DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
~~Defense Minerals Exploration Administration~~
GEOLOGICAL SURVEY

OFFICIAL DOCKET FILE

~~Idm-E No.~~ DMEA NO. 6555

Application
- [x] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

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

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

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

Additional Folders:

Left Side

Folders No. _____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

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

Folders No. 2 : Maps (Use pocket folder or envelope)

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty material

17963

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

U. S. Geological Survey -- Denver Federal Center
Building 25 - Room 2284
Denver, Colorado 80225

OFFICIAL COPY
O. M. E.
RECEIVED
MAY 2 1966

INITIALS	CODE

April 26, 1966

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: Application for financial assistance for Havilah Mines Company

Transmitted herewith is an application for financial assistance to explore for silver, gold and bismuth by the Havilah Mines Company, P. O. Box 92, Lake City, Colorado. The applicant proposes to explore the Saville vein and other prospective veins at the Monte Queen Mine by extensive drifting and crosscutting for a total estimated cost of $148,150.00.

Exhibit No. 15a contains a letter of confirmation from Mr. M. L. Jarvis, stating that the amount of $37,500.00 is available upon demand from the Havilah Mines Company to cover the 25% figure of the total $148,150 cost of the proposed exploration contract. In conference with Mr. A. E. Goodwin, Superintendent of Mines for the applicant I explained to him that silver is the only mineral product that is eligible for 75% participation, and that the ore must contain at least 50 percent of its gross value in silver in order to qualify, and that zinc was not on the eligible list. I also informed the applicant that the Government would not purchase extensive amounts of mine machinery and equipment, as they were not in the equipment business.

The applicant has mined one small ore body from the Saville vein for a distance of 120 feet and from 2 - 2-1/2 feet in width. He states that gold assays range from .03 - 0.34 ounces per ton and averages .09 ounces per ton, however, I obtained an average of 0.062 ounces per ton for 30 samples submitted with the application, excluding 3 containing rather high assays in gold and extremely high assays in silver. The applicant reports an average value of 40 ounces of silver per ton from channel samples, and also reports that the Monte Queen vein averages 3 feet in width, as much as 6 feet wide.

In U.S.G.S. Bulletin 478 it is reported that as much as 20 percent bismuth was contained in the ore and that assays as high as 2,000 ounces in silver were reported mined from the Monte Queen Mine near the turn of the century.

If an appraisal is made on the basis of the assays accompanying the application the estimated gross value of the ore is $6.74 per ton, but if the average value of 40 Oz. silver per ton is used the gross value of the ore would be $53.10 per ton. The applicant should be asked to verify the 40 oz. per ton average for silver from the channel samples. A series of samples might be taken if the application is referred to the field, as a check against the applicant's samples.

The applicant's mine superintendant, Mr. A. E. Goodwin prepared the application and did a creditable job. The lease and lien and subordination agreements appear to be in order.

J. William Hooler

MME Form 40
Jan. 65

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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.)*

Havilah Mines Company
Box 92,
Lake City, Colorado

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6555

DATE RECEIVED: 5-2-66

REGION: III

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

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

STATE IN WHICH FIRM IS ORGANIZED: Colorado

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
Albert E. Goodwin,	Box 92, Lake City, Colorado	Mine Supt, Managing partner
Melvin L. Jarvis,	Box 26, Salina, Kansas	Partner
Le Roy L. Rupe,	Clay Center, Kansas	Partner

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Silver, Bismuth, Zinc, Lead, Gold

ESTIMATED COST OF PROJECT: $ 148,150.00

PROPERTY NAME	LOCATION COUNTY	STATE
Monte Queen Mine	Hinsdale	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.~~ Washington, D. C., 20242, or with the nearest OME Field Office.

CERTIFICATION

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

March 25, 1966
DATED

Albert E. Goodwin
BY *(Signature)*

Mine Supt., Managing partner
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

INDEX AND ORGANIZATION

Letter of Transmittal

Application -- OME Form 40

Index of Exhibits

Information required

1. Financial Eligibility. (See Exhibit No. 14)
2. Applicant's Rights in Land. Page 1. (See Exhibit No. 12)
   a. Five copies of Lien and Subordination Agreement included.
3. Physical Description. Page 3. (See Exhibits No. 1 thru 7)
4. Accessibility of property. Page 9. (See Exhibit No. 2)
5. Exploration work. Page 11
6. Experience. Page 13
7. Estimate of costs. Page 14.

NOTE: Exhibits are under separate cover.

Havilah Mines Company
Box 92
Lake City, Colo.

HAVILAH MINES COMPANY

Box 92

Lake City, Colorado

March 21, 1966

Office of Minerals Exploration

Department of the Interior

Federal Center, Building No. 25

Denver, Colorado

Dear Sirs:

Under this cover, please find an application for financial assistance in minerals exploration, submitted by the Havilah Mines Company, Box 92, Lake City, Colorado.

Accompanying this, under separate cover, are the Exhibits called for on the application.

The operator has, to the date of this letter, penetrated to a depth of approximately 440 feet along the vein being explored.

The telephone number of the mine superintendent and managing partner of the Company is as follows: 8558 Lake City, Colorado.

Thank you.

Yours very truly,

Albert E. Goodwin

Albert E. Goodwin
Managing Partner
Havilah Mines Company

AEG/ar

Item 1.

a. Exhibit No. 14a contains two letters of request for credit from two banks in the State of Colorado, for the purpose of carrying on with the exploration currently under way at the Monte Queen Mine in Lake City, Colorado.

Exhibit No. 14b contains the letters of reply from these banks.

b. Mr. M. L. Jarvis, one of the partners of the Havilah Mines Company, and President of the Jarvis Construction Company of Salina, Kansas, is the financial contributor to the mining operation. He holds a 50% interest in the mining company.

c. Exhibit No. 15a contains a letter of confirmation from Mr. M. L. Jarvis, stating that the amount of $37,500.00 is available upon demand from the Havilah Mines Company to cover the 25% figure of the total $148,150 cost of the proposed exploration contract. A complete financial statement is also enclosed covering his company, the Jarvis Construction Company.

Exhibit No. 15b is the financial statement of Mr. M. L. Jarvis' construction company, showing ability to furnish the company's share of exploration costs.

Havilah Mines Company
Box 92,
Lake City, Colo.

Item 2.

a. Interest in land or claims being explored is held by a lease dated September 28, 1965, a copy of which is included. The name and address of the owner of these claims is:

The Vickers Brothers Enterprise, Inc.
Box No. 127
Lake City, Colorado. (See Exhibit No. 12)

There are no liens, mortgages, or other encumbrances on the land or claims, and only one overlap on part of a patented claim, that being about sixty feet on the north edge of the Monte Prince Claim, which is not in the area of proposed exploration.

b. Legal Description. (See enclosed plat of claims) (Exhibit No. 3)

There is a total of five claims included in the lease. They are unpatented claims, newly located in September, 1965 and recorded December 2, 1965. The claims are as follows:

1. The Monte Queen Lode Claim
2. The Monte King Lode Claim
3. The Monte Prince Lode Claim
4. The Monte Princess Lode Claim
5. The Monte Duke Lode Claim

The Monte Queen Lode Claim was filed for record on December 2, 1965 with an Amended Location Certificate for the purpose of tying said claim to a known 1/4 section corner.

The other four claims were located and recorded as new claims, never before having been located or recorded.

The book and page numbers of these recordings are as follows:

1. The Monte Queen Lode Claim
   (Amended Location Certificate)
   Book 14, Page 119.

2. The Monte King Lode Claim
   Book 54, Page 565

3. The Monte Prince Lode Claim
   Book 54, Page 567

4. The Monte Princess Lode Claim
   Book 54, Page 569

5. The Monte Duke Lode Claim
   Book 54, Page 563

All in Hinsdale County records, County Clerk's Office, County Court House, Lake City, Colorado.

Additional names by which the Monte Queen Lode Claim has been known are as follows:

1. Originally located as the Palestine Lode, September 14, 1876, and filed for record November 13, 1876 - Book 2, Page 111.

2. Located as The Monte Queen Lode August 12, 1879, filed for record November 10, 1879 - Book 3, Page 186.

3. Located as The Big Fish #1 Lode November 30, 1953, filed for record December 3, 1953 - Book 42, Page 492.

4. Amended location as The Big Fish #1 Lode June 25, 1954, filed for record June 29, 1954 - Book 14, Page 77, all in Hinsdale County records.

5. Amended location as The Monte Queen Lode September 6, 1965, filed for record December 2, 1965.

Havilah Mines Company
P. O. Box 92
Lake City, Colo. 81235

All portions of the above-described claims would be subject to Government royalty and liens.

c. Five copies of Lien and Subordination Agreements on MME Form 52 are included in this application.

. . . . . .

Item 3. Old Workings: (See Exhibit No. 5)

a. The original exploration and production of the Monte Queen Mine was carried on in an old tunnel (shown on sketch) which, according to U.S.G.S. Bulletin No. 478, "Ore deposits near Lake City, Colorado," published in 1911, reached a total penetration upon the Monte Queen vein of 950 feet (page 39.)

The above mentioned report stated that three ore bodies were opened in these workings, their lengths being 50 feet, 75 feet, and 200 feet, as one enters the tunnel. (page 65.)

These old workings are only partly open at this time, and can be inspected only to a distance of about 350 feet because of a caved stope blocking the tunnel.

New Exploration: (See Exhibit No. 6)

Current exploration being conducted by Havilah Mines Company is being carried on through a new tunnel which the operator has constructed 54 feet below and approximately 50 feet south of the old Monte Queen tunnel.

The surface area for the new portal was bull-dozed off about 100 feet wide and 150 feet long to obtain surface working space. The portal was then started into a heavy, well-packed over-burden of loam, clay and rocks. The opening was timbered with 6" x 6" red spruce square sets on 3 ft. centers, and was lagged and laced with 2" x 8", 3" x 8", and 3" x 10" red spruce lumber on top and sides.

This timbering was carried on through the over-burden a distance of 117 feet to bed-rock. The final five sets approaching bed-rock were of 8" x 8" red spruce on 3 ft. centers.

