MME Form 52
June, 1961

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

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

LIEN OR SUBORDINATION AGREEMENT 1/

To the United States of America:

That certain land in the County of Whatcom, State of Washington, described as follows:2/ New Gold Hill Relocations No.'s 1 to 7 inclusive, Slate Creek Mining District. Claims are unsurveyed but believed to be in Sec. 30, Twp 36N, Range 17 East.

hereinafter called the "land", is the subject of a proposed exploration contract, hereinafter called the "Contract", between the United States of America, hereinafter called the "Government" and Minerals Technology Corporation 3/ hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

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

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

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

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

None, except that a lease agreement has been executed with Minerals Technology Corporation.

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

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

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

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

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

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

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

Dated this 26th day of April, 19 67.

APPLICANT SHOULD NOT SIGN

_____	(Seal)	_____	(Street) (City & State)
_____	(Seal)	_____	(Street) (City & State)
_____	(Seal)	_____	(Street) (City & State)
_____	(Seal)	_____	(Street) (City & State)
_____	(Seal)	_____	(Street) (City & State)
_____	(Seal)	_____	(Street) (City & State)

I, Ed Nauheim (Name), certify that I am the owner (Title—Secretary, etc.) of the corporation named herein; that Dan Lebbers (Name), who signed this agreement was then _____ (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____
(Corporate Seal)

MME Form 52
June, 1961

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

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

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Minerals Technology Corporation 3/

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

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

Dated this 26th day of April, 19 67.

APPLICANT SHOULD NOT SIGN

	(Seal)		(Street) (City & State)
	(Seal)		(Street) (City & State)
	(Seal)		(Street) (City & State)
	(Seal)		(Street) (City & State)
	(Seal)		(Street) (City & State)
	(Seal)		(Street) (City & State)

I, Ed Parsons (Name), certify that I am the Owner (Title—Secretary, etc.) of the corporation named herein; that Dan Tebbers (Name), who signed this agreement was then _____ (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____
(Corporate Seal)

OME-6659

Mr. Johnson's note on 10/20/67 letter

Hon. Thomas M. Foley is interested. Advise Bill First of Foley's staff of our devision

FEJ

11/17/67

MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE

Contract No. _____ Docket No. 6659

Application
- [ ] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

- [ ] Project Summary (final)
- [ ] Work Completed Analysis (final)
- All other material filed in chronological order including the following reports if checked:
- [ ] Field Team 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

MME FORM 6 REFERENCE SLIP
REV. 2-59 OFFICE OF MINERALS EXPLORATION

	DATE	INITIALS
TO: Chief, OME	9/20/67	
1. Re: Transmittal of Application		
2. (Silver-Lead-Zinc)		
Minerals Technology Corp.		
3. Gold Hill Property		
Whatcom County, Wash.		
4.		
M. L. Smelser for		
5. D. R. MacLaren		
FROM: Fld. Officer, Reg. I		

FOR: Check items for action desired

X Action ____ Reply for signature of ____
____ Approval ____ Investigate ____ Surname
____ Comment ____ Recommendations ____ Signature
____ Conference ____ Rewrite ____ File
____ Instructions ____ Your information

REMARKS: Because of Mr. MacLaren's absence from the office and in order to save time, I am forwarding to you the above-cited application.

INT.-DUP. SEC., WASH., D.C. M56300-62

MME Form 40
Jan. 65

RECEIVED
Cen, Misc
SEP 20 1967
O.M.E.
SPOKANE, WASH.

Budget Bureau No. 42-R1368
Approval expires Dec. 31, 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

OFFICIAL COPY
O. E.
RECEIVED
SEP 22 1967
INITIALS | CODE

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.)*

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER 6659

DATE RECEIVED 9/22/67

REGION I

DIVISION CODE

BUSINESS ORGANIZATION *(Check one)*

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

STATE IN WHICH FIRM IS ORGANIZED Minnesota

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
A. C. Dorenfeld	As above	President
D. H. Yardley	"	Vice President
Gust Bitsianes	"	Secretary

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE
Silver - Lead - Zinc

ESTIMATED COST OF PROJECT
$ 124,080

PROPERTY NAME	LOCATION COUNTY	STATE
Gold Hill	Whatcom	Washington

GENERAL INSTRUCTIONS

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

CERTIFICATION

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

September 15, 1967
DATED

Donald H. Yardley
BY (Signature)

Vice President
TITLE

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

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

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

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

2. Applicant's Rights in Land:

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

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

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

3. Physical Description:

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

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

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

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

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

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

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

4. Accessibility of Property:

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

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

5. Exploration Work:

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

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

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

6. Experience:

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

7. Estimate of Costs:

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

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

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

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

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

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

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

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

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

Minerals Technology Corporation

Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

PRESIDENT:
ADRIAN C. DORENFELD
B.S., E.M.

VICE-PRESIDENT
DONALD H. YARDLEY
B.S., PH.D.

SECRETARY
GUST BITSIANES
B.CH.E., PH.D.

REPLY TO:
School of Mines
University of Minnesota
Minneapolis, Minnesota 55455

May 11, 1967

First National Bank of Spokane
Spokane, Washington

Dear Sir:

We have leased seven mining claims in the Slate Creek Mining District, Whatcom County, Washington.

We wish to borrow all, or a substantial part, of the funds necessary for the exploration of the property. The exploration plan involves three successive stages. Stage 2 would depend upon success in Stage 1. The cost of Stage one is expected to be about $25,000. The total of all stages would be about $100,000.

The Gold Hill property is a Silver-Lead prospect. Over 1000 feet of tunnel (two adits) were driven in the 1930's. Metal prices are now much higher than at that time, and, in addition, a cross-state highway is being constructed within 4 miles of the claims. This changes the economic potential greatly.

Old assay plans show at least one ore-shoot averaging 20 oz of silver and 4.5% Pb over a width of 5 feet for a length of 200 feet. We have other evidence of a second ore-shoot in the upper level.

Our general plan is to try to prove (or disprove) the presence of at least 60,000 tons of silver-lead ore before we would consider actual development for production.

We realize that before making a loan on the property you would want additional details regarding the property and regarding ourselves. We would be pleased to present such added information as may be necessary.

Would you let me know whether your bank would consider a loan of this kind and if so, the further information you would want sent.

Very truly yours,

D. H. Yardley

D. H. Yardley
Vice-President

DHY:dat

First National Bank IN SPOKANE
BOX 2149, TEmple 8-2761
SPOKANE, WASHINGTON 99210

JAMES B. DAVIS
VICE-PRESIDENT

May 16, 1967

School of Mines
University of Minnesota
Minneapolis, Minnesota 55455

Gentlemen:

We thank you for your letter of May 11th in which you requested a loan for the Minerals Technology Corporation for the purpose of exploration of mining property.

We are extremely sorry that we find it necessary to advise you that our bank is not interested in considering loans of this type.

We again thank you for giving us consideration.

Very truly yours,

James Davis

JBD aw

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

Minerals Technology Corporation
Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

PRESIDENT:
ADRIAN C. DORENFELD
B.S., E.M.

VICE-PRESIDENT
DONALD H. YARDLEY
B.S., PH.D.

SECRETARY
GUST BITSIANES
B.CH.E., PH.D.

REPLY TO:

School of Mines
University of Minnesota
Minneapolis, Minnesota 55455

May 11, 1967

Old National Bank of Washington
Spokane, Washington

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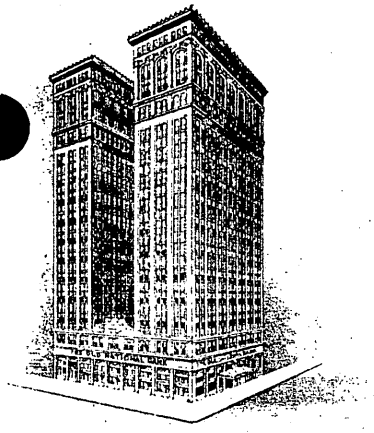
Very truly yours,

D. H. Yardley

~~D. H. Yardley~~
Vice-President

DHY:dat



MAIN OFFICE

OLD NATIONAL BANK OF WASHINGTON

SPOKANE, WASHINGTON

May 15, 1967

RAY A. BARTROFF
Vice President

School of Mines
University of Minnesota
Minneapolis, Minnesota 55455

Gentlemen:

We have been asked by Mr. D. H. Yardley, Vice President of the Minerals Technology Corporation of your city to write to you in reply to their letter to us of May 11, 1967. They have inquired if we would consider a loan to finance exploration on seven mining claims in the Slate Creek Mining District, Whatcom County, Washington.

The requirement for Stage 1 is estimated at $25,000 and if successful, later stages, for a total of $100,000 approximately.

As a general statement, we would not be interested in financing a speculative venture of this nature unless supported by guaranties of responsible parties who would pledge marketable negotiable security with us.

Specifically Whatcom County is located in the northwestern portion of this state about 400 miles from Spokane. This area is, we believe, adequately served by banks and we suggest that you write to the National Bank of Commerce of Seattle, Bellingham Office, 128-E Holly Street, Bellingham, Washington, 98225.

Yours very truly,

R. A. Bartroff
Vice President

RAB:h

Minerals Technology Corporation

Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

PRESIDENT:
ADRIAN C. DORENFELD
B.S., E.M.

VICE-PRESIDENT
DONALD H. YARDLEY
B.S., PH.D.

SECRETARY
GUST BITSIANES
B.CH.E., PH.D.

September 14, 1967

REPLY TO:

School of Mineral and
Metallurgical Engineering
University of Minnesota
Minneapolis, Minnesota 55455

Statement of Financial Responsibility

As of September 15, 1967 Minerals Technology Corporation had assets exceeding $200,000 in First National Bank of Minneapolis. These assets are invested in various short term government papers. Our liabilities of all kinds are less than $1500. We have expended in the neighborhood of $3000 on the Gold Hill property in assessment work, examination costs, legal fees etc.

?, Collected for loan?

The only other property we hold is some claims in Mexico. We have made offers for a property in Canada which, if accepted, will commit us to an expenditure of at least $5000 in the coming year.

D. H. Yardley

D. H. Yardley
Vice President

DHY:mks

Messrs. Dorenfeld, Bitsianes and Yardley are the principal promoters of the Company within the meaning of the Securities Act of 1933, as amended, and, together are experienced in the fields of geology, mining exploration, mining engineering, mineral beneficiation and smelting.

Mr. Dorenfeld was born in Brooklyn, New York on December 16, 1919, and was educated at Columbia University where he received his Bachelor of Science degree in 1940 and his Engineer of Mines degree in 1941. From 1941 through 1949 he was employed by Kennecott Copper Corp., Callahan Lead-Zinc Company, Phelps Dodge Corporation and Mammoth-St. Anthony Company in various capacities, all related to mining and mineral beneficiation. From 1950 through 1954 he was with the University of Alabama as an Associate Professor of Mineral Dressing and did consulting work on a process for the extraction of platinum from scrap, developed a process for upgrading graphite for Southwestern Graphite Company (U. S. Patent issued and assigned to employer), developed a process for extraction of mica, and a process for extraction of manganese for Southwestern Engineering Company. From 1954 to 1957 he was Senior Mineral Engineer for C. F. Braun & Company, consultants and constructors, Alhambra, California. He helped solve process problems of a new lithium plant for American Potash and Chemical Company and has had many other consulting projects in lithium, uranium, copper, lead and zinc. From 1957 through 1960 he managed mining property and exploration crews for Roberts & Associates in various states of the United States, Canada and Mexico. Since 1960 he has been on the faculty of the University of Minnesota where he presently holds the rank of Associate Professor of Mineral Engineering. He has acted as consulting engineer to Timna Copper Mines in Eilat, Israel, to General Mills, Inc. and to Commerce Nickel Mines, Port Arthur, Ontario, as well as others. He is a member of the American Institute of Mining, Metallurgical and Petroleum Engineers and the Canadian Institute of Mining and Metallurgy. He has numerous technical publications in professional journals and textbooks relating to mining and processing of ores and is a Registered Professional Engineer in the States of Alabama, California and Minnesota.

Dr. Yardley was born in Estevan, Saskatchewan, on September 9, 1917, and was educated at Queens University, Ontario, where he received his Bachelor of Science in mining engineering and a Master of Science in geology. He received a Ph. D. degree in geology from the University of Minnesota in 1951. From 1937 through 1941 he worked in mineral exploration for various companies in Canada. From 1941 to 1942 he was a mining engineer in gold mining. From 1942 to 1946 he was with the Canadian Army Engineering Corps. After World War II he was employed as exploration engineer and did geological mapping for the Canadian government. Since 1949 he has been on the faculty of the University of Minnesota and presently holds the rank of Associate Professor of Mineral Engineering. During his tenure with the University he has been geological consultant for South American Development Co., Bear Creek Mining Co. (a subsidiary of Kennecott Copper Corp.), and was director of Ore Estimate Division of the University of Minnesota. He has consulted with South American Development Co., British Columbia, Bear Creek Mining Co., J & L Steel Co., Melrose Granite Co., M. A. Hanna Co. and the Minnesota Highway Department on various special projects involving raw material sources, royalty agreements and exploration programs. Dr. Yardley is a member of the American Institute of Mining, Metallurgical and Petroleum Engineers, the Geologist Society of America, the Society of Economic Geologists and the American Institute of Professional

Geologists. Dr. Yardley has numerous technical publications in professional journals relating to geology and mining engineering and is a Registered Professional Engineer and a Certified Geologist in Ontario and Minnesota.

Dr. Bitsianes was born September 24, 1919, in Virginia, Minnesota, and was educated at the University of Minnesota where he earned his Bachelor of Science in chemical engineering and received his Ph. D. in metallurgical engineering in 1951. From 1943 to 1946 he was with the Manhattan Project (atomic bomb project) at the Massachusetts Institute of Technology as a research metallurgist. Since 1946 he has been with the faculty of the University of Minnesota where he presently holds the rank of Professor of Metallurgical Engineering. He was a consulting metallurgist with the NEPA atomic project, Oak Ridge, Tennessee from 1948 to 1951. Since 1955 he has been a consulting engineer to the Mines Experiment Station of the University of Minnesota. He has also been engaged in various consulting activities in ore processing and metallurgical development with such companies as Manganese Chemicals Corporation and Great Lakes Steel Company. Dr. Bitsianes is a member of the American Institute of Mining, Metallurgical and Petroleum Engineers, the British Iron and Steel Institute and has received the J. E. Johnson, Jr. Award for 1955 for his contribution to the literature in the processing of pig iron and the Robert W. Hunt Award for 1963 as co-author of an outstanding paper, "The Combustion Zone in the Iron Ore Sintering Process". He also has many other publications in the fields of ore agglomeration, low grade ore treatment, blast furnace reactions and nuclear metallurgy. He is a Registered Professional Engineer in the State of Minnesota.

Mr. Northcott is a graduate of Columbia University, New York City, and did graduate work at Columbia University and the University of Minnesota. Since 1952 he has been with the First National Bank of Minneapolis where he presently holds the position of Assistant Vice-President of the Trust Department. He is presently on the Board of Directors of the Community Health and Welfare Council and is an officer and director of Big Brothers Inc. and Big Brothers Corporation, Inc. He is also a director of the Columbia University Alumni Association of Minnesota.

Mr. Baumgardner is an attorney at law admitted to practice in the District of Columbia and the State of Minnesota. He presently is chairman of the board of Harmon Glass Co., Inc. and Connolly Shoe Co.

APPLICATION OF PROCEEDS

The net proceeds to be received by the Company, after deducting expenses, will be added to the general funds of the Company. All of the proceeds, after expenses of this issue are paid, will be placed at interest in an F.D.I.C. insured bank or in government securities pending the first exploration project. Unless at least 50,000 of the shares offered hereby are subscribed by August 25, 1966, the entire purchase price will be refunded undiminished to the subscribers. If 50,000 or more shares, but less than all the shares offered hereby, are sold, the net proceeds from the sale of such shares will be used by the Company for its stated purposes. There is no firm underwriting of the shares offered hereby and accordingly no assurance can be given that all or any of the shares will be sold.

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
MINING
QUARRYING
SHAFT SINKING
TUNNEL DRIVING
MINE PLANT DESIGN
AND FABRICATION

Boyles Bros. DRILLING COMPANY

CONTRACTORS-ENGINEERS-GEOLOGISTS

1415 Riverside P.O. Box 4307
SPOKANE, WASHINGTON 99202
Phone (509) KE 4-0862

General Offices and Plant
1624 Pioneer Road P. O. Box 58
SALT LAKE CITY, UTAH 8[illegible]
Phone 487-7595

BRANCH OFFICES
PHOENIX
RENO
SPOKANE
DENVER
SACRAMENTO
SANTIAGO, CHILE
LIMA, PERU

June 30, 1967

D. H. Yardley - Vice President
Minerals Technology Corporation
2107 Fairways Lane
St. Paul 13, Minnesota

Dear Sir:

The following schedule of terms is presented as our proposal for doing the drilling in Whatcom County, Washington as per your invitation to bid dated June 7, 1967.

ITEMS

1. Mobilization and demobilization of crews and equipment: $750.00

2. Drilling and casing unconsolidated overburden: $12.50 per foot.

3. Diamond Core Drilling:

	BXWL	AXWL
0.0 to 400 feet	$9.55 per foot	$8.95 per foot

4. Reaming and casing: $5.00 per foot.

5. Cementing, waiting for cement to set during a regular drill shift and drilling out cement: $16.00 per hour plus cost of cement, cement substitutes, drill mud and additives.

6. Delays for your convenience, drill hole surveys, etc.: $14.00 per hour.

7. Moving equipment from helicopter staging area to drilling location, from hole to hole, setting up, tearing down, installation and recovery of water supply systems and return of equipment to the staging area: $14.00 per hour each 2 man crew.

8. Casing lost in holes: List price less 50% f.o.b. the job site.
Casing ordered left in place: List price f.o.b. the job site.

9. Helicopter service between the staging and drilling areas will be furnished at no cost to Boyles Bros. Drilling Co.. Camp facilities with food and shelter will be furnished at no cost to Boyles Bros. or its personnel.

10. Boyles Bros. will furnish a drill of suitable design and capacity with all supplies, fittings and accessories to do the work. The drill will be operated a minimum of 10 hours per day 6 days a week by a competant foreman driller.

We sincerely appreciate your interest in Boyles Bros. Drilling Company's service. Should you have any questions please call on us at your convenience.

Very truly yours,
Boyles Bros. Drilling Co.

E. G. Tucker

E. G. Tucker - District Manager

Longyear

E. J. LONGYEAR COMPANY
GENERAL OFFICES, 76 SOUTH 8th STREET
MINNEAPOLIS, MINNESOTA 55402, U.S.A.
TELEPHONE (612) 339-7631 • CABLE LONGCO

OUR '91 75TH YEAR '66

June 23, 1967

Minerals Technology Corporation
Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Attention: Mr. D. H. Yardley, Vice President

Subject: Proposed Diamond Drilling Program at Gold Hill Property, Whatcom County, Washington.

Gentlemen:

As previously indicated, if you proceed with the exploration project on the Gold Hill Property, Whatcom County, Washington, as outlined in your letter of May 31, we would be happy to serve you as Drilling Contractor.

Based upon information contained in your letter of May 31, and experience gained on similar projects in this same general area during the past several years, we estimate but do not guarantee that the cost of this work will average approximately $10.00 to $11.50 per foot, depending upon the amount of time required for reaming, casing, cementing and other non-productive operations. We are setting forth below a breakdown of our estimate for your review:

1. Mobilization and Demobilization	$ 1,000.00	lump sum
2. Diamond Core Drilling: AX Size 1,540 ft. @ $8.00 per ft.	12,320.00	
3. Reaming for casing: 300 ft. (estimated) @ $3.00 per ft.	900.00	
4. Cementing Operations: 50 hours (estimated) $17.25 per hr.	862.50	
5. Moving, Riging, Waterlines:		
A. Initial move-in and move-out 96 man hours (estimated) @ $7.75 per man hour (48 crew hours)	744.00	
B. Moving between location #1 and #2 32 man hours (estimated) @ $7.75	248.00	
C. Reseting drill at six drill hole locations 16 man hours per hole @ six holes = 96 man hours (estimated) @ $ 7.75	744.00	
	$ 16,818.50	
Contingency factor (5%)	840.90	
	$ 17,659.40	
divided by 1,540 =	11.47 per ft.	

We understand that this estimate is required for setting up a budget. We believe that our estimate is realistic and can be used for this purpose. We will be happy to send a firm proposal along to you after one of our representatives has had an opportunity to visit the site of the proposed work, and we are more familiar with the local conditions and problems which would be involved in collaring the holes and moving the equipment to and from the property and between the individual drill hole locations at the job site and performing other related work.

We hope that this information will be sufficient for your present purpose. If not, please do not hesitate to get in touch with us and we will gladly supply additional data as required.

Yours very truly,

E. D. LONGYEAR COMPANY

MJGleason/ab

Vice President - Contract Drilling

LEASE AGREEMENT

THIS LEASE AGREEMENT, made and entered into this 26 and day of April, 1967, by and between DANIEL GEBBERS and EDWARD PARISEAU, owner of certain mining properties hereinafter described, and hereinafter referred to as "Lessor", and MINERALS TECHNOLOGY CORPORATION, hereinafter referred to as "Lessee",

WITNESSETH: That Lessor in consideration of the rents, royalties and covenants hereinafter mentioned, to be paid and performed by said Lessee, does hereby demise, grant, lease and let to said Lessee all of those certain mining properties belonging to Lessor situated in Whatcom County, State of Washington, to-wit:

> All that real property described in Exhibit A which is attached to this Lease Agreement and made a part hereof.

