DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE E-668 DMEA NO. 3246

Application (Denied
(Withdrawn
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
(Terminated - Certified
(Royalty Agreement

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

Interim Royalty Audits
Reports of Royalty Review
Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
✓ Report of Review
✓ Termination Notice or Agreement
Recision Notice
✓ Assignment of Contract
✓ Contract Amendments (latest on top)
✓ Contract with all exhibits and annexes
✓ Owner's Consent to Lien Subordination Agreement
✓ Leases and assignments of leases
✓ Application and attachments
(3) Envelope for maps

Right Side

✓ Project summary
✓ Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

Final Field Team Report (Tab)
Operator's Final Report
Oper. Comm. 11-23-56 (2R) Interim Reports
(2R) ✓ Operator's monthly reports and all attachments (latest on top)
✓ On-site Exam Report(s) (Tab)
(4) Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order) Interim Summary Reports by W. O. Engineers

Right Side

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

Folder No. 3: Maps (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

R.C.S.

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF REVIEW

I have reviewed the Monthly Report of:

Ryder Mines, Incorporated
formerly known as
Alaska Mining & Exploration Co., Inc.
310 Stewart St., Seattle 1, Washington
assignee of
Pacific Northern Minerals Company
P. O. Box 1481, Spokane, Washington

WSM

pertaining to Exploration Project Contract No. Idm-5668, DMEA No. 3246, including Amendment Nos. 1 and 2, and a Termination Agreement dated April 24, 1957, for the period of May 25, 1954, to July 25, 1955, inclusive, covering a project for the exploration of Tungsten, Lead and Zinc on property, known as the Riverside Mine located in the Ryder Recording Precinct, First Division, Territory of Alaska.

My review included an examination of the Monthly Report (Form MF-104) and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, verification of work performed by reference to Field Team reports and correspondence, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the following reasons:

(a) the administrative cost to the Government of an audit would be excessive in relation to the estimated amount of possible further disallowances thereunder;
(b) the Monthly Report was supported by documentary evidence of the costs incurred under the contract; and
(c) the Termination Agreement provides that the $1,219.67 paid by the Government is the only money due the Operator under the contract.

The review disclosed the following facts in regard to the amount paid or to be paid the contractor:

Total cost as billed by Contractor		$7,735.40
Exceptions:		
Prior to this review	$5,783.92	
Herewith	-0-	5,783.92
Total Accepted Cost		$1,951.48

The contract calls for a 62½ percent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of One thousand two hundred nineteen and 67/100 Dollars

$1,219.67

is considered valid and proper, provided that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

E. D. Talbert

July 1, 1957

E. D. Talbert, Auditor

Government's Copy

Ontin
Sawyer
Appr. Sol. Off.
Chapman.
Meagher
Chambers
Selfridge
Johnson

TERMINATION AGREEMENT

It is agreed this 24th day of April, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Hyder Mines, Incorporated (formerly known as Alaska Mining and Exploration Co., Inc.), Assignee, hereinafter called the "Operator," parties to that certain Exploration Project Contract No. Idm-E668 (Docket No. DMEA-3246), dated May 3, 1954, as amended, hereinafter called the "Contract," that:

1. The Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall make no further contribution to the costs of work performed under the Contract, the sum of $1,219.67 previously paid by the Government being the only money due the Operator under the Contract.

3. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this termination agreement.

4. All rights of the Government with respect to records and audits, as provided in the Contract, are preserved.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

THE UNITED STATES OF AMERICA

By C. Mitchell
Administrator, Defense Minerals
Exploration Administration

HYDER MINES, INCORPORATED

By James W. Brooks

Title Secretary

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 2 1957
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CODE

Docket copy

ASSIGNMENT OF CONTRACT

WHEREAS, Carl B. Warren and D. W. Walters, doing business as Pacific Northern Minerals Company (hereinafter called the "Assignor"), entered into Exploration Project Contract Idm-E 668 (Docket No. DMEA-3246), dated May 3, 1954 (hereinafter called the "Contract"); and

WHEREAS, ALASKA MINING AND EXPLORATION CO., INC. a Washington corporation, whose address is 813 Arctic Building, Seattle, Washington (hereinafter called the "Assignee"), has acquired the Assignor's interest in the land which is the subject of the Contract and the Assignee desires to complete the work under the Contract; ~~and~~

~~WHEREAS, the Government has made a certification of discovery or development;~~ L.E.B

NOW, THEREFORE, the Assignor, in consideration of the sum of One Dollar ($1.00) and other good and valuable consideration received from the Assignee does hereby assign, transfer, and convey to the Assignee all of their right, title and interest in the Contract including any and all property purchased for and the right to use any and all property devoted to the work under the contract, and the Assignor hereby releases the Government from any claims the Assignor may have by virtue of the Contract.

The Assignor consents to all future amendments and assignments of the Contract and waives notice thereof.

This Assignment is subject to the execution by the Assignee of the acceptance form set forth below and to the written consent of the Government.

DATED this 22nd day of March, 1955.

PACIFIC NORTHERN MINERALS COMPANY

By C. B. Warren

D. W. Walters

STATE OF WASHINGTON }
COUNTY OF SPOKANE } SS.

I, the undersigned, a Notary Public in and for the above named County and State, do hereby certify that on this 22nd day of March, 1955, personally appeared before me CARL B. WARREN and D. W. WALTERS, to me known to be the individuals described in and who executed the within instrument, and acknowledged that they signed and sealed the same as their free and voluntary act and deed, for the uses and purposes herein mentioned.

GIVEN under my hand and official seal the day and year last above written.

Alma B. Wonch

NOTARY PUBLIC for the State of Washington, residing at Spokane.

ASSIGNEE'S ACCEPTANCE

The Assignee, ALASKA MINING AND EXPLORATION CO., INC. hereby accepts the above Assignment and agrees to be bound by the terms, provisions and conditions of the Contract.

DATED this 25th day of March, 1955.

ALASKA MINING AND EXPLORATION CO., INC.

By J. E. Bighame
President

Cornelius C. Chandler
Assist. Secretary

James W. Boothe
Secretary-Treasurer

* *

GOVERNMENT'S CONSENT

The Government, this 6th day of May, 1955, hereby consents to the above Assignment without releasing the Assignor, Pacific Northern Minerals Company, from any of the terms, provisions and conditions of the Contract.

THE UNITED STATES OF AMERICA

By Frank C. Johnson
ACTING Administrator, Defense
Minerals Exploration
Administration

Rutledge
Rutter
Chamberlin
Martin

- A S S I G N M E N T -

CARL B. WARREN and D. W. WALTERS, doing business as PACIFIC NORTHERN MINERALS CO., for a valuable consideration, hereby assign, convey and transfer unto ALASKA MINING AND EXPLORATION COMPANY, INC. a WASHINGTON corporation, whose address is 813 Arctic Building, Seattle 4, Washington all their right, title and interest in and to that certain Lease and Option dated December 7, 1953, between J. H. Scott as Lessor, and Carl B. Warren and D. W. Walters, doing business as Pacific Northern Minerals Co., as Lessee, covering:

> That certain property known as the RIVERSIDE MINE situate in the Territory of Alaska at approximately 56° North Latitude and 130° West Longitude, in what is known as Hyder District, being approximately seven miles northerly from the Town of Hyder, Alaska; said mining property comprising eight patented mining claims known as the "Riverside Group" made up of RIVERSIDE, CARIBOU, RIVERVIEW, SUNSHINE LODE, SUNSHINE NO. 1, PINE LODE, SPRUCE and HILLSIDE Mining Claims, said claims also being specifically described in United States Mining Surveys Nos. 1530, 1562 and 1563, Territory of Alaska, the patent for said mining claims issued by the United States Government being recorded in Book 2, pages 173-5, in the Office of the Hyder Recording Precinct, District and Territory of Alaska, Division No. 1, together with all water rights and other rights appurtenant to said mining claims.

DATED this 22nd day of March, 1955.

C B Warren

D W Walters

Doing business as PACIFIC NORTHERN MINERALS CO.

STATE OF WASHINGTON)
COUNTY OF SPOKANE) SS.