The tunnel was then continued into the rock approximately 50 feet where two veins were contacted. The Monte Queen vein was followed for 49 feet, and the new and previously unknown vein, now known as the Saville Vein, has been explored for a distance of 390 feet.

It was originally the intention of the operator to explore along the Monte Queen Vein and open the ore bodies at this lower depth that had been referred to in the U.S.G.S. Bulletin. However, when the new (Saville) vein was exposed, the structure, width and mineralization showing was so much more profound, it was decided to explore along this more attractive, and completely virgin vein.

The total penetration planned by the operator, on the basis of expenditures, is 500 feet from the portal. Beyond this point, the operator would be unable to finance further exploration without assistance.

There are no production facilities existing currently at the mine, except track and pipe, as all work to date has been strictly exploratory.

b. The operator's interest in the current work, heretofore described, has been totally financed by itself. Approximate expenditures to date: $23,000.00.

c. No authentic records of past shipments or assays are available now, as the old exploration on the Monte Queen Vein was accomplished in 1903-04-05 and 1917 . The only dependable ore and vein information on the old Monte Queen workings is contained in U.S.G.S. Bulletin No. 478.

There is no current production of ore coming from the new Monte Queen workings, as all work to date has been for exploration purposes only.

d. One ore body has been opened on the Saville Vein which measures approximately 120 feet in length, and 2 to 2½ feet in width.

The core or center streak of this ore body carries high grade values in silver, samples of which have assayed from 88 oz. to 328.62 oz. per ton. (See enclosed assay folios numbered 8506 and 8508.)

Gold values in most all samples were from .03 to .34 oz. per ton. Average gold assays .09 per ton.

Channel cuts across the mineralized zone of the vein in this ore body were taken and showed an average value of 40 oz. silver per ton.

Lead values thus far have been low. The highest lead assay to date was 7.20%, assay folio 8490.

Two small raise rounds were shot in this ore zone, and indications show a widening trend of the mineralized zone of the vein. No attempt has yet been made to block out this ore body.

Sampling methods used are varied. The usual procedure is to take a channel cut across the entire width of the mineralized zone of the vein. However, in some cases, streak samples are taken just from the core of the vein, to determine the silver-lead ratio of the ore.

Old Workings: (See Exhibit No. 7)

e. The Monte Queen mine workings lie due south of Lake City, Colorado, about one and one-half miles, on the eastern slope of the mountain -- 9,100 feet above sea level and 300 feet above the bed of the Lake Fork of the Gunnison River, and 200 feet above State Highway No. 149. The mine is connected to the main road by an access road about 1500 feet in length.

The old workings were opened on the vein outcrop by a tunnel driven S. 73°W. for 950 feet.

The country rocks are a gray stratified breccia and a volcanic rhyolite. There are also some showings of quartz latite, and porphyry.

The workings are on a fissure vein, which departs but little from the vertical in its explored portions. Average width of the vein

structure is 3 feet, with some areas as much as 6 feet in width. In some areas there are very well defined walls, locally separated from the country rock by strong selvage seams of talc.

The occurrences of various ores in the Monte Queen Vein, in the order of their commercial importance are as follows:

1. Silver
2. Bismuth
3. Zinc
4. Lead
5. Gold

The zinc and bismuth are important to the grade of silver contained in the ore. The U.S.G.S. Bulletin is quoted as follows: (page 58.)

> "The very fine-grained, almost massive type (of sphalerite) is uncommon in Lake City ores; it does occur, however, notably in the Monte Queen mine, in which the sphalerite is of unusual interest. It is extremely fine-grained, approaching the types known from the Friedsville mines in Pennsylvania, is very dark in color, and carries high values of silver, and notable percentages of bismuth. It has not been possible to determine from the specimens whether the bismuth is present as an individual mineral species or is, in some manner, combined with the zinc. Certain analysis of much of this ore are reported to show 20 per cent bismuth. High proportions of bismuth are invariably accompanied by increased proportions of silver."

Pyrargyrite, proustite (ruby silvers), argentiferous tetrahedrite and native silver were also present in the ore bodies of the Monte Queen mine. Much of the ore was accompanied by iron pyrites and rhodochrosite. At the breast of the old tunnel, a full 5 ft. wide face of

rhodochrosite was exposed.

Also quoted from the Bulletin (page 65):

"It appears that, with the exception of pyrite, sphalerite exercises the greatest effect in the production of secondary minerals in the Lake City veins. The high silver content of some of the zinc blende (sphalerite) encountered in the Monte Queen mine and in some of the other mines may perhaps also be explained by the presence of native silver precipitated in like manner."

(Page 100)

Ore shoot number 2 -- "consists chiefly of a peculiar dark brown, fine-grained, massive, rosin-like sphalerite mixed with fine steel galena and averaging 75 oz. in silver and notable percentages of bismuth. Some of this ore, according to the management, ran as high as 2,000 ounces in silver and contained 20 per cent of bismuth."

Subsequent to the publication of U.S.G.S. Bulletin No. 478, the other two ore bodies in the old Monte Queen vein were mined out and shipped, and only local information from a Mr. Clarence Wright, who worked in the mine, is available as to the values of these shipments.

New Workings: (See Exhibit No. 7)

In the new exploration workings being driven by the operator, many of the same type of mineral occurrences have been noted along the Saville Vein. Some ruby silver, native silver, and argentiferous tetrahedrite have been observed, specimens of which have been preserved for examination.

Because of the proximity of the Saville Vein to the Monte Queen Vein, and the similarity of the mineralization occurring in it, it is

possible that both veins were simultaneously formed and mineralized.

Total width of the Saville Vein structure averages 6 feet with the mineralized portion averaging 3 feet.

f. General information obtained from U.S.G.S. Bulletin No. 478 indicates that the known mineralization of the old workings of the Monte Queen carried high values in silver. Also, other mines in the surrounding area have produced good silver ore in the early days of the district.

Assays taken in the new workings of the Monte Queen mine indicate silver to be the primary metal contained in the vein being explored.

The area to be explored under the proposed financial assistance contract has not been sampled, as there is no access to these veins on the surface.

g. Three copies of all plats, maps, etc. are included with the application, and one of these need to be returned to the operator.

. . . . . .

Item 4. Accessibility of property: (See Exhibit No. 2)

a. The person who will meet the O.M.E. representative who may

examine the property is:

Albert E. Goodwin, Mine Superintendent
Rocking K Lodge
Lake City, Colorado
Phone: 8558

The property is located one and one-half miles south of Lake City, Colorado on the west side of the valley, just above paved State Highway No. 149. The access road from the highway to the mine is approximately 1500 feet long and is kept plowed and open for easy access.

The ready accessibility of the mine to this highway allows a year-round operation, with no interference from snow or weather.

b. The nearest railroad shipping point is located at Montrose, Colorado, a distance of approximately 95 miles by all-paved highway.

The Cotter Corporation mill is located at Canon City, Colorado and is reached by truck shipment from Lake City, Colorado, a distance of approximately 180 miles. (currently not operating.)

Ore shipped by rail from Montrose goes to Salt Lake City, Utah, a distance of 385 miles.

Mining supplies are obtained by freight line from Gunnison, Colorado, 54 miles; Grand Junction, Colorado, 180 miles; and Denver, Colorado, 235 miles. State Highway No. 149 connects with U. S. Highway No. 50, north of Lake City, 46 miles distant.

(If the operator, under the proposed exploration program, is successful in opening enough ore to justify, it is planned to construct a mill of about 50 tons or more per day capacity, directly below the new tunnel portal on the property.)

. . . . . .

Item 5. Exploration work:

a. The proposed exploration work is to be done along the continuation of the new Saville Vein for a distance of 2,000 feet, from 500 feet face of the existing drift now being driven.

The purpose of driving to this 2500 ft. area is to explore the continuation of the Saville Vein and the possible junctioning of a number of suspected veins in that area. The Saville Vein should, according to projections of these other suspected veins, cross the northward continuation of the Hiwasse Vein, which is exposed in other mine workings about 4,000 feet south of the Monte Queen mine. This crossing should be at about right angles to the Saville Vein.

Also, from east of the Monte Queen mine, there are a series of veins known as the Rob Roy, Silver Fleece, and Dauphin veins which, according to projection, should junction with the Saville Vein at approximately the 2000 ft. point from the portal.

In addition to the suspected crossing and junctionings mentioned above, there are possibly other ore bodies or shoots to be opened on the

Saville Vein while driving on it.

It is further proposed to explore with two cross-cuts from approximately the 1000 ft. to 1200 ft. area of the Saville vein -- 500 ft. left and 500 ft. right -- to cut the known continuation Rob Roy, Silver Fleece and Dauphin veins. The cross-cut to the left to explore for suspected other veins which might be paralleling the Saville Vein structure on the right side. The proposed drift and cross-cuts will be made $5\frac{1}{2}$ feet wide and 7 feet high in size.

The entire area to be explored is virgin ground with no exploration except a few surface prospect holes which did not expose solid bed rock.

b. Access road to the new mine portal is already in existence, and no additional work is anticipated on it at this time as it is fully serviceable.

c. If an O.M.E. contract is executed, work will continue at the property as it is currently being carried on. At the present time, one shift per day is being carried on, with an average 5 ft. per shift advance, with an average 25 ft. per week advance. If the O.M.E. contract is executed, it is planned to put on an additional shift, thus doubling the current average footage.

With two shifts working per day, the anticipated monthly footage of drift or cross-cut would be about 200 feet.

The total time required for accomplishment of the proposed footage would be fifteen months.

. . . . . .

Item 6.

The managing partner and mine superintendent of Havilah Mines Company, Albert E. Goodwin, has a background of 19 years in hardrock and fissure vein mining. He is forty-two years of age and has lived and mined most of the 19 years in the Cripple Creek District, where he has worked as miner, leaser, mine operator, superintendent and owner.

Some of the properties in which he has worked are the School Section Mine, the Cresson Mine, the Ajax Mine, the Mollie Kathleen Mine, the Ruby Mine and the Havilah Mine, south of the Town of Victor. Other mines outside of the Cripple Creek District include the Nye Metals Moly Mine, north of Central City, Colorado; the Montie Cristo Mine, near Breckenridge, Colorado; and two uranium prospect tunnels south of Colorado Springs, Colorado.