TO HAVE AND TO HOLD the above mining properties for the purpose of exploring for, mining, beneficiating or otherwise treating ore.

1. Lessor covenants, warrants and represents with and to Lessee as follows:

(a) He is the sole and exclusive owner of said mining properties and owns the same free and clear of any right, claim, title or interest of any other person whatsoever.

(b) Each and all of the claims and rights of Lessor as owner of said mining properties are now valid and subsisting.

(c) Lessor will defend his title to said mining properties against all adverse claims.

(d) Lessee may elect to defend Lessor's title to said mining properties against adverse claims in the event that Lessor

should fail to defend or shall unreasonably delay defending title. Lessor shall pay and reimburse Lessee for all reasonable expenses incurred by Lessee in defending Lessor's title to the mining properties but only to the extent of any amounts due to Lessor under this Lease Agreement.

(e) Lessee may, at its option and expense, perfect Lessor's title to said mining properties.

(f) Lessor has not done or suffered anything whereby the mining properties have been encumbered in any manner whatsoever and to the best of Lessor's knowledge, said mining properties are free and clear of all encumbrances, liens and charges.

(g) If Lessor owns less than the entire estate in the above described mining properties or any part thereof, then the rent, royalties and other consideration herein provided for shall be paid Lessor only in the proportion which his interest bears to the whole estate of that portion of the leased premises from which the ore is extracted.

(h) Lessor now has and Lessee shall have such access to the mining properties as reasonably may be necessary to conduct the business of exploring for minerals.

2. The term of this Lease shall be for a period of tweleve (12) years from the date hereof and is renewable at Lessee's option for two additional periods of ten (10) years each, and for so long thereafter as any mining, development, exploration, or prospecting is conducted upon any of said mining properties.

3. As consideration for the granting of this Lease to Lessee, Lessee hereby agrees to pay to Lessor the sum of Six Hundred Dollars ($600.00). The said Six Hundred Dollars ($600.00) to be

due and payable 48 hours after the Lessee affixes his signature.

Lessee also hereby agrees that prior to September 1, 1967, Lessee shall carry out exploration and or development work on the property in an amount of not less than One Hundred Dollars ($100.00) per claim. Lessee shall also file the necessary proofs of labor in the county recording office.

Lessee also agrees to pay to Lessor in the manner and at the times hereinafter provided a royalty of ten per cent (10%) of the "net proceeds" received from the sale of mineral production of every kind and nature mined and shipped from the mining properties.

(a) "Net proceeds" as used herein means net smelter returns of gross amounts received from the smelter processor after deducting from the gross amount thereof the costs of transportation from the mine to the smelter if the ore is shipped directly to a custom smelter or the costs of transportion from Lessee's mill to the smelter if the ore is beneficiated prior to shipment to the custom smelter. In the event that the mineral products are sold to a custom mill, the "net proceeds" shall be the net amount paid by the custom mill for the minerals plus the milling charge but less the cost of transportation from the mine to the custom mill. If Lessee shall engage in smelting and refining of concentrates, then the cost of such smelting and refining shall be deducted in arriving at "net proceeds".

(b) "Net smelter returns" as used herein means the amount received from the smelter upon sale.

(c) If Lessee desires, it may elect to have the ore or concentrate smelted on a toll basis instead of a custom basis. In the event Lessee shall so elect, Lessor may elect to receive

royalties in kind or in cash.

(d) Royalties required under this paragraph 3 shall be due and payable thirty (30) days after receipt of the money from the sale of the ore or other mineral products by Lessee.

4. Prior to September 1, 1968, Lessee shall perform accepted kinds of exploration or development work on the mining properties such as geological, geochemical, or geophysical mapping, sampling, trenching, cabin repair, reopening of tunnels or additional tunnelling, diamond drilling and surveying, in a total cost of not less than Twelve Thousand Dollars ($12,000.00).

(a) In the fiscal year commencing September 1, 1968, Lessee shall perform exploration or development work of the kind mentioned above in a total cost of not less than Eight Thousand Dollars ($8,000.00). "Fiscal year" as defined herein means the period from September 1 through August 31 inclusive. Lessee may, at its option elect to pay Lessor the sum of Two Thousand Dollars ($2,000.00) for the fiscal year commencing September 1, 1968, as a minimum advance royalty in lieu of performing such exploration and development work and shall not be required to perform such work for said fiscal year if it elects to pay the advance minimum royalty.

(b) Lessee shall not be obligated to perform exploration or development work (other than annual assessment work) or to pay further minimum advance royalties in addition to those required under paragraphs 4 and 4(a) above until the fiscal year next succeeding the fiscal year in which the North Cross State Highway in the State of Washington has been completed for one mile past the mouth of East Creek. Said highway shall be considered to be completed when a responsible official of the Washington State Highway Depart-

ment gives written permission to Lessee for loaded trucks belonging to Lessee or his agents to use said highway for regular and continuous operations. Loaded trucks are trucks carrying load weights of not less than ten tons.

(c) Beginning with the fiscal year next succeeding the year in which the North Cross State Highway is completed for one mile past the mouth of East Creek and for each fiscal year thereafter. Lessee shall perform exploration, development, mining or processing work in a total cost of Ten Thousand Dollars ($10,000.00) or in the alternative shall pay Lessor a minimum advance royalty. The minimum advance royalty payable for the first fiscal year next succeeding the year in which the North Cross State Highway is so completed shall be the sum of Two Thousand Dollars ($2,000.00), for the next succeeding fiscal year the sum of Three Thousand Six Hundred Dollars ($3,600.00), for the next succeeding fiscal year the sum of Eight Thousand Dollars ($8,000.00), and for each succeeding fiscal year thereafter the sum of Ten Thousand Dollars ($10,000.00). Notwithstanding anything in the previous sentence to the contrary, if Lessee shall have produced 25,000 tons of ore from the mining properties and concentrates derived therefrom have been sold, or if Lessee shall have performed exploration, development, mining or processing work from the date of this Lease Agreement in a total cost of Fifty Thousand Dollars ($50,000.00) or more, then, in either of these events, the minimum advance royalty payable by Lessee to Lessor under thie paragraph 4(c) shall be the sum of Three Thousand Six Hundred Dollars ($3,600.00) per fiscal year. Lessee shall not be required to perform exploration, development, mining,

or processing work, except annual assessment work, for any fiscal year for which it elects to pay the minimum advance royalty.

(d) It is the intention of the Lessee to apply to the appropriate governmental agencies or divisions for permission to construct an access road from the North Cross State Highway to the Gold Hill property. This will require a bridge over Granite Creek. In the event that the necessary permission and easements have not been obtained by Lessee within three (3) months of the completion of the North Cross State Highway, as defined in paragraph (b), then the terms of paragraph (c) shall not take effect until the second fiscal year next succeeding the year in which the North Cross State Highway is completed. During the additional year of time that would occur if this section becomes operative, Lessee shall not be required to make any payments or do any work except necessary assessment work.

(e) Advance royalty payments shall be payable thirty (30) days after the end of each half of the fiscal year. If this Lease is terminated for any reason during any fiscal year, no minimum advance royalty shall be due and payable for that fiscal year.

5. If (a) Lessee shall pay to Lessor total royalties of Four Hundred Fifty Thousand Dollars ($450,000.00) pursuant to this Lease Agreement, and if (b) the amount of silver upon which royalties have been paid is at least Three Million One Hundred Thousand (3,100,000) ounces troy weight, then in the event conditions (a) and (b) are both met, at Lessee's option, Lessor shall sell, assign and transfer to Lessee all of his right, title and interest in and to the mining properties free and clear of right, title, interest or

or claim of any other persons. Said sum shall be considered to be the purchase price for said mining properties and Lessee shall not be required to pay any additional amounts to Lessor for the purchase. Upon exercise of this option by Lessee, this Lease shall cease and terminate and Lessor shall have no further right to rents or royalties. Lessee shall give Lessor thirty (30) days notice in writing of its intention to exercise its option to purchase the mining properties. Upon notice, Lessor shall forthwith, execute and deliver such deeds and documents and take or join in such other action as is necessary to transfer good and marketable title to Lessee. Failure of Lessee at any time to exercise its option to purchase the mining properties shall not be construed as a release or waiver of that option.

6. During the term of this Lease, Lessee shall be responsible for necessary annual assessment work which work shall be performed by Lessee not later than August 20 of each year. Should Lessee fail to perform said assessment work within such time, Lessor may perform said work and record proof of labor at the expense of Lessee.

(a) Failure of Lessee to reimburse Lessor for the cost of said work after such work has been performed and proof of labor recorded and within thirty (30) days after written notice to Lessee that such work has been performed and proof of labor recorded by Lessor, shall constitute a default in this Lease.

7. The area included within this Lease shall extend for Four Thousand (4,000) feet northeast, Four Thousand (4,000) feet southwest, Two Thousand (2,000) feet southeast and Two Thousand (2,000) feet northwest. These distances are to be measured from the center of the entrance (portal) of the upper tunnel now existing

on the leased premises. Any claims or portions of claims staked within this area by Lessee, Lessor, or their heirs, representatives, agents, successors, or assigns shall be included within the terms of this Lease Agreement. Any claims or portions thereof that may be staked or acquired outside this area are not included within the terms of this Lease Agreement.

8. Lessee agrees to keep an accurate account showing the tonnage and all shipments and sales of all minerals, metals, and other production from said mining properties and receipts therefrom in connection therewith and of the nature and amount of expenditures for exploration or development work to the extent that such work is required by the terms of this Lease Agreement. The records and accounts may be inspected by Lessor at any reasonable time.

9. Lessee shall perform all mining operations in a good and workmanlike manner, shall properly and adequately timber where necessary all shafts, tunnels, and all underground excavations for the safety of the workmen and preservation of said premises as a mine in a manner commensurate with good and economical mining.

10. Title to all mining machinery, equipment, fixtures, and structures erected or placed upon said mining properties by Lessee shall be reserved to said Lessee and remain the personal property of Lessee, subject to removal at Lessee's will and pleasure during the continuance of this Lease Agreement and ninety (90) days thereafter irrespective of the manner or method of attachment to said real property; provided, that such right of removal shall not extend to foundations or mine timbers in place, unless Lessor shall have given his written consent thereto. If it shall be impossible or impracticable to complete said removal within ninety (90) days for any of the reasons set forth in paragraph 10 of this Lease

Agreement, then Lessor shall extend the time by a reasonable period.

11. Lessee shall carry adequate workmen's compensation insurance for the protection of all workmen employed on said mining properties or in the mining operations. Lessee shall, at all times during the term of this Lease, carry at least Two Hundred Thousand Dollars ($200,000.00) of public liability insurance for injury to persons and Fifty Thousand Dollars ($50,000.00) of property damage insurance for property damaged on the premises.

12. Lessee may cancel or terminate this Lease upon thirty (30) days notice in writing to Lessor. In the event of such termination, Lessee shall have the right to abandon exploration or operation of the mining properties without the payment of any further sums, except rents and royalties required to be paid before expiration of said notice period, and without further penalty to Lessee. Any sums of money paid to Lessor prior to such termination shall be accepted and received by Lessor in full and complete payment of all claims of every kind and nature which Lessor may have against Lessee. Within ninety (90) days after termination of this Lease, Lessee shall provide Lessor with copies of all geologic or other maps, assay results, metallurgical test results and survey data that may have been acquired or obtained by Lessee during the term of the Lease.

13. If Lessee fails, neglects, or refuses to pay the rents and royalties herein provided, or fails or neglects to perform the other terms, covenants or conditions or any part thereof as herein provided, and such default continues for thirty (30) days after notice to Lessee in writing to cure such default, Lessor

or his agents may re-enter, take possession of said mining properties and premises and may remove all persons found thereon. Thereupon, this Lease Agreement and Lease shall forthwith cease and terminate, all payments of every kind theretofore made to Lessor shall be retained as rental for the use and occupation of said premises by Lessee, and within the time and upon the same conditions as set forth in paragraph 10 of this Lease Agreement, Lessee shall remove its personal property and its other property from said premises. Any such notice of default sent by Lessor to Lessee must be signed by Lessor or by his attorney.

14. This Lease may be assigned or subletted in whole or in part by Lessee and upon such assignment or subletting, the assignee or sublessee shall be solely responsible to Lessor for his pro rata portion of any or all of the obligations or liabilities under this Lease Agreement, and Lessee shall be relieved proportionately of any or all of said obligations or liabilities.

15. Any notice required to be given to Lessor hereunder shall be given to him by registered mail addressed to him at:

or at such other address or addresses as Lessor may hereafter designate in writing from time to time.

Any notice required to be given to Lessee hereunder shall be given by registered mail addressed to Lessee at:

or at such other address or addresses as Lessee may designate in writing from time to time.

16. Lessee shall operate said mine in full compliance with all Washington State mining laws.

17. None of the covenants, terms or conditions of this Lease Agreement shall in any manner be altered, waived, changed or abandoned, except by written instrument signed by the parties hereto.

18. Lessee shall pay, when due, all valid claims for work done, services rendered, or materials furnished to the leased premises and shall hold Lessor harmless from any liability arising out of any operations under the Lease. Lessee shall defend all suits or claims arising out of such operations at its own expense. Lessee agrees to post "notice of non-responsibility" signs upon the property for the protection of Lessor.

19. In the event Lessee is prevented from performing this Lease Agreement or any part hereof by strikes, labor disputes, insurrection, riots, mob violence, truck, railcar, power, or labor shortages, governmental order, requirement, regulation, or restriction, suspension of buying by the government where no commercial market is available, any unusual mining casualties, explosions, fires, floods, snow drifts, washouts, avalanches, severe weather conditions, acts of God or other extraordinary events or occurrences or any other events, circumstances, occurrences, and causes which are beyond Lessee's control, then Lessee shall be excused from performance and the time of performance by Lessee shall be suspended during the continuance of such events, circumstances, occurrences and causes which prevent performance.

20. This Lease Agreement shall be binding upon and inure to the benefit of the heirs, administrators, executed, and successors in interest of Lessor and Lessee.

21. Lessee shall pay all state and county tax assessments upon any and all structures and other improvements, machinery, equipment, tools, supplies, and personal property placed upon the leased premises by Lessee. Lessee shall also pay all state and county "net proceeds" or production taxes assessed against Lessee and other taxes assessed against Lessee on account of its operations hereunder. Lessor shall pay all state and county "net proceeds" or production taxes assessed against Lessor on account of his receipts of rents and royalties provided herein to be paid to Lessor by Lessee.

22. Any advance or minimum royalties paid to Lessor by Lessee may be credited by Lessee against future royalties payable to Lessor based upon production and sale of ore.

23. Lessor or his agents may at all reasonable times and at Lessor's risk enter upon and into the leased premises for inspection and to conduct survey or sampling operations. Such activity shall not unreasonably interfere with the operations of Lessee.

24. If at any time five parties or more are entitled to receive royalties under this Lease, Lessee may withhold payment until all parties designate in writing a trustee to receive all royalty payments and to execute division and transfer orders for those entitled to royalties. The writing must be recordable, binding upon heirs, and successors in title and interest, and filed with Lessee.

25. Whenever used in this Lease Agreement, the singular shall include the plural, and the plural, the singular, and the masculine shall include the feminine, and the feminine the masculine, unless the context shall clearly and specifically require

otherwise. The word "person" shall include any natural person and any entity, including but not limited to, estates, trusts, partnerships, corporations, and joint ventures.

26. Any controversy, claim, or dispute arising out of or relating in any manner to this Lease Agreement, or the breach thereof, or relating to its validity, meaning or execution, shall be settled by arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association. The award of the Arbitrators shall be binding upon both parties hereto and judgment upon the award rendered by the Arbitrators may be entered in any court having jurisdiction thereof.

27. It is understood and agreed that Lessee intends to arrange for United States Government aid in the cost of exploration through the United States Office of Mineral Exploration. Lessor agrees to abide by the conditions in MME Form 52 of the United States Office of Mineral Exploration. Should this Lease be surrendered or terminated, Lessor shall pay or cause to be paid any royalties due to the Government of the United States from any ore thereafter found on the mining properties, Lessee shall be released from liability for payment of said royalties and Lessor shall indemnify and save Lessee harmless from any claims for royalties due to the Government of the United States. Lessor shall sign any documents necessary to and shall otherwise cooperate in the application by Lessee to the United States Office of Mineral Exploration for aid in the cost of exploration.

28. Lessor shall, from time to time within the first three (3) years of this Lease Agreement, at Lessee's request and expense, stake such other claims as Lessee shall deem necessary within the

cupboard of the leased premises or fractions thereof.

29. Lessee may elect to patent Lessor's claim to the mining properties, or any of them, and Lessor shall allow Lessee to proceed at Lessee's expense and shall cooperate in the prosecuting of any such patent.

30. Lessee may remove from the leased premises and discard all tailings, waste rock, or other waste products. If this Lease is terminated or cancelled at any time, any rights which Lessee may have at that time to any tailings, waste rock, or other waste products shall revert to Lessor.

31. This Lease Agreement has been drawn and executed in Minnesota and the law of the State of Minnesota shall govern and determine all controversies, claims, or disputes, arising out of or relating in any manner to this Lease Agreement, its validity, construction or enforcement.

32. In the event that any paragraph, part or portion of this Lease Agreement shall be deemed to be illegal, unconstitutional or unenforceable by any court, tribunal, or arbitrator, then such illegal, unconstitutional or unenforceable portion of this Lease Agreement shall be severable and shall not affect the validity of the balance of this instrument, and any portion not adjudged to be illegal, unconstitutional or unenforceable shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Lease Agreement on the day and year first hereinabove written.

IN THE PRESENCE OF:

David K Nuttert

Gary Jorgenson

Wm. J. Martin Jr.

W. H. Lacalamm

Daniel Gebbers

Daniel Gebbers

Edward Pariseau

Edward Pariseau

Lessors

MINERALS TECHNOLOGY CORPORATION

By Alfred C. Dornfeld, Pres.

By Donald H. Spaulding

Lessee

EXHIBIT A
GOLD HILL LEASE

Name of Unpatented Lode Mining Claim	Date Filed	Auditor's File No.	Book and Page No.
New Gold Hill Relocation No. 1	June, 1959	876805	P. 231, Vol. 21
New Gold Hill Relocation No. 2	June, 1959	876806	P. 232, Vol. 21
New Gold Hill Relocation No. 3	June, 1959	876804	P. 230, Vol. 21
New Gold Hill Relocation No. 4	July, 1965	991102	P. 306, Vol. 31
New Gold Hill Relocation No. 5	July, 1965	991103	P. 307, Vol. 31
New Gold Hill Relocation No. 6	July, 1965	991104	P. 308, Vol. 31
New Gold Hill Relocation No. 7	July, 1965	991105	P. 309, Vol. 31

NOTE: Vol. 21 (mining claims only)
Vol. 31 of official records

Mining District - Slate Creek Mining District

Whatcom County, Washington

County Seat and location of recording office -

Bellingham, Washington

EXHIBIT A
GOLD HILL LEASE

Name of Unpatented Lode Mining Claim	Date Filed	Auditor's File No.	Book and Page No.
New Gold Hill Relocation No. 1	June, 1959	876805	P. 231, Vol. 21
New Gold Hill Relocation No. 2	June, 1959	876806	P. 232, Vol. 21
New Gold Hill Relocation No. 3	June, 1959	876804	P. 230, Vol. 21
New Gold Hill Relocation No. 4	July, 1965	991102	P. 306, Vol. 31
New Gold Hill Relocation No. 5	July, 1965	991103	P. 307, Vol. 31
New Gold Hill Relocation No. 6	July, 1965	991104	P. 308, Vol. 31
New Gold Hill Relocation No. 7	July, 1965	991105	P. 309, Vol. 31

NOTE: Vol. 21 (mining claims only)
Vol. 31 of official records

Mining District - Slate Creek Mining District

Whatcom County, Washington

County Seat and location of recording office -

Bellingham, Washington

PHONE 733-4747

Emco HELICOPTERS, INC.
BELLINGHAM AIRPORT
BELLINGHAM, WASHINGTON 98225

June 20, 1967

School of Mines
University of Minnesota
Minneapolis, Minnesota

Dear Sir:

We have received from Jack Pheasant a letter written by Mr. D. H. Yardley concerning helicopter charter to the Gold Hill mining property, in Whatcom County, Washington. The letter was a request for operating charges for helicopter movement with men and supplies to the Gold Hill mining property.

In as much as there is no estimate of hourly usage of helicopter on this program we can only give you the random hour rate. This rate is $135 per hour for supercharge mechine and the rate is charged to and from the departure point of the helicopter. We require a 2 hour daily minimum unless the machine is going to be released for extended period.

Our machine, Bell 47G3B, is capable of handling 800 lbs. on the hook and operates very comfortably at the elevation suggested. The size of the landing area require is determined by the terrain and best decided after inspection of possible site.

If we have left out any information which is needed please feel free to contact us. Our company would be interested in working with you on this project.

Yours truly,

EMCO HELICOPTERS, INC.