I, the undersigned, a Notary Public in and for the above named County and State, do hereby certify that on this 22nd day of March, 1955, personally appeared before me CARL B. WARREN and D. W. WALTERS, to me known to be the individuals described in and who executed the within instrument, and acknowledged that they signed and sealed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal the day and year last above written.

Alma B. Wonch
NOTARY PUBLIC for the State of Washington, residing at Spokane.

Docket copy

EXPLORATION PROJECT CONTRACT
PACIFIC NORTHERN MINERALS COMPANY
DOCKET NO. DMEA-3846

AMENDMENT NO. 2

It is agreed this 4th day of February, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Pacific Northern Minerals Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E668 (Docket No. DMEA 3846), dated May 3, 1954, hereinafter called the "Contract," that:

1. (a) Work under the Contract shall be suspended during the period beginning July 17, 1954, and ending not later than June 1, 1955.

(b) The Operator at his own cost and expense, without contribution by the Government, during the period of suspension shall preserve and protect the project work and any property in which the Government has an interest, and the Government shall not contribute to any costs of rehabilitation or repair which, in its opinion, would not have occurred if there had been no suspension of the work.

2. The time fixed for the completion of the work is extended to three years.

3. In Article 10, that part of the second sentence beginning with the word "Provided" is deleted.

4. In Annex I attached to the Contract, in paragraph "b," delete the words "ten years" and substitute the words "eleven years."

This agreement shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute

under the provisions of the Contract, nor the agreed unit cost of any item of work.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

THE UNITED STATES OF AMERICA

By O P Mitchell
Administrator, Defense
Minerals Exploration
Administration

Approving
R F Lang
"Appd. for C.E."

PACIFIC NORTHERN MINERALS
COMPANY

By Carl B Ekerne
Vice President

Rutledge
Martin
Talbot
Selbridge
B Johnson

Docket copy Talbert

EXPLORATION PROJECT CONTRACT
PACIFIC NORTHERN MINERALS COMPANY
DOCKET NO. DMEA-3246

AMENDMENT NO. 1

It is agreed this 2nd day of June, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Pacific Northern Minerals Company, that Exploration Project Contract Idm-R668 (Docket No. DMEA-3246), dated May 3, 1954, is amended, effective May 3, 1954, as follows:

In Exhibit "A," under "Description of the Work":

a. On the second line of the first paragraph, delete the words "to be performed successively;"

b. In the fourth paragraph delete the second sentence reading: "Work under Stage II shall be undertaken only if approved in advance by the Government;" and

c. Delete the Time Schedules under Stage I and Stage II.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the amount of any item designated as "allowable maximum."

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C P Mitteudorf
Administrator, Defense Minerals
Exploration Administration

Policy Talbert

PACIFIC NORTHERN MINERALS COMPANY

By Alex Walter

MF-200
(June 1951)
Revised Feb. 1952)

DOCKET NO. EA 3246

COMMODITY Tungsten-Lead-Zinc

IBM -E668
Docket Copy

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]

IT IS AGREED this 3 day of May, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Pacific Northern Minerals Company, a partnership consisting of Carl B. Warren and L. W. Walters, P. O. Box 1451, Spokane, Washington, hereinafter called the "Operator," as set forth in Annex I, attached hereto and made a part hereof, and as follows:

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the ~~State of~~ Territory of Alaska ~~County of~~ Hyder District, described as follows: 8 Patented Lode Mining Claims, namely: Riverside, Caribou, Riverview, Spruce, Sunshine, Sunshine No.1, Pine, and Hillside, U.S. Mining Surveys Nos. 1530, 1562, and 1563, recorded in Book 2, Pages 173-5, Hyder Recording Precinct, District and Territory of Alaska, Division I, hereinafter called "the land," the Operator represents and undertakes:

(*a*) ~~That the Operator is the owner in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:~~

~~and options,~~

(*b*) That the Operator is a lessee in possession and entitled to possession, and the Owner's Consent to Lien is attached.

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within 60 days from the date of this contract shall commence work on a project of exploration for[5] Tungsten-Lead-Zinc in or upon the described land; and shall bring the project to completion within a period of Two (2) Years from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided.

ARTICLE 4. *Performance of the work.*—(*a*) *Operator's responsibility.* The work shall be performed efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmens' compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. To the extent specified in Exhibit "A," attached hereto, the work may be performed by independent contractor or contractors; and work not specified in Exhibit "A" for performance by independent contractor may nevertheless be so performed upon amendment of Exhibit "A," as agreed to by the parties, to state the work to be so performed and the estimated unit costs thereof, as provided hereafter.

(*b*) *Independent contracts.*—Any independent contract for the performance of work shall be on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved), or on some basis that will indicate the amount due for work performed at any stage of the work to be performed under such independent contract. The Government shall not be nor be considered to be a party to any such independent contract, and the Government's right to terminate the exploration project contract under any of its provisions shall not in any manner be affected by reason of any such independent contract. If the reference in Exhibit "A" to any such independent contract states that the Government's approval thereof is required, the Government may refuse to participate in the cost thereof unless and until it has given its written approval of the independent contract.

(*c*) *Government may inspect.*—The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 5. *Estimated costs of the project.*—A statement of the estimated cost of the project is set forth in Exhibit "A," attached hereto. Except insofar as any item of requirement or the estimated cost thereof set forth in Exhibit "A" is there or elsewhere designated as an "allowable maximum," such items of requirement and of related cost are estimates only, and may be exceeded to the extent that the Government may from time to time approve for the most economic and beneficial performance of the work within the limitation of the total aggregate estimate of costs. The Government's approval of any such excess over the estimate for an item of requirement or related cost will be signified by its approval and payment of any invoice or voucher for payment which expressly calls attention to such excess. Items expressly designated in Exhibit "A" or elsewhere as "allowable maximum," and the total aggregate estimated cost are limitations, and any excess therein will be for the sole account of the Operator in which the Government will not participate.

ARTICLE 6. *Allowable costs of the project.*—(*a*) The costs of the project in which the Government will participate are limited to the following: those agreed unit costs set forth in Exhibit "A" and

(1) *Independent contracts.*—Payments to independent contractors under independent contracts listed in Exhibit "A." The estimated cost of any work to be performed under an independent contract is or shall be included in the estimate of costs in Exhibit "A" in terms of the estimated numbers of units of work to be performed, the estimated amount to be paid per unit, and the estimated total amount to be paid to the independent contractor, and such estimates shall be allowable maximums above which the Government will not contribute. Regardless of the provisions of any such independent contract, the Government will participate in the payments to the independent contractor only on account of work actually performed and that conforms with the provisions of the exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable and necessary. No such independent contract shall have the effect of increasing the estimated total cost of the exploration project contract nor the maximum amount which the Government will pay as provided in the exploration project contract.

(2) *Labor, supervision, consultants.*—Labor, supervision and technical services (including engineering and geological consultants), a schedule of which is included in the estimate of costs set forth in Exhibit "A." The requirements and related estimated costs for supervision and technical services are allowable maximums.

(3) *Operating materials and supplies.*—Necessary materials and supplies including items of equipment costing less than $50.00 each, and power, water, and fuel, a schedule of which is included in the estimate of costs in Exhibit "A."

(4) *Operating equipment.*—Any operating equipment to be rented or purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or the allowable depreciation, as the case may be, a schedule of which is included in Exhibit "A." Any items listed as owned and to be furnished by the Operator, and related ~~initial~~ allowable depreciation, are allowable maximums.

(5) *Rehabilitation and repairs.*—Any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and to be devoted to the purposes of the exploration contract, a schedule of which is included in the estimate of costs set forth in Exhibit "A." These items are allowable maximums.

(6) *New buildings, improvements, installations.*—Any necessary buildings, fixed improvements, or installations to be purchased, installed, or constructed for the purposes of the exploration work, with the estimated cost of each, a schedule of which is included in the estimate of costs in Exhibit "A." All of these items are allowable maximums.

(7) *Miscellaneous.*—Repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance and payroll taxes.