Mr. Goodwin has a very thorough working knowledge of geology and mineralogy. He has been employed in his present capacity for approximately two years by the Havilah Mines Company, during which time 450 feet of tunnel was driven and 50 feet of shaft sunk on a property just

south of Victor, Colorado. Also, all of the exploration accomplished to date on the new Monte Queen tunnel at Lake City has been made under his supervision. He is fully qualified to handle all phases of this proposed exploration program.

. . . . . .

Item 7. Estimates of Costs:

For the entire 3,000 feet of drifting and cross-cut tunneling called for in the application, the operator has arrived at a per foot figure of $48.55 untimbered, and an additional $5.00 per foot where timbering is necessary. To date, no timbering has been necessary in any of the workings except through the overburden 117 ft. in length, none in the hard rock area of the drifts. Total estimated cost of timbering $2500.

a. Independent Contracts: (None)

No independent contracts are planned to accomplish the proposed footage of this application. All work of driving the drift and cross-cuts will be done by the operator. No bull-dozer work is anticipated at this time.

b. Personal Services:

	Total Cost
1. Superintendent's Salary - $600.00 per mo.	$ 9,000.00
2. Engineering (surveying) - $40.00 per mo.	600.00
3. Assaying - $150.00 per mo.	2,250.00

(continued on following page)

	Total Cost
4. Labor - per shift $72.00 (3 men) per day $144.00 (6 men) per week $864.00 (6 men) per mo. $3,456.00 (6 men)	$ 51,840.00
(Cost of labor is based on a rate of $3.00 per hour for miner, mucker operator, and trammer operator. Six shifts per week per man.)	
5. Mechanic services - average monthly $75.00	1,125.00

Services of the above are available either locally or can be obtained on short notice. Assays are sent to Charles O. Parker and Company in Denver, Colorado.

c. Operating materials and supplies:

1. Explosives - 50 lb. per shift 100 lb. per day 720 boxes needed @ $13.90 per box Estimated cost for 3,000 ft.	$ 10,008.00
2. Blasting caps - 30 per shift 60 per day 210 boxes of 100 ea. @ $3.60 per box	756.00
3. Blasting fuse - 210 ft. per shift 420 ft. per day 53 - 3000 ft. rolls @ $42.25 ea.	2,239.25
4. Drill steel - 6 ft. length ea. $13.60 8 pcs. per month 120 pieces needed for 3000 ft. of tunneling	1,632.00
5. Drill bits @ $3.50 each 600 bits needed for 3000ft. of tunneling	2,100.00
6. Ties @ 35¢ each - 1000 needed	350.00
7. Diesel Fuel @ 17.3¢ per gallon 15 gal. needed per shift 30 gal. needed per day 10,800 gal. needed for 3,000 ft. of tunnel	18,684.00

		Total Cost
8.	Compressor oil - 5 gal. per month @ $4.85 75 gal. needed Total	$ 363.65
9.	Diesel motor oil - 5 gal. per mo. @ $5.30 75 gal. needed Total	397.50
10.	Track spikes - 200 used for each 100 ft. of track 6,000 total needed for 3,000 ft. of tunnel Per lb. 20¢ 10 kegs @ $40.00 ea.	400.00
11.	Track bolts - 56 used per 100 ft. of track 1680 needed for 3,000 ft. of track Per lb. 30¢ 2 kegs @ $60.00 ea.	120.00
12.	Rock drill oil - 5 gallon per month 75 gallons needed $4.95 per five gallons	369.25
13.	Oil filters (compressor motor) 2 each @ $4.70 1 each @ 5.55 each change $10.25 total 15 changes	153.75
14.	2" Airline couplings (Victalic) $1.65 each - 160 needed	264.00
15.	2" Airline - $45.00 per hundred ft. 3,000 ft. needed	1,350.00
16.	Rail - 2,000 yards needed @ 20 lb. per yd. or 20 tons Price per yard $1.74	3,480.00
17.	Splice bars (rail) 400 sets needed @ 50¢ pair	240.00
18.	Miner's picks - 3 needed @ $8.45 each	25.35
19.	Shovels - 3 needed @ $9.20 ea.	27.60
20.	Air Hose - 75 ft. needed @ 60¢ per ft.	45.00
21.	Plastic pipe for water - 3,000 ft. needed @ $5.60 per hundred ft.	168.00

	Total Cost
22. Electric power - estimated cost per month $95.00. 15 months	$ 1,425.00
23. Gasoline for superintendent @ 36¢ per gal. - 60 gal. per mo. 900 gal. - 15 mo. supply	324.00

d. Operating Equipment:

1. Air compressor - 250 CFM Rental - purchase - $563.00 per mo. Purchase price $13,690. 15 months	8,445.00
2. Eimco car loader 12-B (used available) Rental - purchase @ $100.00 per mo. 11 months Purchase price $1,100.00 - 90% of rental applies to purchase	1,100.00
3. Air trammer - (used available) Rental-purchase @ $150.00 per mo. Purchase price - $2,000.00 - 15 months (90% of rental applies to purchase)	2,250.00
4. Air Drill and leg Le Roi Model H10AL Rental-Purchase $150.00 per month Purchase price $1,350.00 total - 9 mos. (90% of rental applies to purchase	1,350.00
5. Tram cars - 5 needed (used available) Purchase - $115.00 each	575.00
6. Air Fan and motor - (used available) Rental-purchase @ $75.00 per month Purchase price - $533.00 90% of rental applies to purchase 7 months	525.00
7. Plastic Vent line - 14 in. diameter @ $1.05 per ft. - 3,450 ft. needed	4,365.00
Coupler fittings for vent line @ $1.05 each - 70 needed	73.50
Grommet Hangers (6 per 50 ft. of plastic tubing) 420 needed @ 21¢ each	84.00

		Total Cost
8.	Miner's light charger - 6 light capacity Purchase price $187.00	$ 187.00
9.	Miner's lamps - 6 needed Purchase price each $27.25	163.50
10.	Estimated total cost of timber 13,000 board ft. @ $100 per thousand feet. Estimated 200 feet of timbering necessary.	1,300.00

e. No initial rehabilitation or repairs are anticipated at the beginning of the contract as the mine is currently in operation, and all fixtures, building and installations are in good shape.

Operating equipment now on the property and owned by the operator is as follows:

1. 1,400 ft. of 20 lb. and 25 lb. rail.
2. 600 ft. of 2" air line.
3. 1 each- 4 x 8 ft. air receiver.
4. 1 each- 500 gal. fuel oil storage tank.
5. 2 each- tram cars.
6. 2 each- 55 gal. oil drums.
7. 1 each- 125 gal. propane tank.
8. 1 each- gas heater (one burner).
9. 1 each- oil heating stove.
10. 1 each- bench vise.
11. 1 each- air-driven timber saw.
12. 1 each- 8 x 12 ft. tool house.
13. 1 each- pneumatic bit remover.
14. 1 each- air receiver- 3 x 6 ft. (used as water tank).
15. 1 each- 6" diameter water pump.

f. New buildings, fixtures installations:

1. It is anticipated that a pre-fab. all metal garage-type building, about 12 x 24 ft., will be constructed as a shelter for the compressor, and used as a change room for the miners.

Estimated cost of building	$1,800.00
Cost of erecting	200.00
Cost of foundation	200.00
TOTAL:	$2,200.00

Supervision of construction by the mine superintendent at no additional cost.

2. Installation of an additional air receiver of about 4 x 8 ft. in size to be added to air line at about 1500 ft. depth of tunnel to add additional volume of air supply to machinery. This receiver to be installed by miners, at no additional cost for installing.

Estimated cost of receiver tank $ 300.00

g. Miscellaneous:

1. Compressor.
   Minor repairs - $10.00 per month.
   Total for 15 months 150.00

   Major repairs - replacement of parts.
   $25.00 per month.
   Total for 15 months 375.00

2. Eimco 12B Car loader.
   15 months parts replacement. 125.00

3. Le Roi air drill & leg.
   15 months parts replacement. 75.00

4. Tram-aire trammer.
   15 months parts replacement. 50.00

(continued on following page)

5.	Analytical work (assays, surveying) are listed under 7b-3.	----------
6.	Accounting - 15 mos. @ $200.00 per mo.	$ 3,000.00
7.	Cost of Workmen's Compensation and Employee's Liability Insurance for 15 months.	See No. 13 below
8.	Payroll taxes - 15 months.	See 14, 15 & 16 below
9.	Telephone costs - 15 months @ $50.00 per month	750.00
10.	State Sales Tax - based on total taxable purchases of $68,642.35 @ 3%	2,059.27
11.	Postage - @ $5.00 per month - 15 months	75.00
12.	Transportation - $60.00 per month truck use (superintendent's personal pick-up truck.)	900.00
13.	Employee's Liability Insurance & Workmen's Compensation) 6.7%	4,623.64
14.	State Unemployment 2.7%	1,642.68
15.	Social Security 4.2%	2,555.28
16.	Federal Unemployment .04%	243.36
		$149,279.58

Estimated Cost of Project	$148,150.00
Total of Costs Listed in Item 7	$149,279.58
Difference	$ 1,129.58

Havilah Mines Company
Box 92,
Lake City, Colo.

INDEX OF EXHIBITS
(Under Separate Cover)

Exhibit No. 1	Map-- Central portion of Hinsdale County.
Exhibit No. 2	Map-- Lake City area of Lake Mining District showing location of the Monte Queen group of claims.
Exhibit No. 3	Plat-- Monte Queen group of claims showing tie point to section corner.
Exhibit No. 4	Map-- Geologic Map of the southern portion of the Lake City Quadrangle, Colorado, with some of the known veins in exploration area marked.
Exhibit No. 5	Plat-- Showing old workings of the Monte Queen Mine.
Exhibit No. 6	Plat-- Showing new tunnel workings of the Monte Queen Mine.
Exhibit No. 7	Plat-- Showing relations of the old and new workings of the Monte Queen Mine.
Exhibit No. 8	Letter--Bid from the A & S Mineral Research Company of Denver, Colorado.
Exhibit No. 9	Letter-- Bid from Charles H. Carlton, Cripple Creek, Colorado.
Exhibit No. 10	Map-- Assay map of new workings of the Monte Queen Mine, all assays taken through February 8th, 1966.
Exhibit No. 11	Plat-- Showing location of Monte Queen group of claims, and projections of known and suspected veins entering proposed exploration area. (In pocket, inside back cover.)
Exhibit No. 12	Copy-- Photostat of lease covering Monte Queen group of claims.
Exhibit No. 13	File-- Copies of all assay slips through February 8, 1966 of samples taken in current exploration work.

