb.	% Zn.
26"	0.22	5.86	0.53	2.31	3.2

The hanging wall vein is exposed at the face of the main tunnel. It contains less quartz than the footwall but has a streak of solid sulphides ranging in width from 4 inches to 10 inches with altered wall-rock generously sprinkled with sulphides on both sides of the streak. Samples cut across the vein resulted as follows:

Location	Width in inches	Oz. Au	Ozs. Ag	% Cu	% Pb.	% Zn.
Lower face	39	0.04	3.28	0.96	2.66	4.8
Upper face	29	0.02	3.20	1.12	5.20	13.1

These two components of the vein have not been exposed at a single location and the exact width of the vein including both streaks is unknown. By projecting the two streaks to points at the same elevation, it appears they are about 7 feet apart with a barren zone 2 feet wide between them.

A weighted average of the 3 samples is

Oz. Au	Ozs. Ag	% Cu	% Pb	% Zn.
0.08	3.97	0.89	3.34	6.92

These grades must then be reduced by the following proportion to account for the 2 foot-wide streak of barren material between the two ore-bearing walls

$$\frac{7' \text{ (Full width)}}{5' \text{ (Sampled width)}} = \frac{\text{Grade of vein 7' wide}}{\text{Weighted Average Grade}}$$

Calculated in this manner, one might expect to mine the ore 7 feet wide and maintain a grade of

Oz. Au	Ozs. Ag.	% Cu	% Pb	% Zn.
0.058	2.84	0.64	2.39	4.94

Under favorable marketing conditions, material of this grade would be ore. With the existing low prices of metals, such material cannot be extracted at a profit and any further work should be done with the expectation of developing a body of ore which can be mined later when the price of metals has risen several cents per pound above the present quotations. The material accruing from development should be placed in a stockpile for future mill feed and should be kept separated from waste. The main drift should be curved slightly to the northwest to allow it to include both the hanging wall and footwall streaks.

There is a strong probability that the near ore-grade material will continue for several hundred feet toward the northeast and that portions of it will be of better grade than that now exposed. The reasons for these statements will be set forth later in this report.

2. The Patsie Vein -

The best exposure of the Patsie Vein is on the Lost Day claim. Here, it is striking about N. 10° or 15° E. and dips east at a 65° angle. Southwest of the open cut on the vein, from which many tons of high grade lead-silver ore were removed, the vein strikes across the corner of the Stanley Claim where it has not been mined. Yet further to the southwest, it may leave the Stanley and enter the Patsie claim. Large tonnages of unusually high-grade lead-silver ore have been mined from the Patsie as large chunks and slabs of float which may have originated on the Patsie Claim or they may have slid down the hill onto the Patsie from the west end of the Stanley and Kremlin Claims.

The Patsie vein is one component of a very large fault zone 250 feet wide, striking a few degrees east of north, branching from the Caldera Fault in Gray Copper Gulch and extending to the Guadaloupe Mine on Mt. Abrams 2-1/2 miles north of Gray Copper. Most of the fault zone crosses the Stanley and Kremlin claims but a portion of it, on its Western side is on the Patsie and its northern extension was located by Key Atomic Minerals Company in September, 1958 under the name of the Marion group of claims. The entire fault zone is intensely altered and it seems quite likely that further exploration will disclose the presence of bodies of ore on the Stanley and Kremlin Claims east of the body known to be present on the Lost Day and Patsie Claims.

When this wide, highly altered fault zone is projected to the south, it enters the Keno Claim at the point where the face of the Keno Tunnel now lies. It is believed that the ore in the Keno Vein results from the crossing of the 2 structures and that ore will continue in the vein until the eastern side of the North Fault is reached or at a distance of 300 to 400 feet northeast of the present face. Further, it seems likely that one or more high-grade veins of lead-silver ore should be found branching from the northwest wall of the vein in a northerly direction. These will be the Patsie vein and its parallels in the big, north fault. The record of shipments from the Patsie Vein on the Patsie and Lost Day Claims is 1,394 tons with net smelter returns of $118,039.32. The average content of lead was 25.7% and of silver, 38.03 ozs. per ton. All of these shipments came from open pits, none of which attained a depth in excess of 50 feet. Those portions of the vein on claims controlled by the C. & C. Mining Company are completely virgin.

3. Other Veins -

a. The Gold Vein is marked on a map prepared by James J. Barnum in 1960, striking N. 70° E., and crossing the Keno Vein a few hundred feet northeast of the present face of the tunnel. The vein has been described to me by E. W. Creel as being 2 feet to 6 feet wide containing gold values from 0.50 oz. to 2.00 ozs. per ton at all exposures. Some shipments from it are reported to have been made about 60 years ago from its eastern end in San Juan County. I have not seen the vein and cannot report on it from personal experience.

b. A network of veins in addition to those described is shown on the map by Barnum. I have no comment to make on them until I have an opportunity to examine them.

Conclusions

The C. and C. Mining Company controls 38 claims in Ouray and San Juan Counties which offer possibilities for the development of large bodies of ore.

Low-grade ore worthy of stockpiling while awaiting better metal prices is now exposed in the Keno-Tunnel and it is expected to be more or less continuous for 300 to 400 feet along the strike of the vein.

The face of the Keno Tunnel is near the junction of the Keno-Vein and the Patsie Vein. More than $118,000 have been taken from open pits on the Patsie Vein on adjoining claims and those portions of the vein on C. and C. property are unexplored.

The gold vein and others reported to exist should be studied and developed if the studies indicate that further work is warranted.

No estimates of probable tonnage can be made until further development work has been done.

In order to forestall almost certain litigation in the future, an effort should be made to acquire the Patsie and Helen claims from Mr. Alexander of Ouray, Colorado.

Recommendations

1. It is recommended that the Keno Tunnel be shifted slightly to the left or northwest in order to expose both the footwall and hanging wall veins and that the drift be continued toward the northeast, placing the broken ore in a stockpile while waiting for better metal prices.

2. While driving on the Keno Vein, wztch the northwest wall closely for the Patsie Vein. When it is found, drive northward on it.

3. Watch the southeast wall of the drift for the Gold Vein and when it is found, drive east on it.

4. Attempt to make satisfactory business arrangements with Mr. Alexander for the acquisition of the Patsie and Helen Claims.

COPY

PROGRESS REPORT ON THE GEOLOGY OF THE KENO MINE, OURAY COUNTY, COLORADO, AND RECOMMENDATIONS FOR FUTURE DEVELOPMENT.

EXHIBIT NO. 18

Date: January 23, 1965

By: E. V. Reinhardt
Elmer V. Reinhardt

PROGRESS REPORT ON THE GEOLOGY OF
THE KENO MINE, OURAY COUNTY, COLORADO
AND RECOMMENDATIONS FOR FUTURE DEVELOPMENT

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PROGRESS REPORT ON THE GEOLOGY OF
THE KENO MINE, OURAY COUNTY, COLORADO
AND RECOMMENDATIONS FOR FUTURE DEVELOPMENT

A B S T R A C T

Summary

1. The Keno Vein can be traced on aerial photographs for a distance of 13,000 feet, terminating toward the northeast at The Forrest Mine. Because of minor offsets by N-S fractures several segments of the vein appear to have been left in the wall of drift at The Keno Mine and it is believed that systematic sampling will prove the horizontal continuity of the ore to be much better than has been shown to the present.

2. A set of fractures striking N. 70° - 75° E. seem to contain little ore but has served to localize ore in The Keno Vein.