(8) *Contingencies.*—Such other necessary, reasonable direct costs of performing the exploration work, within the limit of the total aggregate estimate of costs, whether or not included in any schedule of costs in Exhibit "A," as may be approved by the Government in the course of the work, as indicated by its approval and payment of invoices and vouchers.

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[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) The Government's payments in all cases will be based on actual, necessary costs (including contract unit prices) incurred not in excess of any "allowable maximum," and not in excess of the fixed percentage of the total aggregate estimated cost. Costs will be considered to be incurred only as they are or become due and payable.

(*c*) No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes) or any other indirect costs, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

ARTICLE 7. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operators shall provide the Government with monthly reports of work performed and costs (including contract unit prices) incurred under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of costs incurred on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) Compliance with requirements.—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account as provided in Article 12.

ARTICLE 8. *Payments by the Government.*—(*a*) The Government will pay 62-1/2 percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $60,075.00, which is 62-1/2 percent of $96,120.00, the agreed, estimated total cost of the project in which the Government will participate; *Provided,* that until the Operator's final report and final accounting have been rendered to the Government, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract.

(*b*) The Government may make any payment or payments direct to independent contractors and to suppliers, for the account of the Operator, rather than to the Operator.

ARTICLE 9. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations. See Annex I, substituted for Article 9.

ARTICLE 10. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided,* that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator. See Article 13.

ARTICLE 11. *Title to and disposition of property.*—All facilities, buildings, fixtures, equipment, or other items costing more than $50.00 each, paid for or purchased with funds contributed jointly by the Operator and the Government, although title may be taken in the name of the Operator, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the completion of the work or the termination of the contract shall be disposed of promptly by the Operator for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator at a price at least as high as could otherwise be obtained, as may appear to be for the best interest of the Government, unless the Government, in writing, waives its interest in any such item. If necessary to accomplish such disposition, the Operator shall dismantle, sever from the land, and remove any such item, the cost thereof to be for the joint account of the parties in proportion to their respective interests. If the Operator, within 90 days after the receipt of written notice from the Government, fails, neglects, or refuses to dispose of such property, the Government may itself enter upon the land, take possession of, and remove and dispose of any such property as above provided.

ARTICLE 12. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall dispose of any remaining materials, supplies, facilities, buildings, fixtures, and equipment in which the Government has an interest, for the joint account of the Operator and the Government in the proportion of their respective interests; shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; and shall pay to the Government its pro rata share of any money remaining.

ARTICLE 13. *Changes and added provisions.* In Article 10, that part of the second sentence beginning with the word "Provided" is deleted.

Executed in sextuplicate the day and year first above written.

PACIFIC NORTHERN MINERALS COMPANY
(Operator)

By Carl B. Warren (Partner)

By Neil Watts (Partner)

THE UNITED STATES OF AMERICA

By C. O. Mittendorf

Administrator, Defense Minerals Exploration Administration

I, , certify that I am the secretary of the corporation named as Operator herein; that , who signed this contract on behalf of the Operator, was then of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

[CORPORATE SEAL]

EXPLORATION PROJECT CONTRACT
PACIFIC NORTHERN MINERALS COMPANY
DOCKET NO. DMEA-3246

ANNEX I

The following provisions are in lieu of Article 9:

Repayment by Operator.--a. Certification.--If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after the Operator has rendered the final report and final account, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

b. Royalty on production.--The Operator, as principal, if the Operator is the producer, or as surety, if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, for a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

c. Basis for computation.--The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f.o.b. point); except, that charges of the buyer arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by the buyer, sampling and assaying to determine the value of the production sold, and freight paid by the buyer to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the

Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the raw ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

d. Unsold production.--If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

e. Percentages of royalty.--The percentages of the Government's royalty shall be as follows:

> One and one-half ($1\frac{1}{2}$) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half ($\frac{1}{2}$) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.
>
> (For instance: the royalty on an amount of five dollars ($5.00) per ton, would be one and one-half ($1\frac{1}{2}$) percent; on an amount of ten dollars ($10.00) per ton, three and one-half ($3\frac{1}{2}$) percent.)

f. Lien for payment.--To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

g. Notice to purchasers.--The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

h. No obligation to produce.--Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

i. Government not obligated to buy.--Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

58694

EXPLORATION PROJECT CONTRACT
PACIFIC NORTHERN MINERALS COMPANY
DOCKET NO. DMEA-3246

EXHIBIT "A"

Description of the Work

The exploration work is divided into two stages to be performed successively, and is indicated, in part, on the maps attached hereto entitled "Plan Map, Riverside Mine, Showing Proposed Exploration," and "Riverside Group, Patented Mining Claims, Hyder District, Alaska."

All drifts shall be timbered where necessary and shall be not less than 4 feet by 6½ feet in cross section in the clear. All raises shall be 2-compartment and shall be not less than 4 feet by 8 feet in cross section. The location of raises shall be approved in advance by the Government.

Each sample taken concurrently with the advance in mineralized ground, as required by the contract, shall be divided into at least two parts, one of which shall be furnished to the Government.

The location, direction, and extent of all work is subject to approval of the Government. Work under Stage II shall be undertaken only if approved in advance by the Government.

The work to be performed is as follows:

Stage I

Time Schedule, 0 - 8 months

1. The mine workings and plant shall be rehabilitated to the extent essential to the exploration project.

2. Drift approximately 500 feet southeasterly on the mill level from the present face.

3. Raise approximately 230 feet from the mill level to the intermediate (530-foot) level from a point approximately 250 feet southeast of the present face.

4. Drill not to exceed 480 feet of diamond-drill holes to explore for parallel veins at locations approved in advance by the Government.

Stage II

Time Schedule, 8 - 18 months

1. Unwater and rehabilitate the winze on the Cross vein.

2. Drift approximately 200 feet on the 80-foot level of the Cross vein to intersect the Lindeborg vein.

3. Drift approximately 560 feet northwesterly on the Lindeborg vein from the point of intersection with the Cross vein.

4. Raise not to exceed 261 feet from the 80-foot level to the mill level at the face of the drift on the Lindeborg vein.

5. Drill not to exceed 600 feet of diamond-drill holes to explore for parallel veins at points approved in advance by the Government.

ESTIMATED COSTS OF PROJECT

Agreed Unit Costs

Stage I

500 feet of drifting @ $42.00/ft.	$21,000.00	
230 feet of raising @ $40.00/ft.	9,200.00	
480 feet of diamond-drill holes @ $10.00/ft.	4,800.00	$35,000.00

Stage II

760 feet of drifting @ $44.00/ft.	33,440.00	
261 feet of raising @ $42.00/ft.	10,962.00	
600 feet of diamond-drill holes @ $10.00/ft.	6,000.00	50,402.00

The Government will contribute to the costs of drifting, raising, and diamond drilling on the basis of the agreed unit costs set forth above, as they accrue, in lieu of the actual costs set forth in Article 6(a) of the contract form. The rest of the described work will be contributed to by the Government on the basis of those actual costs specified in Article 6(a) of the contract form up to the allowable maximum cost indicated for such work below:

Actual Costs
(*Indicates allowable maximum)

Stage I

Rehabilitation of mine and mine plant (individual items are not to be maxima):

(a) Rehabilitate camp buildings and put into shape to house and board necessary crew; new material excluded. Includes 4-apartment building.	$1,000.00
(b) Recover and repair powerhouse; new roof and rebuild building.	1,800.00
(c) Repair water-supply line and rebuild intake.	300.00
(d) Rehabilitate power machinery—power units, compressor, etc.—by installing new rings, new bearings, etc.	1,000.00
(e) Rehabilitate mine equipment by cleaning, oiling, and general repairs to mine cars, hoists, and supply equipment.	600.00
(f) Rehabilitate mill level by clearing muck from drifts, timbering, laying new track and pipe lines.	2,900.00
(g) Rehabilitate underground water and air lines	400.00
Total cost - Stage I	$8,000.00*

Stage II

Unwater and rehabilitate winze and hoist station on Cross vein	$2,718.00
Total Estimated Cost of Project	$96,120.00*
Government Participation @ 62-1/2%	$60,075.00*

MF-203
(Revised July 1, 1954)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the ~~xxxxxxxx~~ Hyder District, Territory ~~xxxx~~ of Alaska, described as follows: 1/ Patented Lode Mining Claims, namely: RIVERSIDE, CARIBOU, RIVERVIEW, SPRUCE, SUNSHINE, SUNSHINE NO. 1, PINE & HILLSIDE. United States Mining Survey Nos. 1530, 1562 & 1563, Territory of Alaska, recorded in Book 2, pages 173-5, in office of Hyder Recording Precinct, District and Territory of Alaska, Division No. 1,

which is the subject of an ~~xxxxxxxx~~ exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and

2/ Pacific Northern Minerals Company

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of Amendment No. 2 of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract or any amendment thereof shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production 3/ provided for under the terms of said exploration project contract or any amendment thereof there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

1/ 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 cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Insert the name of the Operator as it will appear in the exploration project contract.