Havilah Mines Company
Box 92
Lake City, Colo.

INDEX OF EXHIBITS
(Under Separate Cover)
(Continued)

Exhibit No. 14a	Letters of request for loan from the First National Bank of Cripple Creek, Colorado, and the First National Bank of Denver, Colorado.
Exhibit No. 14b	Letters of reply from the two banks shown above.
Exhibit No. 15a	Letter of confirmation from Mr. M. L. Jarvis, covering company's portion of exploration costs.
Exhibit No. 15b	Financial statement of the Jarvis Construction Company, demonstrating Mr. Jarvis' ability to cover company's portion of exploration costs.

Havilah Mines Company
Box 92,
Lake City, Colo.

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

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

LIEN AND SUBORDINATION AGREEMENTS[1]

To the United States of America:

That certain land in the County of Hinsdale, State of Colorado,

described ~~as follows~~:[2] in a lease dated Sept. 28,1965, and recorded in Book 59, Page 61, official records of said county. A copy of said lease contained with application information.

hereinafter called the "land", is the subject of a proposed exploration contract, hereinafter called the "Contract", between the United States of America, hereinafter called the "Government" and

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

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

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

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

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

None

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

2/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease /or contract, deed, or other document/ dated_____, and recorded in Book_____, Page____, official records of said county". If (b) is used, the book and page of recordation must be inserted above. If the space provided is insufficient, use an Annex and refer to the Annex in the space.

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

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

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

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

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

Dated this 3 rd day of March, 19 66.

Box 127 (Street)
Joe M. Vickers (Seal) Lake City, Colorado (City & State)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

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

(Corporate Seal)

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

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

LIEN AND SUBORDINATION AGREEMENTS[1]

To the United States of America:

That certain land in the County of Hinsdale, State of Colorado,

described ~~xxxxxxx~~:[2] ~~in a lease dated Sept. 28,1965, and recorded in Book 59, Page 61,official records of said county. A copy of said lease contained with application information.~~

hereinafter called the "land", is the subject of a proposed exploration contract, hereinafter called the "Contract", between the United States of America, hereinafter called the "Government" and

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

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

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

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

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

None

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

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

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

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

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

Dated this 3 rd day of March, 19 66.

Box 127 (Street)
Dove Creek, Colorado (City & State)
Frank M Vickers (Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

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

Pervis C. Vickers Pres
(Corporate Seal)

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090 –
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Havilah Mines Company[3]
hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

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

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

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

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

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

Dated this 3 rd day of March, 19 66.

Box 127 (Street)
Joseph M Vickers (Seal) Lake City, Colorado (City & State)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

(Street)
(City & State)
(Seal)

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

Pervis C Vickers - Pres
(Corporate Seal)

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY
Operator
Docket No. 01 OME –
Contract No. 14-23-090 –
Contract Date

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

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

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5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

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

Dated this 3 rd day of March, 1966.

Joseph M Vickers	(Seal)	Box 127 (Street) Lake City Colorado (City & State)
	(Seal)	(Street) (City & State)
	(Seal)	(Street) (City & State)
	(Seal)	(Street) (City & State)
	(Seal)	(Street) (City & State)
	(Seal)	(Street) (City & State)

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

Pervis C. Vickers - Pres.
(Corporate Seal)

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

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

LIEN AND SUBORDINATION AGREEMENTS[1]

To the United States of America:

That certain land in the County of Hinsdale, State of Colorado,

described ~~xxxxxxx~~:[2] in a lease dated Sept. 28,1965, and recorded in Book 59, Page 61, official records of said county. A copy of said lease contained with application information.

hereinafter called the "land", is the subject of a proposed exploration contract, hereinafter called the "Contract", between the United States of America, hereinafter called the "Government" and

Havilah Mines Company[3]

hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

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

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

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

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

None

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

2/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease /or contract, deed, or other document/ dated _____, and recorded in Book _____, Page ____, official records of said county". If (b) is used, the book and page of recordation must be inserted above. If the space provided is insufficient, use an Annex and refer to the Annex in the space.

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

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

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

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

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

Dated this 3 rd day of March, 19 66.

Joseph M Vickers (Seal) Box 127 (Street) Rifle City Colorado (City & State)

(Seal) (Street) (City & State)

(Seal) (Street) (City & State)

(Seal) (Street) (City & State)

(Seal) (Street) (City & State)

(Seal) (Street) (City & State)

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

Purvis C Vickers Pres

(Corporate Seal)

MME Form 7
(2/63)

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Date	Surname	Code
11/9/66	Kirkemo	
"	Johnson	
11/10	Fitzgerald	
11/10	Power	
11/14	James	

NOV 15 1966

Havilah Mines Company
Box 92
Lake City, Colorado

Re: OME-6555 (Silver-Bismuth-Gold)
Havilah Mines Company
Monte Queen Mine
Hinsdale County, Colorado

Gentlemen:

We have carefully studied your application for financial assistance in exploring the subject property and other information available to us. These data indicate that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation in the proposed project. We regret, therefore, to inform you that your application is denied. However, this decision is reached without prejudice to your property.

If future work on the property reveals evidence that could justify an exploration program, we would be pleased to consider a new application.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME Reading File
Docket
Region III
130
Kirkemo

HKirkemo/mm (11/9/66)

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code

November 9, 1966

Memorandum

To: The File

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6555 (Silver-Bismuth-Gold)
Havilah Mines Company
Monte Queen Mine
Hinsdale County, Colorado

Justification for Denial

In memoranda dated May 18 and October 4, 1966, to the Field Officer, Region III, we requested geologic information required to help determine the linear extent and width of structure, geologic character of vein and wall rock, and other data. The Field Officer's geologic map of the tunnel on the Saville vein received in response to the latter request shows lenses of mineralized material associated with breccia zones and cut by faults. Individual lenses of mineralized material range up to 60 feet in length. Assays of samples across widths of 1½ to 4½ feet show 6.9 to 21.7 ounces of silver per ton. The potential for discovering significant ore bodies under these conditions is not promising. There is no evidence to suggest that additional work would lead into zones free of cross faults and breccia where replacement ore bodies of importance may exist.

We also asked the Applicant to submit more information on the veins exposed north of the Monte Queen vein. The material submitted did not provide the information required to justify exploring for these veins from the Saville tunnel.

We concur in the Field Officer's recommendation to deny the application without prejudice to the property.

Harold Kirkemo

Harold Kirkemo

cc: Director's Reading File
Division File
Economic Geology File
OME Reading File
Kirkemo

HKirkemo/mm (11/9/66)

23263

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

November 4, 1966

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6555 (Silver)
Havilah Mines Company
Monte Queen Mine
Hinsdale County, Colorado

OFFICIAL COPY
O. M. E.
RECEIVED
NOV 7 1966

This memorandum is in reply to your questions regarding my recommendations in a report of examination on the subject property, dated September 1966. At the time of the field examination I mapped the Saville vein in its entirety but failed to include my maps with the report of examination--an oversight on my part. I also very rapidly mapped the available portion of the old workings along the Monte Queen vein as there was little to observe (Figures attached). The Saville vein in that narrow portion of the vein consists mainly of gougy material containing low grade mineralized material, then the vein essentially opens up in a more highly brecciated area, and contains the higher grade material, which yields some abnormally high assays, as indicated in USGS Bulletin No. 478.

filed in folder #2

I have had continually second thoughts regarding my appraisal and recommendation concerning the alternate proposed exploration. Even though the program appeared marginal I thought perhaps the work might prove at least favorable, but I now feel that considerable geologic work should be done on the surface as well as underground before a contract should be considered. The applicant, Mr. Goodwin, has recently employed the services of a consulting geologist, and his visit on the property is the result of Mr. Goodwin's letter to us dated October 24, 1966. The latest information more or less substantiates the possible continuation of the shear zone trending N. 73° E. which contains the Rob Roy, Daulphin and Sulphuret on the east side of the Lake Fork and the Monte Queen on the west side of the Lake Fork. No further work has been done from the surface on the veins that appear to parallel

the Monte Queen vein. The applicant was advised to employ a competent consulting geologist and/or mining engineer to assist him as well as to continue drifting along the Saville veins and thus explore it further. The applicant has apparently awaited and hoped for possible approval of a contract to complete the work.

It is presently recommended that the application be denied without prejudice with the recommendation that considerable geologic work be completed as well as additional exploration work along the Saville vein to further prove its consistency along strike as well as grade of mineralized material.

Enclosed is a copy of the applicant's letter dated October 24, 1966 and a copy of the location notice of the "Monte Earl" claim, as well as copies of my maps of the Monte Queen and Saville veins.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

October 24, 1966

Mr. William Hasler
Mr. Harold Kirkemo
Office of Minerals Exploration
U. S. Geological Service
Denver Federal Center
Denver, Colorado

Gentlemen: Re: Docket No. 6555

We hereby wish to present some additional information and proposals for exploration with regard to the vein structures in the area of the Monte Queen mine, Lake City, Colorado.

From Page 101, U.S.G.S. Bulletin No. 478:

> "On the east side of Lake Fork, about 1-1/4 miles south and a little east of Lake City, is a great shear zone striking about N.73°E. On one side of this are the workings of the Rob Roy and Dauphin, and on the other to the southeast are those of the Sulphuret. Sufficient work has been done to disclose some gray copper ore, several carloads of which have been shipped from the Sulphuret, but the development is insufficient to furnish any reliable data. It is possible that the Sulphuret may represent the northeast continuation of the Monte Queen vein."