3. A fault-zone, 60 feet wide, striking N-S has been cut by the Keno Drift. Sampling of the walls of the drift and long holes drilled into the walls demonstrate that the fault zone is mineralized with quartz and fluorspar and to some extent with minerals of gold, silver, copper, lead and zinc. This is believed to be the Patsie Vein. No

Recommendations

It is recommended that:

1. The Keno Vein be sampled systematically at 10-foot intervals in the drift to determine whether the width, grade and continuity of the ore are such as to allow profitable mining at the present time.

2. The drift on the Keno Vein be continued.

3. A raise be driven at a point to be determined after sampling has been completed to test the vertical continuity of the ore.

4. A drift be started north on the fracture at Station 8 plus 80 feet (Sample 133) and 30 foot holes be drilled at 25 or 30 foot intervals in both walls of the drift to explore the full width of the fault-vein. The last recommendation should not be started until all the leases are signed on The Patsie, Helen, Lost Day No. 1 and Lost Day No. 2, Ozark, Stanley and Kremlin Claims.

PROGRESS REPORT ON THE GEOLOGY OF THE KENO MINE, OURAY COUNTY, COLORADO AND RECOMMENDATIONS FOR FUTURE DEVELOPMENT

Purposes of the Report

The purposes of this report are to convey to you the geologic observations made at The Keno Mine over a period of time extending from November 10, 1964 to January 11, 1965; to show the results of extensive sampling and long-hole-drilling in the walls of the drift; to draw deductions from the geologic observations and sampling; and to recommend further exploration and development.

Geologic Observations

1. The Keno Vein -

The Keno Vein can be observed intermittently on aerial photographs extending from the Keno Tunnel, with an average strike of N. 52° E., through the Ozark Mine, over the crest of the ridge into Poughkeepsie Gulch and terminating 1000 feet northeast of The Forrest Mine, high on the ridge bordering Poughkeepsie Gulch on its eastern side, showing an overall length of about 13,000 feet. Of this great length, about 550 feet have been explored at the Keno Mine, 200 to 300 feet at the Ozark and about 700 feet in the Old Lout Tunnel. The remainder of the vein has not been explored. The Old Lout Vein, which produced between $300,000 and $500,000 in high-grade gold-silver ore during the 1880's and 1890's, was a feather, branching from the Forrest Vein in a N. 10° to 15° E. direction. In fact, the southern end of The Old Lout workings curve sharply to the west and are probably on the Forrest-Ozark-Keno Vein.

In The Proceedings of the Colorado Scientific Society, Volume 14, No. 7, page 388, V. C. Kelley quotes Ransome's description of the 200-foot level of The Forrest Mine (1905) as follows: "The vein consists of 'stringers of ore without much quartz, traversing altered rock. These stringers are irregular, sometimes expanding to two or three feet of nearly solid ore with included fragments of country rock, and again contracting to narrow veinlets. The ore is adherent to the country rock and the lode is without regular walls'." A better description of the Keno vein could not be written.

On Page 391, Kelley, in describing the vein explored in the Old Lout Tunnel which is quite surely The Forrest Vein, states: "An average tenor of ore in the vein, according to assays of some 50 samples averaging 30 inches in vein width, was given in one report as 0.05 ounces of gold and 10 ounces of silver to the ton, 1.0 percent of copper, 4.0 percent of lead and 2.0 percent of zinc". This is not excessively higher grade than the ore now exposed in the Keno Tunnel and the sampling was confined to narrower widths than the samples taken from the Keno. Therefore, it seems that the vein has about the same appearance and content of metals near both ends, and the normal expectation would be that the intervening 11,000 feet of vein would have a similar appearance and tenor of metals.

Without careful and extended study, the ore in the Keno Drift appears very spotty with long intervals of barren vein between short shoots of ore. The vein has been offset slightly, however, by two sets of fractures, one striking nearly N-S and the other N. 70° - 75° E. Because of these offsets, much of the drift has been driven at the side of the vein which has been left in the southeast wall. This was first noticed in the long hole drilling and further confirmed by observation while sampling the walls. It is now believed that the ore is quite consistent from the point where it was first cut near the portal to Station 21 plus 20 feet and that further long hole drilling may prove that ore is present in the wall of the drift throughout.

That sulfide-bearing material is present throughout can be seen at present. To determine whether the width and grade are such as to allow profitable mining under the existing price-schedules of metals, I propose the systematic sampling of the vein at 10-foot intervals throughout the length of the drift, using channel cuts where the vein is exposed and catching the cuttings of holes drilled in the wall where the vein is in the wall. I expect to start this work on the 25th of January, 1965.

2. The N. 70° to 75° E. Fractures -

Three fractures striking N. 70° to 75° E. and dipping S.E. at angles of 70° to 75° feather from the Keno Vein into the southeast wall of the drift. In each instance they have caused an enlargement of the Keno Vein and an increase in its metal-content, but the values do not appear to extend any appreciable distance away from the Keno Vein. The one that feathers out at Station 8 plus 30 feet should have been cut by long hole No. 3. If it was cut by the hole, it contained so little sulfide minerals that the cuttings from the hole were not darkened.

The one feathering out at Station 8 plus 49 feet was cut by long hole No. 4 at 15 to 17 feet from the collar, but it was narrow and below ore-grade.

The one at Station 21 plus 38 feet contains only chlorite and pyrite in the wall of the drift and no attempt was made to explore it with a long hole.

A fourth feather branches into the northwest wall of the Keno Vein near Station 23. It is so low grade at the intersection as shown by sample 139 that it was not explored with a long hole.

The present evidence indicates that this set of fractures has partially controlled the deposits of ore in the N. 45° - 55° E. set of fractures but are, in themselves, essentially without mineable ore.

3. The N-S to N. 10° E. Set of Fractures -

The first of these was observed at Station 8 plus 32 feet. From this point toward the northeast they became progressively more numerous and pronounced to Station 21 plus 10 feet on the southeast side and Station 21 plus 16 feet on the northwest side. There, a fault of some magnitude crosses the drift diagonally with an approximate N-S strike and a dip of 80° to 85° to the west. The western side of the fault is composed of a gray colored, siliceous rock which appears to be rhyolite but may be latite and the eastern side of andesite flow-breccia. East of the fault there are a few N-S fractures but they become progressively less prominent, less mineralized and fewer in number. Alteration of the wall-rock which takes the form of chloritization near the fault in the andesite becomes less and less prominent and from Station 23 to the face of the run-around as last seen, the wall rock is unaltered, dark-colored andesite containing occasional gouge-filled seams that bear no relation to the three prominent fracture systems.

The zone of N-S fracturing, has caused the Keno Vein to swell to extraordinary widths where the individual fractures cross. On the hanging wall side, most of the N-S fractures are well mineralized but long holes drilled in the wall demonstrate that they lose their mineral content within a very few feet of the Keno Vein. On the footwall or northern side, however, they are unmineralized cracks adjacent to the vein but contain minerals a few feet removed from the vein. This was first observed by picking on the streaks from the top downward toward the floor of the drift and watching the mineral-content increase foot by foot as the floor was approached.

All four fractures where samples 132, 133, 134 and 135 were cut were completely unmineralized near the back of the drift but were well mineralized with quartz or fluorite and pyrite and contained some copper, lead, zinc and silver minerals near the floor. Long holes Nos. 5 and 6 show that the mineral content, although below ore-grade, increases as distance from the Keno Vein is reached. I believe this to be the Patsie Vein. Although any one of the fractures represented by samples 132, 133, 134 and 135 could be the Patsie Vein, I believe that the whole zone 60 feet wide is the Patsie Vein and that ore may be found in any or all of the component fractures.

