MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE

Contract No. _____ Docket No. 6890

Application
- [ ] Denied
- [x] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

- [ ] Project Summary (final)
- [ ] Work Completed Analysis (final)

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

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

Additional Folders:

Left Side

Folders No. _____: Reports

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

Right Side

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

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

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty Material

72195-65

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name M. POST MINE'S CO. (MAL JENSEN) Date Dec. 23, [illegible]

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D. #4 207-209.1			0.004							
" 205-209.1 Composite		0.12								
" 209.1-211		0.12	0.050							
" 211-213			0.136							
" 213-215			0.680							
" 211-215 Composite		0.74								

CERT. # 12-2

CHARGES $12.00

Gary [illegible]
CHEMIST

Section III

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803

EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINE'S Date Nov. 21, 1968

SAMPLE		oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D. #3	167-168		5.56	2.52							
"	168-170		6.30	2.72							
"	170-172		5.60	2.41							
"	172-174		4.38	2.01							
"	174-176		3.16	1.66							
"	226-228		1.26	0.52							
"	228-230		0.92	0.40							
"	230-232		3.72	1.56							
"	232-234		13.70	6.18							

CERT. # 11-2

CHARGES $31.50

Gary Shuster

CHEMIST

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINE'S CO. (Hal Jensen) Date Oct. 30, 1968

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D. #1 312-314	0.02	2.36	1.01							
D.D. #2 22-24			0.03		4.53					
" " 24-26			0.05		1.87					
" " 26-28			0.22		none					
" " 28-30			0.08		none					
" " 30-31			0.36		none					
" " 22-31 COMPOSITE		0.30								

CERT. # 10-4

CHARGES $23.00

CHEMIST

Section III (C)

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803

EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name Hal Jensen Date Jan 9 1959

SAMPLE	oz. per ton Au	Ag	% Cu	% Pb	% Zn					
DDH 5 319-321			13.91							
321-323			4.29							
323-325			2.44							
325-327			3.50			1 lb for Cu [illegible]				
327-329			4.09							
329-331			2.59							
331-333			.28							

CERT. # [illegible]

CHARGES

Gary Stewart

CHEMIST

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINES CO. (MAL JEASEN) Date JAN. 24, 1969

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
DD #5 332-334		2.20	0.582							
DD #5 334-335.5		1.64	0.497							
DD #5 335.5-338		0.40	0.212							

CERT. # 4

CHARGES $10.50

CHEMIST

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803

EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name H. Hagenin Date Jan 9 1969

SAMPLE	oz. per ton Au	Ag	% Cu	% Pb	% Zn					
D.D #5 276-278			.037							
278-280			1.68							
280-282			1.41							
282-284			.26							
284-286			.76							
300-302			4.61							
302-304			Trace							
304-306			3.74							
316-317			.56							
317-319			5.25							

CERT. #

CHARGES

Harry Stewart
CHEMIST

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINE'S CO. (HAL JENSEN) Date Dec. 5, 1968

SAMPLE		oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D.#3	300-302			1.39		0.07					
"	302-304			2.15		0.20					
"	304-305			0.22							
"	309-310		1.14	0.70							
"	310-312			1.04		7.17					
"	312-314			0.18		4.47					
"	314-315			0.39							
"	315-318			0.07							

CERT. # 11-6

CHARGES $22.00

CHEMIST

Sample (9)

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803

EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINES CO. (HAL JENSEN) Date Dec. 5, 1968

SAMPLE			oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D.#3	260-270	Composite	0.02	15.07	2.60							
"	290-298	"		3.70	1.54							
"	298-304	"		3.72	1.57							
"	310-314	"	none	1.38	0.61							
"	314-318	"		0.28	0.15							

CERT. # 11-7

CHARGES $13.00

CHEMIST

WHITE PINE ASSAY, INC.
P. O. BOX 286 PHONE 289-2242
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name [illegible] Date July 31, 1969

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D-1 0.16					4.27					
D-2 0.4					3.57					
July Cont. 315										
Margos 14.00										

ASSAYER

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803

EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINE'S CO. (HAL JENSEN) Date Dec. 5, 1968

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D.#3 260-262			1.15							
" 262-264			1.63							
" 264-266			3.77							
" 266-268			3.27							
" 268-270			1.39							
" 290-292			1.74							
" 292-294			3.26							
" 294-296			1.00							
" 296-298			0.17							
" 298-300			1.17							

CERT. # 11-5

CHARGES $15.00

CHEMIST

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINES, (HAL JENSEN) Date ~~Jan~~ Feb. 7, 1968

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D D # 5 332-334					7.41					
D D # 5 334-335.5					4.30					
D D # 5 335.5-338					0.07					

CERT. # 5

CHARGES ~~Exp.~~ $6.00

CHEMIST

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINE'S CO.
(Hal Jensen)

Date Oct. 14, 1968

SAMPLE			oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
Oct. 10-68	D.D.#1	301-302			0.06							
"	"	302-303			0.59							
"	"	303-304			0.07							
"	"	304-305			0.17							
"	"	305-306	0.02	5.71	2.11							
"	"	306-307	0.01	3.47	1.35							
"	"	307-308	none	1.10	0.52							
"	"	315-316	0.02	15.62	6.27		1.80					
"	"	316-317	none	0.40	0.20		none					
"	"	317-318	trace	1.56	0.46		2.57					

CERT. # 2

CHARGES $42.00

Gary Stuart
CHEMIST

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE M[illegible]'S CO.
(Hal Jensen)

Date Oct. 14, 1968

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
10-5-68 D.D.#1 80' Grab	none	0.58	0.29							
" " 304' "	trace	2.04	0.34		none					
" " 316' "	0.01	6.45	3.47		0.92					

CERT. # 1

CHARGES $10.00

[illegible]

Samples (4)

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINE'S CO. Date Nov. 12, 1969

SAMPLE		oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D. #2	260-265		6.86	2.85							
"	303-306		2.12	0.51							

CERT. # 11-1

CHARGES 37.00

Gary Thurston
CHEMIST

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINE'S CO. Date Nov. 24, 1968

SAMPLE		oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D. #3	234-236	0.005	26.22	10.45							
"	236-238			5.64							
"	238-240			4.57							
"	240-242			2.50							
"	242-244			9.36							
"	244-246			8.86							
"	246-248			7.81							
"	248-250			5.44							
"	250-251			8.45							

CERT. # 11-3

CHEMIST

United States Department of the Interior

GEOLOGICAL SURVEY
Office of Minerals Exploration
345 Middlefield Road
Menlo Park, California 94025

July 16, 1973

OFFICIAL
COPY
O. M. E.
RECEIVED
JUL 18 1973

INITIALS	CODE

Memorandum

To: Chief, Office of Minerals Exploration
Washington, D. C.

From: Field Officer
Region II

Subject: New Application (Silver-Copper)
Mount Hope Mines, Inc.
Mount Hope Mine
Eureka County, Nevada

Enclosed is one copy of a new application received in this office June 25, 1973, together with supplemental information received July 13, 1973. Duplicate copies are retained in our file. Questions still remain on the following numbered items:

1(b). The Applicant is Mount Hope Mines, Inc., a partnership, according to the application form. The owner of the land is variously referred to as Mount Hope Mines Company, Inc., and Mount Hope Mining Corporation. Mr. Jensen stated orally that Mount Hope Mines Company, Inc., is the correct name of the Applicant and the owner of the land, that it consists of two stockholders, he and Mr. Drimmer, and that the Applicant is not a partnership.

1(c). Mr. Drimmer is quite able to finance the Applicant's share of the costs--or the entire cost--and Mr. Jensen has assured us orally that it is Mr. Drimmer's intention to use his funds for that purpose. His investment account may or may not be in the name of the corporation.

2(c). Lien and Subordination Agreements are apparently not required, but additional documents may be required to clarify the status of the Applicant.

5(a). The location of the proposed work with respect to the property boundaries is not illustrated, but is entirely within the patented claims (Parallel Extension, Magnolia, Dixon 1). The proposal to sink the shaft in Stage I at reduced participation and then write another

contract for exploration under Stage II is possible since the Government's interest could be protected by a royalty agreement. Another possibility, owing to the lack of OME funds, would be to participate in Stage II only. We have not discussed this possibility with the Applicant.

7. The cost estimate of $125 per foot appears to be realistic, but is nearly double an estimate for a dry shaft in California in 1969 (OME-6526). No bids were obtainable, but Centennial's estimate of $175 per foot plus $50,000 mobilization was submitted for comparison. The possibility of a less costly vertical shaft or inclined winze has not been discussed with the Applicant.

R. M. Smith
for H. K. Stager

Enclosures

P.S. Perhaps we could request the Applicant to try to obtain credit from the Irving Trust Company, One Wall Street, New York City, since it appears to be the Applicant's bank of account.

MME Form 40
(Revised Nov. 71)

Form approved
Budget Bureau No. 40-R1368

OFFICIAL COPY
O. M. E.
RECEIVED
JUL 19 1973
INITIALS/CODE

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.)*

MOUNT HOPE MINES, INC.
1 Red Oak Lane
White Plains
New York 10604

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6890

DATE RECEIVED: 7/18/73

REGION: II

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

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

STATE IN WHICH FIRM IS ORGANIZED: Nevada

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
Harold L. Drimmer	1 Red Oak Lane, New York, New York	Pres.
Hal Jensen	2215 Lincoln Avenue, Ely, Nevada	Manager

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

ESTIMATED COST OF PROJECT: $200,000.

PROPERTY NAME	LOCATION COUNTY	STATE
Mt. Hope Mine	Eureka	Nevada

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. II). 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 Department of the Interior, U.S. Geological Survey, Office of Minerals Exploration, 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.

June 21, 1973
DATED

Hal Jensen
BY *(Signature)*

Manager
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

(submit on accompanying pages)

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 (1) *true copies of your letters to credit sources* which show date of loan request, amount and terms requested, and proposed use of loan funds and (2) *true copies of 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 signed by owner on MME Form 52. If the agreements cannot be obtained, state reasons and whether you can furnish a performance bond.

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.

(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) 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. State your reasons for expecting to find ore.

(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, address, and telephone number 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 on maps also the relation of the proposed work to any existing mine workings and to *claim 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 time and materials *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 price 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 and mobilization charge. 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, and materials.

(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).]

HAL JENSEN
MINING, EXCAVATION, CONSTRUCTION
2215 LINCOLN AVENUE
ELY, NEVADA 89301
PHONE 289-2447

RECEIVED
JUL 13 1973
OFFICE OF MINERALS EXPLORATION
U.S. GEOLOGICAL SURVEY
MENLO PARK, CALIF.

July 10, 1973

United States Department of the Interior
Geological Survey
Office of Minerals Exploration
345 Middlefield Road
Menlo Park, California 94025

Attention: Mr. Stager or Mr. Smith

Gentlemen:

Thank you for your letter of June 26, asking for additional information on our application for financial assistance on the exploration project at the Mount Hope Mine. I hope the following answers to your questions will be satisfactory.

1. Financial Eligibility: (a) I am enclosing copies of two new letters to local banks requesting a loan of $125,000.00 for exploration purposes, as you suggested. Also enclosed are replies from those banks.

1. (c) Mr. John MacNeary, Irving Trust Company, New York, New York, will send you within the next few days a letter confirming Mount Hope Mines, Inc. ability to finance up to $100,000.00 for the incline shaft project.

2. Applicants Right in Land: Two copies of the property map on Mount Hope are enclosed.

7. Estimate of Costs: Enclosed is Centennial Development Company's bid. I spoke via telephone to MacFarland and Hullinger, Tooele, Utah, and they agreed to submit a bid. However, I have not heard from them, so evidently they do not intend to bid. Boyles Brothers does not do any under ground work now.

The reasons for the 9' x 9' shaft are:

1. The 1650 foot distance involved is too lengthy for a small transloader. A larger transloader, such as an Eimco 912 would be more effective for this project.

2. Ventilation is a major problem. As you see by the shaft cross section map, we will be using 24 inch ventilation line, a 6 inch water line and a 4 inch air line, which takes up considerable room in the shaft. A smaller shaft simply is not feasible.

3. If enough ag. and cu. ore reserves are found in the exploration work, it is possible that the incline shaft could be used for development work later.

We do plan to do exploration work other than the incline shaft. Our mining engineer, C. R. Ranney, has recommended at leat 1,000 feet of drifting -- 900 feet off the bottom of the incline to the south on the contact and 100 feet to the north on the contact. He also recommends some short diamond drill holes into the beds and into the intrusive. If the O. M. E. would participate on this segment of work, we surely would welcome their assistance. The main reason we didn't ask for additional funds for extra exploration work at this time is that it will take at least a year to complete the shaft and we don't want to exceed the time limit. We plan to ask for additional assistance to the extra exploration work next year, as funds become available.

How could this be set up? Part I for the incline shaft, Part II for the drifting? Would I have to submit another application? Please advise me as to the best way to handle this problem.

Yours very truly,

Hal Jensen

HJ/d
enc.

HAL JENSEN
MINING, EXCAVATION, CONSTRUCTION
2215 LINCOLN AVENUE
ELY, NEVADA 89301

PHONE 264-2447

June 29, 1973

Nevada National Bank
Ely, Nevada 89301

Attention: Mr. Jerry Martin, Lending Officer

Gentlemen:

I am in the process of arranging financing for an exploration project on the Mount Hope Mine in Eureka County, Nevada.