3/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

(OVER)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions **In paragraph 2, the words "the period fixed in the contract or any amendment thereof has" are substituted for the words "ten years have."**

Dated this 21st day of February, 1951.

_____ [Seal]

_____ [Seal]

_____ [Seal]

MF-203
(Revised July 1, 1953)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, ~~co-owner~~ and, lessor, ~~operator~~ has an interest in certain property in the ~~county of~~ Hyder District, Territory, ~~County of~~ Alaska, described as follows:1/

Patented Lode Mining Claims, namely: RIVERSIDE, SUNRISE, RIVERVIEW, SPRUCE, SUNSHINE, SUNSHINE No.1, FREE & MILLSIDE. United States Mining Survey No's 1530, 1561 & 1563, Territory of Alaska, recorded in Book 2, Pages 175-3, in office of Hyder Recording Precinct, District and Territory of Alaska, Division No. 1.

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

2/ Pacific Northern Minerals Company, an unincorporated partnership consisting of Carl E. Warren and D. W. Walters.

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production (as set forth on the reverse side hereof) and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract, or any amendment thereof, shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production3/ provided for under the terms of said exploration project contract, or any amendment thereof, there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom, until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions _____

Dated this 6th day of November, 1959.

_____ [Seal]

_____ [Seal]

_____ [Seal]

Subscribed and Sworn to before me this 6th day of November 1959

Viola G. Garrison
Notary Public
In and for the City and County of San Francisco, State of California

1/ 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 cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Insert the name of the Operator as it will appear in the exploration project contract.

3/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

LEASE AND OPTION

THIS AGREEMENT, made and entered into this 7th day of December, 1953, by and between J. H. SCOTT, Merchants Exchange Building, San Francisco, California, hereinafter known as Lessor, and CARL B. WARREN and D. W. WALTERS, doing business as PACIFIC NORTHERN MINERALS CO., 345 Peyton Building, Spokane, Washington, hereinafter known as Lessees, WITNESSETH:

WHEREAS, Lessor is the sole owner of that certain mining property known as the RIVERSIDE MINE being situated in the Territory of Alaska at approximately 56° North Latitude and 130° West Longitude, in what is known as Hyder District, being approximately seven miles northerly from the town of Hyder, Alaska; said mining property comprising eight (8) patented mining claims known as the "Riverside Group" made up of RIVERSIDE, CARIBOU, RIVERVIEW, SUNSHINE LODE, SUNSHINE NO. 1, PINE LODE, SPRUCE and HILLSIDE mining claims, said claims also being specifically described in United States Mining Surveys Nos. 1530, 1562 and 1563, Territory of Alaska, the patent for said mining claims issued by the United States Government being recorded in Book 2, pages 173-5, in the Office of the Hyder Recording Precinct, District and Territory of Alaska, Division No. 1, together with all water rights and other rights appurtenant to said mining claims; and

WHEREAS, Lessor desires to lease and bond said property; and

WHEREAS, Lessees desire to enter into an agreement with Lessor for the purpose of exploring and/or mining and milling the ores from said mine and marketing the products therefrom;

NOW, THEREFORE, be it understood, that for and in consideration of the sum of Ten Dollars ($10.00) to each of the parties hereto in hand paid by the other, receipt whereof is hereby acknowledged, Lessor agrees to sell and Lessees agree to buy said Riverside Mining Property, together with all mining claims, patented or otherwise, belonging to or otherwise pertinent thereto, millsites, water rights, improvements and facilities of any and all kinds, including all service buildings, mill building and mill equipment, power units, mine equipment, etc., trucks and motor vehicles and all assets

whatsoever, pertaining to said mining property and belonging to said Lessor, and any and all facilities being now situated upon said premises and being a part of said mining operation.

Lessees agree to take possession of said property as soon as they may conveniently do so after they shall have received approval of DMEA exploratory loan for which application is being filed. Lessor hereby consents to Lessees' making such application and has accordingly approved same by signing DMEA Form-203 (Revised July 1, 1953) which form bearing Lessor's signature will become and be made part of said DMEA application.

Upon taking physical possession of said premises, Lessees agree to take an inventory of such supplies and new spare parts as are now stored on the mine premises and will furnish Lessor copy thereof. Lessees will draw from this inventory whenever such supplies or spare parts can be advantageously used in their operation of said property and at the end of each calendar month will account to Lessor and make payment to him for articles drawn from said inventory, at a reasonable price therefor.

Total purchase price of said property, complete with all facilities and improvements as above noted (exclusive of inventory), shall be the sum of Two Hundred Thousand Dollars ($200,000.00) to be paid from royalties as follows, to-wit: From all products mined and/or milled and marketed from said premises by Lessees, Lessor shall receive from source of payment the following proportions of Net Smelter or Net Purchase Depot returns during periods as shown below:

PERIOD	ROYALTY PERCENTAGE
First two years	Five per cent (5.0%)
Second two years	Seven and one-half per cent (7.5%)
Third two years	Ten per cent (10%)
For the remainder of the period until the full purchase price has been paid, unless this lease has been previously terminated	Twelve and one-half per cent (12.5%)

said periods dating from the commencement of milling operations under this agreement.

Royalty percentages shall be computed on the same basis as that stipulated in DMEA contract. Any and all royalty payments made to Lessor in amounts shown above are to be subordinated to royalty payments to be made to the government as is provided in contract for repayment of loan.

At request of Lessees, Lessor will cause to be deposited in escrow in a bank mutually chosen, good and sufficient deeds, conveying all of his rights, title and interest in and to said property, to become deliverable to Lessees upon fulfillment of the terms of this agreement.

Lessor agrees that upon delivering working possession of said property to Lessees, it will be free and clear of encumbrances and Lessees will not be held liable for bills incurred by Lessor. Lessees agree that upon termination of this agreement for any reason other than its fulfillment, the property will be returned to Lessor, free and clear of encumbrance and that no obligation incurred by reason of Lessees' occupancy of said premises shall become a lien upon said premises or shall become payable by Lessor.

Lessor may at his discretion post "non-responsibility" notices on said premises, or similar notices according to law, absolving him from damages incident to operation by Lessees.

Lessees, upon taking possession of said premises, agree to operate and maintain said property at their own cost and expense, to employ a watchman at all times when the property is not otherwise manned by Lessees' personnel, and if for any reason it be surrendered to Lessor, agree that it will be returned in as good condition as it was when Lessees first took possession, subject, however, to ores mined, milled and marketed under the terms of this agreement.

Lessees shall be the sole judge, subject to government approval, as to improvements that shall be made to said property, either above or below ground. They agree to conduct exploration and mining and milling operations to the best of their ability in a minerlike and workmanlike manner with due regard to the preservation of said mining premises as a mine, and will

submit monthly reports to Lessor as to operations being conducted.

Lessees shall provide necessary compensation insurance as provided by law and shall not encumber Lessor or the property by reason of legal action brought to obtain redress for accidents incurred during Lessees' occupancy of the property. Lessees will attempt to obtain fire insurance on the various buildings in the same amounts as has been maintained by Lessor. In the event, however, that Lessees are unsuccessful in obtaining an underwriter that will write adequate coverage as above outlined, Lessor may have the right to arrange adequate coverage, if possible, the cost of which shall be borne by Lessees.