After several days of examination of the above described vein systems, we do find that the Sulphuret has a strike of N.73°E (the same as the Monte Queen vein) and that the veins on the northwest side of this shear zone have a strike of about S.50°W.

Also, in our examination we found that the dips, if any, of all of these exposures are no more than 2 to 3° southward from the vertical, most of them being truly vertical.

COPY

Then, after shooting across the river to the west side of the valley, the outcrops, such as they are, were checked quite thoroughly and were found to show a definite continuation of this shear zone into that area, the dips also being vertical in these areas.

The outcrops of this shear zone and a few prospect holes on them show the same mineral stains and discolorations as on the east side of the Lake Fork River.

The geologic map, Bulletin 478, Plate III, Exhibit No. 4 of our application shows no fault structure along the Lake Fork River in this area. The contour lines of the Eureka rhyolite, crossing the stream East to West, are continuous and unbroken. On none of the U.S.G.S. maps of this area could any evidence of faulting be found. The heavy glacial detritus and landslide covering on the mountain to the northward of the Monte Queen mine make it very difficult to ascertain more information about the vein continuations than is stated above.

In full consideration of all indications of silver enrichments that have been exposed, both in the new workings along the Saville vein, and the ore that has been produced from the old Monte Queen workings, we feel that the most effective exploration that can be accomplished at this time would be to continue the drift on the Saville vein.

It is our suggestion that the vein be driven on for an additional 2000 ft. This could be done in two phases of 1000 ft. each. Then, if these prove additional ore bodies, a third phase could be considered to explore with either a cross-cut or 2 or 3 diamond drill holes to explore the continuation of the Monte Queen vein, driven or drilled from the Saville vein drift.

We feel that with the showings of silver that have been opened on the Saville vein thus far, that with future development in the areas of the high value assays, commercial ore bodies could be produced.

The channel samples that were taken in these heavily mineralized zones were cut in such a way as to represent the full width of the vein and were very carefully cut so as not to load or salt them with the apparent high grade values.

COPY

An assay slip is enclosed, showing a breast channel sample that was taken one foot high and 4-1/2 ft. across. This sample was taken as closely as possible to represent the true mineable values showing at present. The sample cut weighed about 25 pounds and was crushed and parted for shipment to the assayer.

This breast of the tunnel is the point where work would be resumed on the drive on the Saville vein.

The condition of the vein at the breast, with these silver values showing, indicates a possible widening or swelling of the structure and a possible ore body just ahead.

On Exhibit No. 11 of our application, the indicated potential of the junctioning or convergence of these veins, with the Saville structure, at points further into the mountain, should be considered as prime areas of possible heavy enrichment, a number of the large ore bodies of other mines in the Lake mining district having been discovered on such crossings or junctionings in the past.

Our expenditures to the date of cessation of work on the mine, amount to approximately $35,000.00. We feel that the strong showings of silver opened on the Saville vein by this past exploration are a great incentive to continue to explore the extension of this structure.

In view of the length of time that our application for exploration assistance has been pending (seven months), it is requested that, if possible, some final action or word might be given us soon, as otherwise it will be necessary for us to return our rental equipment which we have held at the mine, with rental charges continuing through the past waiting period.

We feel that we have a very good potential silver producing property, driving into virgin ground, and would very much like to renew our exploration of it with the assistance of the Office of Minerals Exploration. Thank you.

Sincerely yours,

Albert E. Goodwin

Albert E. Goodwin, Managing Partner
Havilah Mines Company

AEG/ar
Enclosure

COPY

2114 CURTIS STREET

TELEPHONE 623-1852

CHARLES O. PARKER & CO.

CHEMISTS • ASSAYERS • ENGINEERS

DENVER, COLORADO 80205

Folio 8653

Date Sept. 15, 1966.

Havilah Mining Co.,
c/o Al Goodwin,
Box 92,
Lake City, Colorado.

We hereby Certify, that the samples assayed for you gave the following results:

DESCRIPTION	GOLD OUNCES PER TON	SILVER OUNCES PER TON	COPPER PER CENT (WET)	LEAD PER CENT (WET)	ZINC PER CENT	IRON PER CENT	INSOLUBLE PER CENT	VALUE PER TON
Breast:	0.03	21.70	Channel Cut 4-1/2 ft. wide ([illegible])					
Last Raise	0.02	6.94	[illegible] (pyrite)					
			5'x7'					
			18'					

Gold at _____ per ounce Copper at _____ per unit

Silver at _____ per ounce Zinc at _____ per unit

Lead at _____ per unit _____

Charge $ 5.00

CHARLES O. PARKER & CO.
CHEMISTS, ASSAYERS and ENGINEERS

MME Form 7
(2/63)

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Date	Surname	Code
10/25		120
"	HK	110
		120M

October 25, 1966

Memorandum

To: The File

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6555 (Silver)
Havilah Mines Company
Monte Queen Mine
Hinsdale County, Colorado

Mr. Albert E. Goodwin, Managing Partner, Havilah Mines Company, phoned me October 18, 1966, to inquire about progress on his application. I reported that we had asked the Field Officer to request additional information from the Applicant--particularly geological and assay information on the target veins reported north of the Monte Queen vein. I also stated that the sample and assay results obtained on the Saville vein were not promising because the narrow, better mineralized portions of the vein would not support (dollarwise) a mining width sample across the drift.

I suggested that he obtain samples of the veins exposed north of the Monte Queen vein--noting widths, strikes and dips--and assay the samples.

Mr. Hasler told me on October 24 in a phone call that Mr. Goodwin had arranged an office conference with him on October 25, 1966.

Harold Kirkemo

Harold Kirkemo

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

HKirkemo/gla 10/25/66

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MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
10/4	Kirkham	120
		110
10/4	cal	220
		120M
10/4	Peterson	120P

OCT 4 1966

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6555 (Silver)
Havilah Mines Company
Monte Queen Mine
Hinsdale County, Colorado

We are not convinced that the Applicant's data and your Report of Examination offer sufficient justification to warrant preparation of a contract as you recommended. The basic questions are of geologic nature as we stated in our referral memorandum to you, dated May 18, 1966. Unfortunately, these questions have not been answered. Whatever our final decision may be, the justification will be based on the items discussed below. Should you have information to answer the questions involved, we will be glad to receive them.

The geology of the Monte Queen vein is documented in USGS Bulletin 478, and because the Monte Queen tunnel is inaccessible for much of its length, it is obvious that you could not add any new information to that already published. We must conclude that the newly discovered Saville (Seville?) vein offers greater promise for successful exploration than the Monte Queen vein because the major effort is directed to the Saville vein.

With respect to the Saville vein, we have no geologic information to help determine the linear extent, width of structure, or geologic character of the vein or wall rock surrounding the vein. The assays of the channel samples suggest irregularly distributed lenses of ore but the sample descriptions are incomplete and of little value for estimating probable size and grade of ore bodies within the vein. No geologic map of the vein as exposed in the Saville drift has been submitted whereby the accuracy of the projections by the Applicant can be verified.

Table 3 in the Report of Examination showing the comparison of assays from samples obtained from the same locations is not an encouraging item of information. These assays indicate that selected samples of the well mineralized, narrow portions of the exposures contain encouraging values in silver, but samples across mining widths at

23263

the same sites show less than ore-grade assays. If these check samples and assays are typical of the vein for the whole extent of the drift, there is little justification to explore for additional material of like grade.

The Applicant's claim map also shows with straight line symbols exposures and projections of veins. With the exception of the Miwasse vein (?) which is shown as a fault, none of the veins are identified by name, no dips are indicated, and no sample and assay data based on vein samples are offered. Are vein exposures present and can they be mapped and sampled? No information is presented on the surface exposures of the Saville vein to justify advancing the Saville drift an additional 1,000 feet, nor is there any support for the two crosscuts proposed from the drift.

The Rob Roy, Silver Fleece, and Dauphin veins (not identified on maps) are projected by the Applicant 1,800 to 2,000 feet on strike westward into the target area proposed for the two crosscuts. Is there evidence to confirm the accuracy of these projections?

The Applicant would have to obtain rights to the unclaimed tract of land west of the Monte Prince claim and to the Nellie M claim <u>before</u> a contract is drafted. However, in this case, we believe that considerably more technical information is required to justify your recommendation for a contract before requesting the Applicant to obtain rights to the additional land.

We look forward to your reply to the above observations.

FRANK E. JOHNSON

(pf)

Frank E. Johnson

cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
Mr. Kirkemo
130

HKirkemo/gla 10-4-66

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

September 23, 1966

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O. M. E.
RECEIVED
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INITIALS	CODE
gfa	130
	120M
JJ	110
	120K

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6555 (Silver)
Havilah Mines Company
Monte Queen Mine
Hinsdale County, Colorado

Transmitted herewith is an original and one copy of a report of examination on the above-stated docket. Enclosed are seven copies of a figure for inclusion in a contract if it is recommended by you.

It is concluded as a result of the field examination that there is a fair possibility of discovering somewhat signicant ore reserves of silver by exploring the Seville vein southwestward and to test possible extents of more or less parallel veins that lie northward on the applicant's property. A somewhat revised exploration program is herein suggested and it is recommended that a contract be executed to perform the work as outlined.

J. William Hosler

UNITED STATES

DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, SECRETARY

U. S. GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION

REPORT OF EXAMINATION

REGION III

OME Docket-6555 (Silver)

HAVILAH MINES COMPANY

MONTE QUEEN MINE

HINSDALE COUNTY, COLORADO

By

J. William Hasler

Geologist

September 1966

FIELD
EXAM. REPT.

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Conclusions and recommendations.	15

Tables

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Table 2.	Channel samples.	In back
Table 3.	Showing channel samples vs. selected	In back

Introduction and summary

Havilah Mines Company, P. O. Box 92, Lake City, Colorado, applied to the Office of Minerals Exploration for financial assistance to explore for silver and gold at the Monte Queen mine, Hinsdale County. The application was referred to the field and an examination was made on June 15, 1966, accompanied by Mr. Albert Goodwin, managing partner in the Havilah Mines Company. On August 25, 1966 the applicant supplied the Field Officer, Region III with additional data requested at an earlier date.