We need approximately $125,000. to complete the proposed work, which is scheduled to commence in September, 1973.

Is there a possibility that your bank would be interested in extending such a loan for the above mentioned project on a long term, low interest basis?

Your consideration of this matter is appreciated and if any additional information is necessary, I will be happy to supply it.

Yours very truly,

Hal Jensen

Hal Jensen

HJ/d

Nevada National Bank

Ely Branch / *Aultman & Murray, P. O. Box 329, Ely Nevada 89301, Phone 289-4425*

7-3-73

Hal Jensen
2215 Lincoln Ave.
Ely, Nevada 89301

Dear Mr. Jensen:

I am writing in regards to your letter dated June 29, 1973. Bank loan policy does not permit loans on mining property secured by the property alone.

However if you could find individual backers with sufficient cash assets to cover the loan request and these backers would pledge their cash assets to secure your loan request. The cash assets pledged would have to be in the form of Time Certificates of Deposit in our Bank or shares of stock listed on the National Stock Exchange.

If you have any further questions please fill free to call me.

Very truly yours,

Jerry R. Martin

Jerry R. Martin
Loan Officer

HAL JENSEN
MINING, EXCAVATION, CONSTRUCTION
2215 LINCOLN AVENUE
ELY, NEVADA 89301

PHONE 264-2447

June 29, 2973

First National Bank of Ely
Ely, Nevada 89301

Attention: Mr. James Benson, Lending Officer

Gentlemen:

I am in the process of arranging financing for an exploration project on the Mount Hope Mine in Eureka County, Nevada.

We need approximately $125,000. to complete the proposed work, which is scheduled to commence in September, 1973.

Is there a possibility that your bank would be interested in extending such a loan for the above mentioned project on a long term, low interest basis?

Your consideration of this matter is appreciated and if any additional information is necessary, I will be happy to supply it.

Yours very truly,

Hal Jensen

Hal Jensen

HJ/d

THE FIRST NATIONAL BANK
OF ELY

W. J. BENSON
VICE PRESIDENT

ELY, NEVADA

July 2, 1973

Mr. Hal Jensen
2215 Lincoln Avenue
Ely, Nevada

Dear Mr. Jensen:

Your request for a loan in the amount of $125,000.00 for the purpose of mining exploration in Eureka County, Nevada has been rejected due to the speculative nature, uncertainty of repayment and length of maturity desired.

Very truly yours,

W. J. Benson
Vice President

SALT LAKE OFFICE
34 CENTURY PARK-WAY
SALT LAKE CITY, UTAH 84115
TELEPHONE 801/487-5651

EUREKA OFFICE
P. O. BOX 290
EUREKA, UTAH 84628
TELEPHONE 801/433-6876

CENTENNIAL DEVELOPMENT COMPANY

MINING - CONTRACTING - ENGINEERING

REPLY TO:
Salt Lake

Mr. Hal Jensen
Mt. Hope Mines Co.
2215 Lincoln Ave.
Ely, Nevada 89301

Dear Sir:

In reply to your request, we have made some studies and discussed the problems in connection with driving of a 1600 ft. decline, 9' x 9', at 25% grade, handling up to 500 gpm water.

We are driving a similar decline at 15% in 100 gpm in South Central Idaho at the present time and our experience there, as well as in other locations, leads us to believe that it would be extremely costly to run one at 25% with the roadway conditions that result from such water flows, using LHD equipment.

If there is no other approach possible, we might offer to do the work on a cost plus fee basis; but we could not justify making a firm price bid under such conditions. We would estimate the cost at $50,000 to mobilize and set up the necessary plant and equipment; and a unit price of $175.00 per ft. to drive it. Total cost could therefore run to $330,000 for the 1600 ft. drive at -25%.

If there was any possibility of reaching the objective through a small vertical shaft; or, through a 15% decline; then I am sure we could do the job at a more reasonable figure and at a firm price.

Very truly yours,

Centennial Development Co.

H B Spencer

H. B. Spencer

IRVING TRUST COMPANY

ONE WALL STREET

NEW YORK, N.Y. 10015

PERSONAL TRUST DIVISION

JOHN D. MACNEARY
VICE PRESIDENT

July 10, 1973

U. S. Department of Interior
Geological Survey
Office of Mineral Exploration
345 Middlefield rd.
Menlo Park, California 94025

Attn: Mr. R. M. Smith

Gentlemen:

The Mount Hope Mining Corporation, incorporated in Nevada and owning various claims in Eureka County, Nevada, has applied to the Bureau of Mines for a loan to finance development. At the request of the major stockholder, Mr. Harold Drimmer of 1 Red Oak Lane, White Plains, New York 10604, we are pleased to write in support of the loan application.

Mr. Drimmer, who has been a valuable customer of Irving Trust Company for over ten years, maintains several accounts with us including one for investment of high grade bonds free at his disposal with a market value well in excess of one million dollars. Our experience in dealing with Mr. Drimmer has always been most satisfactory in all respects. We have no hesitation in recommending him to you in connection with the subject loan application.

Sincerely yours

J D MacNeary

RECEIVED

JUL 13 1973

OFFICE OF MINERALS EXPLORATION
U.S. GEOLOGICAL SURVEY
MENLO PARK, CALIF.

Office of Minerals Exploration
345 Middlefield Road
Menlo Park, California 94025

June 26, 1973

Mr. Hal Jensen
2215 Lincoln Avenue
Ely, Nevada 89301

Dear Mr. Jensen:

Your well-prepared application dated June 21, 1973, for financial assistance in exploring the Mt. Hope Mine was received in this office June 25, 1973. A preliminary review indicates that the application is not quite complete; three additional items are needed--two copies each.

1. Financial Eligibility: (a) You have submitted letters from two banks refusing a loan of $200,000. Copies of your letters to the banks stating the date, amount, and terms requested are also needed. We do not have authority to waive this requirement. If new letters are written to the banks, we suggest that you request a loan of $125,000, which is 62-1/2 percent of the total cost of the project. Actual amount of OME assistance, if approved, would be determined by our Washington, D. C., office.

   Please answer question 1(c) "How do you propose to furnish your share of the costs?" A recent financial statement of Mount Hope Mines, Inc., would be the best answer to this question.

2. Applicant's Rights in Land: If a contract is approved, it will include a property map. Although it need not accompany the application, the map would speed up our review. Please submit two copies if you can.

7. Estimate of Costs: I apologise for the misleading comment about Centennial Development Co. Although their bids are often higher than others, their performance is unquestioned. Since bids are needed for comparison, Centennial's bid is entirely acceptable. Perhaps Boyles Bros. would also want to bid on this job. If bids are not obtainable, then we would need a time-and-materials estimate to support your figure of $125 per foot. In either case, you should spell out why a 9 x 9-foot shaft is proposed rather than one of smaller cross section.

Another question will be raised about the extent of the proposed work. No drifting or drilling from the bottom of the shaft is included. In effect, the application requests assistance in gaining access to the area to be explored, but not in the exploration itself. Some exploratory work should be added--enough to adequately explore the favorable area, even though the OME share of the costs of the shaft may have to be reduced.

We will hold your application in this office pending receipt of your reply, since time will be saved in the long run if the application is complete before it is transmitted to Washington, D. C.

Sincerely yours,

H. K. Stager
Field Officer
OME, Region II

cc: OME, Wash., D.C.
DRF
ACG RF
MP RF
Docket

RMSmith:mkh

Section T (p)
Section U
Section V

HAL JENSEN
MINING, EXCAVATION, CONSTRUCTION
2215 LINCOLN AVENUE
ELY, NEVADA 89301

PHONE 264-2447

June 15, 1973

United States Geological Survey
Office of Mineral Exploration
345 Middlefield Road
Menlo Park, California 94025

Re: O. M. E. loan for Mount Hope Mine

Attention: Mr. Stager and Mr. Smith

Gentlemen:

After speaking with Mr. Smith at Menlo Park and Mr. Stager on the telephone, I have decided to submit an application for an O. M. E. loan for the Mount Hope Mine.

The work to be done involving the O. M. E. loan will be driving an incline shaft, approximately 25% grade, 1600 feet to the igneous contact. The preliminary work such as approach roads, dump site, portal site, the beginning of the portal and 50 feet of timbered incline shaft to solid formation will be done at our expense.

I have tried to get bids on the 1600 feet of incline shaft, but it seems that there is nobody in this area in the business anymore. I had intended to contact Centennial, but Mr. Smith suggested that Centennial's bids are usually too high to base an actual cost per foot on the project. Being in the mining contracting business myself, I will bid on the project showing no profit, as I have an interest in the Mount Hope Mines Company.

The cost of the project that I have worked up is $125.00 per foot for a 9'x9' incline shaft. I will furnish 24 inch ventilation line, 6 inch water line to accomodate pumping water, 4 inch air line and 3 conductor cable and 1 ground for pumping and blowers for ventilation. This equipment will be included in the price of the contract and will be left at termination of the contract. Pumps and ventilation blowers will be furnished by me.

In 1968, we de-watered the 140 foot level in the main workings. We pumped four months, 500 gallons per minute to pull the water level down. After that, we pumped approximately 150 gallons per minute to maintain. I anticipate the same situation, probably an increase in water to 200-300 gallons per minute at the bottom of the shaft.

RECEIVED
JUN 25 1973
OFFICE OF MINERALS EXPLORATION
U.S. GEOLOGICAL SURVEY
MENLO PARK, CALIF.

(O. M. E. loan for Mount Hope Mine, continued)

The total cost of this project is $200,000. I will leave the O. M. E. loan open for participation, due to the fact that at the time of inquiry, I was informed that O. M. E. did not know how much money would be available for the coming year, starting July 1, 1973. We would consider an O. M. E. participation of from 30% to 62½% for the silver-copper exploration project. Mount Hope Mines Company, Inc. will participate their share with cash monies which will be set aside in a local bank for this purpose. I will manage the project and C. R. Ranney, a professional mining engineer and geologist, will be the resident engineer.

I hope the information required that is being sent with the application is sufficient. Any additional information that may be required will be sent on your request. If I can be of assistance or if it becomes necessary to meet, I am available any time.

Yours very truly,

Hal Jensen

HJ/d

Section I (a)

Nevada National Bank

Ely Branch / *Aultman & Murray, P. O. Box 329, Ely Nevada 89301*

Phone 289-4425

6-11-73

Mount Hope Mines Co.,Inc.
%Hal Jensen
2215 Lincoln Ave.
Ely, Nevada 89301

Dear Mr. Jensen:

I regret we have to decline your loan request for $200,000.00 as this does not conform to our banks loan requirements.

Very truly yours,

Jerry R. Martin

Jerry R. Martin
Lending Officer

NNB

Section I (2)

THE FIRST NATIONAL BANK
OF ELY

W. J. BENSON
VICE PRESIDENT

ELY, NEVADA

June 11, 1973

Mt. Hope Mines, Inc.
c/o Mr. Hal Jensen
2215 Lincoln Ave.
Ely, Nevada

Gentlemen:

Please be advised that your application for a loan in the amount of $200,000.00 for the purpose of mining exploration has been declined for two reasons.

First, due to the nature of the business and the speculation for repayment, and secondly because the size of the loan exceeds our lending limitations.

Very truly yours,

W. J. Benson

W. J. Benson

OWNERSHIP

The property is owned by Mount Hopes Mines Company, Inc. The land consists of 13 patented lode mining claims, 1 patented mill site, a total of 256 acres, and 182 unpatented mining claims. Patented and unpatented mining claims lie in the Garden Valley Quadrangle, T. 22 N., R. 51 E. in an unsurveyed area.

DESCRIPTION OF PROPERTIES

I. DESCRIPTION OF PATENTED LODE MINING CLAIMS AND PATENTED MILLSITE CLAIM

Name of Patented Claim	Patent No.	Mineral Survey No.	Patent Recorded in the Deed Records of Eureka County, Nevada in Libro	at Page
Parallel	1072536	4704	21	217
Parallel Extension	1072536	4704	21	217
Magnolia	1072536	4704	21	217
Dixon No. 1	1072536	4704	21	217
Dixon No. 2	1072536	4704	21	217
Lorraine	1072536	4704	21	217
Lorraine No. 1	1072536	4704	21	217
Lorraine No. 2	1072536	4704	21	217
Silver Butte	1072536	4704	21	217
Silver Butte No. 1	1072536	4704	21	217
Silver Butte No. 2	1072536	4704	21	217
San Juan Chief	1072536	4704	21	217
Good Hope	10384	37A	17	1
Good Hope Millsite	10384	37B	17	1

II. DESCRIPTION OF UNPATENTED LODE MINING CLAIMS

Name of Claim	Certificate of Location Recorded in the Official Records of Eureka County, Nevada in Book	at Page
Bowser Fraction	8	456
Bowser No. 1	8	457
Bowser No. 2	8	458
Bowser No. 3	8	459
Bowser No. 4	9	426
Bowser No. 11	9	427
Bowser No. 12	9	428
Bowser No. 8	23	109
Bowser No. 9	23	110
Bowser No. 11A	23	111

Description
Cont'd.