Paul Mitchell

Paul Mitchell
Secratary-treasurer

ben

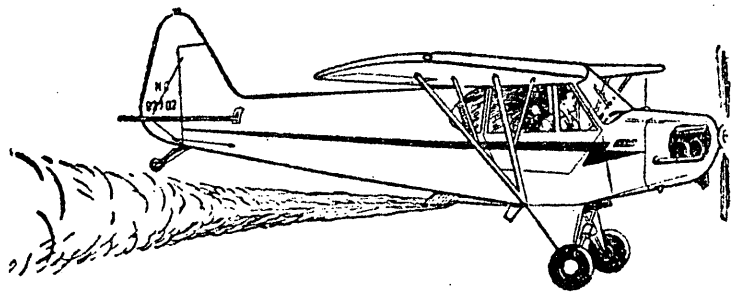
Sky Ranch Aviation

Al Lockwood

"SERVING OKANOGAN COUNTY SINCE 1950"

BUSINESS ADDRESS

TONASKET AIRPORT
TONASKET, WASHINGTON
Phone: ~~XXXXXXX~~
486-9385



HOME ADDRESS

MALOTT, WASHINGTON
Phone - Okanogan ~~XXXXXX~~
422-2617

"CROP CARE BY AIR"

School of Mines
University of Minnesota
Minneapolis, Minnesota 55455

June 22, 1967

Attention D. H. Yardley, Vice President

This is in reference to your letter of inquiry about Helicopter rates for hauling equipment to the Gold Hill Mining property. I would suggest you go in from Okanogan County side, inasmuch as it will be closer and cheaper, also a down hill haul.

Our rate is $110.00 per hour, and we are going to be working in that area during the next two weeks for the U.S. Bureau of Mines. So if your work is done at the same time as somebody elses, we can split the ferry time to the work area and save you considerable money. Our slack times are last two weeks of June and first two weeks of July. Also slack after October 1. Maximum load spproximately 400# up to 550# for special trip. We will also give you prices by the pound if you desire and furnish us total pounds you want hauled. This of course depends upon how close the North Cross State Highway is at time of hauling.

Normally no stand by charge when we work 3 - 5 hours. Otherwise standby would be 2 hours each day, on a limited basis. Landing site that meets U.S. F.S. Helicopter Landing pad requirements for fire fighting is very satisfactory. This means about 12 - 15' flat area with about 75' wide approach area cleared of trees at an approach angle of approximately 30° (thirty), or less.

Please advise by return mail if you desire us to furnish this service.

Very truly yours,

Al Lockwood

Al Lockwood, President
Sky Ranch Aviation

Minerals Technology Corporation

Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

PRESIDENT:
ADRIAN C. DORENFELD
B.S., E.M.

VICE-PRESIDENT
DONALD H. YARDLEY
B.S., PH.D.

SECRETARY
GUST BITSIANES
B.CH.E., PH.D.

REPLY TO:

School of Mineral and
Metallurgical Engineering
University of Minnesota
Minneapolis, Minnesota 55455

September 14, 1967

Mr. D. R. MacLaren
Field Officer
O.M.E. Region 1
Office of Mineral Exploration
157 Howard Street South
Spokane, Washington

SUBJECT: Application for Exploration Contract
Gold Hill Property

Dear Mr. MacLaren:

In 1965 some initial proposals for an O.M.E. contract on the Gold Hill Property were presented for preliminary comment but a lease was not acquired. Since that time we have formed Minerals Technology Corporation and we now have a lease upon the Gold Hill property.

Via this letter and the attached materials we are making an application for an exploration contract. We wish to initiate the work in July of 1968.

We wish to apply on the basis of actual costs incurred rather than on the alternative basis of fixed unit costs. One reason is that we have not been able to obtain bids for the proposed tunnel work of Phase 2, even though I attended the Idaho Mining Convention in an attempt to locate people who would bid or knew of persons who would.

As noted in the attached materials, in July of this year, I spent 5 days at the property. A good helicopter pad was constructed near the cabin so that access now is very easy. We used Mr. A. Lockwood, Sky Rock Aviation of Tonasket, Washington and found him very satisfactory. His phone is Okanogan 422-2617.

If it seems necessary to make a field examination, Mr. Ed Pariseau of Tonasket, Washington, or Mr. Daniel Gebbers of Brewster, Washington could act as guide at the Property and/or give advice on how to reach the property.

I have some color slides taken at the property that provide a limited idea of it. If you would like prints or duplicates, I will be glad to provide them to you.

For your further information my office phone is 612-373-3140, my home phone is 612-631-1290.

Sincerely,

D. H. Yardley

D. H. Yardley
Vice-President

DHY:mks
Enclosed

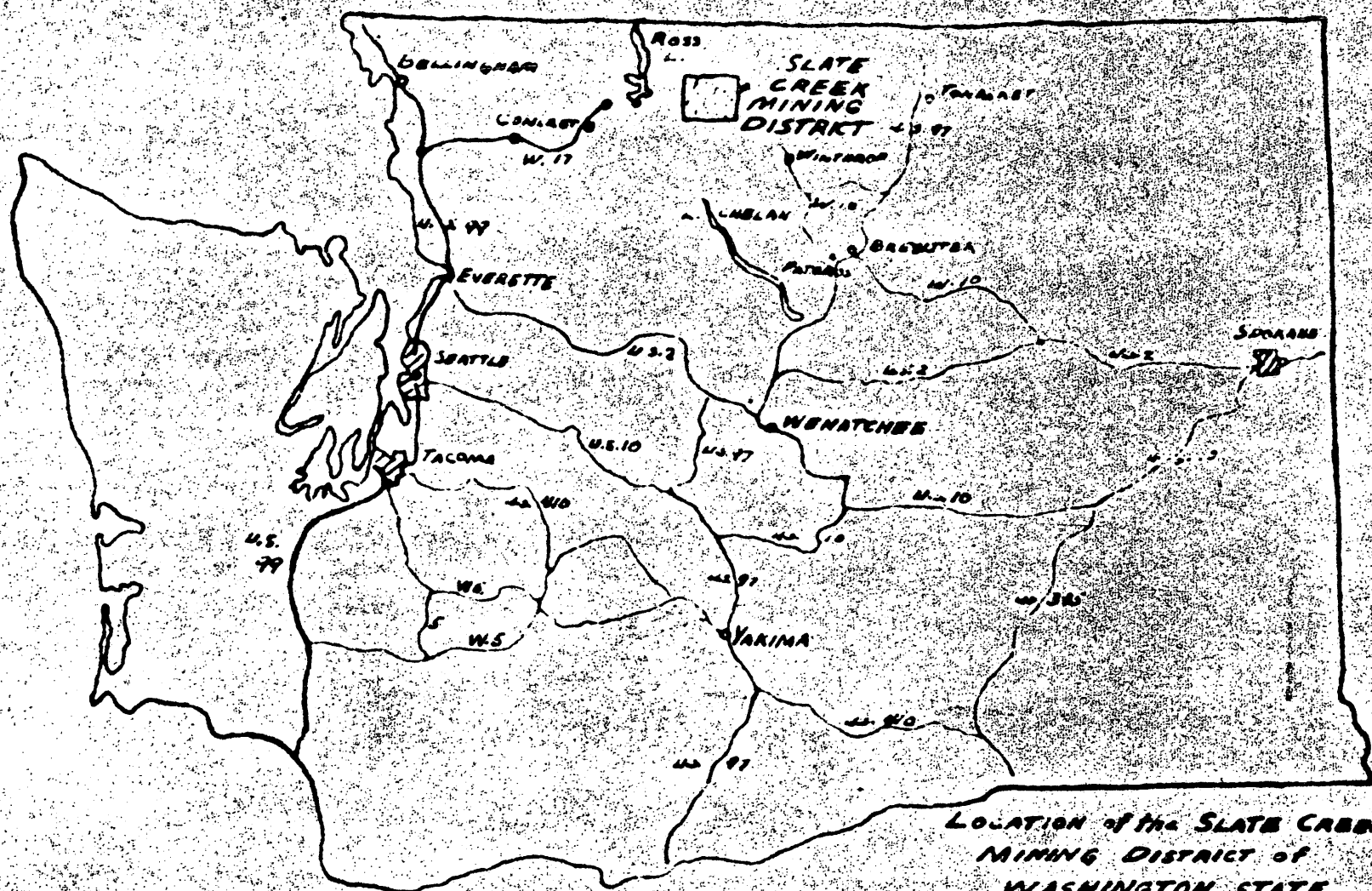
Gold Hill Property

The property consists of 7 unpatented mining claims, named the New Gold Hill Relocations, numbers 1 to 7. Claims 1 to 3 have been held for several years and the assessment work carried out and recorded. Claims 4 to 7 were staked during July of 1965. Required assessment work has been carried out and recorded each year, including 1967.

The location of the property is stated by Sylliasen (p. 2, University of Washington Thesis report) as Section 30, Twp. 36N, R17 East. Because the claims have not been surveyed and because there are some differences between Forest Service and other maps, this may not be the correct description. However, if the claims are not in Section 30, they are very close to it.

The property is on the west slope of the Cascade Mountains, about 23 miles south of the Canadian boundary. It is in the Slate Creek Mining District in the Mount Baker National Forest in Whatcom County, Washington.

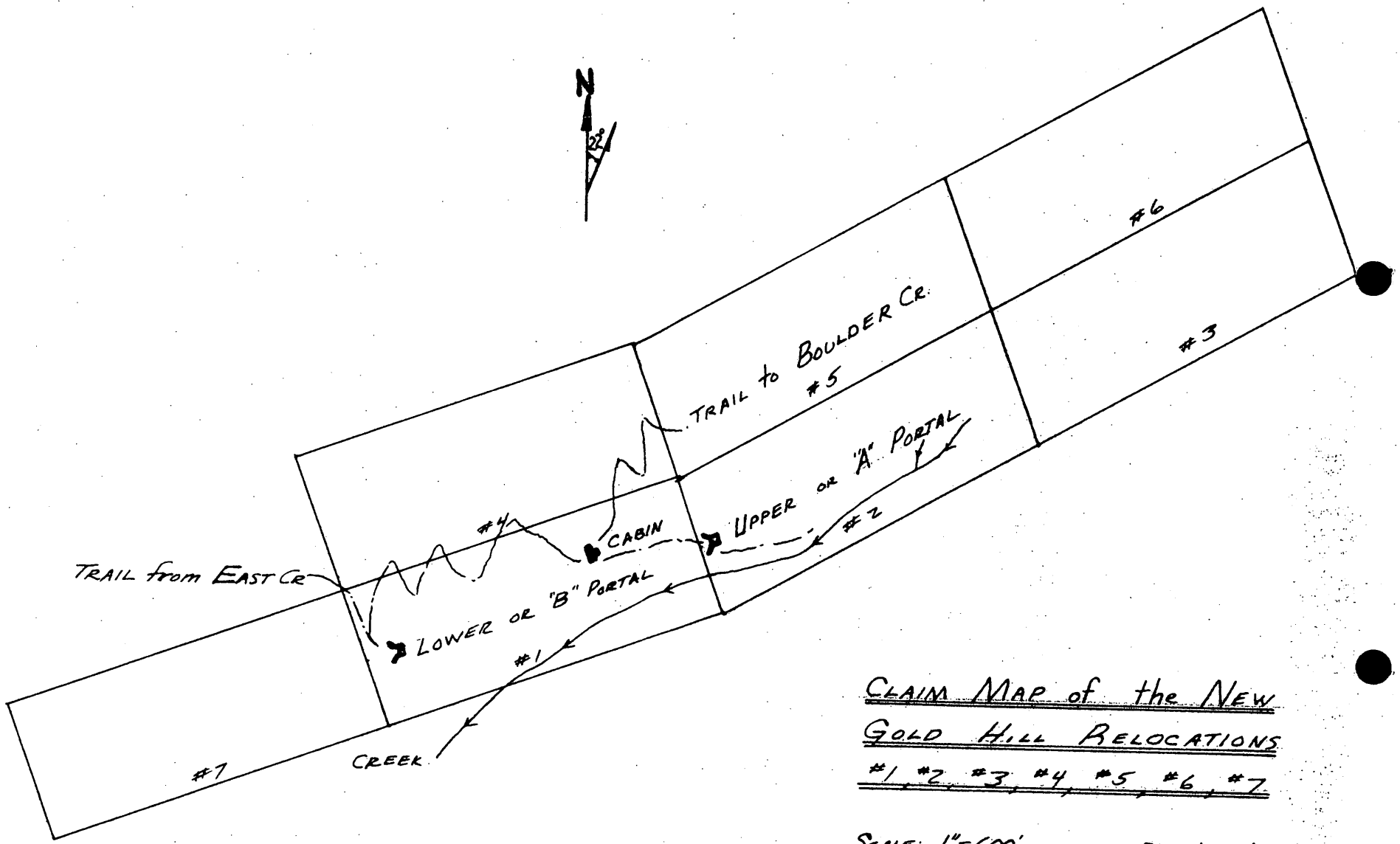
A sketch map of the claim layout and a sketch map of the general location are attached.



LOCATION of the SLATE CREEK MINING DISTRICT of WASHINGTON STATE

MARCH 20, 1963 BY W. PARISEAU

Figure 1

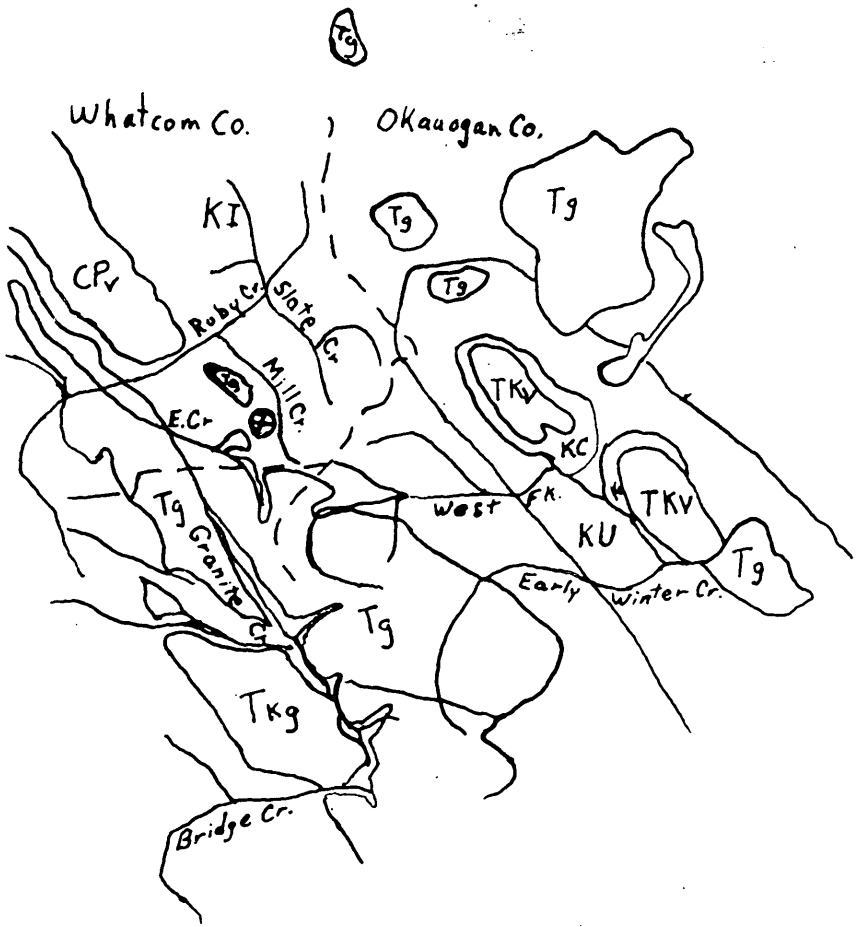


CLAIM MAP of the NEW GOLD HILL RELOCATIONS #1, #2, #3, #4, #5, #6, #7

SCALE: 1" = 600'

DATE: 3 Aug. 1965

BY: BILL PARISEAU



Tg - Tertiary Granitic

T, - Tertiary dikes, sills, Small Intrusions

Tkg - Tertiary Cretaceous Granitic Intrusions

KI - Lower Cretaceous - arkosic Ss., sandyshale, phyllites (E. Whatcom Co.)

KU - Upper Cretaceous - siltstone, graywacke, conglomerate

⊕ - Gold Hill

TKv - Upper Cretaceous & Lower Tertiary Volcanics

(Traced from 1961 Geol. Map of Wash. State)

Gold Hill Property - Whatcom County, Wash.

Summary of Information

Two Ag, Pb, Zn ore shoots are indicated in old adits with a gross grade of about $47.00 per ton (1967 prices), a width of 5 feet or more, representing about 220 tons per vertical foot. If the two shoots have a vertical extent of 300 feet, then there are over 60,000 tons in these two ore shoots alone.

The two indicated ore shoots are about 1000 feet apart horizontally and some 400 feet vertically. Both appear to be part of a strong fault fracture zone although the lower ore shoot may be in a subsidiary fracture of the main zone. There is a good chance that other ore shoots may occur in subsidiary fractures or along the main zone in the 800 feet of unexplored ground between the two shoots. In addition, the favorable structure southwest of the lower ore shoot is completely untested. The upper adit apparently extends a thousand feet or so beyond the upper ore shoot. The structure below this is also unexplored.

If 60,000 tons of ore of the indicated grade exist in the two ore shoots, a plant of 100 tons per day capacity should return capital costs plus a modest profit. If ore in excess of this amount, or it the price of silver should increase significantly, or both, then this could be a very profitable mining venture.

At the present time the property is about 15 miles from a road. A highway (North Cross State Highway) is now under construction that will pass about 3 miles from the property. This highway should reach the area in 1969, and not later than 1970. It is this road, plus the higher price of silver now, as compared with the time the old adits were driven, which gives the property an attractiveness it did not have previously.

The property should have exploratory work carried out upon it to check the indicated ore shoots, to seek for additional ore zones, and to provide a better idea of the tonnage potential and ore controls. If the initial program is successful, then additional exploration would be justified.

D. H. Yardley

D. H. Yardley
Reg. Prof. Engineer (Mining)
C. P. G.
August, 1967

Memorandum on "Gold Hill" Property

Whatcom County, Washington

by

D. H. Yardley, PE

During August of 1963, I visited the Gold Hill property and spent a full day in examining the showings there. I was accompanied by Mr. D. Gebbers and Mr. E. Pariseau. Because of the short time available to me, plus a lack of adequate plan maps or survey control, I did not reach definite conclusions regarding the structural relations of the various showings. Later, a report on a study of the Gold Hill ores carried out by Sylliasen at the University of Washington in 1937 was obtained. A copy is attached.

In June of 1964, Mr. W. Pariseau (a graduate of the University of Washington in Mining Engineering), at my request, carried out a compass and hand level survey to provide some geometric and topographic data. This work is incorporated in the map of the general mine area. (Fig. B)

General Impressions

The main mineralized zone is along a strong fault fracture system in argillitic rocks. There is some diorite occuring as dikes and sills. There is evidence in the creek that parallels the fault zone of a northwest-southeast fracturing that crosses the main structure and probably offsets the southwestern part to the northwest for a hundred feet or so. The location of this inferred cross-faulting is between the cabin and the upper adit (see maps). Detailed geologic mapping will be required to clarify the geologic setting.

Two adits exist, about 400 feet apart in elevation. The lower (B adit) followed one ore shoot, an assay plan of which is attached. The indicated shoot has a length of 205 feet, average width of 5.5 feet. The grade averages Silver 20.4 oz. per ton, Lead 4.4%. ~~No~~ Few assays are given for Zinc or Gold. It is noteworthy that the thesis by Mr. Sylliasen shows substantial zinc values.

No assay plan is available of the ore shoot reported in the upper (A adit) tunnel. Mr. Wm. Pariseau saw one once and the indicated position (Fig. B) is based on his recollection. This can be checked at reasonable cost and is one of the objectives of the proposed exploratory work. ?

The portal of the upper adit is now filled by a sand run for 10 to 20 feet from the entrance and cannot be entered. Beyond the cave the adit is in rock and in 1963 was open for the limited distance I could see at that time. There should be no particular difficulty in repairing the portal so that check sampling can be carried out. There will almost certainly be some rock falls and some safety timbering will be necessary.

The entrance to the lower adit is completely caved. It appears that there could be as much as 50 feet (Hor. Dist.) which has caved in.

Both the upper and lower adits appear to be driven on fissure veins in the fracture zone. There is a possibility that the lower adit is driven on a tension fracture subsidiary to the main zone. Other such fractures or fissures may well exist.

The fault fracture system appears to be strong and continuous, and could be the locus of substantial ore shoots in addition to two indicated ones.

The fracture system extends uphill from the upper adit for at least 1000 feet. Mineralization, evidence of faulting and drag folding can be seen. The zone is roughly parallel to a creek and can be traced along the steep slope along the creek. The side slope along the creek is subject to ravel so that only a few feet of sand ravel and weathered rock exist over the zone. Trenches could be dug with hand tools. The old maps indicate that a few trenches or pits once existed, but they have been largely obliterated by snow slide action.

A grab sample of sand and fault gouge taken across 6 feet about 400 feet up hill from the upper adit returned 3.5 oz. Ag. This was not in the ore shoot zone.