The property

The workings of the Monte Queen mine lie due south of the town of Lake City on the eastern slope of the mountain, 9,100 feet above sea level and 300 feet above the bed of the river. The mine is connected with the main road, Colorado Highway 189, by a short branch road and is easily accessible, the year around.

The interest in the land or claim proposed for exploration is held by a lease dated September 28, 1965, from the Vickers Brother's Enterprise, Inc., Lake City, Colorado. There are no liens, mortgages, or other encumbrances on the claims, and only overlap on part of a patented claim, that, being about 60 feet on the north edge of the Monte Prince claim which is not in the area of proposed exploration.

There is a total of five unpatented claims included in the lease that were located and recorded during September 1965. They are recorded as follows:

Claim Name	Docket (Book) No.	Page
Monte Queen Lode		
(Amended Location)	14	119
Monte King Lode	54	565
Monte Prince Lode	54	567
Monte Princess Lode	54	469
Monte Duke Lode	54	563

All records are in the Hinsdale County records, County Clerk's Office, County Court House, Lake City, Colorado

Additional names by which the Monte Queen Lode claim has been known is as follows:

1. Originally located as the Palestine Lode September 14, 1876, and filed for record November 13, 1876--Book 2, Page III.

2. Located as the Monte Queen Lode August 12, 1879, filed and recorded November 10, 1879--Book 3, Page 186.

3. Located the Big Fish No. 1 Lode November 30, 1953, filed for record December 3, 1953--Book 42, Page 492.

4. Amended location as the Big Fish No. 1 Lode June 25, 1954, filed for record June 29, 1954--Book 14, Page 77, all in Hinsdale County records.

5. Amended location as the Monte Queen Lode September 6, 1965, filed for the record December 2, 1965.

Five copies of Lien and Subordination agreements MME form 52 are included in the application.

Some ore was previously mined from the Monte Queen vein and reports stated that the ore bodies were mined for lengths of 50 feet, 75 feet, and 250 feet, respectively. The mine is caved beyond 350 feet and consequently could not be examined further. Current exploration is being conducted through a new tunnel 54 feet below and approximately 50 feet south of the old Monte Queen tunnel. The Monte Queen vein was explored for about 50 feet and work was then done on a subsidiary vein, the Seville vein which was explored for some 390 feet. Some ore-grade material was extracted for linear distance of 120 feet and had a width of from 2 to 2-1/2 feet. Some highgrade material was obtained from within this material that assayed from 88 oz. to 328.62 oz. Ag to the

ton. Gold values ranged from 0.03 to 0.34 oz. per ton. Gold assays averaged 0.09 oz. per ton. Channel samples across the mineralized zone showed an average of 40 oz. Ag per ton.

Geology and ore deposits[1/]

The Monte Queen vein is opened on its outcrop by a tunnel driven S. 73° W. for 950 feet. The country rock is a grayish stratified breccia evidently formed by the fracture of the cooling upper surfaces of successive lava flows during their extrusion.

The workings are on a fissure vein produced in greater part by the filling of an open crevice and only in minor degree by replacement of the country rock. The vein, which departs but little from the vertical in its explored portions is about 3 feet in width. In some places it has a well defined wall, locally separated from the country rock by strong selvage seams.

The ore minerals are segregated within the barren gangue material into vertical shoots which show no appreciable pitch within the plane of the vein. Between the shoots the vein pinches so that only a few sheeting planes with stringers of quartz, etc., are left, by which the vein may be followed from one shoot to the next. The shoots have a stope length of 50, 63, and 200 feet, respectively. Nos. 1 and 3 contain chiefly pyrite and some gray copper ore and do not run very well in silver. No. 2 consists chiefly of a peculiar dark-brown, fine-grained massive rosin-like sphalerite mixed with fine steel galena and averaging about 75 ounces in silver and notable percentages of bismuth. Some of this ore, according to the management (not present management), ran as high as 2,000 ounces in silver and contained 20 percent bismuth. The pyrite shoots were too low grade to pay. A fourth shoot, or widening of the vein, 5 feet in width occurs in the breast of the tunnel 950 feet west of the portal; so far as yet explored it contains nothing but massive rhodachrosite.

The metallic minerals in the No. 2 shoot occur in smaller shoots which are separated by vertical intervals of barren quartz and are lenticular in both vertical and horizontal section; they pitch slightly (15°) along the course of the vein to the southeast. The vertical extent of these lenses is from 3 to 20 feet and that of the barren quartz filling between 3 and 12 feet. The barren portions are filled with included and highly silicified fragments of wall rock and the country rock is altered to distances of 4 to 5 feet from the vein filling.

According to the applicant, the occurrences of various ores in the Monte Queen vein in order of their commercial importance are as follows: (1) silver, (2) bismuth, (3) zinc, (4) lead, and (5) gold.

The zinc and bismuth are important to the grade of silver contained in the ore as indicated by Irving and Bancroft in U. S. Geol. Survey Bull. 478, p. 58: "The very fine grained, almost massive type (of sphalerite) is uncommon in Lake City ores; it does occur, however, notably in the Monte Queen mine in which the sphalerite is of unusual interest. It is extremely fine-grained, approaching the types known from the Friedsville mines in Pennsylvania, is very dark in color and carries high values of silver, and notable percentages of bismuth. It has not been possible to determine from the specimens whether the bismuth is present as an indicidual mineral species, or is, in some manner, combined with the zinc. Certain analyses of much of this core are reported to show 20 percent bismuth. High proportions of bismuth are invariably accompanied by increased proportions of silver."

Pyrargyrite, proustite (ruby silver) argentiferous tetrahedrite, and native silver were also present in the ore bodies of the Monte Queen mine. Much of the ore was accompanied by iron pyrite and rhodochrosite. At the breast of the old tunnel, a full 5 feet wide face of rhodachrosite was exposed.

Also, "It appears that, with the exception of pyrite, sphalerite exercises the greatest effect in the production of secondary minerals in the Lake City veins, as nickel, cobalt, and arsenic are absent. Chalcocite is probably the only secondary mineral that has not been definitely identified in intimate association with zinc blende. The ability of sphalerite to precipitate native gold presumably from a solution of ferric sulphate and chlorine is also interesting. The high silver content of some of the zinc blende encountered in the Monte Queen mine and in some of the other mines may perhaps also be explained by the presence of native silver precipitated in like manner." 1/

U. S. Geol. Survey Bull 478, p. 65: "All of the Lake City lodes are characterized by the lateral segregation of workable ores within certain more or less restricted portions of the vein. These restricted portions are usually termed pay shoots as they may be profitably worked, even though the intervening portions are unprofitable. Such locations of metalliferous minerals may be due (1) to the widening of the fissure between two constricted portions in which neither ore nor gangue minerals have been deposited in any quantity; and (2) to the segregation of metalliferous minerals within the vein. The first type of shoots is the most common appearing in the Monte Queen, to some extent in the

Hidden Treasure, and in many other mines. An interesting features of the Monte Queen ore body was the different material in the three known ore shoots. These are vertical and are formed by the swelling of the vein between pinches that leave only a few sheeting planes with some stringers of quartz, etc., by which the vein may be followed from one shoot to the next.

In addition to the segregation of the commercially profitable minerals the gangue minerals also show a localized distribution. Thus, in the Monte Queen mine rhodochrosite is rare in the first three shoots but is almost the only mineral present in the fourth shoot, which shows a total width of 5 feet from wall to wall.

The principal product of the Lake City region has been silver, but lead, gold, and copper have to some extent contributed to the value of the ores. The lodes of Lake City are fissure veins formed partly through the replacement of shattered and sheeted zones in the country rock and mainly through the filling of open spaces. They average between 500 and 1,000 feet in length, have a similar vertical range, and an average width of 10 inches to 5 feet. They show a wide range of strike and dip at steep angles. They consist of three closely related mineralogic types. The first contains pyrite, galena, sphalerite, and chalcopyrite with subordinate tetrahedrite, in a quartz gangue with some barite and rhodochrosite, and yield silver and lead with subordinate copper and little gold. The second contains galena, sphalerite, and tetrahedrite with subordinate chalcopyrite and pyrite in a gangue of quartz, barite, and rhodochrosite, and yield chiefly silver and lead. The third contains petzite, tetrahedrite, and minor quantities of other sulphides, in a

gangue of fine-grained quartz carrying some hinsdalite in places; this type yields silver and gold in proportion by value of 1:1 and is characterized by high values in both gold and silver.

The first two groups constitute the bulk of the Lake City lodes. Their ores are low grade where unaffected by surficial alteration, the major portion of the Lake City production coming from ores enriched by secondary sulfide enrichment that has produced chiefly pyrargyrite as a secondary mineral. Oxidized ores are widely distributed. Lodes are, for the most part, separated by considerable areas within which no veins have yet been located. The Lake City lodes comprise the northeastern portion of the mineralized areas which includes Rico, Telluride, Silverton, and Ouray. The lodes show great similarity to those of these areas, but were probably formed under a slightly less cover of overlying rocks.

1/ Irving, J. D. and Bancroft, H., 1911. Geology and Ore Deposits near Lake City, Colorado, U. S. Geol. Survey Bull. 478.

Applicant's proposed exploration

The applicant proposes to further explore the Seville vein for a distance of 2,000 feet and its possible junction of other veins associated with it and the Monte Queen vein. The Seville vein, according to projections by the applicant, should intersect the northward continuation of the Hiwasse vein which is exposed in other mine workings about 4,000 feet south of the Monte Queen mine. Also, from the east of the Monte Queen the Rob Roy, Silver Fleece, and Daulphin veins which according to projection, should also junction with the Seville vein at approximately 2,000 feet from the portal. It is further proposed to explore, by two cross cuts, at approximately 1,000 feet and 1,200 feet from the portal to intersect the possible continuation of the Rob Roy, Fleece, and Daulphin veins. The Daulphin, Rob Roy and Sulphuret lie on the east side of the Lake Fork and appear to be related to a large shear zone that strikes about N. 73° E., and may be a continuation of the same zone that contains the Monte Queen that lies on the south side of the Lake Fork. There is an indication that the Sulphuret mine may represent the northeast continuation of the Monte Queen vein.