About 700 feet of distance intervene between this exposure in the Keno Tunnel and the nearest or most southerly, productive workings on the Patsie Claim and about 1500 feet to a point under the most northerly workings on The Lost Day Claim. The segment of fault-vein situated between the exposure in The Keno Tunnel and The Patsie workings is an unknown quantity as the surface is covered by landslides and glacial debris which have prevented exploration. In driving north on the Patsie (?) fractures, one might expect to find ore with any round of holes, but, if ore is not found near at hand, the project should not be abandoned until the drift has been driven 800 to 900 feet and some cross-cutting has been done.

Two factors relating to The Patsie-Lost Day ore-body should be mentioned:
1. The source of the ore must have been the "Caldera" the corner of which is Red Mountain No. 1 situated on the south side of Gray Copper Gulch, Ore normally rakes toward its source unless there is a local structural control with an opposite dip. Therefore, under normal conditions, the Patsie ore should rake to the south, reducing the distance to drive from the Keno Tunnel to the portion of the vein where ore may reasonably be expected. An angle of rake as high as 45° is not uncommon. Consequently, one might expect to encounter ore any time after driving 100 feet north of the exposure in the Keno Tunnel.

2. The Patsie-Lost Day ore-body is the largest, most consistent body of high-grade silver-ore that has been found in the San Juan Region during the last 60 years and it has never been worked to a depth greater than 30 feet. Exploration to find its downward extension is, perhaps, the most attractive feature of the entire Keno Project.

Sampling

Sampling the walls of the Keno Drift was successful in showing that much of the Keno Drift is at the side of the vein. Without this work, I would have considered systematic sampling of the vein unnecessary.

Long Holes

The long holes corroborated the opinion that large portions of the Keno vein are in the walls of the drift. Also, had the long holes not been drilled, I would be far less sure that the Patsie-Lost Day Vein has been found.

Recommendations

It is recommended that:

1. The Keno Vein be sampled systematically at 10-foot intervals in the drift to determine whether the width, grade and continuity of the ore are such as to allow profitable mining at the present time.

2. The drift on the Keno Vein be continued.

3. A raise be driven at a point to be determined after sampling has been completed to test the vertical continuity of the ore.

4. A drift be started north on the fracture at Station 8 plus 80 feet (Sample 133) and 30 foot holes be drilled at 25 or 30 foot intervals in both walls of the drift to explore the full width of the fault-vein. The last recommendation should not be started until all the leases are signed on The Patsie, Helen, Lost Day No. 1 and Lost Day No. 2, Ozark, Stanley and Kremlin Claims.

Exhibit 17 is entitled "Report on The Properties of The C.and C. Mining Company, Ouray and San Juan Counties, Colorado." It was written for E. W. Creel in December, 1960 and deals with The Keno Vein and The Patsie Ore-body.

Exhibit 18 is entitled "Progress Report on the Geology of the Keno Mine, Ouray County, Colorado and Recommendations for Future Development." It is dated January 23, 1965 and deals with sampling of the walls of the Keno Drift searching for the southward extension of The Patsie Vein. Please note that Mr. Reinhardt recommends drifting on the exposed N-S fault zone. This was done, demonstrating that the fractures bear too far to the west to be related to the Patsie-Lost Day ore-body.

Refer to 4 (a)

If notified of the date of the examination, E. V. Reinhardt will meet the O.M.E. representative in Ouray, Colorado at any time. He should be notified by addressing a letter to P. O. Box 1114, Grand Junction, Colorado or by telephone at 242-3232. Should a representative go to Ouray without notifying Reinhardt, he should look for John J. Barrett who lives on the upper floor of a small apartment home on Main Street at the south end of town. His telephone number is 325-4684.

The property is reached by driving south over U.S. paved Highway 550 for 8 miles to the lower end of the Idarado tailings pile in Ironton Park; thence, east up Grey Copper Gulch over a steep dirt road for a distance of about 6000 feet by air line but nearly 3 miles by road to the Keno Mine. Another road going to the Patsie and Lost Day branches to the left about 1000 feet from The Keno Mine. It is impassable during the winter months because of snow but makes the properties accessible by jeep or other four-wheeled drive vehicles from June 1 to November or December. The Keno Tunnel is at an elevation of about 10,800 feet above sea-level, the Patsie at about 11,500 feet and the Lost Day at about 11,600 feet.

Refer to 4 (b)

The shipping point for ores coming from The Keno-Patsie Vein would be Ridgeway, Colorado about 23 miles north of the mine.

Supply points are Ouray, Montrose, Grand Junction and Denver located 11, 49, 111 and 280 miles, respectively, from the mine.

Refer to 5 (a)

The proposed work for which an O.M.E. loan is requested in this application encompasses three projects, two of which have been drawn on the claim map, Exhibit 13.

1. It is expected that before this application has been processed, the segment of the Keno Vein northeast of the rhyolite-plug will have been found. Upon its re-discovery it is our intention to drift on it toward the northeast. A portion of the requested loan will be used to defray 75% of the cost of driving 600 feet on the vein.

The size of the drift will be 6 feet by 8 feet.

2. When the N-S fractures that controlled the deposition of ore in The Patsie-Lost Day ore-body are cut by the Keno Drift, it is proposed to drive northward on them to a point beneath the most northerly end of the Lost Day Pit. (Refer to Exhibit 13) This will require 1250 feet of drifting; an additional 200 feet of crosscuts will have to be driven at points directly down the dip from the two pits to determine the full width and metal-content of the structure, making a total of 1450 feet of drift in this portion of the project. The cross-section of this drift will also be 6 feet by 8 feet.

3. The third portion of the proposed work is not designed to discover ore but to satisfy the demands of the State Mine Inspector that a second exit be made from the mine. It is proposed to drive a raise on the Keno Vein from the elevation of The Keno Tunnel at Sample Station 158 (Refer to map accompanying Exhibit 16) to the surface. The height of the raise will be 150 feet.

Recapitulation of Proposed Footages

Patsie-Lost Day Drift	1250 feet
Patsie-Lost Day Crosscuts	200 feet
Keno Drift	600 feet
Excape Raise	150 feet
Total	2200 feet

Refer to 5 (b)

No access road is proposed as one is now in existence.

Refer to 5 (c)

Work is in progress at present and will be continued until it is known whether O.M.E. will participate in the project. Should O.M.E. deny the application for a loan, the work will probably be suspended as the applicant does not care to spend such large sums of venture capital. Should O.M.E. approve the loan, the work would proceed without a break from the date of approval.

Rate of advance in the Patsie Drift would be about 5 feet a day on a two shift basis. As it is expected that most of the drift will have to be timbered, the day shift would drill, blast and muck out and the night shift would stand a set of timber. In this manner, the advance would be about 125 feet a month and 12 months would be required to complete the project.

Rate of advance in the Keno Drift should exceed the rate in The Patsie as it is now believed that no more than one-half of it will have to be timbered. Worked on a two-shift basis, advance should approach an average of 7.5 feet per day or 187-1/2 feet a month. This portion of the project should be completed in less than 4 months from its starting date.

The excape raise can be driven in about two months.

Advances quoted above are considerably above those we have attained to the present. Present performance can be vastly improved in three ways, all of which will be instituted in the near future: 1. The air trammer will be replaced by a battery trammer. 2. The 1-ton-end-dump cars will be replaced by 3 - 1-1/2 ton side dump cars. 3. The labor contract at $13.00 per foot of advance will be raised to a more equitable figure to encourage greater effort from the miners.

Refer to 6

The applicant and his family have been engaged in mining lead ores in Missouri and fluorspar ores in Illinois for nearly 100 years. He is an engineering graduate of M.I.T.

His Manager of Mines is Gill Montgomery, an authority on the mining and treatment of fluorspar- and lead-ores.

His Chief Geologist is Donald B. Saxby headquartered at The Crystal Mine, Elizabethtown, Illinois. He is widely experienced in the occurrences of lead, zinc and fluorspar ores and was formerly employed by the U. S. Geological Survey.