Name of Claim	Certificate of Location Recorded in the Official Records of Eureka County, Nevada in Book	at Page
Bowser No. 12A	23	112
Bowser No. 17	23	115
Bowser No. 17A	23	116
Bowser No. 17C	23	117
Bowser No. 18	23	118
Bowser No. 19	23	119
Bowser No. 20	23	120
Bowser No. 20A	23	121
Bowser No. 21	23	122
Bowser No. 22	23	1 23
Bowser No. 23 thru 38, incl.	23	126 thru 141, incl.
Bowser No. 22A	23	124
Bowser No. 22B	23	125
Bowser No 15 Fraction	23	114
Bowser No. 14 Fraction	23	113
Bowser No. 43 thru 76, incl.	24	2 thru 35, incl.
Bowser No. 11B	29	244
Bowser No. 22C	29	245
Bowser No. 31A	29	297
Bowser No. 33A	29	298
Bowser No. 35A	29	299
Bowser No. 37A	29	300
Bowser No. 21A	30	144
Bowser No. 23A	30	145
Bowser No. 25A	30	146
Bowser No. 27A	30	147
Bowser No. 29A	30	148
West Incline No. 1	29	241
West Incline No. 2	29	242
West Incline No. 3	29	243
Bowser No. 14	9	429
Bowser No. 15	9	430
Bowser No. 12B	37	143
Bowser No. 16	37	144
Bowser No. 43	37	145
Hope No. 80 thru 87, incl.	37	198 thru 202, incl.
Hope No. 73 thru 79, incl.	37	203 thru 207, incl.
Hope Nos. 14, 16, 18, 20, 22, 24 & 69	37	208 thru 212, incl.
Hope Nos. 11, 12, and 61 thru 68, incl.	37	213 thru 218, incl.
Hope Nos. 5 thru 10, incl. and 59 & 60	37	219 thru 223, incl.
Hope Nos. 1 thru 4, incl, and 25, 26, 28, 56, 57 & 58	37	224 thru 229, incl.
Hope Nos. 27 and 29 thru 34, incl. and 53, 54 & 55	37	230 thru 235, incl.
Hope Nos. 35 thru 40, incl. and 50, 51, 52 and 70	37	236 thru 241, incl.
Hope Nos. 41 thru 49, incl. and 71	37	242 thru 247, incl.
Hope Nos. 13, 15, 17, 19, 21, 13, 72, 88 & 89	37	248 thru 253, incl.

Section III (d, e, f, g)

CHARLES R. RANNEY
MINING ENGINEER

PHONE 625-3688
BOX 99, SANTO TOMAS RTE
SAHUARITA, ARIZONA

PHONE 793
AVE JUAREZ 231
CANANEA, SONORA, MEXICO

May 18, 1973

MT. HOPE MINE SILVER-COPPER ORES

APPLICATION FOR ASSISTANCE IN MINERALS EXPLORATION

Physical Description, Geology, Ore Reserves: Sec. 3, d,e,f,g.

GENERAL GEOLOGY

The mineralized area bounding the Mt. Hope Intrusive is in chert and shale of the Ordovician Vinini Formation, and altered limestones and calcareous argillites, assigned by Thomas B. Nolan, United States Geological Survey, to the Permian Garden Valley Formation. Both formations are intruded by the Tertiary rhyolite plug which forms Mt. Hope.

The ores are found in an altered limestone roof pendant, partly engulfed by the igneous intrusive. Extensive silver-copper mineralization and some ore is also found in brecciated zones and shears along and within the borders of the intrusive.

The altered limestone beds (See Report by Paul Billingsley, 1929), occur as an asymetrical north-south trending syncline, pitching to the north and partially overturned along the igneous contact. Ore deposition is controlled by contact with the intrusive, by replacements in favorable bedding, by the low angle Mt. Hope thrust fault, and by shearing and faulting in a series of high angle northwest and northeast fractures.

TYPE OF DEPOSIT

The term "Contact meta~~morphism~~somatism" has been applied to the Mt. Hope deposits by Paul Billingsley in his "Geological Reconnaisance Report of Mt. Hope", 1929. It includes replacements in the favorable limestone beds accompanied by deposition in fissures and shearing in both the porphyry intrusive and the altered sedimentary rocks. CRR

DESCRIPTION OF EXPLORATION, MAPS, DRILLING

Areas of silver-copper ore mineralization at Mt. Hope have been partially delineated by nine diamond drill holes. In all cases, commercial silver-copper ore and ore mineralization is discovered in beddings and shearings 100 to 400 feet below the bottom level of the bedded zinc ores originally mined. (See Map No. 2, Geological Section A-A', and Map No. 3, Geological Section L-L', also Surface Plan Map No. 1 showing geology, drilling, and old lead-zinc workings.)

CRR

MT. HOPE SILVER-COPPER ORES

APPLICATION FOR ASSISTANCE IN MINERALS EXPLORATION

Description of Exploration, Maps, Drilling (cont'd.)

Map No. 3, Geological Section L-L', (see Map No. 1, Plan for location) is a longitudinal section showing four surface diamond drill holes, and four underground diamond drill holes. The original discovery of commercial grade silver-copper ore (at present day prices) was made by the Universal Exploration Co., an exploration subsidiary of U. S. Steel, in their underground hole Universal No. 1 which was designed to test surface silver-copper low grade mineralization at depth. This was the only hole drilled below the zinc bearing beds explored and described by E. B. Jennings in his Universal Exploration report of 1939. Subsequent drilling of the copper-silver ore zone by the present owners, Drimmer and Jensen, C. R. Ranney Consultant, is shown on the section. U. P. M. H.-2 and P. M. H.-3 are diamond drill holes of Philips Petroleum Co., drilled to verify previous drilling and to test at further depth. Philip's holes No.'s 7, 8, drilled ~~among~~ along the strike, also encountered massive sulfides and relatively low grade ore mineralization.

Map No. 2, Geological Section A-A' (see Map No. 1, Plan for location) a vertical cross section taken across the strike (transverse), shows the drilling, the attitude of the intrusive contact and location of silver-copper ore horizons at greater depth in the P. M. H.-3 area.

ORE RESERVES

I do not believe that exploration to date has completely blocked out my definition of proven ore reserves. However, the underground drilling of four drill holes has delineated an area of 150 feet in length, 150 feet in depth and approximately 15 feet thick. Using a figure of twelve and one half cubic feet to the ton, some 27,000 tons of ore, averaging over 12 ounces silver per ton and approximately 3.4% copper per ton can be classified as probable or well-indicated ore. Taking Hole P. M. H.-3 into account gives a figure of approximately 45,000 tons of probable ore.

The drilling along the strike for 1400 feet showing heavy sulfides and relatively low grade silver-copper ore mineralization in three holes are indicative of lower grade ore reserves of 200 to 400,000 tons of possible ore.

It is my opinion that the best way to explore the silver-copper areas at Mt. Hope, partially indicated by drilling, is by driving to ore areas, and with a judicious combination of drifting and underground drilling, there is an excellent chance of finding and proving substantial reserves of good grade silver-copper ores.

On Map No. 1, Plan of Surface, I have marked off the proposed incline for further exploration of the silver-copper areas exposed in preliminary drilling.

Charles R. Ranney

SUPPLEMENT A

GEOLOGIC FEATURES
OF
MT. HOPE ZINC PROSPECT
Eureka County, Nevada

by

Paul Billingsley

March 6, 1929

GEOLOGIC FEATURES OF MT. HOPE ZINC PROSPECT

Eureka County, Nevada

- I N D E X -

Introduction - - - - - - - - - - - Page 1

General Situation - - - - - - - - - - Page 1

Geology of Mine Area - - - - - - - - - Page 2
Sedimentary Rocks - - - - - - - - - Page 2
Igneous Rocks - - - - - - - - - - Page 3

Mineralization - - - - - - - - - - Page 4

Ore Bodies - - - - - - - - - - - Page 5
Tunnel No. 1 - - - - - - - - - - - Page 5
Whim Shaft - - - - - - - - - - - Page 6
Tunnel No. 2 - - - - - - - - - - - Page 6
Tunnel No. 3 - - - - - - - - - - - Page 6
Recapitulation - - - - - - - - - - Page 7

Development Possibilities - - - - - - - - Page 7

Recommendations - - - - - - - - - - Page 8

- ACCOMPANYING MAPS -

General Geology of Mt. Hope Mine - - Scale: 1 in. - 50 ft. Plate I

Section I and Section 2 - - - Scale: 1 in. - 50 ft. Plate II

Section 3 and Section 4 - - - Scale: 1 in. - 50 ft. Plate III

- - -

GEOLOGIC FEATURES OF MT. HOPE ZINC PROSPECT
Eureka County, Nevada

- - -

INTRODUCTION

My examination of the Mt. Hope prospect was of a reconnaissance nature for the purpose of establishing the general geologic nature of the occurrence. The observations made during three days at the property have been supplemented by a discussion, with Messrs. Head and Crawford of the Bureau of Mines, of a suite of specimens from the mine previously examined by them in thin section. I have used the numerous samples taken by Mr. J. H. Rodgers as indicative of the grade of ore, but I do not attempt to discuss the metallurgy, which is undoubtedly intricate, nor the economic outlook for the exploitation of zinc ore of this grade.

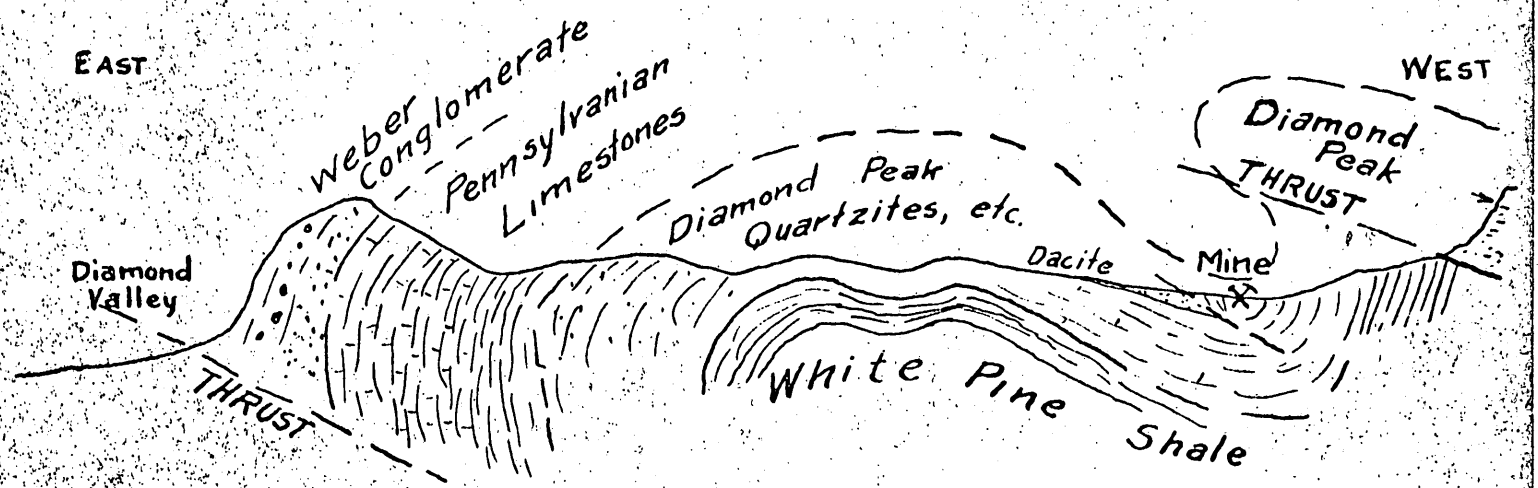
GENERAL SITUATION

The Mt. Hope prospect is situated about 25 miles northwest of Eureka, Nevada. Like that mining district, it lies in a compact cluster of hills which appear to have been superimposed upon the normal north-south mountain range structure of the region. These anomalous hills are due, in both cases, to the presence of complex igneous intrusions; which, in the Mt. Hope area, consist of acidic porphyries in the form of flows, laccoliths, dikes, and probably stocks.

The normal Paleozoic series found at Eureka is traceable into the Mt. Hope region, broad outcrops of Weber conglomerate and the underlying Carboniferous formations being readily identified.

The structure of these sediments is that of north-south folds, a syncline to the west and an anticline to the east, both tending to be overturned toward the east, with incipient thrust faulting. On the common flat limb between the anticline and syncline are minor open folds of small size. Following

a generalized cross section:



LOOKING SOUTH FROM MT HOPE

The Mt. Hope igneous mountain mass rests upon the western limb of the syncline, and the mineralized beds that are developed in the mine lie in the axis of this fold. A minor thrust fault, running north-south, and dipping west, like those shown on the above section, limits these mineralized beds on the east, and on the west they plunge under the edge of the rhyolite laccolith.

The geology of the area thus outlined is shown on the large map, Plate I

GEOLOGY OF MINE AREA

Sedimentary Rocks The particular formations involved in the local structure are most peculiar. They comprise a soft, altered series about 500 feet in thickness, which appears on both east and west limbs of the syncline, and is, in both cases, underlain by hard cherty argillites and quartzites. It is apparently also overlain by hard argillites, which occupy the synclinal trough between the outcrops of the soft formation.

This soft member contains the ore-bearing beds, and also is marked by a unique type of alteration, which is so universally present as to completely obliterate the original character of the formation. It may have been a calcarious shale, with sandstone lenses; a tuff with arkose water-laid members; or an argillaceous limestone with similar intercalations. At present it is almost exclusively altered to a fine olive-green felt-like aggregate, which even under 1800-power enlargement cannot be resolved into separate crystals. Toward the top of the series much garnet is also present.