Upon notification in writing by registered letter, return card requested, to Lessor at his address given above, Lessees may terminate this agreement at their option, sixty (60) days after notification to Lessor that they intend so to do, at the end of which period Lessees may vacate the premises, without redress by Lessor.

This agreement may be assigned to a corporation formed by the Lessees and shall be for a term of time as is necessary to complete payment of the purchase price as aforementioned under this agreement, or, unless sooner terminated.

Should Lessor demand termination for breach of contract, he shall do so by giving sixty (60) days' prior notice in writing to Lessees, by registered mail to their address given above, setting forth reasons for requested termination. Thereafter, Lessees shall have sixty (60) days in which to correct alleged defalcation and when so completed, shall notify Lessor in writing of corrective action, provided, however, that no demand for breach of contract shall be made during weather conditions when access to property entails danger to life or limb, or due to other causes above and beyond control of Lessees.

In the event that said default is not cured within said time, Lessor shall have the right to enter upon and take possession of said premises,

and the whole thereof, and to remove all persons therefrom, and, in that event, all payments theretofore made by Lessees shall be retained by Lessor as compensation for the use of said premises.

On and after Lessees take physical possession of said property, subsequent to granting of government loan, if any, they agree to keep at least six (6) men steadily employed in and about the premises, aggregating not less than one hundred fifty (150) eight (8) hour shifts per month except when prevented from so doing by impracticable ingress and egress to and from the property during heavy snow conditions, failure of mechanical equipment, inadequacy of competent labor, shut downs caused by strikes, etc., and for any other reasons beyond their control. Lessees will then, and in that event be required to maintain only a watchman at said property.

New Buildings erected by Lessees or additions and improvements made to existing buildings by them shall remain and become a part of said property if this agreement be terminated by cause, subject, however, to any equity that is vested in the United States government by reason of its lien thereon.

Any new equipment, portable or stationary, tools, etc., placed on said property by Lessees will be subject to removal by them within six (6) months if and after this agreement is terminated for any reason, subject also to invested equity in the United States government.

Lessor or his agents, duly authorized in writing, shall have the right, during the life of this agreement, to enter upon said premises at any time for the purpose of examination and inspection, but shall not hinder or delay Lessees in their operation of said premises.

Lessees agree that they will pay all taxes of every nature levied or assessed against said property and the improvements thereon, as well as license fees and taxes on royalties assessed by the Territory of Alaska or the United States Government.

Lessees agree to pay said taxes and assessments thirty (30) days before the same become delinquent during the term of this lease and option.

This agreement shall enure to the benefit of and be binding upon the heirs and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this Lease and Option the day and year first above written.

(Signed) J. H. Scott
Lessor

PACIFIC NORTHERN MINERALS CO.

(Signed) By Carl B. Warren

(Signed) D. W. Walters
Lessees

STATE OF CALIFORNIA)
) SS
City and County of San Francisco)

This certifies that on the 10th day of December, 1953, personally appeared before me, the undersigned, a notary public, the within named J. H. SCOTT, personally known to me to be the identical individual described in, and who executed the foregoing instrument, and he acknowledged to me that he executed the same freely and voluntarily, for the uses and purposes therein mentioned.

WITNESS my hand and official seal the day and year in this certificate first above written.

(Signed) Viola C. Garrison
Notary Public in and for the State of California, residing at San Francisco.
My commission expires Aug. 27, 1955.

SEAL

STATE OF WASHINGTON)
) ss.
County of Spokane)

This certifies that on the 7th day of December, 1953, personally appeared before me, the undersigned, a notary public, the within-named CARL B. WARREN and D. W. WALTERS, doing business as PACIFIC NORTHERN MINERALS CO., personally known to me to be the identical individuals described in, and who executed the foregoing instrument, and they severally acknowledged to me that they each of them executed the same freely and voluntarily, for the uses and purposes therein mentioned.

WITNESS my hand and official seal the day and year in this certificate first above written.

(Signed) Lyle M. Colborn
Notary Public in and for the State of Washington, residing at Spokane

SEAL

Commission expires
July 9, 1956

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

Defense Minerals Administration

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3246
Metal or Mineral Tungsten
Date Received
Estimated Cost $140,128
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Pacific Northern Minerals Company
P.O. Box 1481, Spokane, Washington.
(Common Law Partnership-
Unincorporated consisting of Carl B. Warren and D. W. Walters.)

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract
(See attached sheets for answers to questions
under paragraphs 3 to 7 inc.)

(*b*) State any mine name by which the property is known.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

[X] Money [X] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

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.

Dated Jan 22, 1954

Pacific Northern Minerals Company
(Applicant)

By Carl D Warren

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Pacific Northern Minerals Co.
Spokane, Washington

DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
RECEIVED
JAN 25 1954

3. Applicant's property rights.

(a) Patented Lode Mining Claims as follows:- RIVERSIDE, CARIBOU, RIVERVIEW, SUNSHINE LODE, SUNSHINE NO.1, PINE LODE, SPRUCE, HILLSIDE. United States Mining Survey Numbers 1530, 1562 and 1563, Territory of Alaska, and recorded in Book-2, Pages 173-5 in office of Hyder Recording Precinct, District and Territory of Alaska, Division No. 1.

(b) Riverside Mine.

(c) Property is leased with option to purchase.

(d) Copy of lease and option is attached.

(e) There are no liens or encumbrances.

(f) All holdings are patented.

4. Physical description.

(a) Attached Plan and Longitudinal maps show past development. Property idle over past two years. Applicant had no interest in former operations. Mine workings except winze and winze levels are open and accessible for examination. Winze and levels are under water. 40-ton daily capacity mill was constructed and operated for extraction of minerals from sulfide ores. Rehabilitation of mill, after completion of exploratory project will be undertaken for recovery of high grade scheelite which received only secondary consideration in past.

(b) No current production.

Past production for 1942 to 1949 inc., is reported as follows:

	1942 - 1949	1949
Lead pounds	1,966,685	99,441
Silver ounces	75,089	3,500
Gold ounces	2,080	151
WO_3 pounds (1942-44-47-49)	63,384	1,986

4,000 pounds of ore in 53 sacks are stacked in mill, assaying Au. 0.35 ozs., Ag. 0.57 ozs., Pb. 0.34%, WO_3 1.36%.

6,000 pounds of ore in 74 sacks are stacked in mill, assaying Au. 0.01 ozs., Ag. 0.49 ozs., Pb. 0.51%, WO_3 1.36%. (Weights estimated. Assays by Abbot A. Hanks, San Francisco, California.)

No attempt has been made to evaluate present ore reserves.

(c) Quartz veins in shear zones in granodorite. The Lindeborg vein which is the objective of this application is traceable underground for 1,400 feet on strike and 500 feet on dip. Strike approximately N. 50° W., dip northeasterly about 65°. Width varies from inches to over five feet. Average about three feet. Mineralization comprises pyrite with sparse amounts of sphalerite and barite. Galena occurs in more or less defined areas. Quote from U.S.B.M. War Minerals Report, 420-Tungsten, July 1945:

"Scheelite-bearing stringers vary in width from seams to as much as 10 inches. The widest scheelite occurs in the No. 2 stope on the upper level where the quartz vein carries scheelite for a width of 6 feet. The longest ore shoot is on the upper level in what is termed the east ore body. This ore body is mineralized with scheelite for a length of 250 feet."

Reference to attached longitudinal section will show that proposed exploratory phases under this application are designed to explore virgin areas that have heretofore not been explored. Past exploration and development was for gold, silver, lead production. Any production of scheelite, except possibly that following Bureau of Mines diamond drilling (Oct. 27, 1942 - Feb. 6, 1943), (See "Tungsten Deposits of the Hyder District, Southeastern Alaska by F. M. Byers, Jr., U.S.G.S., January 1945".) appears to have been incidental.