Suggested exploration

Seventy-two samples taken from the Seville vein range from a trace of gold to as much as 42 ounces per ton and averaged 0.076 ounces of gold per ton. Values for silver ranged from 0.38 ounces silver per ton to as much as 328.64 ounces Ag per ton, and averaged 22-58 oz. silver per ton, however two rather high assays for silver were obtained and probably should be excluded from the others. If this is done the silver values will average 16.62 ounces per ton, which appears to be a more realistic figure, Table 1.

The applicant was requested to obtain several channel samples in the area along the Seville vein where the most interesting selected samples were taken, have them assayed as a check against the selected samples. This would give a better idea as to what a mining width might be likely to carry in gold and silver values. A comparison of these samples is shown in tables 2 and 3. It is interesting to note that although the silver values dropped considerably the gold values remained quite constant, showing that there is a possibility of discovering a moderate size tonnage of milling grade ore. With included lead and zinc values there is a possibility of discovering ore that may average approximately $29.00 per ton.

It is therefore proposed to explore the parallel Seville, Monte Queen and related veins by driving a drift generally S. 73° W. along or on the Seville vein for a distance of 1,000 feet from the present face then crosscut approximately N. 15° W., more or less at right angles, from a point 400 feet, for a distance of 500 feet then drift northeast and southwest for a total of 100 feet on the most promising vein

intersected by the crosscut, this presumably will be the Monte Queen vein. Figure _____ a second crosscut is proposed at a distance of 800 feet from the present face of the Seville drift. This crosscut will be driven approximately 400 feet N. 15° W. to intersect and explore for the continuation of the Monte Queen and associated veins north of the Seville vein. A drift totaling 100 is also proposed to explore along the most favorable vein, presumably the Monte Queen vein.

Total drifting and crosscutting are as follows:

Drifting	1200
Crosscutting	900
Total footage	2100

It is concluded that there is a fairly good chance of finding ore in somewhat significant quantities by exploring the Seville, Monte Queen and related veins, but not quite so extensively as the applicant proposes. The ore bodies along the vein are of a poddy nature and the vein becomes quite weak between pods of ore, however, it is felt that a somewhat reduced exploration program is warranted.

Crosscut number one may test the Monte Queen vein below a possible stoped area, however, the poddy nature of the vein and the fact that there is not too much known about early day mining on the Monte Queen vein it is advisable to test the downward extension of the Monte Queen vein from the Seville workings. Most of the veins in the area are steeply dipping and are nearly vertical.

The applicant's proposed exploration to test a possible intersection

of the Seville, or Monte Queen veins with the Hiwasse vein which was mined from the Golden Fleece mine some 4,000 feet southwest of the Monte Queen does not appear to be warranted at this time.

The drifts on the subsidiary veins are not shown on the accompanying figure as it seems advisable for them to not be shown in a fixed location, but should be driven by prior government approval at the time the parallel veins are intersected.

Estimated Cost of Project

Category (2) - Personal Services

1 Supt. salary	$600.00/mo. at 12 months	$7,200.00
Engineering and surveying	$40.00/mo. at 12 months	480.00
1 Geologic consultant	12 days at $75.00/day	900.00

Labor

6 men at $3,456/mo. at 12 months	41,472.00	
Mechanical services at $75.00/months	900.00	
		$50,952.00

Category (3) Operating Materials and Supplies. Includes such items as drill bits and steel explosives, fuel, pipe timber, rail, small tools costing less than $50.00 each.

	Costs	
Sample sacks, 375 @ 0.05	18.75	
Miners picks	25.35	
Shovels	27.60	
Air Hose	45.00	
Grommet Hangers	36.75	
		153.45

Category (4) Operating Materials and Supplies costing more than $50.00 each.

Explosives	7,005.60	
Blasting caps	605.00	
Blasting fuse	1,795.00	
Drill, steel	1,305.60	
Drill bits	1,470.00	
Ties	262.50	
Diesel fuel	1,307.88	
Compressor oil	291.00	
Diesel Motor Oil	318.00	
Track spikes	280.00	
Track bolts	120.00	
Rock drill oil	297.00	
Oil filters	123.00	
2" airline couplings	184.80	
2" airline	945.00	
20-lb. rail	2,436.00	
Splice bars	140.00	
Plastic pipe for water	117.60	
Electric power	1,140.00	
Gasoline for superintendent	259.29	
Timber	1,300.00	
		$21,703.18

Category (4) Operating Equipment

Subcategory (a) -- Rental

Air compressor	6,756.00	
Eimco car loader	1,100.00	
Air Trammer	1,800.00	
		$9,656.00

Mobilization and demobilization of operating equipment	1,000.00	1,000.00

Subcategory (b) - Purchases

Air drill and leg	1,350.00	
Tram cars (3 needed)	345.00	
Air fan and motor	525.00	
Plastic vent line	2,205.00	
Coupler fittings for vent line	57.75	
Receiver tank	300.00	
Miners light charger	187.00	
Miners lamp (6 needed)	163.50	
		5,133.25

Category (6) New buildings, etc.

Estimated cost of building, etc.	2,200.00

Category (7) - Miscellaneous

Assaying: 375 samples for Au, Ag, Lead, Zinc and Copper @ $7.00 each	2,625.00	
Express charges for 375 samples @ $0.80	300.00	
Consultant's travel expenses from Denver, Colo. to Lake City and return 6,240 miles at $0.10	624.00	
Per diem 12 days at $16.00/day	192.00	
Accounting 12 months at $200.00/mo.	2,400.00	
Telephone 12 mos. at $50.00/mo.	600.00	
State sales tax	1,441.49	
Postage 12 mo. at 5.00	60.00	
Transportation for superintendent's personal pickup	720.00	
Employees liability and workman compensation	3,236.55	
State unemployment	1,149.87	
Social security	1,788.70	
Federal unemployment	170.35	
Maintainance	595.00	
		$15,307.96

Estimated total actual costs (rounded)	$106,105.84
Government participation 75%	79,579.38

Conclusions and Recommendations

It is concluded that there is a fair possibility of discovering somewhat significant ore reserves by exploring the Seville vein southwestward and to test possible extension of more or less parallel veins that lie northward on the applicant's property. And it is therefore recommended that a contract be prepared to complete 1,000 feet of drifting on the Seville vein and crosscut a total of 900' northward in two areas to test the continuity and value of the Monte Queen vein as well as other parallel veins that lie north of the Seville Vein and then drift for a total of 200 feet to explore said veins. The applicant was advised to obtain a lease and lien and subordination agreement from the owners of the Nelly M. claim and to make certain the fraction of ground that lies on the west end of the Monte Prince claim and adjacent to the Monte King claim on the north is legally claimed. The ground presently appears to be open ground. The applicant indicated a lease and option agreement could be obtained from the owner of the Nelly M claim.

The costs provided by the applicant were recalculated on a basis of a total of 2,100 feet of drifting and crosscutting and an estimated time for completion of the work was reduced to a 12-month period. The applicant arrived at a cost per foot figure of $48.55 for untimbered drift and crosscut with an additional figure of $5.00 per foot for timbered workings, however, the total costs as recalculated yield a cost per foot of $50.52 for a 5-1/2' x 7' opening.

The applicant also states that the initial rehabilitation or repairs are anticipated, and that all fixtures, buildings and installations are in good shape. Actually, the only building on the property is a small tool shed which is wholly inadequate from which to operate. It is recommended that a suitable building be erected as is estimated in his cost estimate.

Several items appear too high under miscellaneous, e.g. accounting and telephone costs.

Table 1.--Assay Data Submitted By Applicant

Sample number	Description	Au oz.	Ag oz.	Cu %	Pb %	Zn %
1	Iron streak breast	0.10	0.80			
2	Streak 2' Brst	0.03	0.77			
3	Drillings left wall	0.06	0.44			
4	No description given	0.18	3.12			
5	No description given	0.10	2.00			
6	No description given	0.14	13.16		0.18	
7	No description given	0.05	2.95			
8	No description given	0.12	6.18		0.08	
9	No description given	0.06	5.44		7.20	
10	No description given	0.10	7.80			
11	No description given	0.02	0.38			
12	Monte Vein Streak	0.04	1.16			
13	Saville Vein 2' wide	0.06	1.94			
14	Saville Left wall	0.12	9.58		2.38	--with lead
15	Rt wall Strk Saville	0.05	1.05			
16	Saville Vein 3'	0.08	4.48			
17	Grab Saville Vein	0.01	0.65			
18	Saville Vein	0.07	3.83			
19	Saville Vein Vug	0.06	7.74			
20	Grab	0.02	1.37			
21	Right wall Saville	0.03@	88.80		2.22	1 piece, with same no. as a previous sample
22	Saville Rt wall X streak:	0.005	0.10			
21 Recheck		0.01	134.00 (no charge)			

Sample number	Description	Au oz.	Ag oz.	Cu %	Pb %	Zn %
23	No description given	0.34	328.64			
24	" " "	0.02	1.04			
25	" " "	0.02	4.78			
27	Grab	0.04	3.60			
28	No description given	0.02	3.20			
29	" " "	0.07	4.93			
30	" " "	0.04	6.16			
31	" " "	0.04	5.46			
32	Saville Center	0.05	3.51			
33	Cut 3' Center to rt.	TRACE	0.54			
34	Saville Cut 3' center	0.06	3.60	-- to left wall		
35	Left wall streak	0.04	3.40			
36	High grade Strk in	0.07	40.41	-- back		
37	Grab of picked down	0.03	5.33	-- breast		
38	Breast quartz	0.09	5.00			
39	High grade strk No.	0.06	10.78			
40	Black Strk in raise	0.01	8.32			
41	Qtz in so. end of	0.03	42.07		2.80	0.37 --raise
42	Water Course	0.07	143.23			
43	No description given	0.10	13.10			
44	High-grade Strk?, 5" wide	0.12	21.68			
45	Channel Cut 1-1/2 ft	0.08	0.56			
46	Strk Pick Sample, 6" wide	0.08	7.92			
47	Iron Strk slab round rt. wall	0.04	0.66			

Table 2.-- Channel samples

Sample number	Description	Au oz.	Ag oz.	Cu %	Pb %	Zn %
A	Channel 4' wide, correlates with sample No. 21 shown on assay map	0.02	2.18			
B	Channel 2' wide, correlates with sample 23 on assay map	0.04	6.06			
C	Channel 2' wide, correlates with sample 36 shown on assay map	0.03	5.27			
D	Channel 3' wide, correlates with sample 41 shown on assay map	0.02	2.68			
E	Channel 3-1/2' wide, correlates with sample 39 shown on assay map	0.02	1.88			
F	Channel 1-1/2' wide, correlates with sample 42 shown on assay map	0.01	1.15			
G	Channel 4-1/2' wide, correlates with sample 65 shown on assay map	0.03	10.47			

Table 3. Showing channel samples vs selected samples in Seville vein. Samples essentially repeated as to location.