Igneous Rocks The source of this alteration is doubtless to be found in the igneous complex to the northwest. The parent stock is probably beyond the area shown on the map, but the margin of the laccolith, or flow, or sheet, as the case may be, is close to the workings (see map), while many of the underlying dikes extend out across the entire mineralized area. Beneath and east of the thrust fault zone is a widespread mass of dacite porphyry, probably an overridden effusive phase of the same magma.

The rock of the main igneous mass is a highly siliceous, light-colored porphyry, with prominent quartz phenocrysts, and could be called rhyolite porphyry, granite porphyry, or quartz-porphyry with equal accuracy. At any event it is almost certainly an acidic differentiate from a generalized granitic magma, and is distinct from the widespread effusive Tertiary rhyolites of eastern Nevada. It is distinctly a mineralizer; it is silicified, sericitized, and traversed by ore-bearing fissures.

The dikes are usually narrow (less than 20 feet in width) and are

more acidic and porphyritic than the larger masses, with very fine groundmass surrounding large clear quartz phenocrysts. They produce a local contact metamorphic zone of hornfels in the rocks traversed, but clearly are not responsible for either the mineralization or the widespread green alteration.

Contact breccia is widely found as a special phase of the igneous rock. It consists of fragments of the porphyry, and fragments of baked sediments, cemented in either later darker porphyry or in a finely-felted mass of mixed porphyry and sediments. Always it is highly silicified. It occurs mainly along the margin of the main igneous mass to the northwest of the workings and along the thrust zone to the southeast.

MINERALIZATION

The economic value of the area lies in the zinc and zinc-lead mineralization which has followed closely the intrusion of the porphyry and the alteration of the soft formation. This mineralization is found in fissures in the porphyry, in fissures in the sedimentary rocks, and, more extensively, disseminated in three certain beds of the soft altered series.

The fissures are of two systems: one with a course of about N 60° E, which is the stronger, and the other with a course of N 10° E. The former system predominates in the western workings, the latter in the eastern. The mineralization consists of zinc sulphide (marmatite), with a little lead sulphide, in a gangue of quartz, calcite, rhodochrosite, and possibly siderite.

The bedded ore is quite different in the three productive horizons. The lower Bed "A" (see map and sections) is about 40 feet thick, and is massive and structureless, consisting of the fine greenish felt-like

aggregate which the microscope indicates to be "pyroxene" or "epidote" with minor amounts of quartz, alkali-feldspar, tremolite and calcite. This sounds like a contact-metamorphic group, but actually the formation, fine-textured and soft, in no way suggests that origin. I believe it to be rather an example of "contact metasomatism", marking a transition between true contact metamorphism close to an intrusion and hydrothermal alteration at a greater distance. The zinc occurs in this bed mainly in large coarse bunches of marmatite an inch to a foot in diameter, although some is finely disseminated.

Bed "B", about 100 feet stratigraphically higher than "A", shows distinct traces of bedding, and even an occasional coarse arkose layer a foot or so in thickness. These granular layers are heavily mineralized with marmatite, which is also present, however, to a lesser degree in the well bedded finer layers. The big coarse blebs, typical of Bed "A", are rare. This bed is also about 40 feet thick.

Bed "C", about 150 feet above "B", is characterized by very abundant small iron-garnets. These have been vigorously attacked by the ore minerals marmatite and galena. Quartz is abundant. This bed is distinctly coarser in texture than "A" or "B", and is unique in the garnets and in the abundant galena. Its lead and zinc contents are about equal. It is about 20 feet thick.

ORE BODIES

The outcrops of these three mineralized beds show strong iron gossans, which have led to their development by inclines and shallow tunnels. See plan map.

Tunnel No. 1, farthest to the north and east, encounters Beds "A"

and "B", close to the thrust zone (which is mineralized also) and close to a series of N 10° E fissures. Under these favorable conditions Bed "A" shows strong mineralization, averaging about 8% zinc for a true thickness of 40 feet, throughout its developed length of 250 feet. This length, however, lies between the thrust on the southeast and the fissure zone on the northwest. Bed "B", found in the south drift and associated west crosscuts, is never over 50 feet from the fissure zone in these workings. It shows 10% zinc for a true thickness of 40 feet, with a developed length of 150 feet.

The Whim Shaft, about 300 feet southwest of the face of No. 1 south drift, and 115 feet higher, develops Bed "C". In these workings, which consist of an open cut, passing into stopes inclined down on the bedding Bed "C" shows about 20 feet true width which will average about 1 oz. silver, 4% lead, and 5% zinc. The indicated length is 100 feet, but here again the proximity of fissures may have localized the mineralization.

Tunnel No. 2 was evidently driven in an attempt to reach the Whim Shaft ore in depth, but as Section1 shows clearly, it is situated so as to miss both this Bed "C" and also Bed "B" below. It shows no ore, but does cut mineralized fissures which might mark the lines of ore bodies in the proper horizons.

Tunnel No. 3, 1200 feet to the west of the Whim Shaft, develops Bed "C" on the west limb of the syncline. It is in a region of strong fissures, which have so broken up the formations that only a small block of Bed "C" has been found. This contains ore of a grade comparable to that in the Whim Shaft stopes. Some development has been carried on also on levels 65 feet, 85 feet and 130 feet below the tunnel. In the main

these levels, which I did not visit, are reported to show only downward extensions of the fissures; but the northern face of the 130 level is in zinc ore very similar to that of Bed "B", and of comparable grade.

To recapitulate, present developments have indicated that Beds "A", "B", and "C", with an aggregate thickness of 100 feet, are ore-bearing for a length of from 100 to 250 feet along the zone of N 10° E fissures found in Tunnel No. 1 and the Whim Shaft; and also that Beds "B" and "C" are ore-bearing in the vicinity of the N 60° E fissures in Tunnel No. 3. Surface cuts and shallow shafts show that some ore is also found along other fissures, and to some extent in other beds.

I believe it highly probable that along these proved trend lines the mineralization will be reasonably continuous down into the syncline. If it so extends for a length, along the controlling fissure zones, of 1000 feet, the three beds should contain, within the minimum lateral limits established in Tunnel No. 1 and the Whim Shaft workings, somewhat over 1/2 million tons of low-grade zinc and lead-zinc ore.

DEVELOPMENT POSSIBILITIES

This possible ore tonnage may be proved in two ways: either by extending the workings downward and southward below Tunnels No. 1 and No. 2, or by a campaign of churn drilling. I am in favor of drilling for the following reasons:

1. Deeper development from the workings will require much new equipment. Water will be encountered, and hoisting must be provided for.

2. Churn drilling will develop more tons of ore per dollar spent.

3. A churn drilling program can be expanded to test more remote possibilities. These require a few final words.

The Mt. Hope mineralized area presents a rather specialized pattern. The structures on all its sides point toward a common center in depth, which center is within a structurally depressed block, the syncline.

The fissures, breccias, zones of most intense alteration in both igneous and sedimentary rocks, and lines of mineralization, are distinctly marginal in distribution. It is possible, therefore, that these phenomena are the upper expressions of a cup-shaped mineral pipe, which might be far more intensely mineralized toward the central throat. This possibility should be tested by at least one deep drill hole, and preferably by several.

RECOMMENDATIONS

I therefore advise a churn drilling campaign, to cover three stages of development:

1. To extend known ore zones in "A", "B" and "C" beds, put down a line of holes at 200-foot intervals, the first hole to be located about 50 feet east of Whim Shaft open cut, and the others extending along a S 45° W line to and beyond synclinal axis, or until no ore is encountered (4 holes 350 to 650 feet deep).

3. To test the deep portion of the structure, sink a test hole approximately 1200 feet, or to the base of the soft beds. This hole may be located at a point on the line between the Whim Shaft and No. 3 Tunnel shaft, and midway between them.

This drilling campaign should cost not over $30,000. It offers the following possible returns:

First — It should prove up in a general way the 500,000 tons in the known zones.

Second — It may possibly greatly increase this quantity, in case the ore extends westward along the beds.

Third — There is the long chance that the deep test may disclose intense mineralization in the deep central core of the structure.

Respectfully submitted,

/s/ Paul Billingsley

March 6, 1929

Section III (C.)

TABLE 12. Production of gold, silver, copper, lead, and zinc from the Mount Hope mine, Mount Hope district, Eureka County, Nev.

(Based on production figures reported in U. S. Bureau of Mines Minerals Yearbooks.)

Year	*Gold (ounces)*	*Silver (ounces)*	*Copper (pounds)*	*Lead (pounds)*	*Zinc (pounds)*	*Total value*
1941	.....	4	1,000	.....	.....	$121
1944	27	4,377	.....	6,526	349,130	50,034
1945	17	16,205	12,682	128,864	2,276,275	286,676
1946	.....	.....	.....	.....	.....	(1)
1947	39	43,111	43,993	305,713	7,564,049	998,562
Total	83	63,697	57,675	441,103	10,189,454	1,335,393

[1]Production reported; figures not published, not included in totals.

Hole No. PMH-3
Coord: 10,410N 9155 E
Elev: 7025 Ft.
T.D. 1151 Ft.

Mount Hope MD-1172
Eureka County, Nevada
Brg. N47°W (Core Hole)
Dip: -70°
Page 1

Interval	Description	%Cu	%Zn	Oz.Ag.	%Cd
0 - 13	Overburden				
13 - 18	Gossan - Heavily oxidized reddish brown rock		2.20		
18 - 25	" "		2.00		
25 - 30	" "		3.10		
30 - 35	" "	0.11	2.30		
35 - 40	" "		1.10		
40 - 45	" "		2.75		0.04
45 - 50	" "		3.70		0.05
50 - 55	" "		4.25		0.06
55 - 60	" "		3.00		0.06
60 - 65	" "		2.80		0.04
65 - 70	" "		2.40		0.04
70 - 73	" "		1.60		
73 - 76.5	Limestone skarn - highly altered - sandy				
76.5 - 80	Gossan - AA 13-18		2.05		
80 - 86	" "		2.05		
86 - 132.5	Silicified Limestone - medium gray - oxidized				
132.5 - 135.5	Gouge Zone - highly oxidized and rubbly		0.80		
135.5 - 528	Rhyolite Breccia - light grey - fragments of silicified shale and limestone in a matrix of rhyolite - vuggy - moderate to strong oxidation.				
528 - 533	Pyrite common in vugs - varying degrees of	0.26		1.60	
533 - 538	alteration - minor chalcopyrite	0.18		1.02	
538 - 577	Rhyolite - light grey - vuggy w/pyrite lining and filling vugs				
577 - 584	Rhyolite Breccia - AA 135.5 - 568 - very abundant pyrite				

Hole No. PMH-3 (continued)

Interval	Description	%Cu	%Zn	Oz.Ag.	%Cd
584 - 588	Rhyolite Breccia (continued)				
	Minor to moderate chalcopyrite	0.36		1.60	
588 - 591	minor to moderate chalcopyrite locally	0.32		1.87	
614 - 619	w/abundant pyrite and chlorite	0.59		2.68	
624 - 628	" "	0.32	0.39	1.84	
628 - 633	pyrite and chlorite		1.20	0.64	
637 - 642.5	Rhyolite - silicified, lt. grey w/very	0.15		0.61	
642.5 - 646.5	abundant pyrite, some marmatite and	0.26		1.34	
646.5 - 651	chalcopyrite locally	0.36		2.33	
683 - 692	Clay - white - highly altered material				
692 - 698	Clay - pale greenish white - chloritic				
698 - 706.5	Rhyolite - moderately to highly altered. Abundant chlorite - minor disseminated pyrite				
706.5 - 710	Massive Sulfides - chlorite, epidote and	0.62		2.92	
710 - 715	possibly hedenbergite with very abundant	0.43		0.90	
720 - 725	pyrite, moderate marmatite and	2.00		10.78	
725 - 730	moderate to minor chalcopyrite	5.30		30.63	
730 - 733.5	replacing of flooding rock	1.45	0.54	7.73	
735.5 - 740	Moderately mineralized zone of pyrite, marmatite and minor cp. High percent chlorite, epidote, calcite, some hedenbergite w/dissem. sulfides	0.23	0.65	1.17	
740 - 744.5	" "	0.23	0.28	0.96	
745 - 793.5	Silicified Rhyolite Porphyry - pale cream to lt. grey, locally some rhyolite breccia frags. Pyrite and Kspar filling vugs. Microveinlets pyrite throughout. Locally abundant chlorite, minor clay. Cp abundant @ 802'				

Hole No. PMH-3 (continued)

Interval	Description	%Cu	%Zn	Oz.Ag	%Cd
793.5 - 796	Silicified Rhyolite Porphyry (continued)	0.39		1.31	
796 - 802	" "				
802 - 807	" "	0.43		1.69	
807 - 811.5	" "	0.81		2.01	
811.5 - 816	" "	0.49		1.14	
816 - 821	" "				
821 - 826	" "	0.55		1.40	
826 - 830	" "	0.86		2.77	
830 - 834	" "	0.26		0.99	
834 - 849	" "				
849 - 850	Altered Rhyolite - medium grey, abundant chlorite, very clayey and broken				
850 - 868	Rhyolite Breccia - abundant frags rhyolite and silicified limestone and shale. Abundant pyrite filling and lining vugs, also small fractures. Dolomite, chlorite common. Minor chalcopyrite, marmatite				
868 - 870	Highly Altered Rhyolite Breccia zone composed entirely of chlorite and white clay				
870 - 872	Breccia - large rhyolite, silicified limestone shale frags. Dolomite veins up to ½". Abund. chlorite, locally heavy pyrite				
872 - 875.5	Chlorite Zone - mostly chlorite, some white clay				
875.5 - 881	Rhyolite Breccia - breccia frags minor, fair pyrite, minor chlorite				
881 - 887.5	Silicified shale - black, very hard, abund. pyrite filling small fractures, dense, vfg.				
887.5 - 894	Silicified shale - dark brown, hard, dense, vfg, some chlorite				

Interval	Description	%Cu	%Zn	Oz.Ag.	%Cd
894 - 896	Altered Zone - abundant chlorite, clay, minor calcite				
896 - 898.5	Silicified Shale - very dark brown, very hard, abundant pyrite filling small fractures, minor calcite				
898.5 - 900.5	Pyritic Zone - very abundant finely dissem. pyrite and marmatite? in dark greenish-black mafic rock? Est. 20% of rock pyrite probably a skarn				
900.5 - 931	Silicified Shale - dark greenish to brownish black bands or swirls alternating w/lighter greenish and brownish grey bands ½" thick. vfg siliceous material - minor pyrite and possibly marmatite.				
931 - 937.5	Silicified Shale Breccia - pinkish cream Kspar and siliceous frags in a pinkish-brown vfg silicified shale. Pyrite minor on fractures. Some small lenses and local veins of Kspar up to ¼" thick, fractured and offset				
937.5 - 972.5	Silicified Shale Breccia - shale frags, Kspar frags in a matrix of vfg skarn and silicified shale - minor banding. Dark brownish-black frags up to 1" - rock vuggy 948.5 to 952. Vugs filled with pyrite and Kspar (?) By 959, breccia frags are uniform in size. Also by 959, black silicified shale and Kspar frags? occur in matrix of siliceous (vfg) material. Minor calcite, chlorite.				