As a consequence it was mostly wasted in mill tailings or remains in present mine dumps. For the years 1942-44-47 and 49 scheelite concentrates were sold from this property at the following respective unit prices: $19.51, $30, $14 & $21, and for 1949, $30.

(d) Property lies seven miles northerly from Hyder, Alaska which is distant two miles from Stewart, B. C. which in turn is nine miles from the property. Both towns are points of supply, serviced by commercial vessels from Vancouver, B. C., and Ketchikan, Alaska. Good gravel-surfaced road, water grade full distance, extends from Stewart and Hyder to the mine. Accommodations at property are adequate to house all personnel under this project. Parceled tungsten concentrates will be routed in bond through American Customs at Hyder for shipment on Canadian ships to the United States or will be direct shipped on barges to U. S. ports.

(e) Manpower is available at towns mentioned.

Supplies and equipment will be procured in United States.

Property is amply supplied with water, both from perennial streams heading on subject claims (now piped to places of use), and from Salmon River which flows directly in front of mill. Mill water was pumped from well in bank of river. Three semi-Diesel power units with combined output of 300 H.P. are installed, one of which drives a Sullivan 460 c.f.m. compressor.

5. <u>The exploration project</u>.

(a) This project proposes to explore for tungsten.

(b) (See Plan and Longitudinal maps of Riverside Mine)

On these maps the proposed work is shown in red. Individual phases are numbered 1 to 9 for purpose of identification. Work will not

necessarily follow in this order. Of three veins traversing the property, the Lindeborg has produced the most tungsten. This vein has produced a large quantity of high grade scheelite. Only a portion of this production was recovered and marketed. During early years the operators were not aware that scheelite was present and ran it to mine dumps or wasted it in mill tailings. During other years, market prices and market ramifications made production of scheelite unprofitable resulting in the same wastes as cited above. When recovery was attempted, mill efficiency was low resulting in more wastes.

Exploration Phases are as follows:

Phase-1: Drift on 810-Level southeasterly 400 feet from present face to Caribou claim end line. Will traverse virgin ground in section of mine that has produced important amounts of scheelite. The post-mineral porphyry dike that lies some 160 feet ahead will be crossed (80 feet, more or less) and drift continued to property line. If showings warrant, the adjoining Fehring ground will be acquired. Agreement so to do has been acquired. Plans call for drifting the Fehring ground 400 feet. This additional drifting is not incorporated in this application.

Phase-2: 236 foot, two-compartment raise from 810-Level to surface. Proposes to explore virgin ground in potential scheelite territory approximately 120 feet ahead of any present working. This raise will explore a vein area comprising roughly 40,000 square feet.

Phase-3: Drift on 680-Level 300 feet southeasterly, and 100 feet northwesterly from present respective faces. Both will traverse virgin ground in potential scheelite territory.

Phase-4: 150 foot, two-compartment raise from 680 to 810-Level. Will traverse mostly virgin territory.

Phase-5: 170 foot, two-compartment raise from 530 to 680-Level. Will also traverse potential scheelite territory. Phases 3, 4 & 5 will explore an approximate 90,000 square feet of vein area.

Phase-6: Drift on 320-Level (Mill Level) an approximate 85 feet southeasterly from present face. To make possible the driving of Phase-7 raise on the vein. Present drift-crosscut at this position terminates within the footwall thus rendering it out of position for exploratory raise.

Phase-7: 228 foot, two-compartment raise from 320 to 530-Level. Traversing virgin territory. Considerable scheelite has been stoped above 530-Level. Diamond drilling has shown presence of scheelite below 530-Level and is believed to continue below 320-Level.

Phase-8: Driving an approximate 190 feet of drift on Cross vein from foot or near bottom of present winze. Proposes to explore Lindeborg vein over strike distance of approximately 570 feet, (at approximate elevation 80 feet) from intersection with Cross vein. Total length 760 feet. This work is warranted by the fact that high grade scheelite was mined above and below 320-Level at its most northwesterly end, and by extensive stoping above this level southeasterly from end of drift.

Phase-9: 261 foot, two-compartment raise from 80-Level to 320 Level. This will explore the ground below the underhand stope on the 320-Level which is virgin ground with potential tungsten production.

In drifting on Cross vein from bottom of winze it may be advisable to consider diamond drilling ahead, after the drift has been extended an

approximate 100 feet. At least two holes would be fanned westward of lengths 140 feet and 225 feet respectively bottoming in the footwall of Lindeborg vein, at an intervening distance within the vein of about 100 feet. The easterly hole would bottom approximately 60 feet westerly from the intersection of the two veins. This drilling would determine structural conditions of the Lindeborg vein before drifting northerly on it.

No specific diamond drilling is proposed in this application. It is recommended, however, that a blanket drill footage of 1,200 feet, at a contract price of $10 per foot be allowed and added to the aggregate cost of this application. Under this arrangement the placing, pointing and lengths of holes would be left to judgment of the management, with approval of Government Engineers.

In this type structure, standing almost vertical, as has been proven here by previous drilling, satisfactory diamond-drill objective may not be obtained without first driving crosscuts ~~to~~ in the hanging wall for down holes, or in the footwall for up holes. The cost of these crosscuts approaches closely the cost of driving a raise that would explore a greater area with more satisfactory results. Also, diamond-drill cores in this type mineralization do not permit reliable appraisal unless holes are closely spaced. It is considered advisable, therefore, to lay out drill work as the work progresses ~~and~~ as geologic information gained as the work progresses dictates the position and length of holes to be drilled, as to specific objectives.

Note: Drifts to be 5 x 7 feet in cross section; raises 4 x 8 feet.

(c) The work will start on or before May 1, 1954 and will be completed within 24 months from that date.

(d) Applicant has no mining background. Otherwise engaged in contracting business in United States, Alaska and British Columbia. Is fully conversant with intent of application and is fully capable, financially and otherwise to carry out obligations imposed by contract. Operations will be supervised by competent Mining Engineer with broad background in engineering and mining operation.

6. Estimate of costs.

In estimates that follow, Foreman's wage is computed at $500 per month; Truck Driver at $350 per month. Salary of $300 per month for Geologist is considered adequate to pay fees on a consulting basis.

Operating Equipment.

Used equipment to be furnished. (Depreciation over 36 months)

	ITEM	VALUE	MONTHLY DEPREC.
4	Jackhammer drills	$360.00	$10.00
6	1-ton ore cars	450.00	12.50
2	I.R. tugger hoists	500.00	13.90
1	American Blower fan, Size 4	300.00	8.33
1	Fairbanks Morse 5 HP motor	250.00	6.95
1	J-3 bit grinder	250.00	6.95
4	Air receivers	600.00	16.66
2	Blacksmith shops w/ tools	500.00	13.90
1	I.R. slusher w/ scoop	400.00	11.11
1	Sinking pump	180.00	5.00
1	Cameron pump	250.00	6.95
1	Sullivan compressor 460 cfm	3,000.00	83.33
1	36" x 8' air receiver	300.00	8.33
2	20" x 60" air pressure tanks	200.00	5.56
1	Semi-Diesel engine 75 HP	2,000.00	55.55
1	Typhoon 3" x 3" water pump	200.00	5.56
1	150 KW Westinghouse generator	750.00	20.83
1	Switchboard assembly, fuel tanks	300.00	8.33
	Totals	$10,790.00	299.74

New equipment to be furnished. (Depreciation over 60 months)

	ITEM	VALUE	MONTHLY DEPREC.
2	Coromant drills RH-656-4W	$720.00	$ 12.00
2	Pusher legs BMK-62A.....	330.00	5.50
1	Bit grinder RS-710.....	185.00	3.09
1	Bit grinder jig V-2.....	110.00	1.83
6	Ajax 28 cf mine cars.....	3,108.00	51.80
1	40 HP mine hoist.....	5,900.00	98.33
1	Eimco 12B loader.....	3,199.00	53.31
	Totals.....	$13,552.00	$225.86
	Grand totals.....	$24,342.00	$525.60

STAGE 1: Part 1. Rehabilitation and repairs- preparation.