Mr. Saxby has delegated the immediate geologic work on the Keno-Patsie Mine to E. V. Reinhardt who has been observing the geology of the western half of Colorado since 1928.

The Man directly in charge of the operation at this time is John J. Barrett of Ouray. Although Mr. Barrett's experience in mining has been limited, he has been conducting the work in a very satisfactory manner with advice from Mr. Saxby and Mr. Reinhardt. With their continued assistance he can maintain a high level of productivity throughout the course of this proposed enterprise.

Refer to 7 (a)
(Independent Contracts)

At the present time the miners are working under contract at $13.00 per foot of advance in the drift with a guarantee of $3.125 per hour. Working steadily and vigorously, they are unable, at this price, to do well on the contract resulting in a slow-down of the work and dependence on the hourly wage.

It is proposed to raise the contract price immediately to $14.00 per foot and to increase this price $1.00 per foot for each 725 feet of advance in the Patsie Drift. The proposed Keno Drift should command a price of $14.00 per foot throughout. The Excape Raise is near the portal of the tunnel and will require $13.00 a foot for the first 75 feet and $14.00 a foot to the surface. The contract cost of standing timber is standard throughout The District at $5.00 per foot or $25.00 per set. Also, the cost of chute construction has been standardized at $100.00.

Therefore, the estimated cost of the contract labor will be:

Location	Cost per foot	Total
Patsie Drift 0 feet to 725 feet	$14.00	$10,150.00
Patsie Drift 725 feet to 1450 feet	15.00	10,875.00
Timbering 1450 feet	5.00	7,250.00
Keno Drift 0 feet to 600 feet	14.00	8,400.00
Estimated 300 feet requiring timber	5.00	1,500.00
Escape raise 0 feet to 75 feet	13.00	975.00
Excape raise 75 feet to 150 feet	14.00	1,050.00
Constructing chute		100.00
Total estimated cost of Contract		$40,300.00

No further contracting is contemplated at this time.

Refer to 7 (b)
(Cost of Personal Services)

Supervision - Superintendent, per month $800.00 for 12 months estimated duration of the program	$ 9,600.00
Geologist is on a retainer basis at the rate of $600.00 per month for 10 to 15 days of service and $1000 per month for more than 15 days. During the period when sampling was in progres, he has been engaged for more than 15 days a month. Henceforth, he will probably work from 10 to 15 days a month. $600 x 12 months	7,200.00
Bookkeeping - Part time work at $100.00 per month	1,200.00
Pro-rated cost of the St.Louis Office (estimated at $100/month) ?	1,200.00
2 top men, required for safety, by State Law, to watch machinery and to keep the dump orderly at $2.50/hr. for an average time of 208 hours per month, each. $1040.00 per month	12,480.00
1 roustabout underground to keep the track and ditch clean and the track and pipe in repair at $2.00 per hour or $416.00 per month	4,992.00
Engineer and helper to work 1 day a month keeping up maps. $125? plus travel and subsistence totaling about $150.00 per month	1,800.00
Total - personal services.	$38,478.00

Refer to 7 (c)
(Operating Materials and Supplies)

Dynamite at an average of 40 lbs. per five foot round of holes:

$\frac{2200}{5}$ feet x 40 = 17,600 pounds at $22.30 per C	$ 3,924.80
Caps - average 20 per round	
$\frac{2200}{5}$ feet x 20 = 8800 at $3.19 per C	280.52
Bemis bag vent-line - 2000 feet at $1.58	3,160.00
20# rail at $145 per ton or $1.45 per yard of rail and $2.90 per yard of track. $\frac{2200}{3}$ x $2.90 =	2,126.67
2100 feet of 4" thin wall victaulic air-line at 56¢ per foot	1,176.00
Victaulic couplings every 20 feet at $1.94(ea) $\frac{2200}{20}$ x $1.94 =	213.40
Waterline 1" at $28.88 per 100 feet. $\frac{2200}{100}$ x $28.88=	675.76
Tees, valves,bushings, caps etc. (estimated)	200.00
Ties at 50¢ ea. every 2½ feet. $\frac{2200}{2.5}$ x $0.50 =	440.00
Fishplates - 2 pairs every 20 feet at 75¢ a pair. $\frac{2200}{10}$ x $0.75 =	168.00
Track spikes, track bolts, nails (estimated)	200.00

Timber:
- 2 posts 86 bd feet
- 1 cap 40 bd. feet
- 4 braces 28 bd. feet
- Roof lagging 90 bd. ft.
- Side lagging 1/2 way down - 120 bd. feet Per Set - 364 bd. ft.
  Plus 10% waste 36
  400 bd. ft.

400 bd. ft. at $65.00 per M = $26.00 per set or $5.20 per foot
Estimated 1750 feet that will need timber - 9,100.00

Gasoline (bulk) using an estimated 195 gallons a month for fan-motor at $0.288 per gallon less $0.10 fed. tax (12 mos.)	439.92
Diesel fuel using an estimated 520 gallons a month for compressor at $0.17 per gallon (12 mos.)	1,060.80
Compressor motor oil estimated use 20 gals mo. at $0.73 per gallon (12 mos.)	125.20
Compressor oil using an estimated 27½ gallons a month at $0.80 per gallon (12 mos.)	264.00
Drilling machine oil using an estimated 15 gallons a month at $0.90 per gallon (12 mos.)	162.00
Oil for other machines (fan motor and fan) estimated 10 gallons a month at $0.85 per gallon (12 mos.)	102.00
Grease estimated - $10.00 a month	120.00
Spare parts and repairs for drill machines, compressors, fan, fan-motor etc. Estimated for 12 months.	1,000.00
Miscellaneous items such as wedges, rubber clothes for miners, hard hats, additional electric miner's lamps, fuse, drill-bits and drill-steel (estimated)	1,500.00
Total - Operating materials and supplies	$26,445.67

Refer to 7 (d)

Several items of equipment are being bought on a rental-purchase basis. It is planned to buy additional items on the same basis:

Rental-Purchase Equipment on Hand

Item	Cost	Monthly Payment	Amount Paid	No. of mos. to comp. purch.	Amount to complete purch.
1 G-D 600 cu.ft. diesel driven comp.	$ 6,500.00	$650.00	$1,950.00	8 months	$4,550.00
1 Copco-Atlas 345 cu. ft.diesel driven compressor	3,000.00	250.00	500.00	10 months	2,500.00
3-Side dump card mine cars	255.00	50.00	0.00	5 months	255.00
1 Cleveland Jack-leg & hammer	1,100.00	85.00	850.00	3 months	250.00

Rental-Purchase Equipment Contracted for but not on Hand

1 Mancha Battery Trammer & Charger	$3,950.00				
1 20 KW Caterpillar Diesel Generator	2,160.00	$525.00	0.00	13 months	$6,460.00
1 Joy electric blower	350.00				
Total	$6,460.00				

Total remaining to be paid on equipment ---------- $14,015.00

Refer to 7 (e)

None

Refer to 7 (f)

The structures on the ground are in good condition. Before November 1965, the compressor which is now in the open should be housed at a cost of about $750.00.

Refer to 7 (g)

Workmen's compensation - 4.21% of an estimated payroll of $38,478.00 - $1,619.92.

Social Security 3-5/8% of an estimated payroll of $38,478.00 - $1,394.83.

Recapitulation of Costs

Independent contracts	$40,300.00
Personal services	38,478.00
Operating materials and supplies	26,445.67
Purchase of equipment	14,015.00
Compressor building	750.00
Workmen's compensation	1,619.92
Social Security	1,394.84
Total Cost	$123,003.43

$123,003.43 divided by 2200 feet = $55.91 per foot.