A shallow trench was excavated in 1967 above the upper adit at a point about 650' up hill from the upper adit. This exposed two feet of galena mineralization plus heavy fracturing and fault gouge. A channel sample, taken by myself across a width of four feet, assayed:

21.98 oz. of silver
1.91% lead
2.65% zinc
3.46% sulphur

This may represent the surface projection of the ore shoot verbally reported to be present in the upper adit. In any event it does confirm the presence of ore-grade values over a mineable width at one point on the surface.

Apparently that portion of the structure southwest from the lower adit is completely untested. Possibly some geochemical work may prove

useful in this mantled area.

The existence of a strong structure, the two indicated ore shoots, the untested area between the two indicated ore shoots, the University of Washington thesis, improved metal prices and the road construction, all support a conclusion that this prospect justifies an exploration program.

Buildings

A log structure about 70' x 20' exists. Part of this building can easily be put in adequate condition for a small crew.

Road

A road is being constructed to pass along the adjoining valley of Granite Creek. To connect the Gold Hill property to this road will require about 3 miles of road work. I have seen the route, and for most of it only bulldozer work would be required. There is about one quarter mile will require some rock work. If ore is found in mineable quantities, operating plans would require road access.

At the present time, one can drive to Ross dam about 15 miles from the property and walk in along a fairly good trail.

Ore Possibilities

The assay plan of the ore shoot in the lower adit indicates a length of 205 feet, average width of 5.5 feet, average Ag 20.4 oz/T, average Pb 4.4%; Gross Value (Ag at $1.70 per oz., Pb at 14¢/lb.) = $36.68 + $12.32 = $47.00 per ton.

Assuming 10 cubic feet per ton, the indicated ore in the lower adit is 115 tons per vertical foot. If the shoot has a vertical extent of 300 feet the ore potential is about 35,000 tons. This is an amount of ore which would be of interest as a target. There, drilling should test if this much, or more, may exist in this ore shoot. Such drilling would be below the adit as only about 75' of backs occur above the adit level. If the drill indications are favorable the lower adit should be reopened.

No assay plan is available for the upper adit which is the longest of the two adits. Mr. Wm. Pariseau saw the assay plan some years ago and insofar as he can recall, the indicated ore shoot was located as shown on the sketch map. He also recalls that the grade was somewhat higher than in the lower adit with occasional very rich samples. The rich surface sample collected in 1967 tends to confirm his recollections.

Fortunately, this upper adit can be reopened and check sampled. Assuming that width, grade and length are similar to the lower adit ore, one can visualize 110 tons or so per vertical foot in the upper adit shoot. If a vertical extent of 300 feet exists, then there could be 35,000 tons of ore in the upper shoot.

One can visualize 70,000 tons of $47 (gross value) ore as a distinct exploration target for these two ore shoots.

In addition to the above, there is a good possibility of additional ore shoots.

If 60,000 tons exists, it should amortize the cost of a plant to mine it with a modest profit. If more ore exists, then the property will be

distinctly attractive.

The first objective is to prove or disprove the existence of enough ore to return plant and development costs.

The chance that this much ore exists, with chances for additional ore, is good and therefore an exploration program should be initiated.

Any development and mining would have to await completion of the road along Granite Creek.

D. H. Yardley

D. H. Yardley

August, 1967

"Gold Hill" Property — Computations of Assay Averages

Sample No.	Influence Length	Width	Sq. Ft.	% Pb	Oz. Ag.	Sq. Ft. % Pb	Sq. Ft. Oz.
1	16'	6'	96	0.14	10.20	13.44	979.2
2	16'	7'	112	3.16	9.20	353.92	1030.4
3	9'	6'	54	7.76	21.63	419.04	1168.0
4	6.5'	3'	19.5	7.49	11.78	146.06	229.7
5	4'	5'	20	8.11	18.35	162.20	367.0
6 & 7	2.5'	8'	20	11.92	28.86	238.40	577.2
8	3.5'	6'	21	7.14	20.78	149.94	436.4
9	5'	6'	30	3.28	9.66	98.40	289.8
10	5'	6'	30	6.62	17.79	198.60	533.7
11	5'	5'	25	7.51	18.71	187.75	467.8
12	5'	6'	30	9.17	43.12	275.10	1293.6
13	5'	5.5'	27.5	2.55	40.98	70.13	1126.9
14	5'	6'	30	0.40	44.77	12.00	1343.1
15	7.5'	6'	45	6.21	81.96	279.45	3688.2
16	10'	5'	50	3.75	20.50	187.50	1025.0
17	10'	5'	50	4.91	26.87	245.50	1343.5
18	10'	4.5'	45	9.61	27.20	432.45	1224.0
19	10'	6'	60	6.03	19.87	361.80	1192.2
20	10'	5.5'	55	0.28	0.18	15.40	9.9
21	10'	6'	50	4.54	20.39	272.40	1223.4
22	10'	5'	50	1.17	7.91	58.50	395.5
23	10'	5'	60	2.63	9.89	131.50	494.5
24	10'	4.5'	45	3.32	14.17	149.40	637.6
25	10'	5'	50	4.70	18.21	235.00	910.5
26	10'	4'	40	5.59	18.91	223.60	756.4
Totals	205'	137'	1115			4917.48	22,743.5

Ave. % Pb = 4.41% Ave. Oz. Ag/T = 20.40 Ave. Width = 5.5'

Figures checked with [illegible] April 1963. [illegible]

"Gold Hill"

THE EXPLORATION PROGRAM

As a result of the five day study at the property in July 1967, plus study of previous information, the following exploration program is proposed.

The property is to be treated in two parts:

(a) that part uphill from the upper adit

(b) that part from the lower adit to the cabin-upper adit area (see maps)

The overall approach is divided into three phases. The first phase is to be carried out as soon as possible; the second phase is to be carried out only if justified by the results of the phase 1 work. Phase 3 to follow phase 2 if justified, and may of course be subject to modification because of information supplied by the earlier work. The phase one work is to be started approximately July 1, of 1968.

GENERAL: Phase One Exploratory Work.

Upper Adit Area.

The work proposed includes:

1. rehabilitation of the large log cabin;
2. reopening of the upper portal;
3. clean up of rock falls that very probably exist in the adit;
4. draining dammed-up water;
5. safety timbering channel sampling and geologic mapping;

6. some surface trenching at locations where ore shoots may project to surface;

7. rock work on trail.

This work should provide evidence as to location of ore shoots or potential ore shoots, and a basis for later (phase 2) work.

The estimated cost of this is shown on the attached sheet.

Surface diamond drilling is not proposed for Phase One, Upper Adit Area, because topographic problems make long holes necessary and it is too expensive without any assurance that adequate core recovery will be obtained. Also, the evidence available suggests that values will occur as shoots and even within the ore, shoots may well be spotty. Thus, a long drill hole, costing over ten thousand dollars may not provide a clear basis for further work.

Lower Adit Area

The topography of this area of the property is not as unfavorable as the upper area for layout of surface holes. Also, the lower adit is completely caved (talus, etc.,) for at least 50 feet or more.

The phase one proposal for this part of the property is for a limited drilling program. One purpose of the proposed drilling is to test the ore shoot shown in the lower adit, below and near to the level of the old adit. If this confirms that an ore shoot exists, or probably exists, and extends below the level it will provide justification for phase 2 work of establishing a new adit (or reopening the old) to connect to the lower adit

tunnel, so as to sample the old tunnel, and to extend the adit along the main vein structure into the highly favorable exploration area between the upper and lower adits. A second purpose of the drilling would be to test the main structure in the vicinity of the cabin, to determine the effect of the cross fault that is inferred to exist between the cabin and the upper adit. Sketches of the proposed drilling approach are attached.

The estimated costs of it are shown on the attached sheet.

Phase No. 2 Upper and Lower Areas.

This phase will consist primarily of tunnel work along the vein structures, some cross cutting and raising and short drill holes from underground.

The tunnel approach was selected because of the following advantages:

(1) The vein structure can be followed without the between-hole gaps inherent in a drill program.

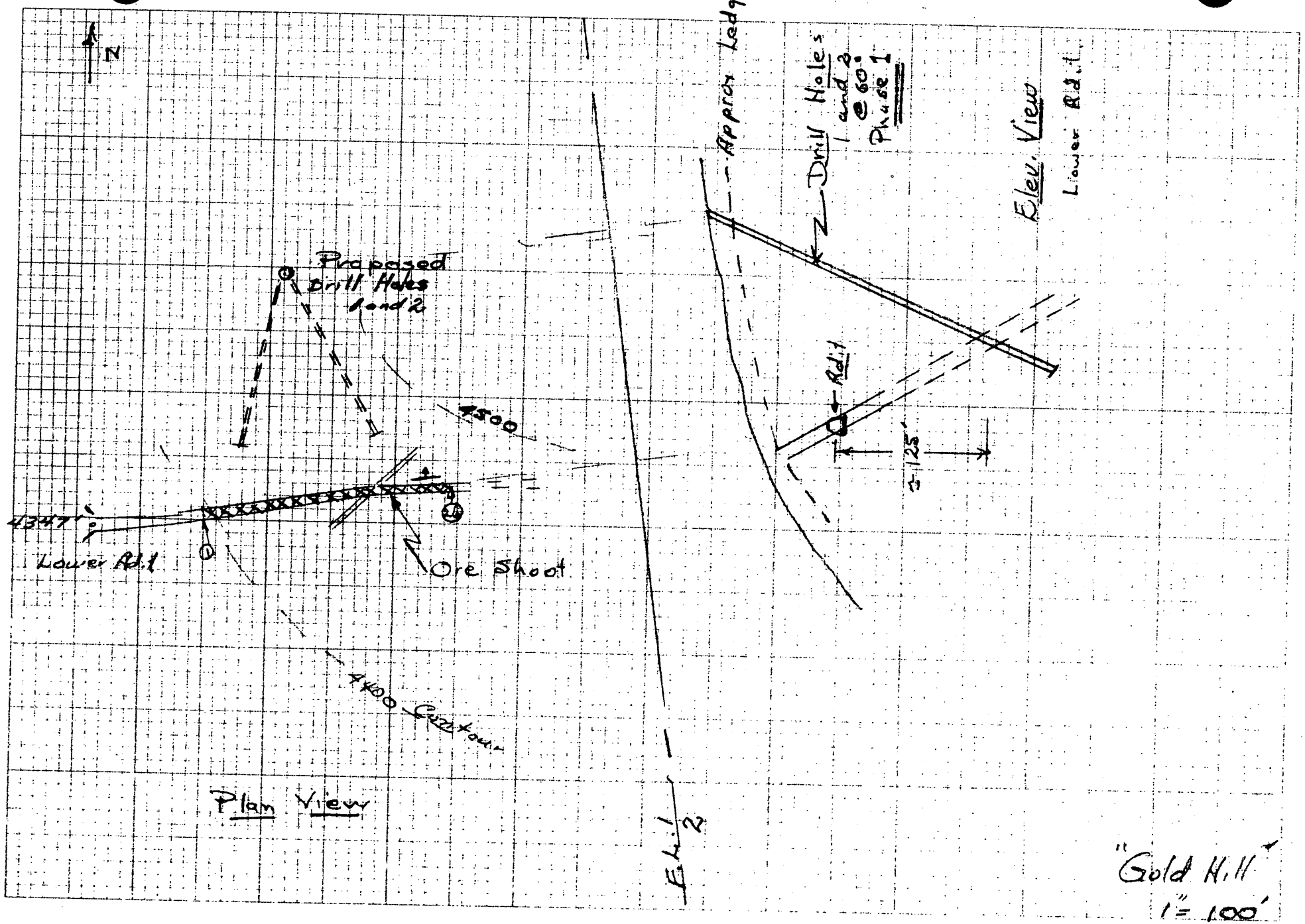
(2) Any ore shoots encountered could be thoroughly sampled and could be outlined easily by short drill holes from cross cuts.

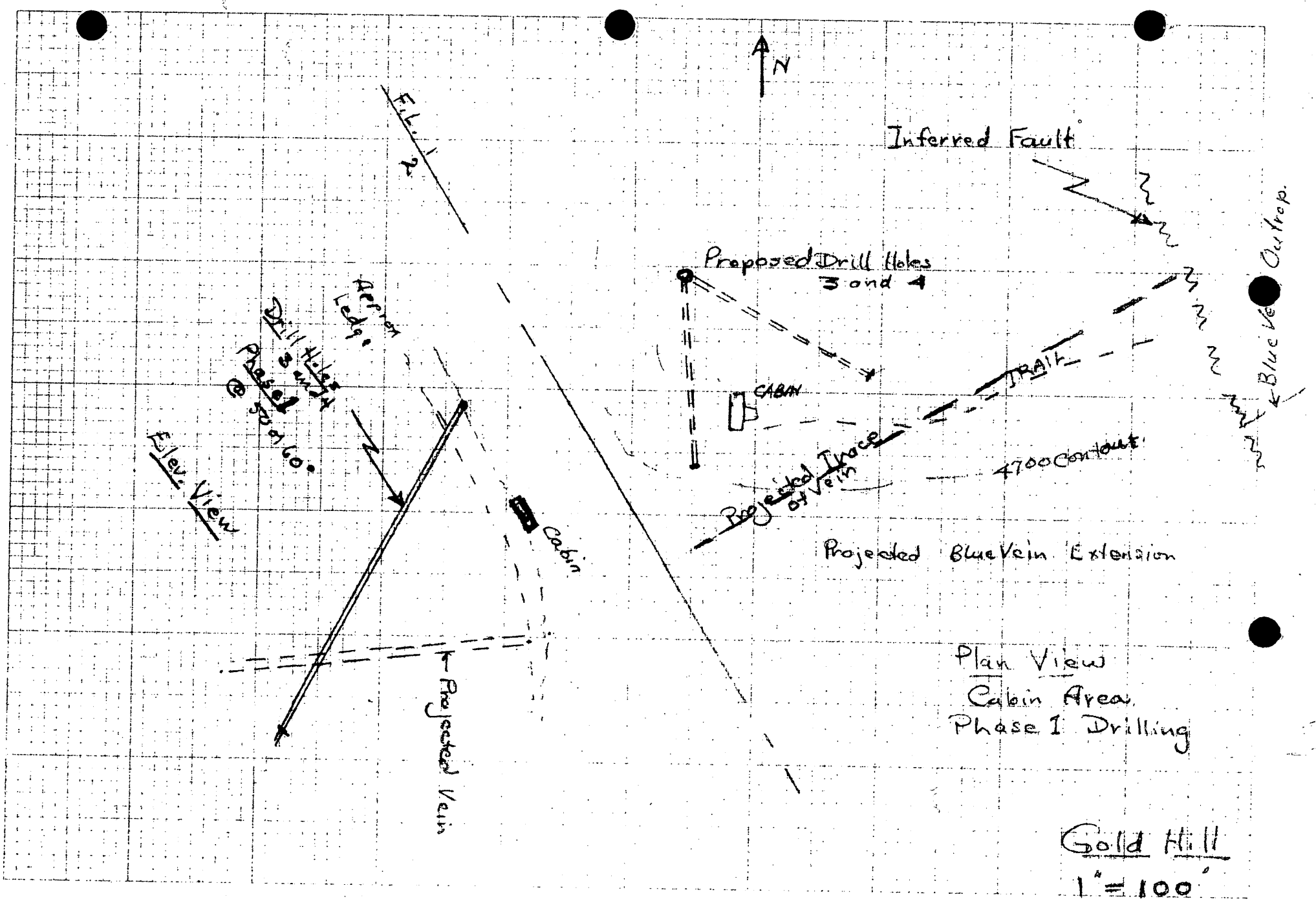
(3) Ore shoots can be checked above the adit by raising.

(4) A tunnel provides a better exposure of the geology and mineralogy, more reliable samples, and a much greater sample density than drill holes alone.

(5) The indicated ore shoot in the lower adit could be mapped and check sampled.

EUGENE DIETZGEN CO.
MADE IN U. S. A.
10 X 10 PER INCH




N
Inferred Fault
Proposed Drill Holes
3 and 4
CABIN
TRAIL
Blue Vein Outcrop
4700 Contour
Projected Trace of Vein
Projected Blue Vein Extension
F.L. 1
2
Arrow Ledge
Drill Holes 3 and 4
Proposed @ 50 & 60°
Elev. View
Cabin
Projected Vein
Plan View
Cabin Area
Phase I Drilling
Gold Hill
1" = 100'

(6) Short drill holes could be drilled to test for parallel zones as compressed air would be available in the tunnel.

(7) If mineable ore is found the tunnel could serve for ventilation and provide means for quick development.

(8) Any drifting in ore would provide some ore. Hand cobbing might produce some direct shipping material. This would help defray expenses and would also provide metallurgical information.

(9) There is no guarantee that core recovery would be satisfactory in drilling this material.

Based on the considerations noted above, adit and tunnel work was selected for Phase No. 2.

Phase 2 shall consist of

Upper Area

Cross cut to provide underground drill stations. Drill probe holes into walls to test for parallel subsidiary zones. Drive tunnel to any so located.

Raise on any indicated ore shoots to check for vertical extent, rake, width, etc.

Lower Area

Drive new adit entrance to connect, in rock, with lower tunnel or reopen old.

Check-sample indicated ore shoot, extend tunnel into unexplored area between upper and lower adit.

Cross cut to provide underground drill stations, drill up and down holes to prove extent of any ore shoots encountered.

Drill shallow surface holes to check upward extension of any ore shoots encountered.

Cost estimates of this proposed work are attached.

Note: It is expected that Phase 1 and 2 will require 2 years to complete. By 1969 it may be possible to get a small bulldozer to the mouth of East Creek, from where it could travel to the property probably dragging a compressor.

If this proves possible at that time it would be much faster and cheaper to rent a small bulldozer rather than drive a new adit portal to connect with the lower adit.

Phase 3

Phase 3 is essentially a continuation of Phase 2 and would involve extending of tunnels into favorable but untested parts of the ore bearing structures. Underground drilling from cross cuts, and raising. The general purpose would be to show that sufficient ore existed so that development planning would be justified.

The precise location of such work would be determined by the previously obtained information.

Because much of the equipment and facilities to be used would be available from Phase 2, the anticipated costs per foot ought to be somewhat less than for Phase 2.

The cost estimate is attached.

Phase No. 1 - Cost Estimates

Repair of kitchen area and part of remainder of log structure to provide office and sleeping room. Area to be rehabilitated ≃ 20 x 50 feet.

Roofing paper @ $4.00/100 sq. ft.	$ 60.00
Plywood for flooring, tables, doors, etc., @ $5.00 per 4 x 8' panel, 1/2"	120.00
Tubular foldaway cots and mattresses, 5 @ $20.00	100.00
Lumber, 500 board feet, mixed	100.00
Nails, mixed	20.00
Stove pipe	5.00
Cement - stove base	10.00
Windows, 6 x 3', sliding, 2 @ $40.00	80.00
Screening	15.00
Total repair materials -	$510.00
Kitchen and cooking utensils	105.00
Fire extinguisher	25.00
First Aid kit	25.00
Camp blankets, 60 x 80", 10 @ $4.00	40.00
Sheet blankets, 5 @ $1.00	5.00
Gas lanterns, 3 @ $13.00	40.00
Tubs, 2 @ $ 6.00	12.00
Basins, 3 @ $1.00	3.00
Coleman type stoves - 2 @ $16.00	32.00
Total	$287.00
Total cost - rehabilitation and equiping of camp	$797.00
Use	$800.00
To allow for price increases add 15%	120.00
Total	$920.00

Phase No. 1 - Cost Estimate

Tools and Materials

Hammers, 3 @ $3.00	$ 10.00
Brace and bit, 1 set	12.00
Saws, carpenter - 2 @ $4.00	8.00
Saws, buck - 2 @ $6.00	12.00
Axes, 3	18.00
Hatchets, 2	7.00
Picks, 2	10.00
Shovels, 4	25.00
Grubhoes, 2	12.00
Sledges, 7 lb., 2 @ $6.00	12.00
Scaling bars, light, 2	5.00
Rock chisels, 3 @ $1.50	4.50
Spikes, timber	10.00
Claw bar	4.00
Sample bags, 150 , 10 x 18 @ 30¢	45.00
Crack hammer, 2 lbs., 2 @ $5.00	10.00
Nails, mixed	10.00
Plastic pipe, 1", 1000' @ 10¢ (water supply)	100.00
Chain saw for mine timber, 7 h.p., 21"	200.00
Carbide lamps, carbide	20.00
Heavy canvas tarps, sample collection, 5 x 7, 4@ $2.50	10.00
Drafting equipment and paper	75.00
Survey, rental of equipment	100.00
Brunton compass	60.00
Explosives	100.00
Water pump and Hose	370.00
Total	$1270.00
To allow for price increases add - 15%	190.00
	$1460.00

Cost Estimate - Labor - Phase 1

Rehabilitation of cabin, 8 man days	$ 240.00
Rock work on trail to upper adit, 4 man days	120.00
Portal repair, place safety timbers in adit, safety crib, scale adit, 50 man days	1500.00
Cut and transport timbers, 15 man days	450.00
Trenching, 10 man days	300.00
Prepare drill site, lower adit area, 6 man days	180.00
Channel sampling, "A" adit, 12 man days	360.00
Other trenching and sample cutting, 5 man days	150.00
Contingencies - weather, etc. 10 man days	300.00
Paid travel time, 10 man days	300.00
Total man days, 130 @ $30	3900.00
Add 1 cook, 8 weeks @ $150	1200.00
Total labor	$5100.00

Supervision and Consulting

One Geologist-Mining Engineer-Supervision (8 man weeks, including travel time and planning)	$2000.00
One Fd. Assistant, 4 weeks	600.00
Supervisory	$2600.00

Miscellaneous costs

Assays, Ag, Pb, Zn, Au	$ 500.00
Preliminary Met. tests	300.00
Tpn. Geol., Assistant, crew	800.00
Helicopter service	1800.00
Pack horse	200.00
Insurance	200.00
Contingencies	600.00
	$4400.00

Total this page: $12,100.00

Food Costs

Labor, 24 man weeks @ $40.00		$ 960.00
Cook, 8 man weeks		320.00
Supervisory, 8 man weeks @ $40.00		320.00
		$ 1600.00
Office expenses at site		$ 700.00

Drilling (see Figs. 1 and 2)

Footage, 1350 feet @ $12.00	$16,200.00	$16,200.00
Supervisory-consulting-logging	1,000.00	
Food	450.00	
Tpn. service	1,000.00	
Miscellaneous	150.00	
Office at site	300.00	
	$ 2,900.00	2,900.00
Total Drilling		$19,100.00

Total Estimated Cost of Phase No. 1	920.00
	1,460.00
	12,100.00
	19,100.00
	2,300.00
	$35,880.00

Note: If the drilling can be arranged so that it is carried on while the upper adit work is in progress it will be possible to effect some cost savings. Also, because the drill holes are rather short, the amount of reaming, cementing, etc. may not be great and costs approaching $10 per foot may be attained.