(a) Rehabilitate camp:

Except for watchman the camp will not have been occupied for three years. It is run down and requires complete rehabilitation to put it in shape to house and board the necessary crew. No materials are required.

Time: 60 man/days @ $18.00/day..... $1,080.00

(b) Recover and repair power house:

The roof of power house collapsed under snow pressure. Equipment is now temporarily boxed in. Requires new roof and rebuilt building.

Bill of material:

Lumber 6800 BM @ $85/M.....	$578.00
Roofing.....	300.00
Doors & windows.....	120.00
Nails & misc.	75.00
	$1,073.00
Labor: 40 man/days @ $20/da.	800.00
Total.....	$1,873.00

(c) Rehabilitate Water Supply:

Water supply to camp and compressor comes from stream at about 530-Tunnel elevation, through 5 inch wood stave wirewound pipe. This line is broken in several places. Requires repairs and re-alignment

and intake rebuilt. No materials required other than those available.

Time: 20 man/days @ $18/day..... $360.00

(d) Rehabilitate Power Machinery:

Power units, compressor, etc. require dismantling, installing new rings, new bearings, etc. Spare parts are available.

Time: 40 man/days @ $25/day..... $1,000.00

(e) Rehabilitate Mine Equipment:

Mine cars, hoists and sundry equipment were left underground when the mine ceased operation. Requires cleaning, oiling and general repairing. No materials required other than those available.

Time: 45 man/days @ $20/day..... $900.00

(f) Clear Mill Level, lay track and pipe lines:

600 feet of tunnel from portal to collar of winze stands ankle deep in fine, wet muck. Must be cleared to permit travel. 600 feet of track, ties, air and water lines are required to permit working Phase-6 drift and Phase-7 raise.

400 yds 20# mine rail @ $10.30/100#.....		$824.00
Rail accessories (20%).....		164.80
600' 3" air line @ $0.912/ft.....		547.20
600' 2" water line @ 0.443.....		265.80
Pipe fittings (20%).....		162.60
300 mine ties @ $0.40.....		120.00
Total.....		$2,084.40
Labor: Clearing drift - 20 man/days = 30/day at $18/day.....	$360.00	
Laying track and pipe lines 25/man/days @ $18/day.....	450.00	
Total labor,.....		810.00
Total.....		$2,894.40

(g) Mine: Water and air lines rehabilitation:

All present water and air lines leading to stations of exploratory

work require blowing out, checking and cleaning. Valves to be replaced where necessary. No materials required other than those available.

Time: 30 man/days @ $18/day.....$540.00

(h) New buildings, etc.:

No new buildings are to be constructed. Repair and finishing work are required on the four-apartment building that was moved from east to west of highway. Manager's dwelling requires leveling with new foundation props. Materials are available.

Time: 30 man/days @ $20/day $600.00

Labor as above.....	$6,090.00
Foreman's time - 2 months.....	1,000.00
Total labor.....	7,090.00
Payroll tax @ 11%.....	779.90
Total labor and tax.....	7,869.90
Materials and supplies as above.....	3,157.40
Contingencies - 10% of $11,027.30.....	1,102.73
Total - Stage 1: Part 1.....	$12,130.03

STAGE 1: Part 2. 104 days (4 months)

Drifts 885 feet. Phases 1, 3 and 6.

(1) Independent contracts: None

(2) Labor, supervision, consultants:

Engineer/supervisor @ $1,000/mo.		.....	$ 2,120.00
2	Miners @ $18/da plus O.T.	104 days.....	3,968.64
1	Miner helper @ $16/da	104 days.....	1,664.00
1.5	Trammers @ $16/da plus O.T.	104 days.....	2,645.76
1	Utility man @ $16/da plus O.T.	104 days.....	1,763.84
2	Mucker Oper. @ $16/da	104 days.....	3,328.00
0.5	Mechanic @ $20/da plus O.T.	104 days.....	1,102.40
1	Foreman @ $500/mo	2.12 months.....	1,060.00
1	Truck driver @ $350/mo	2.12 months.....	742.00
1	Cons. Geologist @ $300/mo.	2.12 months.....	636.00
	Total labor.....		$19,030.64

(3) Operating materials and supplies:

Explosives	11050# 40% gel.	@ $26/100#	$ 2,873.00
Blasting caps	4500 No. 8	@ $29/100.....	130.50
Fuse	Triple Tape 29,000'	@ $13.50/1000'.....	391.50
Drill steel:	20 pcs Ajax 2' 7"	@ $16.70/ea.....	334.00
	80 pcs Ajax 5' 3"	@ $18.10/ea.....	1,448.00
Drill repair parts		lump.....	121.90
Grinding wheels	Copco 48	@ $2.35/ea.....	112.80
Hose:	Mucking Mch. 100' 1¼"	@ lump.....	117.62
	Air w/cplgs 100' 1"	@ $1.00/ft.....	100.00
	Water/w/cplgs 100' 3/4"	@ $0.90/ft.....	90.00
Pipe:	Air line 900' 3"	@ $0.912/ft.....	820.90
	Water line 900' 2"	@ $0.443.....	398.70
	Fittings (20%)	lump.....	243.92
Rail:	590 yds 20# 11800#	@ $10.30/100#.....	1,215.40
	Accessories (20%)	lump.....	243.08
	Ties 450	@ $0.40/ea.....	180.00
Diesel fuel	13250 gals	@ $0.23/gal.....	3,047.50
Lubricants		lump.....	160.00
Repair parts		lump.....	281.90
Gasoline	460 gals	@ $0.27/gal.....	124.20
Blacksmith coal	1.5 tons	@ $55/T.....	82.50
Lamps, carbide, hard hats		lump.....	65.00
Small tools		lump.....	185.50
	Total.....		$12,767.92

(4) Operating equipment: To be furnished.

	Item	Monthly Deprec.	Use Period	Total Cost
1	Blacksmith shop	$13.90	2.12	$29.47
1	Cameron pump	6.95	2.12	14.73
1	Sullivan compressor	83.33	2.12	176.66
1	36" x 8' air receiver	8.33	2.12	17.67
1	20" x 60" air tank	2.78	2.12	5.89
1	Semi-Diesel 75 HP engine	55.55	2.12	117.77
1	Switchboard, etc.	8.33	2.12	17.67
2	Coromant RH 4W drills	12.00	4	48.00
2	Pusher legs for same BMK-62A	5.50	4	22.00
1	Bit grinder RS-710	3.09	4	12.36
1	Grinder jig	1.83	4	7.32
4	Ajax 28 cf mine cars	34.53	4	138.13
1	Eimco 12B loader	53.31	4	213.24
	Total.....			$820.91

(5) Rehabilitation and repairs: None

(6) New buildings, improvements, installations: None

(7) Miscellaneous:

Payroll taxes 11% of $19,030.64.....	$2,093.37
Assays 80 samples @ $5.00 each.....	400.00
Total.....	$2,493.37

(8) Contingencies:

10% of all cost estimates excluding supervision, depreciation and assaying.

10% of $31,538.73	$3,153.87
Total Stage 1: Part 2.....	$38,266.71

STAGE 1: Part 3. 104 days (4 months)

Raises 784 feet. Phases 2, 4, 5 and 7.