This seems an extraordinary cost. However, a small operation functioning under the adverse conditions encountered in the high San Juan Region

cannot accomplish the work at a cost much below the figure given above. One of the major items increasing the cost will be the need for timber in all of the Patsie Drift and an estimated one-half of the Keno Drift. Should it develop that less timber will be required, the work can be done for several thousand dollars less than the estimated cost.

COLUMBUS EXPLORATION COMPANY'S PROPOSAL AS A BASIS FOR A LOAN FROM O.M.E.

We would like to apply for a loan on a unit cost basis. We, therefore, propose that the loan be 75% (silver) of $44.00 per foot where timber is not required and $49.00 per foot for timbered drifts. This amount will include the monthly payments on equipment being acquired on a rental-purchase agreement.

In this manner, the total amount of the requested loan could be as low as (2200 x .75 x $44.00) $72,600 or as much as (2200 x .75 x $49.00) $80,850.00. Some figure between the two would be the actual amount of the loan.

We have considered the possibility of drilling a diamond-drill hole from west to east at a 45° angle beneath the Lost Day Pit to a depth of 200 feet and two similar holes beneath the Patsie Pit.

The purpose of this drilling would be to test the vertical continuity of the ore before expending a large sum of money to drive 1440 feet from the Keno Tunnel beneath the open cuts.

We have contacted two drilling concerns to ascertain costs, both of whom refused to state a contract figure for such small footages. It appears that the work would have to be done on a cost-plus basis. Our costs on a like basis in doing the underground drilling were $5.68 per foot. Therefore, the cost of performing the suggested drilling would be 600 x $5.68 or $3,408.00. Your participating share of this would be 75% of $3,408.00 or $2,556.00. This would be in addition to the sums mentioned above.

Bids?

Should it come to pass that none of the holes cut ore-grade material, the 1450 feet of drift from the Keno to the Patsie and Lost Day would be eliminated and the requested loan would be confined to the diamond-drilling, driving 600 feet on the Keno Vein and 150 feet in the escape-raise.

The above suggestions are made for your consideration. If these suggestions are not to your liking, we would consider any counter proposal.

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
		110
	Selfridge	120
		220

March 9, 1966

Memorandum

To: FILES

From: Chief, OME

Subject: OME-6480 (Silver)
Joseph Desloge, d/b/a
Columbus Exploration Company
Keno, et al., Claims
Ouray County, Colorado

On September 3, 1965, a Mr. Montgomery, representing Mr. Desloge, visited my office to discuss the subject application.

Mr. Montgomery explained that Mr. Desloge was very wealthy and could very well finance the exploration or borrow the necessary funds from banks on available collateral, but did not want to finance the entire cost of the proposed exploration as he already had invested a substantial amount in the property. He said that possibly Mr. Desloge would try and work out some other arrangement such as leasing the property to someone who could qualify financially. This would require an entirely new application from a new applicant. Consequently, the current application is still considered as withdrawn.

Frank E. Johnson

Frank E. Johnson

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

FEJohnson/bih 3/9/66

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Denver Federal Center -- U. S. Geological Survey
Building 25 - Room 2284
Denver, Colorado 80225

February 28, 1966

OFFICIAL
COPY
O. M. E.
RECEIVED
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Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6480 (Silver)
Columbus Exploration Company
Keno-Patsie Operations
Ouray County, Colorado

Transmitted herewith is a report of an on-site examination on the subject docket by Mr. Robert L. Bolmer, Mining Engineer, U. S. Bureau of Mines, Denver, Colo. The Keno-Patsie operations were examined July 27, 1965 in response to the subject application for financial assistance in minerals exploration. The examining engineer concludes that the general tenor of the present ore shoot is believed to be about 25 percent lead and 10 to 25 ounces of silver, and there are inferred reserves of some 50,000 tons of this tenor, having a current gross metal value of $90.00 to about $110.00 a ton that are estimated to depths of 300 feet below the surface. About twice this amount of ore could occur to the proposed 600 - to 700 ft. depth of exploration.

An exploration project of the magnitude proposed by the applicant is justified on the basis of the estimated reserves. Whether the silver content of these reserves (a minimum of 1/2 to 1 million ounces) can be considered as significant enough to warrant government assistance in their exploration, remains to be decided. I concur with the conclusions of the examining engineer. If the problem of the applicants financial status can be resolved insofar as the government is concerned, a contract could be executed to perform the exploration proposed or possibly an alternate program with the applicant might be agreed upon.

J. William Hasler

JWHasler/bjr/3/2/66

cc: Chief OME
6480
Chron
Hasler

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
AREA V

BUILDING 20
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Mineral Resource Office

February 28, 1966

Memorandum

To: J. William Hasler, OME Field Officer
Geological Survey, Denver, Colo.

From: R. L. Bolmer, Mining Engineer
Bureau of Mines, Denver, Colo.

Subject: OME-6480 (Silver), Columbus Exploration Co.,
Keno-Patsie operations, Ouray County, Colo.

The Keno-Patsie operations were examined July 27, 1965, in response to the subject application for financial assistance in minerals exploration. The examination was made with Mr. E. V. Reinhardt, geological consultant to the applicant.

Exploration of the Keno and Patsie veins, by 2,200 feet of drifting, crosscutting, and raising costing an estimated $96,800 to $107,000, was proposed in the original application. However, this application was rejected by OME on the basis that the principal ore values occurred in the base metals and thus did not qualify for Government exploration assistance. The applicant subsequently submitted additional information regarding the silver content of the Patsie vein and requested that the proposed exploration of that vein only be reconsidered.

Pertinent details concerning the property are covered in several reports by Reinhardt, copies of which were submitted with the original application. As far as can be determined, the factual data in these reports is reasonably accurate and complete. Additional sample data on the Patsie vein is furnished in a letter by Reinhardt, dated August 3, 1965.

The Patsie vein crops out at altitudes of about 11,300 to 11,700 feet on the western slope of Brown Mountain where it has been mined intermittently to shallow depths over a length of some 900 feet. Small tonnages of high-grade silver ore reportedly were mined from the outcrop in the early days of the district; but the only recorded production is from the Patsie pit in 1948-50 when 1,394 tons of ore, averaging 25 percent lead and 38 ounces of silver, were shipped. Most of the latter shipments contained from 7 to 14 ounces of silver, but a few ran as high as 200 to 300 ounces.

grades?

To date, all mining has been in the oxidized zone of the vein. However, primary sulfide mineralization--probably with some reduction in the silver content--is expected at relatively shallow depths. Although a small body of high-grade silver ore evidently occurs within the deposit, the general tenor of the ore shoot is believed to be about 25 percent lead and 10 to 25 ounces of silver. Inferred reserves of some 50,000 tons of ore of this tenor, having current gross metal value of $90 to $110 a ton, are estimated to depths of 300 feet below the surface. About twice this amount of ore could occur to the proposed 600- to 700-ft depth of exploration. too deep?

An exploration project of the magnitude proposed by the applicant is justified on the basis of the estimated reserves. Whether the silver content of these reserves (a minimum of 1/2 to 1 million ounces) is significant enough to warrant Government assistance in their exploration, of course, is an administrative decision.

The applicant proposes to drift 1,250 feet from the Keno adit level (alt. 10,700 ft) along a shear zone thought to represent the southern extension of the Patsie vein. (Actually such a drift would reach a point below the Patsie pit within a distance of about 950 feet but would fail to reach below the old Lost Day workings by some 150 feet.) The main Patsie vein falls within a shear zone perhaps 100 feet wide which the applicant also proposes to explore by an aggregate of 200 feet of crosscutting from the former drift.