Interval		%Cu	%Zn	Oz.Ag.	%Cd
972.5 - 976.5	Silicified Shale - dark brown, very hard, lighter bands (white) probably indicate original bedding, highly contorted and much minor fracturing. Bands up to ½". Minor calcite veinlets. Fluorite? veinlet @ 974'. Heavy chlorite, pyrite 972.5 - 974 - minor breccia frags.				
976.5 - 1003	Silicified Shale Breccia - AA 937.5 - 970 frags generally smaller, very vuggy and broken 976.5 - 981.5, minor pyrite, clay, chlorite. Rock well consol. and hard by 990. Pyrite lining many vugs.				
1003 - 1028	Silicified Shale - lt. grey, very siliceous rock w/indistinct rock frags of silicified shale and rhyolite, locally brecciated. By 1006 rock begins to grade into banded silicified shale - alternating white bands of silicified shale and light bluish grey silicified shale.				
1028 - 1080	Silicified Shale Breccia - banded white and medium grey silicified shale fragments in a silica matrix - minor pyrite and very minor chalcopyrite occasionally in vugs. Cavity 1048.5 - 1050.5 w/marcasite, quartz, smithsonite (?), chlorite, marmatite and minor cpy. Chlorite and pyrite heavier 1050.5	0.61	0.54	2.92	
1080 - 1087	Silicified Shale - medium dark grey, very fine grained, dense, well broken and extremely fractured - minor pyrite				
1087 - 1102	Chlorite Zone - green, minor silicified shale frags - zone has a granular appearance - mod. dissem. pyrite minor marmatite				
1102 - 1151	Silicified Shale - very fine grained, dark brown, dense, hard, shale - minor breccia frags, moderate pyrite, locally heavy, pyrite lining minor fracture. Chlorite - Rocks well broken.				

Section III (G)

PHILLIPS PETROLEUM CO.

MOUNT HOPE

~~Eureka County, Nevada~~

GEOLOGIC LOG

Hole No. PMH-7 | Sheet No. 1 | Collar Elevation

Coordinates 9583N; 8100E | Total Footage 756 Ft.

Type Drill Core | Date Started 5/11/71 | Overall Core Recovery

Bit Size NQWL | Date Completed 6/14/71 | Logged By Al McGrew-Ron Allen

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0	12				Rock bit				
12	21	9			Skarn - medium green-grey, slightly calcareous, fine grained, moderate FeOx. Shows some thin relict bedding, perpendicular to core axis. Predominantly brownish-green, fine grained garnet (possible FeOx stain) in aphanitic light green white matrix. Abundant black Fe coatings.				
21	71				FeOx clay, completely altered. Probably skarn. Very light weight. White to dark red clay. Good core recovery to 31'. 31-40', 9' core missing. Rock bit to 71'.				
71	76	5			Siliceous breccia. Medium grey. Angular to rounded rock fragments from less than 1/16" to more than 1" in dark green-gray matrix. Hard. Rock fragments generally rhyolite, some Vinini? No sulfides. Becomes highly fractured 72-76 with 2' core missing. Moderate FeOx.				
76	96	20			Rhyolite porphyry. Light grey to white. About 10-15% angular quartz phenos to 1/8". 15% clay altered feldspar phenos to 1/8". Abundant FeOx dots after pyrite. Some (about 2%) altered pyrite crystals. Possibly 5% pyrite originally. Lightly to moderately fractured.				
96	104	8			FeOx clay. Extremely altered rock? Skarn (no relict quartz phenos). Greenish-grey clay with extensive FeOx and MnO very soft.				

PHILLIPS PETROLEUM CO.

MOUNT HOPE
Eureka County, Nevada

GEOLOGIC LOG

Hole No. PMH-7 | Sheet No. 2
Coordinates
Type Drill | Date Started
Bit Size | Date Completed

Collar Elevation
Total Footage
Overall Core Recovery
Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
104	104.5	0.5			Siliceous breccia. Dark green-grey. Very altered. Extensive FeOx MnO. Breccia as 71-76'. Relict altered altered pyrite.				
10[illegible]5	110	5.5			Skarn - medium blue-green-grey. Very fine grained. 1-3% ZnS in patches. 104.5-106' and 107-110' very highly altered, clayey, extensive FeOx and MnO.				
110	116	6			Clay and gouge - light grey to white. Probably highly altered rhyolite porphyry. Moderate FeOx.				
116	124	8			Siliceous rhyolite breccia. Light grey to white. Moderately altered. Moderately to heavily fractured. Moderate FeOx, minor MnO. Predominantly angular to rounded rhyolite fragments less than 1/16" to 3/4" with minor Veinini? fragments. In a white matrix.				
124	158	34			Rhyolite porphyry. Light grey. Typical fine grained rhyolite porphyry, about 15% angular quartz phenos to 1/8", about 20% altered feldspars to 1/8", commonly FeOx stained or removed, leaving a pock mark. Moderate FeOx and MnO on fractures. Becomes highly altered at 155' with extensive FeOx and MnO crusts to 1/8" thick. Very vuggy with vugs filled with FeOx clay.				
158	164	6			Skarn. Medium grey-grey. Moderately altered. Fine grained 1-3% disseminated ZnS. Local FeOx.				
164	166	2			Gouge. Medium green-grey - probably skarn.				

PHILLIPS PETROLEUM CO.

MOUNT HOPE

Eureka County, Nevada

GEOLOGIC LOG

Hole No. PMH-7 | Sheet No. 3

Coordinates

Type Drill | Date Started

Bit Size | Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
166	221	55			Siliceous breccia. Light grey to medium green-grey. Moderately to extremely altered. 166-178' extremely altered, core flattens when struck with hammer. Heavy FeOx. 178-203' highly altered, vuggy, heavy FeOx. 203-213' moderately altered. Angular rhyolite fragments from 1/16" to 1" long in a dark grey aphanitic, siliceous matrix. FeOx on fractures. 213-217 highly altered with extensive FeOx. 217-219 moderate fracturing and alteration. 219-221 extensive fracturing, alteration and FeOx.				
221	254				Skarn derived from Garden Valley formation. Light green-grey. Very fine grained, almost porcellaneous. Scratches with knife. Dense. Barren at sulfides. Locally calcareous.				
25[illegible]	256				Rhyolite porphyry - white to light grey. Moderately altered, moderately fractured. About 10-15% quartz phenos to 1/8".				
256	287				Siliceous breccia. Medium green-grey. Rock fragments 1/32" to 1/4", angular. Rock fragments are about 10% Vinini, 60% skarn derived from Garden Valley formation, 30% silica. Hard, dense, no sulfides. Becomes moderately altered, very fractured at 265'. (No recovery 284'-286'). Zn mineralization in lower part of interval. Split interval from 277'-283.5' for assay.				

PHILLIPS PETROLEUM CO.

MOUNT HOPE

Eureka County, Nevada

GEOLOGIC LOG

Hole No. PMH-7 | Sheet No. 4

Coordinates

Type Drill | Date Started

Bit Size | Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
					Beginning of BQ core.								
287	304.5				Skarn derived from Garden Valley formation; grey to greenish-grey; metamorphosed; fractured; no mineralization; locally calcareous; soft.								
304.5	307				As above with 5% to 10% sphalerite. Split for assay.								
307	322				Skarn derived from Garden Valley formation; light grey to white; highly altered; less than 1% zinc mineralization; brecciated in places.								
322	345				Skarn; grey to greenish grey to black; fine grained; soft; brecciated (siliceous); occasional sphalerite.								
345	357				Siliceous breccia; greenish grey to dark grey; slightly calcareous; soft; brecciated fragments to 1/2"; mostly Garden Valley formation. No mineralization.								
357	391				Garden Valley formation; dark grey to black; occasional calcareous stringers; soft (scratches with knife); fine grained; occasional fractures with what appear to be slickensides; no apparent mineralization.								
391	444	53			Siliceous breccia; medium grey to grey; difficult to scratch with knife; angular fragments of Garden Valley formation and rhyolite?; moderately fractured with occasional sulfides (pyrite) along fractures. Metamorphism apparent on freshly broken surfaces of core.								

PHILLIPS PETROLEUM CO.

MOUNT HOPE
Eureka County, Nevada

GEOLOGIC LOG

Hole No. PMH-7 | Sheet No. 5
Coordinates
Type Drill | Date Started
Bit Size | Date Completed

Collar Elevation
Total Footage
Overall Core Recovery
Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
444	521	77			Skarn derived from Garden Valley formation - medium grey, fine grained, dense, slight fracturing. No sulfides. Very calcareous. Only slightly metamorphosed. Probably calcareous matrix. Brecciated 455-458, 462-465.				
521	532	11			Skarn derived from Garden Valley formation - dark grey on surface of core, medium brown-grey inside core. Oxidizes very rapidly. In one hour split core surface oxidized dark green-grey. Very fine grained, probably garnet. Less than ½% pyrite disseminations and on fractures.				
532	536	4			Skarn derived from Garden Valley formation - medium grey, similar to 444-521.				
536	558	22			Rhyolite porphyry - light to medium grey. About 30-40% white to smoky euhedral to anhedral quartz phenos. About 1% pyrite crystals, disseminated MnO or ZnS on fine fractures. Aphanitic white groundmass, some showing flow structure. Brecciated 538-539 with about 10% sulfides. Disseminated pyrite and minor ZnS 539-542. Patch of 20% pyrite at 551.				
558	577	19			Skarn derived from Garden Valley formation - dark grey on surface of core, medium grey on fresh surface, oxidizes rapidly. Very fine grained, hard, dense, massive. No sulfides. Local calcite veins.				

PHILLIPS PETROLEUM CO.

MOUNT HOPE
Eureka County, Nevada

GEOLOGIC LOG

Hole No. PMH-7 | Sheet No. 6
Coordinates
Type Drill | Date Started
Bit Size | Date Completed

Collar Elevation
Total Footage
Overall Core Recovery
Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
577	588	11			Skarn derived from Garden Valley formation - medium grey. Fine grained. Hard, dense, massive. No sulfides. Local calcite veins.				
588	643	55			Skarn derived from Garden Valley formation - dark grey to black; calcite veins; fine grained; soft (less than 4); very minor pyrite blebs with alteration rings (627'); some section slightly calcareous, maybe a calcite matrix; some chalcopyrite.				
643	676	33			Skarn derived from Garden Valley formation; dark grey to black; hard; dense; some sections slightly calcareous; massive sulfides mostly pyrrhotite and chalcopyrite (2%).				
676	678	2			Calcite; white with pyrrhotite; coarse crystal faces prominent.				
678	702	24			Skarn derived from Garden Valley formation; black; hard; very slightly calcareous; sulfide mineralization mostly pyrrhotite. Some chalcopyrite; occasional calcite stringers.				
702	733	31			Contact zone; mostly argillite; medium grey; hard; minor sulfides; fine grained; very slightly calcareous.				
733	756	23			Rhyolite porphyry; white; about 10% to 20% anhedral quartz phenocrysts; white aphanitic groundmass. Minor pyrite along fractures. ~~Total Depth 756'.~~				

ASSAY INFORMATION

PMF-7
Mt. Hope Project

Interval	Copper	Zinc	Oz. Ag	Remarks
620-624	85 PPM	215 PPM	0.03	
624-629	890 "	420 "	0.23	
629-637	0.85%	575 "	2.22	4' Core missing
637-641.5	815 PPM	125 "	0.18	
641.5-643	3.20%	0.48%	7.88	5.5' 2.1% Cu and 5.2 oz. Ag
643-647	1.65%	1.05%	4.23	
647-650	715 PPM	225 PPM	0.18	
650-654	1.10%	785 "	1.75	
654-658	1.15%	805 "	2.63	
658-661	860 PPM	130 "	0.18	
661-664	980 "	125 "	0.18	
664-666	860 "	145 "	0.15	
666-668	425 "	150 "	0.09	
668-672	0.16%	0.16%	0.18	
672-676	0.28%	350 PPM	0.41	
676-680	600 PPM	150 "	0.09	
680-683	225 "	140 "	0.03	
683-686	435 "	110 "	0.06	
686-689	0.64%	0.27%	1.23	
689-691	0.41%	360 PPM	0.85	
691-695	0.28%	450 "	0.64	
695-700	0.80%	0.11%	1.40	
277-281	70 PPM	2.70	0.12	
281-283.5	110 PPM	3.55	0.09	
304.5-307	60 PPM	17.50	1.37	

Section III (8)

PHILLIPS PETROLEUM CO.