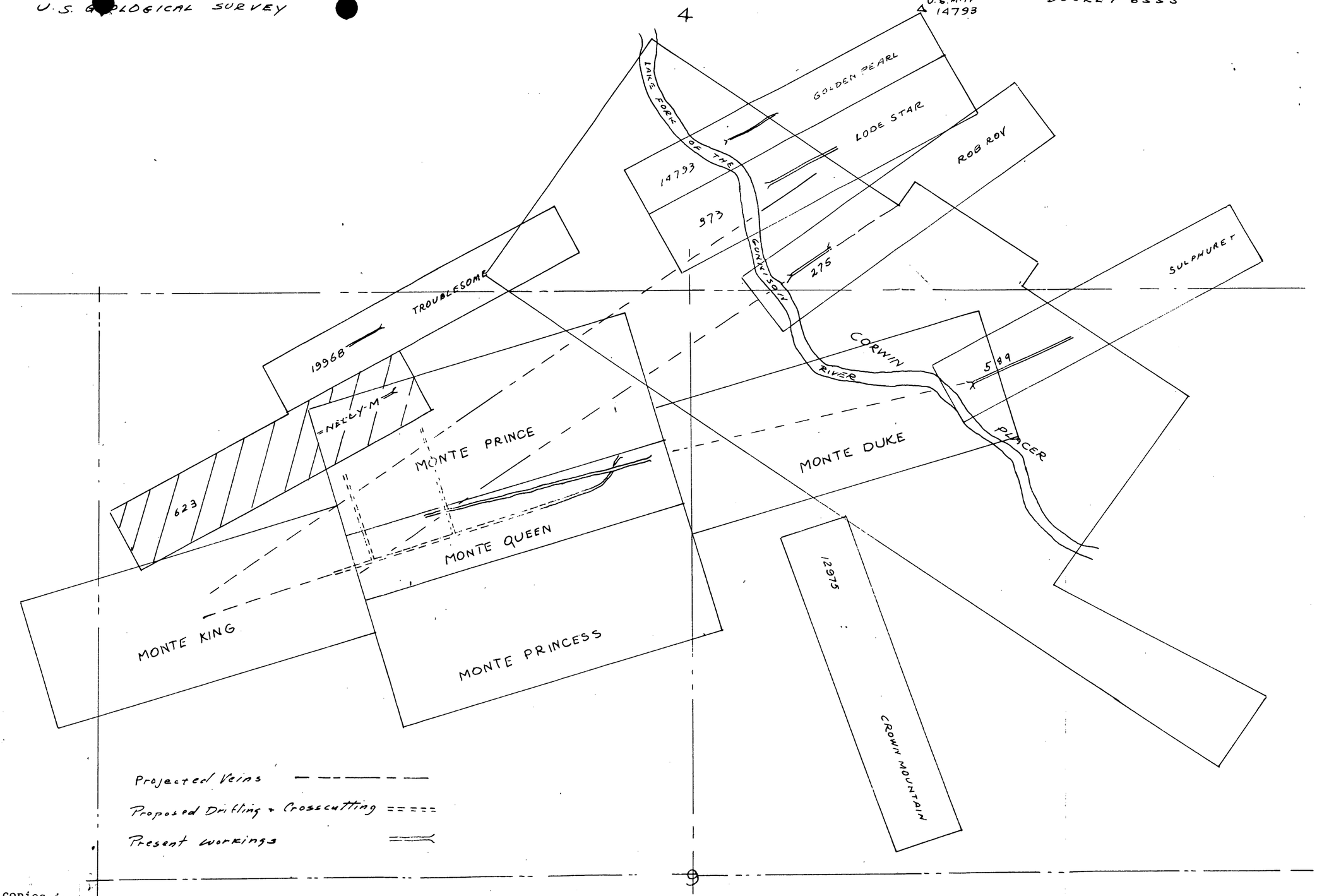
Sample	Description	Au oz.	Ag oz.	Sample	Description	Au oz.	Ag oz	Pb %	Zn %
A	4' wide	0.02	2.18	21	Rt. wall	0.03	88.80		
B	2' wide	0.04	6.06	23		0.34	328.64		
C	2' wide	0.03	5.27	36	High grade streak	0.07	40.41		
D	3' wide	0.02	2.68	41	Qtz S. and Rse.	0.03	42.07	2.80	0.37
E	3-1/2' wide	0.02	1.88	39	Highgrade streak	0.06	10.78		
F	1-1/2' wide	0.01	1.15	42	Water Course	0.07	143.23		
G	4-1/2' wide	0.03	10.47	65	6" Streak Breast	0.04	5.96	2.86	
Average		0.024	4.24			0.09	~~04.27~~ 94.27 ??		

Sample number	Description	Au oz.	Ag oz.	Cu %	Pb %	Zn %)
48	Lft Stk, 4" wide	0.16	15.54			
49	Heavy mineral included in streak, 5" wide	0.42	47.58			
50	Lower Zinc Strk Left, 3" wide	0.03	56.07		10.18	1.40
51	Upper Zinc Strk Left, 3" wide	0.06	39.64			
52	Zn Strk Breast Center with heavy lead--3" wide	0.04	61.06		29.82	0.22
53	Vertical vein with heavyiron	0.02	8.50			
54	Fine-grained Steel Gal., 10" wide, 3 ft. wide	0.22	90.80			
55	Left wall vn in br. Mn, 14" wide, 3' wide	0.10	27.60			
56	Talc with heavy Min., 12" wide, 3' wide	0.08	32.10			
57	2' wide, Cadmium (Cd) 0.277%	0.10	50.20			
59	Main Core 12", 12" wide, 38" wide	0.10	25.80		16.60	18.20
60	Talc (Center), 14" wide, 38" wide	0.14	79.86		(44.70)	(18.20)
61	Channel Cut 3' from right rib	0.02	0.88	TRACE		
No tag	Called No. 58--Center Talc Streak, 12" wide, 38" wide	0.10	20.30			
62	Hard Qtz Rt Rib 14', 38" wide	0.26	26.84		10.40	8.60
63	Black core 14" wide, 38" wide	0.12	22.78		22.88	14.10
64	Talc & Qtz. 10" wide, 38" wide	0.12	19.38		5.40	4.45
65	Breast Streak 6 inches	0.04	5.96		2.86	

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION
DOCKET 6555

4



6 extra copies in
#2 Map folder

FIGURE

MONTE QUEEN GROUP LAKE CITY, HINSDALE CO. COLORADO
HAVILAH MINES COMPANY
SCALE 1" = 400'

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
5/18/66	Kirkemo	120
		110
		220
		120 m

AIRMAIL

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6555 (Silver-Bismuth-Gold)
Havilah Mines Company
Monte Queen Mine
Hinsdale County, Colorado

This application is referred to you for review, a field examination if warranted, and your recommendations.

This is a well prepared application, and most of the questions on the form were answered satisfactorily. The only significant unanswered questions at this time relate to geology and the extent of land held by the Applicant if an exploration contract were prepared. The maps do not show geology so it is not possible to project the Saville vein toward the surface to determine whether it would be confined within the boundaries of the Applicant's present claims. If a field examination is made, the strikes and dips of all the veins should be noted wherever exposed in the workings so that all possible evidence is on hand to justify a request that more land be acquired in the event of a contract. Also, if veins were cut in the proposed crosscuts shown on the overlay for the Applicant's Exhibit 3A, there is a possibility that they may continue into adjoining ground which is only 250 feet west of the proposed crosscuts.

Would the initial 550 feet of the proposed drift on the Saville vein be development rather than exploration work? The caved stope in the old upper level workings is shown to be about 53 feet above and more or less parallel to the initial segment of the proposed exploration drift. Geologic maps of the two levels would show whether the two drifts are on the same vein.

The only comment at this time on estimated costs is the item for assaying. It is preferable to estimate this item on a per sample basis instead of a monthly basis.

FRANK E. JOHNSON

Frank E. Johnson

cc: Director's Reading File
Division File
Economic Geology File
Mr. Kirkemo

OME Docket
OME Reading
130
HKirkemo/mm (5/18/66)

23263

MME Form 7
(2/63)

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5/18/66	Kirkemo	120
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MAY 18 1966

Havilah Mines Company
Box 92
Lake City, Colorado

Re: OME-6555 (Silver-Bismuth-Gold)
Havilah Mines Company
Monte Queen Mine
Hinsdale County, Colorado

Gentlemen:

The application for assistance in exploring the subject property has now been reviewed by the Washington Office and referred to Mr. J. William Hasler, Field Officer, Region III, U. S. Geological Survey, Office of Minerals Exploration, Building 25, Federal Center, Denver, Colorado 80225.

The Regional Office will notify you in case additional information concerning the application is needed.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
Region III

MMerrithew/mm (5/18/66)

23263

May 2, 1966

Havilah Mines Company
Box 92
Lake City, Colorado

Subject: OME-6555

Gentlemen:

Your application for exploration assistance, dated March 25, 1966, submitted to our office at Denver, Colorado, has been assigned Docket No. OME-6555.

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