Phase No. 2 shall consist of:

(a) Adit to connect to lower tunnel	- 130 feet @ 55	$7,260
(b) Drift on structures	- 470 feet @ 40	18,800
(c) Cross cutting and raise work	- 150 feet @ 40	6,000
(d) Probe drill holes (underground)	- 800 feet @ 7.00	5,600
(e) Tunnel Work, upper adit	- 150 feet @ 40	6,000
Office expense - at site		800
Supervision, Geologic mapping, consulting		2,500
Sampling and assaying		750
Transport costs		1,500
Cook and Food costs		1,500
Miscellaneous		500
Total estimated cost of Phase 2		$51,210

Note: The cost estimate is shown on a per foot basis. This cost is intended to include the costs of labor, explosives, track, air and water pipe, compressor, air leg drills, bits, steel, lights, rehabilitation of 3 - 16 cu ft mine cars and transport of the material to the property. The higher cost per foot for the new adit connection is because skin to skin timber will be required for most of it and hence progress will be slow until rock is entered. It would be our intention to contract the work or parts of it, if at the time this would provide lower costs.

Cost Estimate Phase 3

Tunnels, cross-cut, raises 500 ft @ $35		$17,500
Probe Drilling 3000 ft @ $ 5.00		15,000
Assays, Engineering		1,500
Transportation Costs		1,500
Cook and food costs		1,500
	Total	$37,000

Summary of estimated costs

Phase 1	$35,880	
Phase 2	51,200	
Total of 1 and 2		$87,080
Phase 3	37,000	
Total of 1, 2 and 3		$124,080

September 13, 1967

MME Form 7
(2/63)

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Date	Surname	Code
9/11/69	Peterson	120
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		220
		[redacted]

SEP 11 1969

AIRMAIL

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Re: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

Gentlemen:

Thank you for your letter of September 8 advising us of your decision to withdraw the subject application. Accordingly, we are considering the application as having been withdrawn and are placing it in our inactive files.

It should be noted that at the time we originally reviewed your application in this office we were unaware of the discrepancies existing between the sample and assay data furnished, and similar information obtained by others. Only after the application was referred to our Field Officer in Spokane, and he was able to obtain additional information from the former Operator of the property did these differences become apparent. It is Government policy that such information supplied by former operators be considered confidential and can be released only upon receipt of their written authorization. We have no alternative but to comply with this policy in all instances.

The OME will participate in rehabilitation of old workings to a limited extent (see question and answer number 32 on page 12 of the booklet entitled, "Exploration Assistance)"; however, as we mentioned in our letter of July 26, 1968, rehabilitation to substantiate sample and assay data and to gather preliminary geologic information is not eligible for assistance.

Sincerely yours,

Harold Kirkemo (gla)

Harold Kirkemo, Chief
Office of Minerals Exploration

cc: Director's Reading File
Mineral Resources File
OME Docket
OME Reading File
Region I w/cy of incoming 9/8/69
Mr. Peterson

ECPeterson/bsl 9/11/69

Minerals Technology Corporation

Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

PRESIDENT:
ADRIAN C. DORENFELD
B.S., E.M.

VICE-PRESIDENT
DONALD H. YARDLEY
B.S., PH.D.

SECRETARY
GUST BITSIANES
B.CH.E., PH.D.

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dla | 120
LRK | 120
bal | 120 m
ER | 120 p

REPLY TO:

School of Mineral and
Metallurgical Engineering
University of Minnesota
Minneapolis, Minnesota 55455

September 8, 1969

Mr. Harold Kirkemo, Chief
Office of Minerals Exploration
Department of Interior
U. S. Geological Survey
Washington, D. C. 20242

Re: OME-6659 (Silver)
Minerals Tech. Corp'n.
Gold Hill Property
Whatcom Cty., Washington

Dear Sir:

Ref. your letter of August 29, 1969

During July - August of this year we exposed the upper adit on the property. We found that it was badly caved and the old timbers unsafe so we were unable to enter for check sampling. We therefore trenched on the surface at 50 foot intervals updip of the old reported ore shoot. We were not able to define an ore shoot potential.

We cancelled our lease on September 3, and have no further interest in the property. This letter authorizes withdrawal of our application.

I would like to make a suggestion. About 11 months after our initial application we were informed that O.M.E. policy did not include programs involving reopening of old adits. Such policy should be clearly stated in the O.M.E. brochure on procedures. We were put to considerable loss of time and additional expense because of this lack of clarity.

It also appears that the O. M. E. office has sample data on the property from many years ago, and that such samples were discouraging. This data was never made available to the owners nor to ourselves. In fact we did not know of its existence until nearly a year after our application was made. There should be some thought given to ways and means of making such information available to applicants for O.M.E. funds, so that a proposed program could be more soundly based.

Yours truly,

D. H. Yardley
Vice President

DHY:dat

MME Form 7
(2/63)

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AUG 29 1969

AIRMAIL

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Re: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

Gentlemen:

We have not heard from you since Mr. Yardley's letter of March 5 concerning the subject application for financial assistance.

For your information, it has recently become necessary for us to postpone action on pending applications until we have received definite information regarding availability of funds for the fiscal year beginning July 1, 1969. Although appropriations have not yet been made for the current year, we understand that funds will be much less than were available for the year that ended June 30, and we are authorized to operate only at the level of the anticipated reduced funds. Under this situation, action on pending applications must be postponed, as proposed contracts already drafted and awaiting execution will require more funds than are available. When we can again process applications, first priority will be given to those offering the best opportunities for making significant discoveries.

We regret that we must take this action; however, if you wish to furnish us with the results of your preliminary work, and when circumstances permit, we will continue to process your application within the limitations stated above.

If we do not receive a reply from you within 30 days from the date of this letter, we must assume that you are no longer interested in your application and we shall consider it as having been withdrawn.

Sincerely yours,

Harold Kirkemo (bsl)

Harold Kirkemo, Chief
Office of Minerals Exploration

cc: Director's Reading File
Mineral Resources File
OME Docket
OME Reading File
Region I
Mr. Peterson

ECPeterson/bsl 8/29/69

Minerals Technology Corporation

Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

PRESIDENT:
ADRIAN C. DORENFELD
B.S., E.M.

VICE-PRESIDENT
DONALD H. YARDLEY
B.S., PH.D.

SECRETARY
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MAR 7 1969
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REPLY TO:

D. H. Yardley
School of Mineral and
Metallurgical Engineering
University of Minnesota
Minneapolis, Minnesota 55455

March 5, 1969

Mr. F. E. Johnson
Chief, Office of Minerals
Exploration
U. S. Geological Survey
Washington, D. C. 20242

Re: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

Your letter dated February 26, 1969

Dear Mr. Johnson:

Unfortunately it was August, 1968 almost two years after the submission of our proposal that the OME informed us that their policy did not cover proposals that involved reopening adits. We are very surprised that you should adopt such a blanket policy. And ~~your~~ the late decision did not leave time to find a crew foreman for a short term adit-job before snow danger might stop the work.

We plan to try to reopen the upper adit for sampling this early summer when the snow is gone. Upon completion of such work we hope to be in a position to proceed through OME and we will inform you as to our results.

Yours truly,

D. H. Yardley

D. H. Yardley
Vice-President

DHY:dat

MME Form 7
(2/63)

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Date	Surname	Code
2/26/69	Peterson	120
2/26/69	Kirkham	120
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2/26	Cal	220
		120M

FEB 26 1969

AIRMAIL

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Re: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

Gentlemen:

We have not heard from you since your letter of August 2, 1968. Will you please advise us of your plans regarding the cited application for exploration assistance. If you have decided not to pursue it further, please so inform us.

We wish to cooperate fully in allowing you ample time to complete the preliminary work at the mine; however, we cannot indefinitely postpone action on the application.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME docket
OME Reading File
OME Region I
Mr. Peterson

ECPeterson/gla 2-26-69

MME Form 7
(2/63)

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Date	Surname	Code
8/20/68	Peterson	120
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AIRMAIL

AUG 20 1968

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Re: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

Gentlemen:

This will acknowledge your letter of August 2 concerning the subject application for financial assistance.

We regret that we cannot comply with the request to provide you with the names and addresses of our sources of information relating to the Gold Hill property. This material is considered company confidential and was furnished to the Government for its use only.

We note that you have made arrangements to have the adits reopened. When we have been advised that the work has been completed an on-site examination of the property will be scheduled.

Sincerely yours,

FRANK E. JOHNSON
Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Region I - w/copy of incoming ltr.
Mr. Peterson

ECPeterson/bsl 8/20/68

Minerals Technology Corporation

Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

PRESIDENT:
ADRIAN C. DORENFELD
B.S., E.M.

VICE-PRESIDENT
DONALD H. YARDLEY
B.S., PH.D.

SECRETARY
GUST BITSIANES
B.CH.E., PH.D.

August 2, 1968

REPLY TO:

2107 Fairways Lane
St. Paul, Minnesota
55413

OFFICIAL
COPY
O. M. E.
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AUG 5 1968
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Mr. Frank E. Johnson,
Chief
Office of Minerals Exploration
Department of the Interior
United States Geological Survey
Washington, D. C. 20242

Re: OME-6659 (Silver)
Gold Hill Property
Whatcom County, Wash.

Dear Sir:

Copy to R

Your letter of July 26 indicates that information exists about the Gold Hill property that we do not have. Specifically, "--- numerous discrepancies exist between the sample and assay data furnished, and similar information obtained by others". Also, "--- the "B" level underground workings are far more extensive than you have shown".

Naturally, we are most anxious to obtain any and all such information as quickly as possible. Could you send me the references and addresses of any other sources of such information? I am sending a copy of this letter to Mr. MacLaren in Spokane so that he can possibly do this if the information is available at the OME office there.

I have already arranged for a crew to go to Gold Hill to open up the upper Adit, at our expense. I plan to go out there about August 13 in order to see how we might best attempt to re-open the B (lower) Adit, which appears to be caved for some 50 feet (Hor. Dist.) as estimated from the surface subsidence. I shall see Mr. MacLaren at that time.

The owners of the property have agreed to extend the time for the work requirements as per our lease. Any help you can provide in obtaining the information that we do not have, will be greatly appreciated.

Sincerely,

D. H. Yardley

D. H. Yardley

DHY:bk

MME FORM 6 REFERENCE SLIP

REV -59 OFFICE OF MINERALS EXPLORATI

	DATE	INITIALS
TO: Chief, OME	7/22/68	
1. Re: OME-6659 (Silver) Minerals Technology Corp.		
2. Gold Hill Property Whatcom County, Wash.		
3.		
4.		
5. D. R. MacLaren		
FROM: Fld. Officer, OME, Reg. I		

FOR: Check items for action desired

____ Action	____ Reply for signature of ____	
____ Approval	____ Investigate	____ Surname
____ Comment	____ Recommendations	____ Signature
____ Conference	____ Rewrite	____ File
____ Instructions	X Your information	

REMARKS:

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INT.-DUP. SEC., WASH., D.C. M56300-62

2107 Fairway
St. Paul 13
Minn
July 18/68

Mr D. R. MacLaren
Field Officer
Office of Mineral Exploration
U. S. Geol. Survey

Spokane Washington

Subj: "Gold Hill" O.M.E. Propy

Dear Mr MacLaren -

I was not able to make it to Spokane last Monday, and leave for Mexico in a few hours for 10 days or so. Upon my return I plan to go west to see you & to the property.

I had lunch with Mr Paul Sims here a while ago and he asked to be remembered to you.

Yours Truly
W. H. Yardley.

RECEIVED
JUL 22 1968
O.M.E.
SPOKANE, WASH.

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MME Form 7
(2/63)

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Date	Surname	Code
7/26/68	Peterson	120
7/26/68	Kirkham	120
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		220
		120M

JUL 26 1968

AIRMAIL

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Re: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

Gentlemen:

A careful review of your application for financial assistance to explore the Gold Hill mine and of other information available to us indicates that numerous discrepancies exist between the sample and assay data furnished, and similar information obtained by others. The information also suggests that the "B" level underground workings are far more extensive than you have shown. Unless these differences can be resolved, we would have no choice but to deny the application.

In view of these circumstances, please advise whether you are willing to reopen the "A" and "B" adits at your own expense to permit an OME representative to enter the workings for inspection and sampling purposes. Under the OME program, preliminary work designed to substantiate sample and assay data, and to gather additional geologic information to outline specific exploration targets is not eligible for assistance.

We shall continue to hold the application until we have been advised of your decision.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

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

31 7/26/68

One

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
GEOLOGICAL SURVEY
U. S. Court House, Rm. 656
W. 920 Riverside Avenue
Spokane, Washington 99201
July 22, 1968

OFFICIAL COPY
O. M. E.
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JUL 24 1968

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glr	130
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Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, OME, Region I

Subject: OME-6659 (Silver)
Minerals Technology Corp.
Gold Hill Property
Whatcom County, Washington

INTRODUCTION

With a letter dated August 6, 1965, D. H. Yardley presented a "proposal on the exploration of a silver-lead property for preliminary consideration." He expressed the hope that an on-site inspection could be made during the period August 27-30, 1965. He was advised that as soon as the necessary balance of the application, including MME Form 40's, was received, the complete application would be forwarded to our Washington, D. C. Office for docketing and preliminary processing. An acceptable application was finally received September 20, 1967, and was referred to the field with your memorandum of October 20, 1967.

Application Report

There is no information in the Spokane Regional Office files relative to the Gold Hill mine and the mine is outside of the proposed North Cascade Primitive Area. However, a call to Marshall T. Huntting, Supervisor, Division of Mines and Geology, Washington State Department of Natural Resources, disclosed that Wayne S. Moen of that department was preparing a report entitled "Mines and Mineral Deposits of Whatcom County." During the Northwest Mining Association Convention the first week of December 1967, Moen promised to send me a copy of the Gold Hill mine section with pertinent maps, for Government Use Only. At that time he stated that copies of two maps had been turned over to the department by a mining company that had examined the property in 1937. From a statement in his report it is believed that the company is ASARCO. A Thermofax copy of Moen's report, without the maps, was forwarded to you by Reference Slip dated December 14, 1967.

In the application and again in a letter from Yardley dated May 8, 1968, it is stated that both tunnels are caved at the portal. The

geology as it can be observed from the surface is adequately described by Moen and, since the only two adits are presently inaccessible, an on-site inspection would not be apt to provide any additional information of consequence. It was hoped that an adequate appraisal could be made on the basis of Moen's report and such maps as he presented.

A comparison of Moen's map data with that submitted by the applicant bring out several differences that will be discussed in the balance of this memorandum. To clarify the discussion the following maps are enclosed:

1. One Zerox copy of a map surveyed in 1936 by Charles E. Phoenix, U. S. Mineral Surveyor, and Consulting Engineer for Gold Hill Mining Company.

2. Two Zerox copies of maps with sample data, date unknown but apparently later than Phoenix's map, presumably prepared by ASARCO.

3. Plate 1 traced from Phoenix's map with additional data added from ASARCO's(?) map, putting together the more salient features of each.

The three Zerox copies are the only ones furnished by Moen. Kindly return them when they have served their purpose.

DISCUSSION

"A" Level Adit

Moen and the applicant credit about 1,500 feet of drift to this level. According to the applicant no assay plan of the ore shoot reported in the "A" adit tunnel is available, but he states that Wm. Pariseau "saw one once and the indicated position (fig. B) is based on his recollection." (?)

Phoenix indicates the locations of 6 ore shoots and in a table lists 9 samples that overlap the northeasternmost shoot; the 9 samples have an average grade of 0.03 ounce gold and 23.53 ounces silver per ton and 6.66 percent lead over an average width of 46 inches. ASARCO(?) took 3 samples in this same zone that indicate an average grade of only 0.008 ounce gold and 0.16 ounce silver per ton, and 0.015 percent lead. A total of 10 samples taken by ASARCO(?) in this adit ranged from 0.005 to 0.02 ounce gold and 0.08 to 8.70 ounces silver per ton and from nil to 2.88 percent lead, and averaged only 0.009 ounce gold and 1.92 ounces silver per ton and 0.46 percent lead. Assays were weighted by sample width but not by the distances between samples.

A note on Phoenix's map states: "We have assayed approximately 100 samples from the "A" tunnel but cannot give the exact distance from the portal or the width." In view of ASARCO's(?) results one wonders with some suspicion why he did not at least give the assay results.

"B" Level Adit

Phoenix's map shows this adit to be only 185 feet long. The ASARCO(?) map shows a total of about 780 feet of drifts and cross-cuts. Moen's report credits "* * * about 2,000 feet (of drift) on the lower or "B" level."

A note on Phoenix's map lists 15 samples accounting for a shoot 205 feet long that has an average grade of 0.02 ounce gold and 22.95 ounces silver per ton and 5.13 percent lead over an average width of 5.3 feet. The ASARCO(?) map indicates that the first 100 feet or so were tightly lagged and could not be sampled. From about 230 to 260 feet from the portal Pariseau's 1963 map shows 3 samples that have an average grade of 0.01 ounce gold and 12.73 ounces silver per ton over a width of 5.3 feet; 4 samples taken within the same interval by ASARCO(?) have an average grade of only 0.01 ounce gold and trace silver per ton, nil lead and nil zinc over a width of 5.5 feet. At 290 feet from the "B" adit portal one company sample has a grade of 0.01 ounce gold and 18.91 ounces silver per ton, 5.59 percent lead and 0.90 percent zinc over a width of 4 feet; one ASARCO(?) sample taken at essentially the same location assayed only 0.005 ounce gold and trace silver per ton, nil lead and nil zinc over a width of 0.5 foot.

CONCLUSIONS AND RECOMMENDATIONS

In view of the wide discrepancy between the assays of samples taken by former operators and those of samples taken by ASARCO(?), it is concluded that both the "A" and "B" level adits must be opened and made safe for inspection and some check sampling done before a reasonable appraisal can be made. This work is the first phase of exploration proposed by the applicant, phase two to be dependent upon the results.

It is also concluded that phase one could not do more than indicate a specific target area for exploration. Even if it might result in successfully pointing to a target area, there is no reliable data on which to base a cost estimate. Finally, it is concluded that the proposed first phase is not a proper item of exploration under the OME program, and there is now no sufficiently reliable data on which to recommend approval or denial of the proposed phases 2 and 3.

It is recommended that the applicant be advised that unless the "A" and "B" level adits are opened and made safe for inspection and check sampling at his sole expense, his application will have to be denied.

D. R. MacLaren

D. R. MacLaren

Enclosures
Distribution:
OME Docket
USGS(SRO) MacLaren

U. S. Government Messenger Envelope

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Mr. Stepper 1066 B GAF	RUN STOP	Mr. Osborn MNH E-106	RUN STOP
R. Mayer	RUN STOP	Morgan Hooker U.S. Geological Survey GSA Building 311	RUN 2917 STOP
	RUN STOP	MARY A. ROSE G 241 GSA	RUN STOP
Dr. H. L. STERN MNH W406	RUN STOP	Douglas Alverson Capitol Plaza	RUN STOP
Reg. [illegible] [illegible]	RUN STOP	Frank Trainer 315 Arlington Towers	RUN STOP
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GEOLOGICAL SURVEY
U. S. Court House, Rm. 656
W. 920 Riverside Avenue
Spokane, Washington 99201
December 21, 1967

OFFICIAL COPY
O. M. & G.
RECEIVED
DEC 26 1967
DIRECTOR
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EP 120P

Mr. Wayne S. Moen, Geologist
Division of Mines and Geology
State of Washington
Department of Natural Resources
Box 168
Olympia, Washington 98501

Re: OME-6659 (Silver)
Minerals Technology Corp.
Gold Hill Property
Whatcom County, Washington

Dear Wayne:

Many thanks for your letter of December 13, 1967, and the accompanying maps and report on the Gold Hill mine. They will be most valuable when I get to preparing my analysis and appraisal of the application.