MOUNT HOPE

Hole No. PMH-8 Sheet No. 1

Coordinates 9868N; 9180E

Type Drill Core

Bit Size HQ to 120
NQ to T.D.

Date Started 6/15/71

Date Completed 7/29/71

GEOLOGIC LOG

Collar Elevation 6895

Total Footage 1033

Overall Core Recovery

Logged By MRS, RRA

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0					Siliceous limestone; medium grey to black; calcite stringers; MnO dendrites; slightly metamorphosed; occasional FeOx staining on fractures; dense; few fractures; nearly massive. No apparent mineralization. Slightly oxidized zone 102-109, probably related to adjacent fault. Breccia zone 109-110 High FeOx content 112-130.				
	120								

PHILLIPS PETROLEUM CO.

MOUNT HOPE

GEOLOGIC LOG

Hole No. PMH-8 Sheet No. 2

Coordinates

Type Drill

Bit Size

Date Started

Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
120					Siliceous limestone continues. No apparent mineralization. Reduced to NZ at 120.				
					133-138 fault zone with calcareous gouge and fragmented limestone.				
		-3.5			Dark blue-grey siliceous limestone as above. No apparent				
		-3.5			mineralization. Some FeOx along fractures. Random calcite veinlets. Intensely fractured 144-155.				
					Fault zone 166-167				
					White calcareous, vuggy unit 180-188				
	195				193 last FeOx or fractures				
195					From about 195, slightly more impurities such as carbonaceous material in limestone. Dark bluish grey. Less calcareous. No mineralization.				
		-2.5							
		-2.5							

PHILLIPS PETROLEUM CO.

Hole No. PMH-8 | Sheet No. 3 | Collar Elevation

Coordinates | MOUNT HOPE | Total Footage

Type Drill | Date Started | Overall Core Recovery

Bit Size | Date Completed | GEOLOGIC LOG | Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
					Very dark blue, siliceous limestone content.				
					Has high carbon content.				
					Random calcite veins. No apparent mineralization.				
					Fault zone 275-278.				
	297				1" rhyolite dike				
297	299.5				Gossan zone				
299.5	302				Medium grey pure limestone				
302					Dark blue-green calcareous limestone.				
	310.5				Random calcite veins.				
310.5					Medium greenish grey limestone. Slightly calcareous.				
					Sugary texture. From clay impurities. No mineralization.				
					Soft.				
	338								
338									
	346				Medium greenish limestone as above, not brecciated.				
346					Medium greenish grey pure limestone.				
					Siliceous 348-349.5.				
					No mineralization noted.				

PHILLIPS PETROLEUM CO.

MOUNT HOPE

GEOLOGIC LOG

Hole No. PMH-8 | Sheet No. 4 | Collar Elevation
Coordinates | Total Footage
Type Drill | Date Started | Overall Core Recovery
Bit Size | Date Completed | Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	363.5							
363.5				Medium greenish grey pure limestone as above with slight flow brecciation of unit.				
	378.5			Gougey fault zone 378.5-384.5				
378.5				Greenish grey, calcaroue skarn. Scattered mineralization. Mostly pyrite. Some marmatite mineralization with sparse chalcopyrite associated 389-395 (split). Little oxidization along fractures in this interval.				
	404			Became increasingly siliceous toward contact				
404				Rhyolite porphyry. Light grey. Feldspar slightly altered. Numerous quartz phenos (up to 1/8"). Disseminated pyrite tends to replace phenos. 6" marmatite in skarn inclusion 409-409.5				
				From 455, has slight greenish tinge. Few grains marmatite 459.				
	464			8" heavy disseminated pyrite at contact				
464				Dark green skarn. Sugary texture. Very slight brecciated appearance. Very slightly calcareous except for random calcite inclusions and veinlets. Mineralization is				

PHILLIPS PETROLEUM CO.

Hole No. PMH-8 Sheet No. 5

MOUNT HOPE

Coordinates

Type Drill

Bit Size

Date Started

Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				scattered blebs and blotches of pyrite in more calcareous zones. Chalcopyrite blebs at 470.5 and 471.				
				From 475-490 absence of brecciation and calcite inclusions result in uniform green appearance.				
				From 506-521 sparse disseminated chalcopyrite.				
				Abundant black mineral through unit, probably MnO.				
				537-541, medium grey hard siliceous limestone unit.				

PHILLIPS PETROLEUM CO.

Hole No. PMH-8 Sheet No. 6

Coordinates

Type Drill

Bit Size

Date Started

Date Completed

MOUNT HOPE

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	614								
614					Rhyolite porphyry. Medium grey. Slightly greenish tinge. Some sparse tarnished pyrite or chalcopyrite in tiny veinlets 614-625. Moderate disseminated pyrite 624-637. 650-665, intensely altered rhyolite porphyry. Felds are completely clay altered.				
	667								
667					Dark green, chloritized and silicified unit. Has random calcite veins. Possibly limestone inclusion which has been silicified or is silicified altered rhyolite. Moderate-heavy disseminated pyrite.				
	684.5								
684.5					Rhyolite porphyry. Light grey. Slight to intensely altered, varying locally. Very sparse disseminated pyrite. From 709.5 moderately chloritization gives greenish tinge.				
	719.5								

PHILLIPS PETROLEUM CO.

Hole No. PMH-8 | Sheet No. 7 | Collar Elevation

Coordinates | MOUNT HOPE | Total Footage

Type Drill | Date Started | Overall Core Recovery

Bit Size | Date Completed | GEOLOGIC LOG | Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPT.
719.5					Silicified rhyolite porphyry. Silicification obscures original texture.				
	735.5				Disseminated chalcopyrite mineralization in heavy pyrrhotite				
735.5					gangue 720-743. Black and greenish white calcareous skarn. Mottled appearance. Fair mineralization to 743.				
	751								
751					Greenish grey skarn. Sugary texture. No apparent mineralization except for some sparse pyrite in some of the little calcite inclusions and veinlets.				
	780.5				Very sharp contact.				
780.5	786.5				Dark blue-grey silicified rhyolite. Silicification obscures all features.				
786.5					Light-reddish grey silicified rhyolite. Silicification partially obscures original features. Appears to have been slightly brecciated and then rehealed with quartz. Mineralization is pyrite confined to tiny veinlets and little blotches associated with veinlets. Phenos can be distinguished locally.				
					From 838.5-846, highly altered rhyolite.				

PHILLIPS PETROLEUM CO.

Hole No. PMH-8 Sheet No. 8

Coordinates

Type Drill

Bit Size

Date Started

Date Completed

MOUNT HOPE

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPT.
	846							
846				Reddish grey, silicified, rhyolite. Pyrite in tiny veinlets. Fault zone 853-859. Slightly porphyrytic 860-864.				
	873.5			Fault zone 870-873.5				
873.5				Intensely altered porphyrytic rhyolite. Feldspars mostly clay altered. Some chloritization gives greenish tint locally. Sparse disseminated pyrite. Finely divided disseminated black Manganese mineral. Softer light green calcareous xenoliths up to 2" across. Surrounded by siliceous matrix. Slight brecciated appearance. Small local fresh zones.				
				Little fault 924-925.5				

PHILLIPS PETROLEUM CO.

Hole No. PMH-8 Sheet No. 9

Coordinates

Type Drill

Bit Size

Date Started

Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEP
				Very light grey highly altered rhyolite content.				
				From 965 overall less alteration. Moderately altered overall, except along major Fractures where intensely altered.				
	991							
991				Slightly altered porphyritic rhyolite. Get impression of "alteration flooding" as it appears to have been "channeled". Alteration is mainly clay mineralogy replacing feldspars. Mineralization is small occasional blotches (less than ½") of pyrite. Tiny bits of chalcopyrite in few pyrite blotches observed. Very sparse pyrite below 1000'.				
	1033			From 997-1033 moderately altered. Has calcareous greenish xenoliths as in previous unit, below 1025. Former feldspar (?) phenos are not calcareous. Total depth.				

ASSAY INFORMATION

PMH-8

MOUNT HOPE PROJECT

Interval	% Cu	% Zn	% Pb	Oz.Ag	Oz.Au
389 - 395	0.15	1.80	-	0.29	-
506 - 511	320 PPM	50 PPM	-	0.12	-
511 - 516	0.90	480 PPM	-	1.93	-
516 - 521	0.26	195 PPM	-	0.58	-
527 - 528	20 PPM	490 PPM	-	0.03	-
720 - 725	0.65	1.50	-	1.23	-0.003
725 - 730	0.15	0.61	-	0.15	-0.003
730 - 735	0.75	490 PPM	-	1.60	-0.003
735 - 740	0.47	375 PPM	-	1.08	-0.003
740 - 743	1.05	665 PPM	-	2.33	-0.003
824 - 825	170 PPM	100 PPM	-	0.03	-
579	5 ppm	940 ppm		0.03	-

Section III (9)

PHILLIPS PETROLEUM CO.

Hole No. PMH-11 Sheet No. 1

Coordinates 9570N; 8308E

MOUNT HOPE

Type Drill Mayhew 1000; L 44 Core Drill

Bit Size 5¼"R.B.; NQWL

Date Started 7/12/71; 8/18/71

Date Completed 7/12/71; 9/13/71

GEOLOGIC LOG

Collar Elevation 6960

Total Footage 953

Overall Core Recovery .962

Logged By M. R. Sauvola, R. R. Allen

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0	10				Light green, altered Garden Valley limestone				
10					Medium gray hard siliceous unit with high content of FeOx and MnO.				
					45-50 unit has less FeOx and MnO.				
					50-55 unit is almost gossan.				
	65								
65	75				Rhyolite porphyry dike.				
75	80				High FeOx unit.				
80	82				Garden Valley skarn, light green				
82	92				Siltstone unit with high FeOx content. Bottom of oxidization.				
92					Rhyolite porphyry. Sparse disseminated pyrite. No oxidization.				
					100-105, yellowish mineral along fractures.				
					145-155, slight FeOx along fractures.				

PHILLIPS PETROLEUM CO.

Hole No. PMH-11 Sheet No. 2

Coordinates

Type Drill Date Started

Bit Size Date Completed

MOUNT HOPE

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
					Rhyolite porphyry continued.				
					189-197, porphyry with FeOx coating.				
					197-205, slight increase of disseminated sulfides. 195-205, sparse yellow mineral noted.				
	205								
205					Medium gray Garden Valley skarn. Siliceous, very hard. No mineralization noted.				
	224								
224					Rhyolite porphyry. Varying degrees of alteration. Few disseminated sulfides.				
					Intensely altered rhyolite 240-252.				
					Moderately altered to end of unit.				
	278								
278					Medium greenish gray Garden Valley skarn. No mineralization noted. Sparse yellow mineral 290-295.				
	296				Depth of Hammer drilling.				
296		-4			NQWL; Gouge zone in Garden Valley skarn. Medium greenish color.				

PHILLIPS PETROLEUM CO.

MOUNT HOPE

GEOLOGIC LOG

Hole No. PMH-11 Sheet No. 3

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
		-4.		Mostly noncalcareous. No apparent mineralization.				
	311	-4.0						
311	315.5	-.5		Medium green Garden Valley skarn. No apparent mineralization. Mostly calcareous				
15.5				Medium gray slightly silicified limestone. No apparent				
		-1.0		mineralization. Slightly calcareous. Gouge zone 320.5-332.				
				Some local chloritized greenish zones.				
	349							
349				Dark blue slightly silicified Garden Valley limestone.				
	362			Moderately calcareous. No apparent mineralization.				
362	368			Medium green calc-silicate skarn of Garden Valley formation. No apparent mineralization				
368				Dark blue slightly silicified Garden Valley limestone.				
				Moderately calcareous. No apparent mineralization.				
	385.5			Local introduction of little chlorite.				
5.5	389			Good disseminated ZnS in greenish calc-silicate skarn.				
389	393.5			Dark blue moderately silicified limestone. No apparent mineralization.				
93.5				Bluish gray slightly silicified limestone breccia. Most				
				fragments are angular to subangular, 1/8"-1" in diameter.				
				Contain mostly linestone and Vinini fragments with few				
				skarn fragments. Calcareous matrix that has been partially				
				silicified. No apparent mineralization.				

PHILLIPS PETROLEUM CO.