On the date of inspection, the Keno adit was being advanced northeasterly along the projected course of the Keno vein, an intrusive rhyolite plug having cut off the vein. A few tight fractures had been encountered in both the rhyolite and the older volcanics in the far end of the adit, but no significant cross structure that might represent the main Patsie vein was observed. The Patsie vein may dip as much as 60° to 65° E; and its southern extension, if present at all, probably had yet to be encountered by the adit. Exploration by drifting from the Keno adit certainly would not be advisable unless there were a strong and identifiable structure to start on.

One objection to exploring the Patsie vein from the Keno adit is that a shorter and less costly method of testing only the more favorable sections of the structure, at virtually the same depth as proposed by the applicant, is readily apparent. Such a method would involve the easterly extension of the existing 600-ft crosscut adit that roughly parallels the southern end line of the Helen claim. (See Exhibit 13 of original application.) This adit was driven in 1957-59 to explore the ground below the Patsie pit but was stopped for financial reasons some 400 to 600 feet short of its objective. The adit was not examined but is reported to be open, in good condition, and to contain rail for its full length. An office and shop building, yet in excellent repair, adjoins the portal. The portal is only a few feet off the access road that continues some 800 feet south to the surface plant of the Keno operations. These latter facilities could well serve both operations. why?

The only obvious objection to using the old adit is that the initial few feet of its portal evidently fall just over the sideline of the Helen No. 2 claim which apparently is not among the group of claims now controlled by the applicant. However, it is believed that a lease on the needed portion of this claim could be secured without difficulty.

The easterly extension of the existing adit for a maximum distance of 600 feet should crosscut the full width of the Patsie vein zone almost directly below the productive Patsie pit workings. A small amount of drifting northerly along the most favorable section of the zone may be warranted, depending on the conditions encountered in the crosscut. However, as much as 700 feet of drifting would be necessary to explore the zone as far as the Lost Day workings.

The claims that would be most benefited by the proposed exploration include the Lost Day, Stanley, Kremlin, Patsie, and Steel Galena. In addition to the foregoing claims, exploration from the Keno adit would require access through the Keno and Jim claims. The suggested alternate plan using the old adit would involve access through the Helen and Helen No. 2 claims.

The applicant's original cost estimate for the 2,200 feet of drifting, crosscutting, and raising from the Keno adit comes to $55.91 a foot. Such a unit cost is high but probably is quite close to what it actually is costing to perform this type of work in the area of the project. This high estimate notwithstanding, the applicant evidently proposes to perform the exploration at unit costs of only $44 a foot for untimbered drifts and crosscuts and $5 a foot for drift and crosscut timber, where needed. These latter unit costs are considered quite reasonable for the area involved.

R. L. Bolmer

R. L. Bolmer

cc: OME-WO
OME Docket 6480
OME chron file
M. H. Salsbury, BM
R. L. Bolmer, BM

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
8'6	Selfridge	120
"	Johnson	110
		220

AUG 6 1965

Mr. Joseph Desloge, Sr.
d/b/a Columbus Exploration Company
3940 Kasten Avenue
St. Louis, Missouri 63113

Re: [illegible]-6480 (Silver)
Joseph Desloge, d/b/a
Columbus Exploration Company
Kane, et al., Claims
Ouray County, Colorado

Dear Mr. Desloge:

We have just received additional information from Mr. E. V. Reinhardt concerning silver samples taken at the subject property.

As the evidence submitted relating to financial eligibility is unsatisfactory in that the request to and the answers from the banks were more than ninety days old before the filing of the application, and the U. S. National Bank of Grand Junction denied the loan because the Columbus Exploration Company was not operating in its territory, will you please submit a personal financial statement. On receipt of the statement, we shall review your application in the light of the new information submitted by Mr. Reinhardt.

Sincerely yours,

(signed) FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to: E. V. Reinhardt

GCSelfridge/gla (8-6-65)
cc to: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
OME Region III w/cy EVReinhardt's letr. 8/3/65 and 2 maps
Mr. Selfridge
120M

23263

Mr. [illegible]

Bank should be [illegible]
not [illegible] his [illegible]
[illegible] for [illegible] —
We should request [illegible]
[illegible] [illegible]
[illegible] Bank of [illegible]
for [illegible] [illegible]
[illegible]
[illegible]

[illegible]

ELMER V. REINHARDT
CONSULTING GEOLOGIST
POST OFFICE BOX 1114 - PHONE 242-3232
GRAND JUNCTION, COLORADO 81502

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 5 1965
INITIALS | CODE
120 m
120

August 3, 1965

Mr. Selfridge
Office of Minerals Exploration
Bureau of Mines
Interior Building
Washington 25, D. C.

Re: Docket No. OME 6480
Joseph Desloge Sr. d.b.a.
Columbus Exploration Co.
Keno-Patsie Operation

Dear Mr. Selfridge:

The purpose of this letter is to request that your rejection of the above captioned docket be reconsidered in the light of additional data gathered since the application was written.

I understand that the requested loan is not being considered because of the low content of silver in the ore.

As far as the Keno vein is concerned, I have to agree with you. It is a typical San Juan Vein which characteristically carries 8% to 10% combined copper, lead and zinc, only 3 or 4 ounces of silver per ton and a little gold. In addition, the Keno Vein is only 3 or 4 feet wide and, because of narrow width and low-grade, quite marginal. We would gladly withdraw the 600 feet of drift requested for the Keno Vein from the application.

The Patsie, however, is something quite apart from the typical San Juan Vein. It is not a single vein but, rather, a vein system at least 100 feet wide in which numerous interlacing veins have been mined. Unlike most San Juan veins in which quartz predominates as the gangue mineral, I have been able to observe no mineral in the gangue of The Patsie Veins except barite coated with argentite. Quartz is absent or very sparse, although the walls of the veins are highly siliceous.

As stated in the application, Ben Simpson mined more than 1000 tons of ore from the Patsie Pit valued at $118,000 with an average silver-content of 38 ounces per ton and a lead content of 25%.

Mining has been performed intermittently on both The Patsie and Lost Day over a period of 85 years and, judging from the fact that recent dozing has uncovered 4 old adits which were unknown to anyone now living, I believe that the total production has far exceeded the 1000 tons mined by Simpson.

During much of July we had a D-8 dozer cleaning and deepening the Patsie Pit. Enclosed are two assay plans of the pit after cleaning. The purpose of the 100 scale map is to show how the Patsie Pit lies in relation to the adjoining claims and the 30-scale map is to show details of sampling. The 341 ounce sample is from

a vein of nearly pure barite coated with argentite; the 26 ounce sample is a vein of yellow, muddy, crushed rock with a gray tinge, resulting, it seems, from disseminated argentite; the 440 ounce sample is from a vein of mottled black and yellow barite-mud. From this vein, we have mined about 12 tons of ore yielding grab samples which assay from 210 ounces to 395 ounces. The vein continues into the hill but work has been suspended awaiting the completion of the leases on The Stanley and Kremlin claims.

We all know that Simpson's 38 ounce ore and our 300 to 400 ounce ore result from surface enrichment. However, the typical San Juan quartz veins seldom yield assays, even at the surface, in excess of 30 or 40 ounces while assays and even shipments from the Patsie are frequently above 200 ounces.

The last work done by Simpson was the driving of a tunnel, now caved, from the Patsie Pit toward the Lost Day. Upon reaching the line, work was suspended. Simpson states that he reached the zone of primary ore which was composed of galena carrying 15 ounces to 25 ounces of silver. If there were copper in the outcrop, I would expect the primary ore to be tetrahedrite; in the absence of copper, I expect the primary ore to be galena and barite with a silver content ranging from 10 to 25 ounces per ton. Certainly, there is every indication that the ore will be of better grade in silver than the average of The San Juan District.