The applicant is Minerals Technology Corporation, headquartered in Minneapolis, Minnesota. The officers are A. C. Dorenfeld, President, D. H. Yardley, Vice-President, and Gust Bitsianes, Secretary.

According to the AIME directory, Yardley is a registered professional mining engineer; Dorenfeld is associate professor, School of Mines, University of Minnesota.

It was indeed a pleasure to meet you at the convention, and I am sorry we could not visit longer.

I apologize for not acknowledging your letter sooner, but I got swamped with a report that had to get out not later than today.

With best wishes for a Merry Christmas and a good 1968.

Sincerely yours,

D. R. MacLaren
Field Officer, OME
Region I

DRMacLaren/mls
cc: OME--N.B. Thermo-Fax copies of incoming
forwarded to OME 12/14/67.
Director's Reading File

MME FORM 6 REFERENCE SLIP
REV. 2-59 OFFICE OF MINERALS EXPLORATION

TO: Chief, OME | DATE | INITIALS
1. 12/14/67
Re: OME-6659 (Silver)
2. Minerals Technology Corp.
Gold Hill Property
3. Whatcom County, Washington
4.
5.
FROM: ~~Field Officer, Reg. I~~

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120
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FOR: Check items for action desired
____ Action ____ Reply for signature of
____ Approval ____ Investigate
____ Comment ____ Recommendations
____ Conference ____ Rewrite
____ Instructions X Your information

REMARKS:

Attached are Thermo-Fax copies of a letter dated 12/13/67 from Wayne S. Moen of the Washington State Dept. of Natural Resources, Div. of Mines and Geology, and a report entitled "Gold Hill Mine."

INT.-DUP. SEC., WASH., D.C. M56300-62

STATE OF WASHINGTON
Department of
Natural Resources

COMMISSIONER
BERT COLE
SUPERVISOR
DON LEE FRASER

BOX 168
OLYMPIA, WASHINGTON
98501

December 13, 1967

Mr. Donald MacLaren
Office of Mineral Exploration
U.S. Geological Survey
656 U.S. Court House
W. 920 Riverside Avenue
Spokane, Washington 99201

Dear Don:

As promised, I am sending you an outline of the Gold Hill property as it will appear in my report on Whatcom County. Once again I have lost the name of the company that holds these claims. I would appreciate it very much if you could send it to me, as well as the names of people connected with it.

It was nice to meet you at the convention, and I wish to thank you again for the OME information.

Very truly yours,

BERT L. COLE
Commissioner of Public Lands

/s/ Wayne

By Wayne S. Moen, Geologist
Division of Mines and Geology

WSM:gd
Enc.

GOLD HILL MINE

The Gold Hill mine, which in 1940 consisted of 40 unpatented lode claims and 2 millsites, is mainly in the E½ sec. 25, T. 37 N., R. 16 E. Most claims are on the southwest slope of Majestic Mountain and are west of the Azurite claims which are mainly on the northeast slope of Majestic Mountain. Altitudes at the Gold Hill property range from 4,200 to 7,450 feet. East Creek, which is a tributary to Granite Creek, is the main drainage of the area.

Accessibility.— The Gold Hill claims are some of the most inaccessible claims in the district and can be reached only by trail. From Ross Dam on the Skagit River or Chancellor on Slate Creek it is 18 miles to the property. Upon completion of the North Cross State Highway, which in part will follow Granite Creek, there will be only 4 miles of trail up East Creek to the claims.

History.— The original claims of the Gold Hill group were recorded by H. I. Ballard, et al, on November 6, 1930, and under the name of Gold Hill Mining Company limited exploration work was carried out until 1934. In 1935 the company was reorganized as Gold Hill Operating Company and in 1938 again reorganized as Northern Cascade Mines. In 1940 Seattle and Spokane interests, headed by J. W. Hatly of Wenatchee, obtained a 99-year lease to the property and surveyed a route for an 8 mile aerial tramway from the property to the confluence of Granite and Ruby Creeks, site of a proposed mill. On July 1, 1957, Northern Cascade Mines was dissolved for nonpayment of corporation fees.

Most of the exploration and development work was undertaken by the Gold Hill Mining Company and the Gold Hill Operating Company under the direction of August Peterson. This work consisted mainly of exploring the Blue vein by means of two drifts for a total length of 1,780 feet as well as digging prospect pits and trenches on other metallized quartz veins. In 1938 Northern

Cascade Mines undertook additional underground work on the Blue vein and increased the total underground workings of the property to around 3,500 feet. The Bellingham Herald of September 2, 1937, reported that 30,000 tons of "ore" was on the mine dump ready for milling at a mill that the company proposed to build. However, the mill was never constructed and the "ore" still remains at the property. At present the mine appears in the state of abandonment.

Geology.— According to Bennett (1939) the predominant rocks of the area are black argillite and fine-grained [illegible] quartzite of the Pasayten Formation. In this part of the district rocks of the Pasayten Formation have been folded into a northwestward-trending asymetrical anticline. In the vicinity of the mine workings the rocks dip moderately to the southwest, and east of the workings near the crest of Majestic Mountain they dip steeply northeast. Near the crest of Majestic Mountain as well as on Mill Creek, one-half mile north of the Azurite mine, cupolas of granodiorite have intruded and thermally metamorphosed the sedimentary rocks. These cupolas are probably offshoots of the main body of granodiorite that crops out one-fourth mile south of the mine. The granodiorite forms extensive outcrops southward into Skagit County and has been mapped by Misch (1952) as the Golden Horn Granodiorite (early Tertiary). Also the rocks in the area of the mine and on Majestic Mountain contain felsite, aplite, and [illegible] related to the granodiorite intrusions.

Ore minerals at the Gold Hill property occur along several well-developed shear zones in argillite and quartzite. The shear zones exhibit three prominent trends which are: E - W, N. 50° E., and N. 10° W.; the dips are north and west 40° to 72°. The main shear zones, as well as those of the Azurite mine, are shown on Plate 11. C. E. Phoenix (1951), who was consulting engineer for Gold Hill Mining Company, describes the main veins as follows:

The ore deposits of Gold Hill consist of four principal veins or lodes, and a number of cross-leads, some of them of fair size and richness. They are the Iron Mountain, Genevieve, Gouge and Virginia Lodes. The first three have a due easterly or westerly course. The Virginia Lode has a northerly, or southerly course. They are co-extensive with some of the principal lodes of the Azurite group.

Iron Mountain Lode

Iron Mountain Lode is traceable to its contact at the east end of the Apex Location with a narrow but well defined lead having a due easterly and westerly surface course, cutting perpendicularly across the east slope of the mountain and the strike of the Azurite and Devil's Hole Lodes.

The gangue or matrix of Iron Mountain Lode is chiefly quartz, bluish-gray to white or rust color, with dark blue material, varied occasionally by light-gray lenses composed of silica, talc, and some calcite. The indicated width of ore is 5 to 7 feet.

In the oxidized area of Iron Mountain Number 3 surface examination discloses the existence of three leads. The main lead is 5 to 15 feet wide; the other two are 30 to 36 inches wide. The oxidized area is about 700 feet long by 200 feet wide. The walls of the lode are granodiodite.

Genevieve Lode

The Genevieve Lode is quartz matrix carrying values in silver and gold, in the form of sulphides. The ore body is 4 to 12 feet wide, and is continuous with the main trend of the Monster Lode - Azurite group; it is traceable through the Genevieve and Hazel M Locations of the Gold Hill group, and the Monster and Iron Clad locations of the Azurite group. The strike at the west end of the Genevieve locations is North 70° East with a 60 degree dip to the North. At the old discovery, the strike is North 71° 45 minutes East, and the dip -41 degrees, 30 minutes to the North.

Nearer the summit of the mountain is the open cuts at the east end of the Genevieve location, the dip shows 50 ° to the northwest.

Gouge

North of, and similar to the Genevieve in character, is the Gouge. The dip at the crest of the mountain is 65° to the north. At the apex and for a considerable distance on either slope, the vein shows a width varying from 20 to 30 feet. Near the West end of the Genevieve location the width is over 4 feet.

Virginia

The Virginia shows fairly uniform width, 3½ to 4 and 5 feet, with well-defined walls. The lode strikes north and dips 45 to 60 degrees to the west. The vein filling is of rusty and white quartz, with metal values in the form of fine sulphides.

The main sulfide minerals of the veins are galena, sphalerite, pyrrhotite, and pyrite. Chalcopyrite, stibnite, and arsenopyrite are the minor sulfide minerals. Gold occurs in a finely divided state and is associated with the pyrrhotite and pyrite, whereas the silver appears to be associated with galena. The sulfides most commonly are disseminated in the quartz veins; however, in some parts of the veins the sulfides form solid seams and veins. Bennett (1939, p. 11) reports significant deposits of sulfide minerals at the "Glory Hole" on the Hazel M claim in the form of pyrrhotite, galena, and sphalerite. Much of the pyrrhotite has altered to yellowish brown limonite, and the galena in part has altered to gray anglesite.

Assays on 1.8 tons of ore that was shipped to the Bunker Hill Company in 1936 from the "A" level of the Blue lode are as follows:

Gold	0.07 oz/ton	Antimony	0.40 percent
Silver	93.25 oz/ton	Arsenic	0.66 percent
Lead	29.40 percent	Iron	7.00 percent
Zinc	9.20 percent	Lime	2.30 percent
Copper.....	0.25 percent	Sulfur	13.40 percent

According to company mine maps of 1936 the vein in the "A" level (1,100 feet to 1,185 feet in the drift) averages 3.8 feet in width and contains 23.49 ounces in silver, 0.03 ounce in gold, and 6.62 percent lead. In the "B" level, which is about 420 feet vertically below the "A" level and on the same structure the vein width averages 5.8 feet from 90 to 175 feet in the drift. Over this 85-foot section of the vein, assays show 26.44 ounces of silver, 0.027 ounce of silver, and 6.22 percent lead. Examinations of the mine workings by Bennett in 1939 and by geologists from American Smelting and Refining Company in 1937 failed to reveal ore as reported by the Gold Hill Mining Company. Assays ov the vein in the "B" level averaged 0.015 in gold and only traces of silver. Sampling of the vein in the "A level showed 0.01 ounce of gold, from 0.10 to 4.88 ounces of silver, and little if any lead. It is probably that the lead-silver ore occurs as lenses along the Blue vein.

Assays on other veins of the group as reported by the Gold Hill Mining Company are as follows:

	Gold oz/ton	Silver oz/ton	Lead percent	Zinc percent
Nigger vein (Genevieve claim)	0.06	106.16	52.70	10.72
	0.04	69.96	42.82	-----
	----	105.79	-----	-----
Genevieve prospect	0.06	2.20	-----	-----
Glory hole (Hazel M claim)	0.20	16.50	----	13.60
	0.07	27.04	----	-----
	0.08	8.76	----	-----

Most of the development work at the Gold Hill property was carried out on the Blue vein which is covered by the Sandusky, Iron Mt No. 5, Iron Mtn. No. 1, and Iron Mtn. No. 8 claims. The vein has been drifted upon for about 1,500 feet on the upper "A" level and for about 2,000 feet on the lower "B" level. About 250 feet of crosscuts are in the "A" level and about 300 feet of crosscuts are in the "B" level. According to company reports the vein averaged about 5 feet in width in both drifts; no stoping was undertaken in either drift.

From the mine camp, which consists of a log cabin bunkhouse and adjoining cookhouse, the "A" level is 540 feet east at an altitude of 4757 feet. The portal to the "B" level is S 50° W. 750 feet from the camp and at an altitude of 4,337 feet. Both drifts are caved near their portals.

Although ore was never milled at the property, several flotation tests have been run on ore from the Blue vein by Sylliaasen (1937). These tests show that as much as 95.4 percent of the silver, 88.7 percent of the lead, and 81.6 percent of the zinc can be recovered when 82 percent of the ore is ground to 200 mesh.

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11/17/67

MR. BAKER, first

TO: FRANK E. JOHNSON
OFFICE OF MINERALS EXPLORATION, Room 4460 Interior

OME-6659

From Jule E. Andre'

As explained to you over the telephone: Bill First, Legislative Assistant, Office of Hon. Thomas S. Foley (Washington), Room 1314, Longworth Bldg., Telephone Code 180 Ex 2006, telephoned to Congressional Liaison, Secretary's Office, saying that the application for a loan from the Minerals Technologic Inc., in Minneapolis, concerning silver property in the Congressman's district, had been "turned down", and the Congressman wanted to know why.

In accordance with your instructions, I telephoned Mr. First and advised him that the application was referred to our field office in Spokane on October 20 and that no action has as yet been taken. Mr. First asked that the Congressman be advised when action is taken.

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Form 7
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Date	Surname	Code
10/19/67	Peterson	120
10/26/67	Kirkbride	120
		110
		220
		120M

AIRMAIL

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Re: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

Gentlemen:

Thank you for your letter of October 16, 1967, enclosing additional information in support of the subject application for exploration assistance.

We are referring your application to Mr. D. R. MacLaren, Field Officer, Region I, Office of Minerals Exploration, U.S. Geological Survey, U.S. Courthouse, Room 656, West 920 Riverside Avenue, Spokane, Washington.

Mr. MacLaren will notify you if he requires additional information and to arrange for an on-site examination of the property, if necessary.

Sincerely yours,

FRANK E. JOHANSEN

Frank E. Johansen
Chief, Office of
Minerals Exploration

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

ECPeterson/bsl 10/19/67

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MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
10/19/67	Peterson	120
10/20	Johnson	120
		110
		220
		120M

OCT 20 1967

Memorandum

To: Field Officer, Region I

From: Chief, Office of Minerals Exploration

Subject: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

The subject application is referred to you for further consideration, a field examination if necessary, and recommendations.

We suggest that you discuss the proposed project with Mr. A.E. Weissenborn. Perhaps from his knowledge of the Northern Cascades, from information gathered on the Wilderness program, and from the Spokane office files, there is enough information on hand pertaining to this property to arrive at a decision on the proposal without making an on-site examination.

We are not convinced that the potential of the property warrants Government participation in the proposed work. It appears that the Applicant is assuming too many favorable geologic factors in calculating the ore reserves. The report by Clifford Syllissen adds very little support to the proposal.

It is noted that the cost estimate lists contingencies, some services, and numerous other items not allowable in an OME contract.

FRANK E. JOHNSON

Frank E. Johnson

Enclosure (Copy of Applicant's Letter)

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

ECPeterson/bsl 10-19-67

23263

Minerals Technology Corporation

Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

PRESIDENT:
ADRIAN C. DORENFELD
B.S., E.M.

VICE-PRESIDENT
DONALD H. YARDLEY
B.S., PH.D.

SECRETARY
GUST BITSIANES
B.CH.E., PH.D.

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REPLY TO:

A. C. Dorenfeld
School of Mineral and
Metallurgical Engineering
University of Minnesota
Minneapolis, Minnesota 55455

October 16, 1967

Mr. Frank E. Johnson
Chief, Office of Minerals Exploration
U. S. Department of the Interior
Geological Survey
Washington, D. C. 20242

Re: OME-6659 (Silver)

Dear Sir:

We have your letter of October 4 concerning your preliminary evaluation of our Gold Hill project. We would like to discuss the points you raised, namely,

(1) The need for a recent financial statement.

(2) The use of our assets to finance the entire proposed project.

(3) The possibility of a bank loan based on assets offered by us as collateral, to finance the proposed project.

First, enclosed is an audited statement of our financial condition as of March 31, 1967. Today, the condition of the corporation is substantially the same.

Second, the corporation was formed to investigate many projects - not just to evaluate a single prospect. Enclosed is our prospectus, stating our plans on page three, paragraph one. The last two sentences of this paragraph summarize the basic plan of the company. "Because of its low capitalization, it is contemplated that the Company will attempt to explore and identify potentially commercial hard rock mineral opportunities, and upon determination of capital needs for exploration, to seek co-venturers in such projects; however, there is no assurance that such projects will be successful nor that such co-venturers can be found. The basic assets of the Company are its management talent, and experience, and the capital to initiate and investigate projects."

The Prospectus was approved by the Securities and Exchange Commission, both at their Chicago and Washington offices. Although this is a Regulation A Company, and theoretically should receive a minimum of S.E.C. supervision, in practice, the S.E.C. oversees this type of offering very closely. Our attorney had to spend several months to negotiate this Prospectus. And we have faithfully carried out the intentions contained therein.

The project at hand, we estimate, will require $124,080. We would be responsible for 25% of this sum, or $31,020. This sum, you will note, is about 15% of our total capital. By mining standards it is unusual to risk such a substantial percentage of one's capital on any one exploration project. However, we are willing to risk this amount on this project because we believe that Gold Hill is an above average prospect. But we estimate that an exploration project totaling $31,000 will not be sufficient to properly explore this property to the degree that development would be warranted. Hence, without O.M.E. aid we would not be justified to explore this property any further.

In addition, should the exploration be successful, we still face the expenses for mine development, road building, mine and millplant construction, furnishing working capital, etc.

Third, as to borrowing funds, you will note that the bank would not lend their money on the exploration project. It would only lend against our holdings of U. S. Government securities. This is the equivalent of our risking our own capital and hence, the bank's offer is of no practical value.

Should there by any further questions, my colleagues and I shall try to answer them. And we offer to meet with you, at your convenience, should you deem it necessary, to discuss this application in further detail.

Very truly yours,

Adrian C. Dorenfeld

Adrian C. Dorenfeld
President

ACD:dat
Enclosure

Offering Circular

Minerals Technology Corporation

80,000 COMMON A SHARES

(Par Value $.10 Per Share)

THESE SECURITIES ARE OFFERED PURSUANT TO AN EXEMPTION FROM REGISTRATION WITH THE UNITED STATES SECURITIES AND EXCHANGE COMMISSION. THE COMMISSION DOES NOT PASS UPON THE MERITS OF ANY SECURITIES NOR DOES IT PASS UPON THE ACCURACY OR COMPLETENESS OF ANY OFFERING CIRCULAR OR OTHER SELLING LITERATURE.

Reference is made to the material under "Introductory Statement" for a statement of speculative features of this offering.

	Offering Price to Public (1)	Underwriting Discounts or Commissions (2)	Proceeds to Company (2) (3)
Per Share	$ 3.00	$ .35	$ 2.65
Total	$240,000.00	$28,000.00	$212,000.00

(1) The offering price for the shares offered hereby has been arbitrarily determined.

(2) In the Underwriting Agreement the Company has agreed to indemnify the Underwriters and the Underwriters have agreed to indemnify the Company against certain liabilities, and the Company has granted to each of the Underwriters a five-year transferable option to purchase 1,200 Common Shares at prices ranging from $3.00 to $3.94 per share, as described below under "Stock Options." If the options are exercised and the common shares purchased are resold at a gain, the Underwriters will realize a compensation in addition to their commission. The Company will offer the Underwriters the first opportunity exclusively to underwrite or sell on its behalf any public offering of securities it may make within five years from July 27, 1966.

(3) Assuming sale of all shares offered hereby and without deducting expenses estimated at $5,000 including an amount not to exceed $1000 to be paid attorney for Underwriters. The Company has entered into an exclusive Underwriting Agreement with the Underwriters whereby the Underwriters have agreed to use their best efforts to sell the shares. Unless at least 60,000 of the shares offered hereby have been subscribed by August 15, 1966, the Company may terminate the exclusivity of the Underwriting Agency and may join other Underwriters in the marketing of its shares or it may completely terminate the Underwriting Agreement.

JOHN STEPHENS & CO., INC. **P. R. PETERSON CO., INC.**

The date of this Offering Circular is July 27, 1966.

MINERALS TECHNOLOGY CORPORATION

THE COMPANY

Minerals Technology Corporation (herein usually called the "Company") was incorporated under the laws of the State of Minnesota on May 19, 1966, and maintains its registered office at 115 Hennepin Avenue, Minneapolis, Minnesota.

The primary business purpose of the Company is the exploration for and the development and mining of metals and minerals.

INTRODUCTORY STATEMENT

The common stock of the Company being offered hereby is highly speculative and the prospective investor should be advised that the Company has just been organized and has no operating record. To a substantial extent the Company's success will depend on the ability of its management to find profitable mineral and metal deposits; however, there is no assurance that such deposits can be found. Because of the size of the Company and its low capitalization, it will be necessary to find other companies to join the Company as joint venturers in its explorations and development projects; however there is no assurance that such joint venturers can be found. The authorized capital stock of the Company consists of 500,000 shares of $.10 par, divided into 480,000 shares of Class A common stock and 20,000 shares of Class B common stock. At the time of incorporation, 6,680 shares of Class B common stock were issued and sold for a cash consideration of $1.50 a share to Adrian C. Dorenfeld, Gust Bitsianes, and Donald H. Yardley, who are the promoters of the Company. An additional 10,400 shares of Class B common stock were issued and sold for a cash consideration of $2.50 a share to six other incorporators as follows:

Robert O. Carlson	2000 shares	Russell H. Baumgardner	1000 shares
Carl E. Anderson	2000 shares	John R. Stephens	2000 shares
Carroll C. Groth	2000 shares	Frank N. Borea	1400 shares

If all of the shares being offered are sold, the Class B common stock purchased by promoters of Company (assuming no changes in present holdings) for $36,020.00 will represent approximately 17.6 per cent of the total outstanding common stock while the public investors will have paid an aggregate of $240,000.00 for 80,000 shares or approximately 82.4 per cent of the 97,080 total outstanding common stock. In addition, the promoters and underwriters have been granted options to purchase 18,600 shares of the Company's Class A common stock. (See "Stock Options" herein.) If all of said options are exercised the promoters will own approximately 40.6% of total outstanding common stock and the public investors will own 59.4% of the total outstanding common stock. At May 24, 1966, the book value per share of 17,080 Class B common shares outstanding was $2.11, representing the cash consideration paid for said shares less expenses to date. If all of the shares being offered are sold, the book value per share of the 97,080 shares then to be outstanding will be $2.50, the increase in such book value of the shares of officers, directors, and promoters having been contributed by public investors.