Hole No. PMH-11 | Sheet No. 4 | Collar Elevation

Coordinates | MOUNT HOPE | Total Footage

Type Drill | Date Started | Overall Core Recovery

Bit Size | Date Completed | Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Moderately-intensely fractured 410-434.				
		-4		18" blue limestone inclusions 430.5-432.				
				Fault zone 434-442.				
		-2.0						
		-1.5						
		-3.5						
		-.5		Little disseminated ZnS 454-459, becoming more siliceous.				
				From 460 very subtle breccia.				
	463			457½-463, dark blue color because of fragments.				
463				Light gray porphyritic rhyolite breccia. Siliceous.				
				Chloritized 471-493.5. Little calcareous material				
				present. Very few fragments in unit, fragments present				
				are siliceous limestone or Vinini. 481-493.5, possible				
				finely disseminated ZnS. Sparse disseminated pyrite.				
	493.5							
493.5				Mottled light gray and green calc-silicate skarn of				
				Garden Valley formation. Mottled appearance. Sugary				
				texture. Very sparse disseminated ZnS 498-503. Sparse				
				disseminated pyrite through unit.				
	521			Little disseminated chalcopyrite 507.				
521				Dark green calcareous skarn of Garden Valley formation.				
				Some very sparse pyrite in calcite veinlets.				
				Reddish brown fresh color oxidizing to dark green.				

PHILLIPS PETROLEUM CO.

MOUNT HOPE

GEOLOGIC LOG

Hole No. PMH-11 | Sheet No. 5 | Collar Elevation
Coordinates | Total Footage
Type Drill | Date Started | Overall Core Recovery
Bit Size | Date Completed | Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	544								
544	560				Blue-grey, slightly silicified breccia; angular to sub-angular fragments; very slightly calcareous; no apparent mineralization.				
560					Gray; mottled; sandy textured lime more of a clayey texture from 510-574 not mineralized; essentially massive alternating dark and light gray; darker colored material usually has coarser texture. Fracture at 613 filled with terminated calcite crystals and pyrite cubes formed on terminated crystals. Fractures dip from 60°-70°, most healed with calcite.				

PHILLIPS PETROLEUM CO.

Hole No. PMH-11 | Sheet No. 6 | MOUNT HOPE | Collar Elevation

Coordinates | Total Footage

Type Drill | Date Started | Overall Core Recovery

Bit Size | Date Completed | GEOLOGIC LOG | Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	670								
670					Same as 521-544. Except mineralized. Pyrite ZnS chalcopyrite and pyrrhotite.				
					Split entire interval.				
	698								
698					Slightly siliceous lime; greenish gray; dense texture; slightly calcareous; sparse pyrite skarn; siliceous;				
	712								
712					noncalcareous; dense; hard; minor pyrite.				
	731								
731					Rhyolite porphyry; white; pods of ZnS and pyrite; quartz phenos; varying degrees of alteration; occasional chalcopyrite in small pods; fractures dip at 55° to 60°;				

PHILLIPS PETROLEUM CO.

MOUNT HOPE

GEOLOGIC LOG

Hole No. PMH-11 Sheet No. 7

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	817								
817	837				Rhyolite porphyry; white; highly altered contact zone? or fault rubble; minor pyrite mineralization; fracture drip between 45° and vertical;				
837	842				Vinini. Gray; siliceous; pyrite				
842	890				Rhyolite porphyry; white; fractured; pyrite in fracture, also disseminated; minor chalcopyrite?; stronger alteration near lower contact with Vinini.				
890					Vinini; gray; siliceous; minor pyrite on fracture; highly fractured.				

PHILLIPS PETROLEUM CO.

Hole No. PMH-11 Sheet No. 8

Coordinates

MOUNT HOPE

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
					Vinini continued								
	953				Total Depth 953'.								

ASSAY INFORMATION
PMH-11
MOUNT HOPE PROJECT

Interval	%Cu	%Zn	%Pb	%Cd	Oz.Ag	Oz.Au
200 - 205		0.43		35 ppm		
340 - 235	115 ppm	0.34			0.06	
380 - 385	5 ppm	0.24			0.03	
385 - 389	30 ppm	3.35			0.06	
389 - 393	5 ppm	635 ppm			-0.03	
454 - 459	15 ppm	0.22			-0.03	
481 - 486	210 ppm	0.21			0.09	
486 - 491	270 ppm	890 ppm			0.09	
491 - 496	70 ppm	0.11			0.03	
496 - 501	15 ppm	820 ppm			-0.03	
501 - 506	15 ppm	800 ppm			0.03	
506 - 511	10 ppm	410 ppm			0.03	
511 - 516	10 ppm	820 ppm			-0.03	
516 - 521	10 ppm	810 ppm			-0.03	
669 - 670	0.82	590 ppm			4.08	
670 - 672.5	0.67	0.13			4.67	
672.5 - 675	0.65	700 ppm			4.96	
675 - 676.5	0.32	500 ppm			3.79	
676.5 - 681	0.13	220 ppm			0.35	
681 - 684	0.16	380 ppm			0.58	
684 - 687	0.31	285 ppm			0.82	
687 - 692	0.95	740 ppm			2.51	
692 - 694	0.83	650 ppm			2.28	
694 - 696	50 ppm	180 ppm			0.06	
696 - 698	0.23	5.30			0.35	

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803
EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINES CO. Date Jan. 14, 1969

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D. # 5 321-327 Composit		7.02	3.33							
" " 327-329 "		3.30								

CERT. # 3

CHARGES $5.50

CHEMIST

Section III (3)

WHITE PINE ASSAY CO.

P. O. BOX 286 PHONE 289-2803

EAST ELY, NEVADA 89315

CERTIFICATE OF ASSAY

Name MT. HOPE MINE'S CO. Date Nov. 24, 1968

SAMPLE	oz. per ton Au	oz. per ton Ag	% Cu	% Pb	% Zn					
D.D. #3 236-242 Composite	0.0034	10.08								
" 242-251 Composite	0.0040	19.86								
CAL AVG 232-251		16.79	6.85	—	19 ft					

CERT. # 11-4

CHARGES 27.00

Gary Stewart

CHEMIST

ACCESSIBILITY OF PROPERTY

Section 4, a. b.

(a) Hal Jensen, 2215 Lincoln Avenue, Ely, Nevada, Phone (702) 289-2447, will assist any OME representative in any way possible to visit and examine the property.

The Mount Hope Mine turn-off is 21 miles north of Eureka, Nevada, on State Highway 51. Turn west one and one-half miles on passable dirt road to arrive at main workings. The mine workings are open and ground is standing good.

(b) The nearest railhead is Palisade (W.P. & S.P.), 57 miles north on State Highway 51. An alternate railhead is Ely, approximately 100 miles east.

Supply points are Eureka, Nevada, 23 miles southeast on State Highway 51 and U.S. Highway 50. Supplies at Eureka are limited. Ely, Nevada, 100 miles east on State Highway 51 and U. S. Highway 50.

Nearest air service is Elko, approximately 100 miles north or Ely, approximately 100 miles east.

Seen in 25

CHARLES R. RANNEY
MINING ENGINEER

PHONE 625-3688
BOX 89, SANTO TOMAS RTE
SAHUARITA, ARIZONA

PHONE 793
AVE JUAREZ 231
CANANEA, SONORA, MEXICO

May 17, 1973

Mr. Hal Jensen
2215 Lincoln Ave. N.
Ely, Nevada 89301

Dear Mr. Jensen : re: Mt. Hope Mine

Following is a resume of my mining and geological experience :

Attended Stanford University and University of California at Berkeley. Graduated 1937, University of California with a degree in Mining Engineering and Geology.

May 1937-May 1939. Exploration geology in Canada : Sudbury, Timmins, Kirkland Lake, Ontario; Rouyn , Noranda, Val dor , Quebec; Athabasca, Rankin Inlet and Northwest Territories. Worked for Consulting Geologist, H.B.Hatch.

May 1939-June 1941. Worked for North Camarines Gold Mg. Co. in Percale, Southern Luzon and for Benguet Consolidated Gold Mg. Co., Baguio, Philippine Islands.

Sept. 1941-Oct. 1942. Worked at Bisbee, Arizona for Phelps-Dodge Engineering and Geology Departments.

November 1942-September 1945. Chief Geologist, Great Northern Railway Co., St. Paul, Minnesota. Stationed in Seattle and Spokane, Washington.

1945-1949. Gold mining, Republic, Washington.

1949-1950. Exploration, Mexico.

1950-1953. Manager mining and exploration Nancy Lee Mines, Superior, Montana.

1953-1956. Geologist for Utah-Idaho Consolidated, Kellogg, Idaho and Moab, Utah. Discoverer and geologist in charge of drilling Radon Uranium Mine, Big Indian District, La Sal, Utah. The Radon Mine, bought by Federal Uranium, and leased by Hecla Mg. Co., produced 36 million dollars from 500,000 tons of ore. Consulted for Federal Uranium 1955-1956.

1957--1968. Manager in Charge of mining and exploration operations for Industrial Uranium Co., Salt lake City, Utah with properties in Monument Valley, Arizona and Southern Utah. Produced over 15 million dollars from 500,000 tons of uranium ore.

CHARLES R. RANNEY
MINING ENGINEER

PHONE 625-3668
BOX 99, SANTO TOMAS RTE
SAHUARITA, ARIZONA

PHONE 793
AVE JUAREZ 231
CANANEA, SONORA, MEXICO

1968-1969. Consultant for Mt. Hope Mines drilling and exploration program.

1969-1973. Consultant and mine operator, Chihuahua, Mexico and Cananea, and Sonora, Mexico. Consulting work in U.S. also.

References :

Everett Hougland, Consulting Geologist.
Box 415, Republic, Washington 99166

Ed Dwyer, Mining Engineer.
Payne Kibbe & Associates, First Security Bank Bldg. Salt Lake City, Utah.

Frank A. Taft, Mining Engineer.
Clayton, Idaho.

John Borkert, Exploration Engineer.
Atomic Energy Commission, Grants, New Mexico 87020

Sincerely,

Charles R. Ranney

HAL JENSEN
MINING, EXCAVATION, CONSTRUCTION
2215 LINCOLN AVENUE
ELY, NEVADA 89301

PHONE 264-2447

TO WHOM IT MAY CONCERN:

I have been associated with mining in all its phases my entire adult life. I have been basically a production man, my specialty is underground work, but I have contracted, done open pit work, drilling and many other types of work connected with mining. Under my direction at Rochester, 17,000 feet of drift, raise, cross cuts, etc. were completed in 18 months. Following is a resume of my experience:

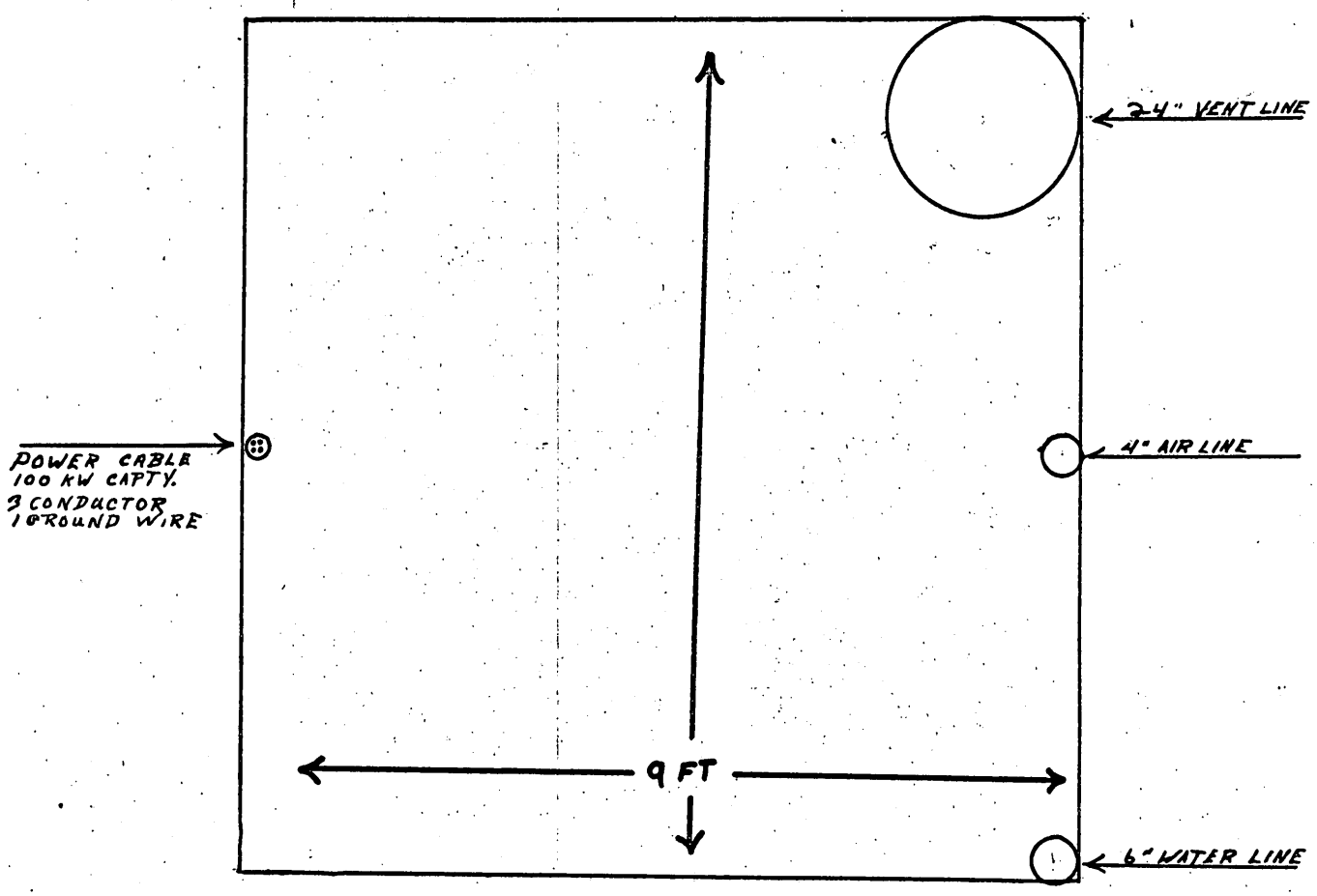
1945-46, worked at Anaconda's Victoria Mine
1946-47, worked for Paul Lyons, Grand Deposit Mining Co., Grand Deposit Mine
1947-48, Copper Basin, Palisade, Nevada
1948-49, Hauled ore from Hamilton, Nevada to Salt Lake City for E. R. Woolley, East Standard Mining Co., worked at Gold Hill, Utah for Phil Reynolds, Arizona Antlers
1949-52, Shipped ore from Onetha Mine at Hamilton, Nevada under lease
1952-53, Contracted D.M.E.A. work for Dr. F. F. Hintze
1953-54, Baltimore Camas Mines, Inc.
1954-55, Nev-Tah Oil Co., J. H. Wren, contract mining underground
1955-56, Metropolis, Nevada, barium
1956-57, Shipped ore from Union Mine under lease

For a number of years during this period, I also contract the assessment work at Spruce Mountain for Combined Metals, Reg Lee.