In view of these facts, I request, with the authorization of Mr. Desloge, that the application be reviewed as a silver-mine by deleting the part relating to The Keno Vein and concentrating on The Patsie and Lost Day Claims and the proposed drift to gain access to them.

Yours very truly,

E. V. Reinhardt

E. V. Reinhardt

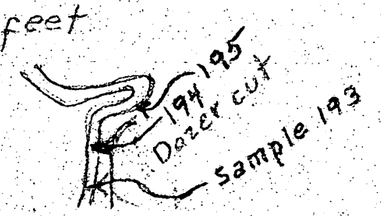
Encls.

cc - Joseph Desloge, Sr.
Joseph Desloge, Jr.
Don Saxby
Gill Montgomery
R. L. Bolmer, Bureau of Mines

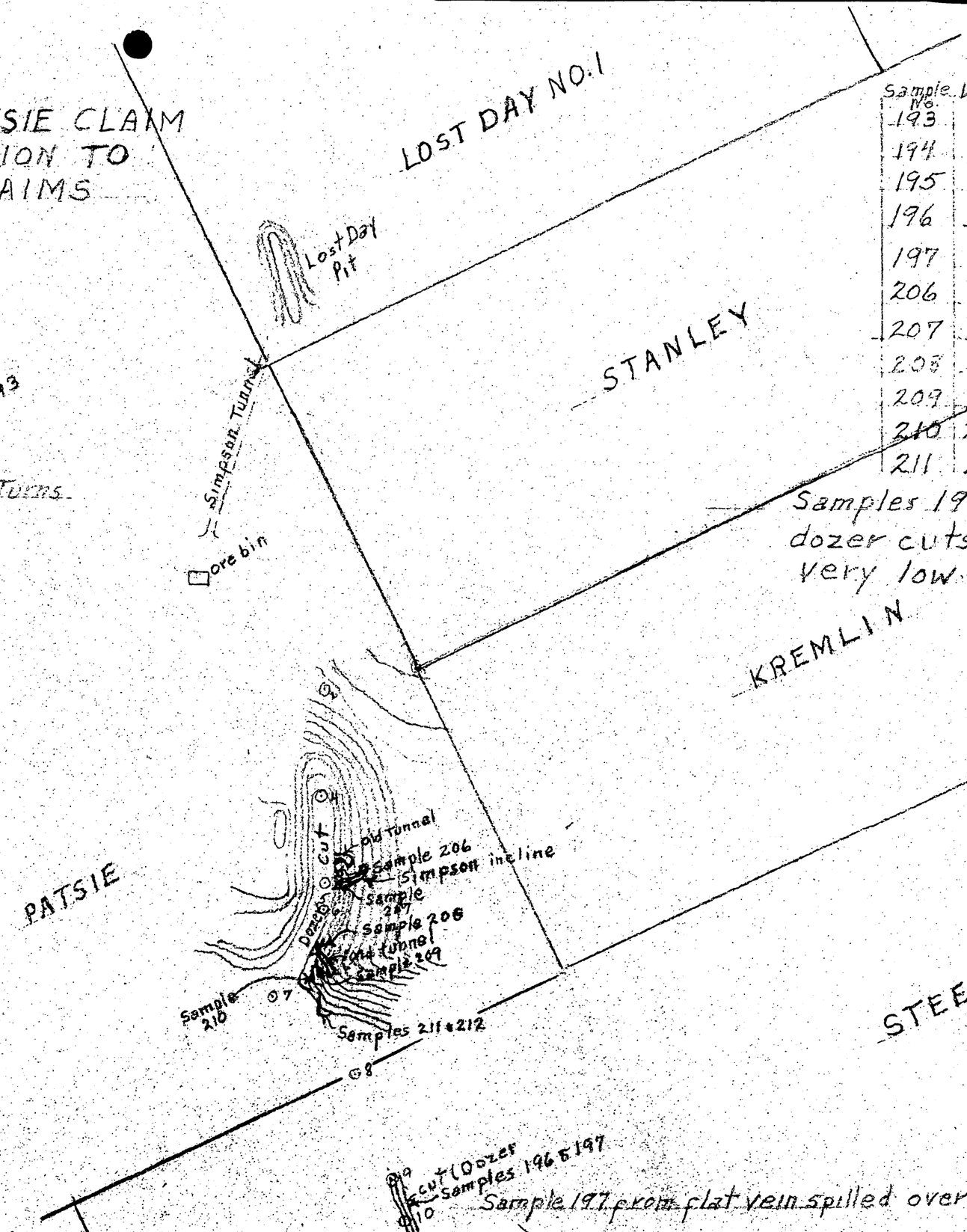
OFFICIAL
COPY
M. E.
RECEIVED
AUG. 5 1965

DOZING ON PATSIE CLAIM TO SHOW RELATION TO OTHER CLAIMS

1 inch = 100 feet



Vein horizontal 193-194 - Turns down to 45° dip at 195



Sample No.	Width	Oz. Au	Oz. Ag	%Pb
193	4.0	0.00	0.1	0.65
194	4.0	trace	0.1	0.65
195	3.5	0.03	11.8	1.55
196	3.0	0.00	1.0	0.1
197	0.9	0.01	8.3	0.3
206	4.0	0.005	1.0	0.6
207	5.0	0.00	0.5	0.9
208	0.9	0.50	341.8	0.8
209	2.0	0.10	21.6	0.8
210	2.5	0.005	2.7	0.3
211	2.2	0.49	440.2	1.0

Samples 198 through 205 were cut from dozer cuts on Marion Claims. Values very low.

Sample 197 from flat vein spilled over from something further east

MME Form 7
(2/63)

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Date	Surname	Code
7/26	Johnson	110
	Selfridge	120
		220
7/27	Kirkgard	
7/28	Lewis	
		110
		220

JUL 29 1965

Mr. Joseph Desloge
d/b/a Columbus Exploration Company
3940 Easton Avenue
St. Louis, Missouri 63113

Re: OME-6480 (Silver)
Joseph Desloge, d/b/a
Columbus Exploration Company
Keno, et al., Claims
Ouray County, Colorado

Dear Mr. Desloge :

Your well-prepared application for financial assistance in exploring the subject property has been reviewed.

The review has shown that the principal value of the ore occurs in the base metals, lead, zinc, and copper, which were removed from the list of commodities eligible for exploration assistance on July 1, 1962, by directive from the Congress. Under the circumstances, we regret that we cannot further process your application and, therefore, will consider it as having been withdrawn.

Sincerely yours,

(signed) FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

GCSelfridge/gla (7-20-65)
Rewritten: FEJohnson/gla (7-26-65)
cc to: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
OME Region I
George C. Selfridge
120M

23263

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON

OFFICE OF THE CHIEF GEOLOGIST

~~(the Kitts gard)~~ BBK

Frank :

a suggestion :

if "removed from the list"

the letter implies removed by

you, or OMB. right you

and ---" by the Congress, or etc"

Also instead of denied --

the application, because of this

action cannot be processed

and is herewith returned

with regrets —

In other words get OMB

off the hook so the miners

could go to Congress and change

the general rules!

Bill

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
7/20	Selfridge	130
7/21	Johnson	110
7/22	Kilgoore	220
7/23	Pearson	
		110
		220

Mr. Joseph Desloge
d/b/a Columbus Exploration Company
3940 Easton Avenue
St. Louis, Missouri 63113

Re: OME-6480 (Silver)
Joseph Desloge, d/b/a
Columbus Exploration Company
Keno, et al., Claims
Ouray County, Colorado

Dear Mr. Desloge:

Your well-prepared application for financial assistance in exploring the subject property has been reviewed.