The Company was organized by Adrian S. Dorenfeld, Gust Bitsianes and Donald H. Yardley, all faculty members of the University of Minnesota School of Mineral and Metallurgical Engineering. All of the foregoing have from time to time had extensive experience in various

types of mineral explorations and mining ventures and each has been retained by various companies as a consultant. To date no ventures have been commenced by the Company nor are any specific projects contemplated by it.

As the experience of Messrs. Dorenfeld, Bitsianes and Yardley in the mineral industry leads to their frequent employment as consultants to business, investment opportunities are frequently encountered by them. The opportunities may be in exploration, mine development, processing or marketing of mineral and mineral products, and the principal business operations of the Company shall be in the United States and Canada. Because of its low capitalization, it is contemplated that the Company will attempt to explore and identify potentially commercial hard rock mineral opportunities, and upon determination of capital needs for exploration, to seek co-venturers in such projects; however there is no assurance that such projects will be successful nor that such co-venturers can be found. The basic assets of the Company are its management talent and experience and the capital to initiate and investigate projects.

The Company intends to issue quarterly newsletters informing the shareholders of its activities.

MANAGEMENT

The directors and officers of the Company are:

Name and Address	Title	Common B Shares Owned (1)
Adrian C. Dorenfeld 5337 Sailor Lane Minneapolis, Minnesota	President and Director	3340
Donald H. Yardley 2107 Fairways Lane St. Paul, Minnesota	Vice-President and Director	1670
Gust Bitsianes 3204 - 36th Avenue N.E. Minneapolis, Minnesota	Secretary and Director	1670
John P. Northcott 4510 Cedarwood Road Minneapolis, Minnesota	Treasurer and Director	None
Russell H. Baumgardner 1429 E. Old Shakopee Road Minneapolis, Minnesota	Director	1000
Robert O. Carlson 480 N. Wabasha St. St. Paul, Minn.	Shareholder and Incorporator	2000
Carl E. Anderson 2210B Oakview Lane N. Minneapolis, Minn.	Shareholder and Incorporator	2000
John R. Stephens 5301 Humboldt Ave. S. Minneapolis, Minn.	Shareholder and Incorporator	2000
Carroll C. Groth 501 Mississippi Street Minneapolis, Minn.	Shareholder and Incorporator	2000

(1) See "Stock Options" herein.

Messrs. Dorenfeld, Bitsianes and Yardley are the principal promoters of the Company within the meaning of the Securities Act of 1933, as amended, and, together are experienced in the fields of geology, mining exploration, mining engineering, mineral beneficiation and smelting.

Mr. Dorenfeld was born in Brooklyn, New York on December 16, 1919, and was educated at Columbia University where he received his Bachelor of Science degree in 1940 and his Engineer of Mines degree in 1941. From 1941 through 1949 he was employed by Kennecott Copper Corp., Callahan Lead-Zinc Company, Phelps Dodge Corporation and Mammoth-St. Anthony Company in various capacities, all related to mining and mineral beneficiation. From 1950 through 1954 he was with the University of Alabama as an Associate Professor of Mineral Dressing and did consulting work on a process for the extraction of platinum from scrap, developed a process for upgrading graphite for Southwestern Graphite Company (U. S. Patent issued and assigned to employer), developed a process for extraction of mica, and a process for extraction of manganese for Southwestern Engineering Company. From 1954 to 1957 he was Senior Mineral Engineer for C. F. Braun & Company, consultants and constructors, Alhambra, California. He helped solve process problems of a new lithium plant for American Potash and Chemical Company and has had many other consulting projects in lithium, uranium, copper, lead and zinc. From 1957 through 1960 he managed mining property and exploration crews for Roberts & Associates in various states of the United States, Canada and Mexico. Since 1960 he has been on the faculty of the University of Minnesota where he presently holds the rank of Associate Professor of Mineral Engineering. He has acted as consulting engineer to Timna Copper Mines in Eilat, Israel, to General Mills, Inc. and to Commerce Nickel Mines, Port Arthur, Ontario, as well as others. He is a member of the American Institute of Mining, Metallurgical and Petroleum Engineers and the Canadian Institute of Mining and Metallurgy. He has numerous technical publications in professional journals and textbooks relating to mining and processing of ores and is a Registered Professional Engineer in the States of Alabama, California and Minnesota.

Dr. Yardley was born in Estevan, Saskatchewan, on September 9, 1917, and was educated at Queens University, Ontario, where he received his Bachelor of Science in mining engineering and a Master of Science in geology. He received a Ph. D. degree in geology from the University of Minnesota in 1951. From 1937 through 1941 he worked in mineral exploration for various companies in Canada. From 1941 to 1942 he was a mining engineer in gold mining. From 1942 to 1946 he was with the Canadian Army Engineering Corps. After World War II he was employed as exploration engineer and did geological mapping for the Canadian government. Since 1949 he has been on the faculty of the University of Minnesota and presently holds the rank of Associate Professor of Mineral Engineering. During his tenure with the University he has been geological consultant for South American Development Co., Bear Creek Mining Co. (a subsidiary of Kennecott Copper Corp.), and was director of Ore Estimate Division of the University of Minnesota. He has consulted with South American Development Co., British Columbia, Bear Creek Mining Co., J & L Steel Co., Melrose Granite Co., M. A. Hanna Co. and the Minnesota Highway Department on various special projects involving raw material sources, royalty agreements and exploration programs. Dr. Yardley is a member of the American Institute of Mining, Metallurgical and Petroleum Engineers, the Geologist Society of America, the Society of Economic Geologists and the American Institute of Professional

Geologists. Dr. Yardley has numerous technical publications in professional journals relating to geology and mining engineering and is a Registered Professional Engineer and a Certified Geologist in Ontario and Minnesota.

Dr. Bitsianes was born September 24, 1919, in Virginia, Minnesota, and was educated at the University of Minnesota where he earned his Bachelor of Science in chemical engineering and received his Ph. D. in metallurgical engineering in 1951. From 1943 to 1946 he was with the Manhattan Project (atomic bomb project) at the Massachusetts Institute of Technology as a research metallurgist. Since 1946 he has been with the faculty of the University of Minnesota where he presently holds the rank of Professor of Metallurgical Engineering. He was a consulting metallurgist with the NEPA atomic project, Oak Ridge, Tennessee from 1948 to 1951. Since 1955 he has been a consulting engineer to the Mines Experiment Station of the University of Minnesota. He has also been engaged in various consulting activities in ore processing and metallurgical development with such companies as Manganese Chemicals Corporation and Great Lakes Steel Company. Dr. Bitsianes is a member of the American Institute of Mining, Metallurgical and Petroleum Engineers, the British Iron and Steel Institute and has received the J. E. Johnson, Jr. Award for 1955 for his contribution to the literature in the processing of pig iron and the Robert W. Hunt Award for 1963 as co-author of an outstanding paper, "The Combustion Zone in the Iron Ore Sintering Process". He also has many other publications in the fields of ore agglomeration, low grade ore treatment, blast furnace reactions and nuclear metallurgy. He is a Registered Professional Engineer in the State of Minnesota.

Mr. Northcott is a graduate of Columbia University, New York City, and did graduate work at Columbia University and the University of Minnesota. Since 1952 he has been with the First National Bank of Minneapolis where he presently holds the position of Assistant Vice-President of the Trust Department. He is presently on the Board of Directors of the Community Health and Welfare Council and is an officer and director of Big Brothers Inc. and Big Brothers Corporation, Inc. He is also a director of the Columbia University Alumni Association of Minnesota.

Mr. Baumgardner is an attorney at law admitted to practice in the District of Columbia and the State of Minnesota. He presently is chairman of the board of Harmon Glass Co., Inc. and Connolly Shoe Co.

APPLICATION OF PROCEEDS

The net proceeds to be received by the Company, after deducting expenses, will be added to the general funds of the Company. All of the proceeds, after expenses of this issue are paid, will be placed at interest in an F.D.I.C. insured bank or in government securities pending the first exploration project. Unless at least 50,000 of the shares offered hereby are subscribed by August 25, 1966, the entire purchase price will be refunded undiminished to the subscribers. If 50,000 or more shares, but less than all the shares offered hereby, are sold, the net proceeds from the sale of such shares will be used by the Company for its stated purposes. There is no firm underwriting of the shares offered hereby and accordingly no assurance can be given that all or any of the shares will be sold.

REMUNERATION OF DIRECTORS AND OFFICERS

No salaries will be paid to any officer or director for a period of one year from the date of this offering circular. However, where approved by the board of directors, the officers and directors shall receive reasonable consulting fees, not to exceed the total sum of $10,000 for the officers and directors as a group for the period of one year from the date of this offering circular, and the officers and directors shall be reimbursed by the Company for all authorized out-of-pocket expenses which they incur in connection with the Company's business. After said one year period the officers will receive such remuneration as the board of directors shall determine. Messrs. Dorenfeld, Bitsianes and Yardley have been granted stock options by the Company as described in "Stock Options" herein.

CAPITALIZATION AND DESCRIPTION OF SECURITIES

The capitalization of the Company, assuming all shares offered hereby are sold, will be as follows:

Title of Class	Amount Authorized	Amount Outstanding	Amount to be Outstanding
Class A Common $.10 Par	480,000 shrs. (1)	None	80,000 shrs.
Class B Common $.10 Par	20,000 shrs.	17,080 shrs.	17,080 shrs.

(1) Of which 40,000 shares are reserved for anticipated future issuance under stock options (see "Stock Options" herein), and 17,080 are reserved for future conversion of Class B common shares.

The Company has two classes of common stock authorized, Class A and Class B. Both classes have the same rights except that:

(a) Class B common shares are subordinated upon liquidation to Class A shares but only if said liquidation takes place within fourteen months from the date of issuance of the Class B shares.

(b) No dividends will be paid on Class B shares for a period of fourteen months from the date of issuance.

(c) Each share of Class B stock shall be convertible at the option of the shareholder into one share of Class A stock at any time after the expiration of fourteen months from the date of its issuance. Said conversion shall be effected by tendering the certificate for the shares duly endorsed for transfer to the Secretary of the corporation after the expiration of said fourteen months.

All of the outstanding Class B common stock is, and upon the receipt by the Company of the purchase price therefor, the shares of Class A stock offered hereby will be, fully paid and non-assessable. Each holder of common stock is entitled to one vote for each share held. Voting is non-cumulative which means that the holders of more than 50 per cent of the shares voting for the election of directors can elect all of the directors, and in such event the holders of the remaining shares will not be able to elect any person or persons to the board of directors. Shareholders have no pre-emptive rights with respect to any future issues of presently authorized common stock, which may be issued at such time and for such consideration not less than the par value thereof, as the board of directors may from time to time determine.

Except as set forth above, the common stock has no conversion rights, is not redeemable and there are no sinking fund provisions therefor. In the event of liquidation after the subordination period set forth above, the entire net assets of the Company available for distribution to shareholders will be distributed, pro rata, to holders of the Company's capital stock.

All shares of Class B common stock and all options to purchase Class A common stock issued to directors, officers, underwriters and other promoters of the Company have been placed in escrow with the First National Bank of Minneapolis for a period of fourteen months from May 24, 1966 or one year and two days from the date of issue of the Class A shares sold to the public, whichever date is later.

The First National Bank of Minneapolis, Minnesota, is transfer agent and registrar for the Company's common stock.

STOCK OWNERSHIP

The Company has no subsidiary or affiliated companies and is not itself owned or controlled by any other company.

The following tabulation lists at the date of this Offering Circular the stockholders of the Company who own of record or beneficially more than ten per cent of the common stock.

Name and Address	Title of Class	Type of Ownership	Number of Shares	Percentage of Class
Adrian C. Dorenfeld 5337 Sailor Lane Minneapolis, Minn.	Class B Common	Record & Beneficially	3340	19.5%
Robert O. Carlson 480 N. Wabasha St. St. Paul, Minn.	Class B Common	Record & Beneficially	2000	11.7%
Carl E. Anderson 2210B Oakview Lane N. Minneapolis, Minn.	Class B Common	Record & Beneficially	2000	11.7%
John R. Stephens 5301 Humboldt Ave. S. Minneapolis, Minn.	Class B Common	Record & Beneficially	2000	11.7%
Carroll C. Groth 501 Mississippi St. Minneapolis, Minn.	Class B Common	Record & Beneficially	2000	11.7%

STOCK OPTIONS

The Company has reserved 40,000 shares of Class A common stock for issuance pursuant to a plan adopted by the board of directors to issue stock options to key employees and the underwriters. To date options have been granted as follows:

Name	Number of Shares Under Option
Adrian C. Dorenfeld	6200
Gust Bitsianes	5000
Donald H. Yardley	5000
John Stephens & Co., Inc.	1200
P. R. Peterson Co., Inc.	1200

These options are for a term of five years at prices as follows:

During the First Year	$3.00
During the Second Year	$3.21
During the Third Year	$3.44
During the Fourth Year	$3.68
During the Fifth Year	$3.94

Only one-third of the above options may be exercised each year during the first three years of the option term. If any portion of these options are exercised at any time within fourteen months of May 24, 1966, all shares issued must be placed in escrow at the First National Bank of Minneapolis until the expiration of said fourteen month period or one year and two days from the date of issue of the Class A common stock sold to the public, whichever is the later. In the event of a stock split or reverse stock split, the number of shares optioned will be adjusted proportionately. There is no understanding between the Company and the optionees, nor any such intention by the Company, that in the event of a decline in the value of the shares underlying the options, such options may be cancelled by agreement and new options granted with different terms, including a price based upon the then current market value. The option rights, except for the options granted to the underwriters, may not be transferred, except in the event of death of optionee, or encumbered. During the term of the options granted by the Company, the optionees will have the opportunity to profit from any rise in the market value of the Company's common stock at the expense of other stockholders. In addition, the Company may find it more difficult to procure additional capital, if it should be needed for its business, because of the outstanding options. It is also possible that the Company would be able to obtain additional equity capital by a sale of its stock on terms more favorable than those provided by the options, at any time that the optionees might be expected to exercise their options.

UNDERWRITING

The following companies:

John Stephens & Co., Inc.
523 Marquette Avenue
Minneapolis, Minnesota 55402

P. R. Peterson Co., Inc.
Minnesota Federal Building
603 Marquette Avenue
Minneapolis, Minnesota 55402

(herein called the "Underwriters"), have agreed to use their best efforts to sell the shares of common stock offered hereby as agents for the Company upon the terms stated on the front cover of this Offering Circular. The Company has agreed to pay part of the fees, estimated not to exceed $1,000.00, of the Underwriters' attorneys. The Underwriters may in their discretion use the services of other brokers or dealers in connection with the sale of the shares offered hereby. Unless at least 50,000 of the shares offered hereby are subscribed by August 15, 1966, the entire purchase price will be refunded undiminished to the subscribers.

LITIGATION

There is no litigation pending, threatened or known against the Company.

LEGAL OPINIONS

Legal matters in connection with the shares of common stock offered hereby will be passed upon for the Company by Messrs. Feinberg, Mirviss, Meyers, Schumacher & Malmon, 115 Hennepin Avenue, Minneapolis, Minnesota, and for the Underwriters by Messrs. Henretta, Muirhead, Oberg & Davidson, First National Bank Building, Minneapolis, Minnesota.

EXPERTS

The financial statements and related notes included in this offering circular have been so included by the Company in reliance on the opinion of Klane, Gillman & Schechter, independent Certified Public Accountants, and on the authority of said firm as experts in auditing and accounting.

REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

Board of Directors
Minerals Technology Corporation
Minneapolis, Minnesota

We have examined the financial statements of Minerals Technology Corporation as follows:

Statement of assets and unrecovered promotional, exploratory and development costs, as at May 24, 1966.

Statement of liabilities, as at May 24, 1966.

Statement of capital shares, as at May 24, 1966.

Statement of cash receipts and disbursements from May 19, 1966 (date of incorporation) to May 24, 1966.

Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the information required to be stated therein at May 24, 1966 and the summary of the Corporation's cash receipts and disbursements for the period May 19, 1966 (date of incorporation) to May 24, 1966.

Klane, Gillman & Schechter
CERTIFIED PUBLIC ACCOUNTANTS

Minneapolis, Minnesota
May 27, 1966

MINERALS TECHNOLOGY CORPORATION

STATEMENT OF ASSETS AND UNRECOVERED PROMOTIONAL, EXPLORATORY AND DEVELOPMENT COSTS
MAY 24, 1966

Cash	$ 36,020.00
Total Current Assets	36,020.00
Organization expenses	571.25
	$ 36.591.25

STATEMENT OF LIABILITIES
MAY 24, 1966

Accounts Payable	$ 571.25

STATEMENT OF CAPITAL SHARES
MAY 24, 1966

	Class A Common Stock Par Value $.10 Per Share	Class B Common Stock Par Value $.10 Per Share
Number of Shares		
(a) Authorized	480,000	20,000
(b) Issued		
For cash	—	17,080
For services	—	—
(c) Reacquired and held in treasury	—	—
(d) Outstanding	—	17,080
(e) Reserved for option, warrant, conversion and other rights to acquire such shares	57,080 (Note)	—

Note: 17,080 shares are reserved for conversion from Class B Common Stock to Class A Common Stock. Options to purchase 18,600 of the 40,000 shares reserved for option have been granted to three officers and the two underwriters, but none have been exercised. See page 8 of this Offering Circular for information concerning option terms.

MINERALS TECHNOLOGY CORPORATION

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE PERIOD FROM MAY 19, 1966 (Date of Incorporation) TO MAY 24, 1966

Receipts from sale of 17,080 shares of Class B Common Stock	$ 36,020.00
Disbursements	—
Net increase in cash during period	36,020.00
Cash and cash items balance at beginning of period	—
Cash and cash items at close of period	$ 36.020.00

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No dealer, salesman or other person has been authorized to give any information or to make any representations other than those contained in this Offering Circular in connection with this offering, and if given or made such information or representations must not be relied upon as having been authorized by Minerals Technology Corporation. This Offering Circular does not constitute an offer to sell or a solicitation of an offer to buy any of these securities in any state to any person to whom it is unlawful to make such offer or solicitation in such state.

Minerals Technology Corporation

80,000 Common A Shares

(Par Value $.10 Per Share)

OFFERING CIRCULAR

July 27, 1966

Minerals Technology Corporation
Mining and Metallurgical Enterprises

THE GATEWAY TOWERS 115 HENNEPIN AVENUE MINNEAPOLIS, MINNESOTA 55401

REPORT TO THE STOCKHOLDERS FOR FISCAL YEAR ENDING MARCH 31,1967

During the fiscal year ending March 31, 1967, your corporation investigated over a dozen possible ventures. Several of these appeared to have some promise and were investigated further. Two of these are being actively followed up. In carrying out these investigations and studies your corporation incurred a loss of $5,818.74. This represents operations for a period of about seven months. Details are in the attached audited report.

In our first report for the period ended December 31, 1966, we informed you of our interest in silver properties. We actively sought silver properties because we believe that the price of silver must increase in the near future. The recent flurry in the silver futures market and the subsequent action by the U.S. Treasury for silver bears this out. Accordingly, we intend to do everything possible to become a silver producer.

We have now leased mining claims in the State of Washington. The property appears to have good potential for silver and lead production. We are preparing an application to the Office of Minerals Exploration, an agency of the U.S. Government, to help finance exploration. The Office of Minerals Exploration has authority to finance up to 75 per cent of exploration costs and expenses of potential silver bearing properties. This summer we intend to do some preliminary work prior to obtaining O.M.E. financing.

In Mexico the corporation exercised its option for the shares of a Mexican Corporation operating a small silver mine. However, there are legal obstacles in the way of our taking over our interest and actively managing the operation. As of this date these difficulties are being worked out. We hope that the negotiations will be successfully concluded in the not too distant future. There is no assurance that these negotiations will be successful.

The corporation has been negotiating for a vanadium property and the negotiations went as far as an option agreement. The options were taken out after we reached an agreement, in principle, with a vanadium consumer. However, we never were able to work out a joint venture agreement. We and our potential partners agreed, amicably, not to enter into a joint venture. No other potential partners have been found. Therefore, the vanadium project has been abandoned.

In addition, other properties are continuously under investigation and review. Our interests continue to be in all metals and minerals. None has reached the stage of taking options.

As to the Annual Meeting, the corporation's counsel has advised us that during the first organizational year of a corporation, if in the judgment of the Board nothing of significance is at issue, then this first meeting can be postponed. We have been a public company for only seven months. Since Annual Meetings are costly, and the Board finds that there is nothing material to discuss that is not printed herein, the first Annual Meeting has been postponed until 1968.