1957-58, Contract barium mining, Esterbrook Milling Co., Yuba Milling Co.
1958-59, Hauled gravel for Industrial Construction Co.
1959-61, Tybo Mine, Superintendent
1961-62, Pulled all underground equipment from Nevada Massachusetts Mine at Imlay, Nev.
1962-63, Contract underground mining for Armco at Como Mine, Dayton, Nevada
1963-65, General superintendent, contract mining for Silver State Mining Co., Rochester Mine, Lovelock, Nevada
1965-67, Worked with C. R. Ranney at Onetha Mine, Hamilton, Nevada for Industrial Uranium Co.
1967-69, Superintendent, Mount Hope Mine, Eureka, Nevada
1969-71, Superintendent, Onetha Mine, Hamilton, Nevada for International Energy
1971-73, Heavy construction, licensed contractor

REFERENCES:

Paul Gimmell, Reno, Nevada, President, Nevada Mining Association
Dr. J. H. Wren, Reno, Nevada, doctorates in mining engineering and geology
George Playter, ore buyer, American Smelting & Refining Company
George Osborne, ore buyer, United States Smelting, Refining & Mining Company
Gordon Lathrop, retired banker, Ely, Nevada



CROSS SECTION
INCLINE SHAFT
MOUNT HOPE MINE

SCALE - NONE

NO. 81-30131

MOUNT HOPE MINES, INC.	§	IN THE DISTRICT
	§	
VS.	§	HARRIS COUNTY, TEXAS
	§	
EXXON CORPORATION	§	55TH JUDICIAL DISTRICT

JOINT MOTION FOR PROTECTIVE ORDER

TO THE HONORABLE JUDGE OF SAID COURT:

COME NOW plaintiff Mount Hope Mines, Inc. and defendant Exxon Corporation and, both parties wishing to preserve the confidentiality of certain depositions, documents and information taken,produced or gathered in this lawsuit, jointly move this Court to enter the Protective Order attached hereto.

WHEREFORE, PREMISES CONSIDERED, plaintiff and defendant respectfully move this Court to enter the Protective Order attached hereto.

SUSMAN & McGOWAN

By: Stephen D. Susman for
STEPHEN D. SUSMAN
Attorneys for Plaintiff
State Bar No. 19521000

FULBRIGHT & JAWORSKI

By: [illegible]
David J. Beck
Attorneys for Defendant
State Bar No. 02006000

FOR REFILE

NO. 81 30131

MOUNT HOPE MINES, INC.	§	IN THE DISTRICT COURT OF
	§	
VS.	§	HARRIS COUNTY, T E X A S
	§	
EXXON CORPORATION	§	55TH JUDICIAL DISTRICT

PROTECTIVE ORDER

On the 18 day of September, 1981, came on to be heard the joint motion of plaintiff, Mount Hope Mines, Inc., and defendant, Exxon Corporation, for the entry of a protective order in the above entitled and numbered cause. The Court, after considering the motion and after hearing the argument of counsel, is of the opinion that said motion is meritorious and that a protective order should be entered. It is therefore ORDERED, ADJUDGED and DECREED as follows:

1. The joint motion of plaintiff and defendant to enter a protective order in the above entitled and numbered cause is in all things granted.

2. All depositions taken in this lawsuit, including the depositions of Harold Drimmer and Omer R. Humble, whether such depositions be taken orally or by written interrogatories, shall be filed with the Clerk of the Court under seal.

3. The depositions taken in this matter and those documents produced by the parties hereto and third persons (whether produced voluntarily or pursuant to request, subpoena, or order of the Court) and the information contained therein shall be used solely for the purpose of this lawsuit. Any such deposition, document or information shall not, without the consent of the party deposed or producing documents or information and of both parties in those instances in which a third person is deposed or produces documents or information, be disclosed to any person other than (a) any current officer, director or employee of plaintiff or defendant; (b) counsel for the parties in this lawsuit; (c) consultants specially employed

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by the parties to assist in this lawsuit; (d) attorneys are assisting counsel for the parties in this lawsuit; and (e) clerical or legal assistants who report directly to those lawyers who are acting as counsel for the parties in this lawsuit. None of the persons set forth in subparts (a)-(e) of this paragraph shall disclose the substance or contents of any deposition, document or information received in this litigation to any other person.

4. In the event that either party believes it is necessary to disclose the contents of any of the documents to a person to whom such a disclosure is not permitted by paragraph 3 of this Order, counsel for the party seeking to make such a disclosure shall advise counsel for the opposing party in writing of the desire to make such disclosure. In the event that counsel for the opposing party objects to such disclosure, the parties shall attempt to resolve the dispute by agreement. If the parties cannot agree, the matter may be submitted to the Court, in which case the proposed disclosure may not be made except as the Court may direct.

5. Nothing contained in this Order shall prevent the use of depositions, documents or information contained therein by counsel for the parties in any proceedings that may be had in this lawsuit such as pre-trial discovery (including discovery of the testimony of non-party witnesses), briefing, trial and argument. If such depositions, documents and information are so used, all portions of materials disclosing the contents of such depositions, documents and information, including all deposition transcripts, exhibits, briefs and any other pleadings, however styled, shall be filed with the Clerk of the Court under seal.

6. Within thirty (30) days of final termination of this lawsuit, counsel for plaintiff and counsel for defendant shall return to the opposing counsel copies of the documents furnished by the opposing party and shall destroy

any other copies of such documents that they may have made as well as all copies of documents produced by third persons. Counsel for each party shall also destroy all work papers, notes, memoranda or any other documents or recordings, however described, or portions thereof, that disclose the contents of or information contained in the documents or depositions subject to this Order. Notice of such destruction shall be given to each party immediately thereafter.

SIGNED, & RENDERED, ~~AND ENTERED~~ this 18 day of September, 1981.

Reagan Partwright
PRESIDING JUDGE

APPROVED AND AGREED TO:

SUSMAN & McGOWAN

By Stephen D. Susman /fpb
Stephen D. Susman
Attorneys for Plaintiff
State Bar No. 19521000

FULBRIGHT & JAWORSKI

By
David J. Beck
Attorneys for Defendant
State Bar No. 02006000

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MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code

October 31, 1973

Memorandum

To: The File

From: Chief, Office of Minerals Exploration

Subject: OME-6890 (Silver-Copper)
Mount Hope Mines, Inc.
Mount Hope Mine
Eureka County, Nevada

Mr. Harold L. Drimmer, President, Mount Hope Mines, Inc., phoned me on August 27, 1973, in response to my letter to him of August 2, 1973. He stated that he would write to the Irving Trust Company as we had suggested. When advised of the OME funding situation for FY 1974, he said he would consider contacting his Senator or Congressman regarding the need for additional OME funds.

No further communication has been received from Mr. Drimmer in the succeeding two months so we are considering the application as withdrawn effective this date.

Harold Kirkemo

Harold Kirkemo

Copy to: Region II

DRF
MR RDG.
~~XXXXXXXX~~
OME Rdg.
Mr. Kirkemo

HKirkemo/gpw

HAROLD DRIMMER
ONE RED OAK LANE
WHITE PLAINS, N. Y. 10604
(914) 694-1144

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 20 1973

INITIALS	CODE
Cal	20
HK	~~120~~

August 15, 1973

Mr. Harold Kirkemo
Chief, Office of Minerals Exploration
United States Department of the Interior
Geological Survey
Washington, D. C. 20242

Dear Mr. Kirkemo:

Re: OME-6890
Mount Hope Mining Corporation
Eureka County, Nevada

Thank you for your letter of August 2, 1973, with respect to the above.

I wonder if I would be imposing upon you if I were to ask you to call me at the above telephone number for the purpose of arranging a mutually convenient time to visit with you in Washington in support of the application for loan assistance which you have under consideration.

I have suffered a recent personal injury which might delay my getting down to Washington for a week or so, but we could discuss this by telephone.

Sincerely,

Harold Drimmer

HD:bw

I Phoned 8/24 & call was returned 8/27.
Mr. Drimmer will write letter to bank. when advised of funding situation he saw absurdity in proceeding with application but would write to bank and possibly contact congressman or senator re OME funding situation.
H. Kirkemo

FILE COPY

August 2, 1973

Mr. Harold L. Brimmer, President
Mount Hope Mines, Inc.
1 Red Oak Lane
White Plains, New York 10604

Re: OMM-6890 (Silver-Copper)
Mount Hope Mines, Inc.
Mount Hope Mine
Eureka County, Nevada

Dear Mr. Brimmer:

Your application for exploration assistance, dated June 21, 1973, and received in this office on July 18, 1973, has been assigned Docket No. 6890. Please identify all future correspondence relating to the application by this number.

We enclose for your information a copy of Exhibit A, entitled "Notice to Prospective Federally Assisted Construction Contractors," which describes certain additional regulations and requirements relating to nonaggregated facilities. This should be filed with your copy of the application.

The information furnished in responding to Item 1--Financial Eligibility on the application form leaves doubt as to whether Mount Hope Mines, Inc., qualifies for consideration under the regulations of the OMM program. The letter dated July 10, 1973, from the Irving Trust Company, New York, to our representative in Menlo Park, California, indicates that you, the major stockholder in Mount Hope Mines, Inc., have on deposit substantial funds free at your disposal. These funds, if available to support Mount Hope Mines, Inc., are sufficient 1) to serve as collateral for a loan from the Nevada National Bank (See letter from that bank to Mr. Hal Jensen dated July 3, 1973), or 2) to fund the proposed exploration work without assistance from the Government. Either alternative may disqualify the applicant company from further consideration for OMM assistance.

Because evidence of efforts to obtain credit should include a letter to your bank of account and the letter reply from the bank, would you please write to the Irving Trust Company and request a loan in the amount of the Government's share of the proposed exploration project, stating terms requested, proposed use of loan funds, and the collateral offered. We understand that banks will not accept mining property as collateral unless it is a going operation with at least a year to 18 months of operating history providing a cash flow which can be used for loan amortization.

The bank of account for Mount Hope Mines, Inc., is not stated in the application. Presumably, Mr. Hal Jensen wrote to his own banks or to banks in which Mount Hope Mines, Inc., has accounts.

Mr. Jensen's letters to the banks were on his personal letterhead stationery, and not in the name of Mount Hope Mines, Inc., the applicant for OME assistance. No collateral was offered, and "long-term, low interest basis" is not sufficient inducement for the banks to grant loans. Copies of new letters, prepared in accordance with the instructions on the application form (Item 1a), and bank replies should be furnished.

Mr. M. K. Stager, Field Officer, OME Region II, in a letter to Mr. Jensen dated June 26, 1973, requested a recent financial statement of Mount Hope Mines, Inc., but the only information received has been the letter from the Irving Trust Company which did not report on the current financial status of the applicant company. Please provide us with the latest financial statement.

We have not considered in detail the other factors involved in your proposal, but we have noted several items. The amount of funds available for OME assistance in the current fiscal year is not sufficient to support your proposal in full. Our field representatives have discussed this problem with Mr. Jensen.

Under Ownership of the property, we note that Mount Hope Mines Company, Inc., is the owner. However, the applicant company is Mount Hope Mines, Inc. If the property owner is not the applicant company, lien and subordination agreements should be furnished, or a performance bond would have to be assured before a contract is executed.

Submittal of additional information should not be construed as a commitment by the Government to offer a contract.

Sincerely yours,

Harold Kirkemo
Chief, Office of Minerals Exploration

Enclosure

Copy to: Mr. Hal Jensen

ccc
DRF
MR Rdg.
OME Rdg.
OME Files
Kirkemo/ Region II HKirkemo/gpw