The review has shown that the principal value of the ore occurs in the base metals, lead, zinc, and copper, which were removed from the list of commodities eligible for exploration assistance on July 1, 1962. In view of this fact, we regret to inform you that the subject application for exploration assistance is denied.

Sincerely yours,

(signed) FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

GCSelfridge/gla (7-20-65)
cc to: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
OME Region I
George C. Selfridge
120M

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
7/20	Silbridge	130
		110
23		220
7/27		

July 20, 1965

Memorandum

To: The File

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6480 (Silver)
Joseph Desloge, d/b/a
Columbus Exploration Company
Keno, et al., Claims
Ouray County, Colorado
Justification for denial

The Applicant proposes to extend a 600-foot drift on the Keno vein for another 600 feet in a northeasterly direction and therefrom to drive a 1250-foot drift northerly to come in under some surface pits on the Patsie and Lost Day 1 claims. The country rock consists of the San Juan lava series.

Sampling of an ore shoot in the Keno drift (see Exhibit 16) indicates an ore body averaging 0.024 ozs. gold, 3.19 ozs. silver, 4.1% lead, 6.4% zinc, and 0.67% copper. This grade of mineralization cannot be considered as being eligible for silver exploration assistance. Calculating the aforesaid grades on a concentrate basis at the smelter indicates that the gross value of lead concentrate is $227.08, of which only $62.41 can be attributed to gold and silver. The gross smelter value of the zinc concentrate is $123.37, of which only $0.37 is attributaable to silver. Thus, the mineralization cannot qualify for silver exploration assistance even on a concentrate basis.

Formerly, 1,394 tons of ore were shipped from the open pits on the Patsie-Lost Day 1 claims (see Exhibit 15-A). That tonnage averaged 38.03 ozs. silver and 25.7% lead. Of all of the shipments, only one had silver values exceeding lead values at present-day prices. The first shipments carried excessively high silver values with lead carbonate. Later shipments showed that the ratio ~~of the prices~~ of lead was as much as two to four times that of the silver.

The production was limited to open pitting to a depth of approximately 30 feet. Apparently small, rich pockets were found that did not extend to depth. As a summary regarding the shipments, the Applicant states that it will be noted that most of the shipments

have assayed from 7 ozs. of silver to 14 ozs. A few at the head of the list ran from 200 ozs. to 300 ozs., bringing the average to 38 ozs. It is believed that the general tenor of the ore shoot is 25% lead and 10 ozs. silver, but that contained within the ore shoot there is a comparatively small body of high-grade silver. As its continuity cannot be depended upon, the higher figures should not be used in any calculations. The foregoing grade of ore would not be eligible for silver exploration assistance and it is thought that if ore should occur at depth in the area of the pits, it will probably be of the same grade as that now exposed in the Keno adit.

George C. Selfridge

George C. Selfridge

GCSelfridge/gla (7-20-65)
cc to: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
~~OME Region I~~
George C. Selfridge

July 14, 1965

Mr. Joseph Desloge
Columbus Exploration Company
3940 Easton Avenue
St. Louis, Missouri 63113

Subject: OME - 6480

Dear Mr. Desloge:

Your application for exploration assistance, dated July 5, 1965, submitted to our office at Denver, Colorado, has been assigned Docket Number OME - 6480.

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

Sincerely yours,

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to Region III

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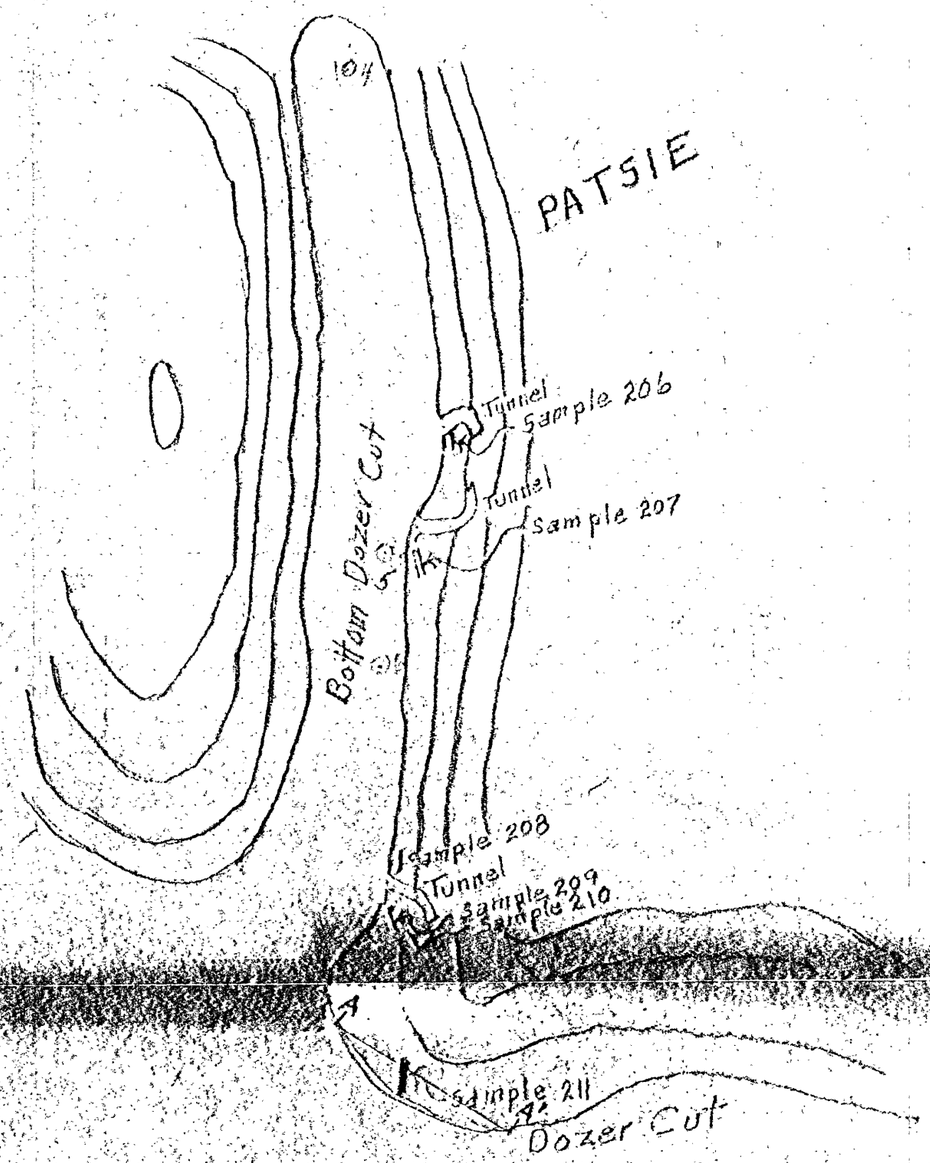
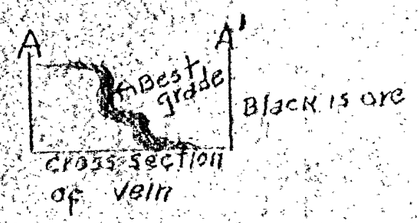
O. M. E.
RECEIVED
AUG 5 1965
INITIALS | CODE

DOZING ON PATSIE TO SHOW DETAILS OF SAMPLING

N

1 inch = 30 feet

Sample No.	Width	Oz. Au	Oz. Ag	% Pb.
206	4.0	0.005	1.0	0.6
207	5.0	0.00	0.5	0.9
208	0.9	0.50	341.8	0.8
209	2.0	0.10	21.6	0.8
210	2.5	0.005	2.7	0.3
211	2.2	0.49	440.2	1.0