I should like to thank our officers and Board of Directors for their time, professional advice and cooperation.

Adrian C. Dorenfeld

Adrian C. Dorenfeld, President

KLANE, GILLMAN & SCHECHTER
CERTIFIED PUBLIC ACCOUNTANTS

HAROLD R. KLANE, CPA
HAROLD D. GILLMAN, CPA
HERBERT S. SCHECHTER, CPA

2430 NICOLLET AVENUE
MINNEAPOLIS, MINNESOTA 55404
333-8181

Board of Directors
Minerals Technology Corporation
Minneapolis, Minnesota

We have examined the balance sheet of Minerals Technology Corporation as of March 31, 1967 and the related statements of operations and retained earnings for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheet and statements of operations and retained earnings present fairly the financial position of Minerals Technology Corporation at March 31, 1967 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles.

Klane, Gillman & Schechter
KLANE, GILLMAN & SCHECHTER

Minneapolis, Minnesota
May 16, 1967

MINERALS TECHNOLOGY CORPORATION

BALANCE SHEET
MARCH 31, 1967

ASSETS		
Current Assets		
Cash		$ 4,719.86
Marketable securities - at cost (Market value - 230,662.69)		229,723.81
Account receivable		1,338.27
Accrued interest receivable		3,114.50
Bid deposits		300.00
Total Current Assets		239,196.44
Equipment		
Cost	$ 672.60	
Less accumulated depreciation	112.08	560.52
Other Assets		
Organization cost	5,616.35	
Cost of options (Note 1)	1,150.00	6,766.35
Total Assets		246,523.31
LIABILITIES AND STOCKHOLDERS' EQUITY		
Liabilities		
Accounts payable and accrued expenses		3,222.05
Accrued salaries		1,100.00
Total Liabilities		4,322.05
Stockholders' Equity		
Common shares - Class A, $0.10 par value, authorized 480,000 shares, issued and outstanding 80,000 shares (Note 2)	$ 8,000.00	
Common shares - Class B, $0.10 par value, authorized 20,000 shares issued and outstanding 17,080 shares	1,708.00	
Capital contributed in excess of par value	238,312.00	
Retained earnings (deficit)	(5,818.74)	
Total Stockholders' Equity		242,201.26
Total Liabilities and Stockholders' Equity		246,523.31

MINERALS TECHNOLOGY CORPORATI

STATEMENT OF INCOME AND RETAINED EARNINGS
FISCAL YEAR ENDED MARCH 31, 1967

Interest income		$ 8,431.66
Expenses		
Accounting	$ 673.75	
Amortization of organization expense	1,123.20	
Bid expenses	26.40	
Depreciation	112.08	
Engineering expense	313.47	
Engineering fees paid to others	1,747.63	
Entertainment and promotion	37.22	
Insurance on officers' lives	330.00	
Insurance - others	96.00	
Office supplies	378.87	
Payroll taxes	225.20	
Publications	57.50	
Salaries - officers	4,300.00	
Travel expense	5,205.56	
Stock transfer fees	867.37	
Telephone	84.42	
Total	15,578.67	
Less reimbursed expenses	1,338.27	
Net Expenses		14,240.40
(Loss) before state income tax		(5,808.74)
State income tax		10.00
Net (Loss)		(5,818.74)
Retained earnings May 19, 1966		-
Retained earnings March 31, 1967 (deficit)		(5,818.74)

NOTES TO FINANCIAL STATEMENTS
MARCH 31, 1967

1. Cost of options - Minerals Technology Corporation has paid a total of $1,150.00 for the right to exercise options under certain conditions to purchase 20 lode mining claims in Nevada for $155,000.00 payable over a five year period. It is management's intent to exercise this option only with a major user of vanadium as a co-venturer. This option expires on May 24, 1967.

2. Of the 480,000 shares of Class A common stock, 17,080 are reserved for conversion from Class B common stock and 40,000 are reserved for options.

   A. 18,600 of the 40,000 shares reserved for options were granted on May 25, 1966 to three officers and the two underwriters of the original stock issue, but none have been exercised. These options are for a period of five years, but only one-third may be exercised each year during the first three years of the option term, as follows:

During the first year	$ 3.00
During the second year	3.21
During the third year	3.44
During the fourth year	3.68
During the fifth year	3.94

   B. Further options were granted for 16,500 of the 40,000 shares on January 23, 1967 at a price of $5.00 per share exercisable within a five-year period. None of these options have been exercised.

   C. 4,900 of the 40,000 shares of Class A common remain available for options.

OFFICIAL FILE COPY

Date	Surname	Code
10/3	Peterson	120
10/3/67	Kirkham	120
		110
		200
		120M

OCT 4 1967

AIRMAIL

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Re: OME-6659 (Silver)
Minerals Technology Corporation
Gold Hill Property
Whatcom County, Washington

Gentlemen:

A preliminary review of your application for exploration assistance indicates that your assets may be sufficient for you to finance the proposed project on your own account without OME participation, or that a loan from commercial sources may be possible if these assets were offered as collateral.

In this regard, we would appreciate your comments as to the Corporation's reluctance to undertake the exploration at its sole expense, and the Old National Bank of Washington apparent interest in granting a loan if proper collateral were available. In view of this interest, it would appear that further communication with the bank is warranted.

To aid us in determining your eligibility for OME assistance, a recent financial statement of the Minerals Technology Corporation is required.

This request for additional information should not be construed as a commitment by the Government to grant an exploration contract.

Sincerely yours,
FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

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

ECPeterson/bsl 10/3/67

September 22, 1967

Minerals Technology Corporation
The Gateway Towers
115 Hennepin Avenue
Minneapolis, Minnesota 55401

Subject: OME - 6659

Gentlemen:

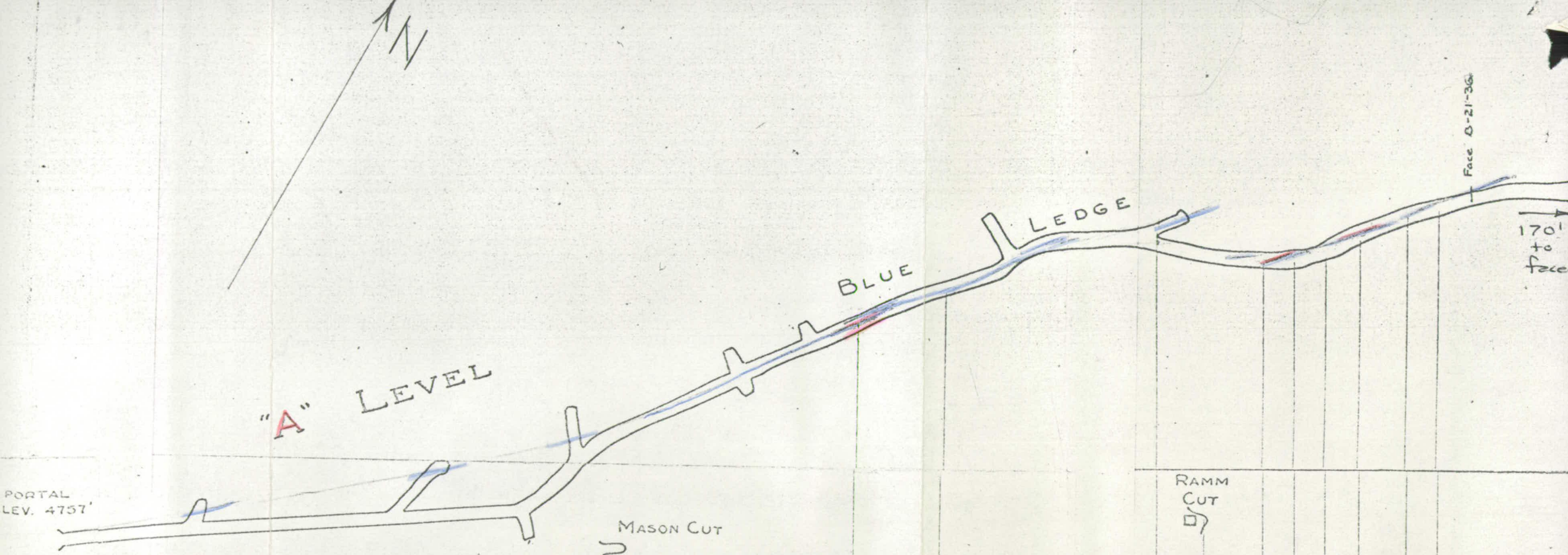
Your application for exploration assistance, dated September 15, 1967, submitted to our office at Spokane, Washington, has been assigned Docket No. OME-6659.

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

Sincerely yours,

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to Region I

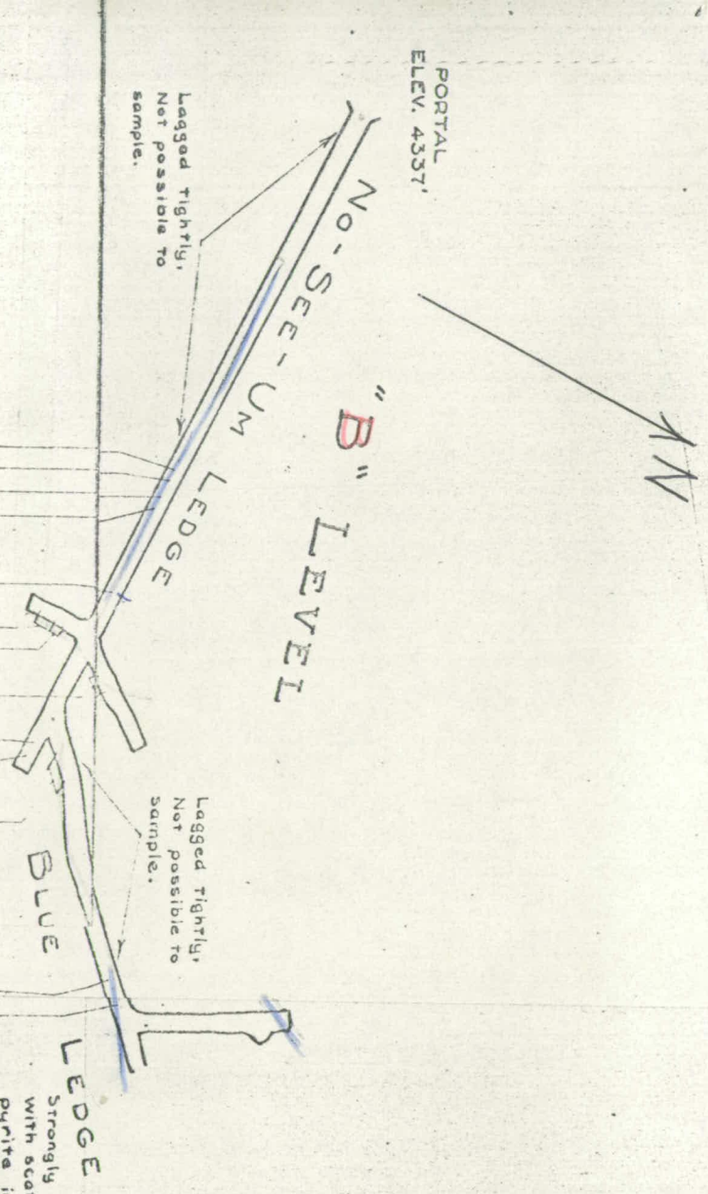


Sample	Width	oz. Au	oz. Ag	% Pb
382	8.4	.005	.70	nil
384	7.0	.01	8.70	2.88
385	4.5	.005	.50	nil
381	6.0	.01	.10	nil
383	6.7	.005	.60	nil
380	5.0	.02	4.88	.22
379	3.5	.01	1.20	nil
378	4.0	.01	.08	nil
375	4.8	.01	.30	.10
376	6.0	.005	.10	.3
377	4.0	.01	.10	nil

GOLD HILL MINE

Scale 1" = 100'

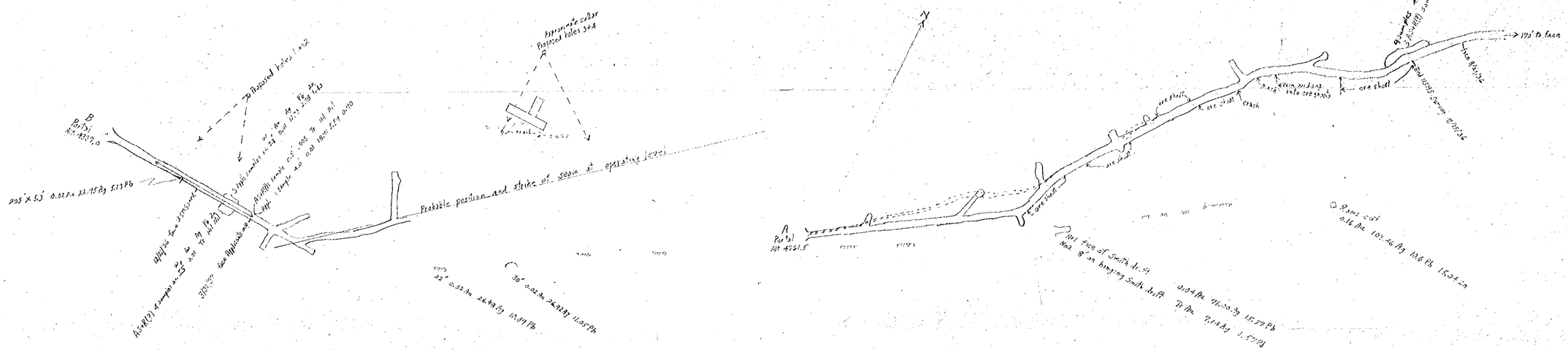
SAMPLE	WIDTH	oz.AU	oz.AG	%PB	%ZN
1156	1.0	.010	Tr	Tr	nil
1157	7.3	.005	Tr	nil	nil
1159	7.0	.010	Tr	nil	nil
1160	7.0	.020	Tr	nil	nil
1158	.5	.005	Tr	nil	nil
1162	6.0	.010	Tr	nil	nil
1163	3.0	.020	Tr	nil	tr
1161	7.0	.020	Tr	nil	nil
1164	6.7	.020	Tr	Tr	nil
1165	7.0	.020	Tr	Tr	0.1
1166	10.0	.005	Tr	nil	nil
1167	5.5	.005	Tr	nil	nil
1168	4.0	.005	Tr	Tr	nil



GOLD HILL MINE
Scale 1" = 100'

U.S. Department of the Interior
Geological Survey

OME-6659

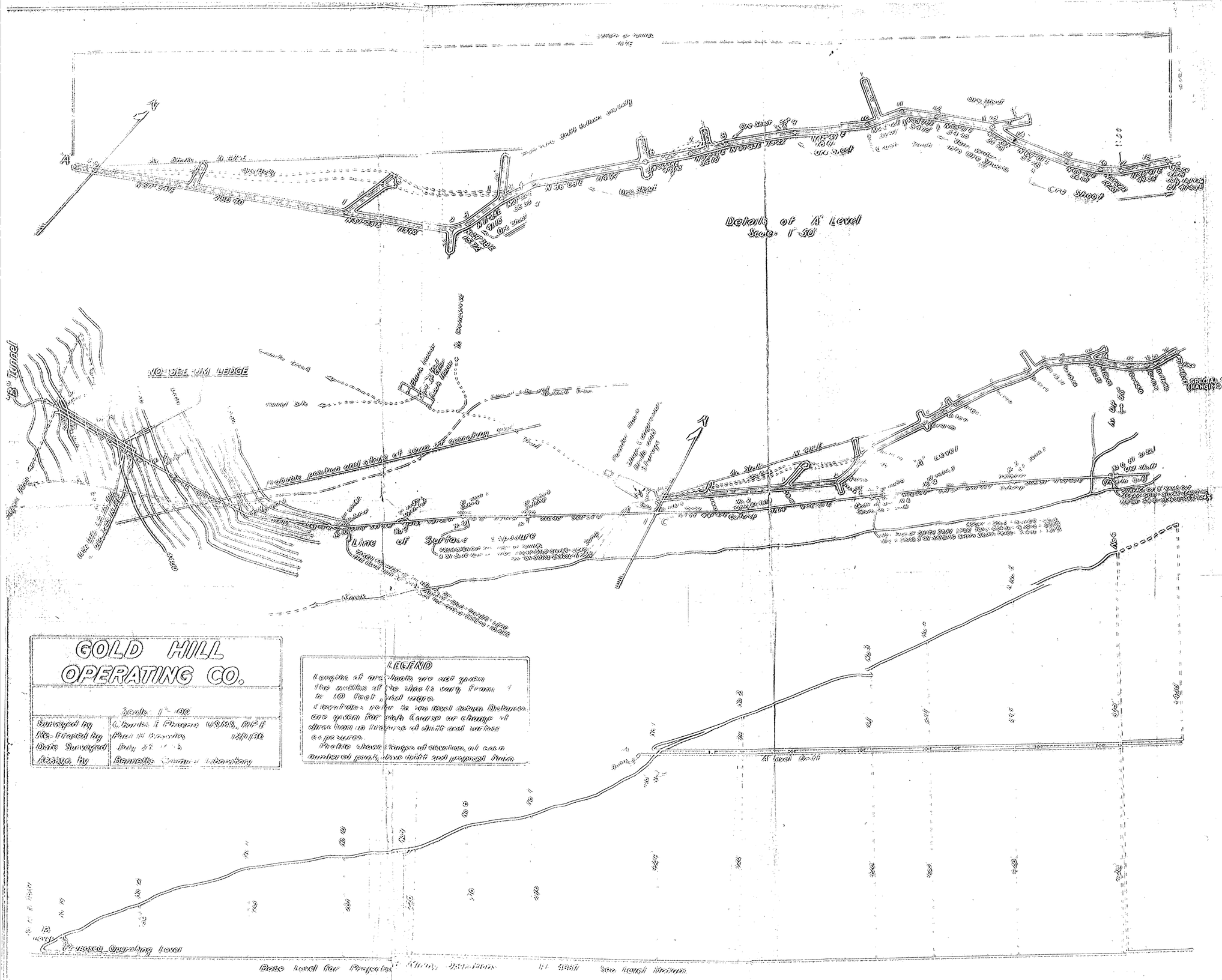


Note: Compiled from survey by Charles E. Phoenix, USMS, REE 12/1/36
and maps made by A.S.+R.P. geologists updated

Map of Workings
Minerals Technology Corp.
Gold Hill Mine
Whatcom County, Washington

100 50 0 100 feet

July 1968



"A" TUNNEL WIDTHS AND VALUES

TOTAL LENGTH OF TUNNEL A = 1475'

1,8135 TONS OF ORE SHIPPED TO BUNKER HILL

ASSAYS

GOLD OZS. PER TON	SILVER OZS. PER TON	COPPER %	LEAD %	IRON %	INSOLUBLE %
.07	98.25	0.25	29.40	7.00	15.60

LIME %	SULPHUR %	ZINC %	ANTIMONY %	ARSENIC %
2.30	18.4	9.20	.40	.66

SPECIMEN ASSAY

GOLD OZS. PER TON	SILVER OZS. PER TON	COPPER %	LEAD %	INSOLUBLE %	LIME %	IRON %
.4	18.50	0.40	62.40	13.40	1.10	11.4

SULPHUR %	ZINC %	ANTIMONY %	ARSENIC %	BISMUTH
18.0	13.1	1.20	0.67	TRACE

WE HAVE ASSAYED APPROXIMATELY 100 SAMPLES FROM THE "A" TUNNEL BUT CANNOT GIVE THE EXACT DISTANCE FROM PORTAL OR THE WIDTH.

DISTANCE FROM PORTAL	WIDTH	GOLD OZS. PER TON	SILVER OZS. PER TON	LEAD %	VALUE PER TON $
1100'	3' 1"	.05	48.95	18.02	57.46
1110'	4'	.04	28.52	11.22	34.53
1120'	4'	.04	14.30	0.74	18.15
1130'	5'	.03	12.35	1.50	12.06
1140'	4' 6"	.03	21.01	6.54	23.77
1150'	3' 9"	.01	11.68	6.06	15.40
1160'	4' 8"	.03	15.59	2.24	15.29
1180'	5'	.02	42.12	11.52	44.65
1185'	12"	.01	17.81	1.86	15.92

"B" TUNNEL WIDTHS AND VALUES

DISTANCE FROM PORTAL	WIDTH	GOLD OZS. PER TON	SILVER OZS. PER TON	LEAD %	VALUE PER TON $
90'	6"	TRACE	0.20	0.14	0.29
1112'	7"	0.02	9.20	3.16	10.94
1122'	6"	0.03	21.63	7.76	25.72
1130'	3"	0.02	11.78	7.49	17.25
1135'	5"	0.01	13.35	8.11	22.59
1138'	4' S.S.	0.02	32.74	13.27	39.18
1138'	4' N.S.	0.02	24.98	10.58	30.51
1140'	6"	0.06	20.78	7.14	25.24
1145'	6"	0.02	9.66	3.28	11.42
1150'	6"	0.01	17.79	6.62	20.67
1155'	5"	0.01	18.71	7.51	22.27
1160'	6"	0.04	43.12	9.17	43.79
1165'	5' 6"	0.04	40.23	2.55	35.50
1170'	6"	0.03	44.77	0.40	35.32
1175'	6"	0.04	81.86	6.21	70.76