(1) Independent contracts: None

(2) Labor, supervision, consultants:

Engineer/supervisor	$1000/mo	1.88	months	$1,880.00
2 Miners	@$18/day		104 days	3,744.00
2 Miner helpers	@$16/day		104 days	3,328.00
2 Trammers	@$16/day		104 days	3,328.00
1 Utility man	@$16/day		104 days	1,664.00
1 Timber framer	@$18/day		104 days	1,872.00
0.5Mechanic	@$20/day		104 days	1,040.00
1 Foreman	@$500/mo		1.88 months	940.00
1 Truck driver	@ $350/mo		1.88 months	658.00
1 Cons. Geologist	@ $300/mo		1.88 months	564.00
Total labor.....				$19,018.00

(3) Operating materials and supplies:

Explosives	9800# 40% gel.	@ $26/100#.....	$2,548.00
Blasting caps	3800 No. 8	@ $29/1000.....	110.20
Fuse Triple Tape	26,000'	@ $13.50/1000'....	351.00
Drill steel: and bits		lump.....	886.00
Drill - repair parts		lump	108.00
Hose: Air w/cplgs	100' 1"	@ $1.00/ft.....	100.00
Water w/cplgs	100' 3/4"	@ $0.90/ft	90.00
Pipe: Air line	800' 2"	@ $0.443/ft.....	354.40
Water line	800' 1"	@ $0.207/ft.....	165.60
Fittings (20%)		lump.....	104.00

Timber: 20.4 BM		@ $80.00/m	$1,632.00
Diesel fuel	11,750 gals	@ $0.23/gal	2,702.50
Lubricants		lump.....	141.88
Repair parts		lump.....	249.98
Gasoline	410 gals	@ $0.27/gal.....	110.70
Blacksmith coal	1.25 tons	@ $55/ton.....	68.75
Carbide, lamps, hard hats		lump.....	55.00
Small tools		lump.....	164.50
	Total.....		$9,942.51

(4) Operating equipment: To be furnished.

		Monthly Deprec.	Use Period	Total Cost
2	Jackhammer drills	$5.00	4	$ 20.00
2	1-ton mine cars	4.17	4	16.68
2	Tugger hoists	13.90	4	55.60
1	Amer. Blower fan	8.33	4	33.32
1	5 HP motor	6.95	4	27.80
1	Blacksmith shop w/tools	13.90	1.88	26.13
1	Cameron pump	6.95	1.88	13.07
1	Sullivan compressor	83.33	1.88	156.66
1	Bit grinder J-3	6.95	4	27.80
1	36" x 8' air receiver	8.33	1.88	15.67
1	20" x 60" air tank	2.78	1.88	5.23
1	Semi-Diesel 75 HP engine	55.55	1.88	104.44
1	Switchboard assembly, etc.	8.33	1.88	15.67
2	Ajax 28cf mine cars	17.26	4	69.04
	Total			$587.11

(5) Rehabilitation and repairs: None

(6) New buildings, improvements, installations: None

(7) Payroll taxes 11% of $19,018.00..... $2,091.98
Assays: 80 samples @ $5.00/ea..... 400.00

Total..... $2,491.98

(8) Contingencies:

10% of all cost estimates excluding supervision, depreciation and assaying.

10% of $28,965.69..... $2,896.57

Total Stage 1: Part 3.....$ 34,936.17

Total - STAGE 1: Parts 1, 2 and 3.....$ 85,332.91

Pacific Northern Minerals Co.
Spokane, Washington

STAGE 2: Part 1. 95 days (3.65 months)

Winze Preparation: Unwater 250 foot winze, rig sheave, lay ties and track and string pipe lines.

Labor and supervision:

1	Foreman	@ $500/mo	0.5 months	$ 250.00
2	Utility men	@ $16/da	20 days	640.00
			Total labor..........................	$ 890.00

Payroll tax - 11% of $890.00.................................... 97.90

173 yds 20# rail 3460#	@ $10.30/100#,,,,,,,,.......	$356.38	
Rail accessories (20%)	lump......................	71.28	
Ties 130	@ $0.40/ea.................	52.00	
Pipe: Air Line 260' 3"	@ $0.912/ft................	237.12	
Water line 260' 2"	@ $0.443/ft................	115.18	
Fittings (20%)	lump......................	70.46	
Fuel: 2400 gals	@ $0.23/gal................	552.00	
Lubricants	lump......................	29.02	
			1,483.44
Contingencies 10% of $2,471.34	....		247.13
	Total preparation..................		$2,718.47

Crosscut and Drift - 760 feet.

(1) Independent contracts:

365 feet of AX diamond drill core hole at $10/foot. (Provisional only).

Contract price...	$3,650.00
Fuel: 1800 gals. Diesel fuel @ $0.23/gal.................	414.00
Lubricants lump........................	21.74
Contingencies: 10% of $435.74...........................	43.57.
Total (provisional)..................	$4,129.31

(2) Labor, supervision, consultants:

Engineer/supervisor	@ $1000/mo.	1.82 months......	$1,825.00
2 miners	@ $18/day	95 days..........	3,420.00
2 Muck. machine oper.	@ $16/day	95 days..........	3,040.00
2 Trammers	@ $16/day	47.5 days........	1,520.00
2 Hoistmen	@ $18/day	95 days..........	3,420.00
0.5 mechanic	@ $20/day	95 days..........	950.00
0.5 Utility man	@ $16/day	95 days..........	760.00
1 Foreman	@ $500/mo.	3.65 months......	1,825.00
1 Truck driver	@ $350/mo.	1.82 months......	637.00
1 Cons. Geologist	@ $300/mo.	1.82 months......	546.00
		Total labor......................	$17,943.00

(3) Operating materials and supplies:

Explosives		9500#/40% gel.	@ $26/100#.....	$2,470.00 12½¢/ft
Blasting caps		3400 No. 8	@ $29/1000.....	98.60
Fuse		24,000' Triple Tape	@ $13.50/1000'...	324.00
Drill steel:		17 pcs Ajax 2'7"	@ $16.70/ea.....	283.90
		68 pcs Ajax 5'3"	@ $18.10/ea.....	1,230.80
		Repair Parts	lump.....	100.00
Hose:	Muck. mch.	75' 1¼"	lump.....	88.21
	Air w/cplgs.	75' 1"	@ $1/ft.....	75.00
	Water w/cplgs.	75' 3/4"	@ $0.90 ft.....	60.00
Pipe:	Airline	760' 3"	@ $0.912/ft.....	693.12
	Water line	760' 2"	@ $0.443/ft.....	336.68
	Fittings (20%)		.....	205.96
Rail:	507 yds.	20#-10140#	@ $10.30/100#....	1,044.42
	Accessories (20%)		.....	208.88
	Ties	380	@ $0.40/ea.....	152.00
Diesel fuel		11400 gals	@ $0.23/gal.....	2,622.00
Lubricants			lump.....	137.65
Repair parts			lump.....	242.53
Gasoline		395 gals	@ $0.27/gal.....	106.65
Blacksmith coal		1.25 tons	@ $55/T.....	68.75
Lamps, carbide, etc.			lump.....	56.00
Small tools			lump	158.00
		Total.....		$10,763.15

(4) Operating equipment: To be furnished.

	Item	Monthly Deprec.	Use Period	Total Cost
1	Blacksmith shop	$13.90	3.65	$ 50.73
1	Cameron pump.....	6.95	3.65	25.37
1	Sullivan compressor.....	83.33	3.65	304.15
1	36" x 8' air receiver.....	8.33	3.65	30.42
1	20" x 60" air tank.....	2.78	3.65	10.15
1	Semi-Diesel engine 75 HP.....	55.55	3.65	202.76
1	Westinghouse generator.....	20.83	3.65	76.03
1	Misc. switchboard assembly.....	8.33	3.65	30.42
2	Coromat RH-656-4W drills.....	12.00	3.65	43.80
2	Pusher legs BMK -62A.....	5.50	3.65	20.07
1	Copco bit grinder RS-710.....	3.09	3.65	11.28
4	Ajax 28cf mine cars.....	34.53	3.65	126.03
1	Eimco 12B loader.....	53.31	3.65	194.58
1	40 HP mine hoist.....	98.33	3.65	358.94
	Total.....			$1,484.73

(5) Rehabilitation and repairs: None

(6) New buildings, improvements, installations: None

(7) Miscellaneous:

Payroll taxes 11% of $17,943.00	$1,973.73
Assays 58 @ $5.00	290.00
Total	$2,263.73

(8) Contingencies:

10% of all estimated costs excluding supervision depreciation and assaying	
10% of $28,654.13	$2,865.41
Total Stage 2: Part 1	$38,038.49
Less preparation	2,718.47
Total exploration	$35,320.02

STAGE 2: Part 2. 33 days (1.27 months)

Raise: 261 feet. Phase-9.

(1) Independent contracts: None

(2) Labor, supervision, consultants:

Engineer/supervision	@ $1000/mo	0.635 months	$ 635.00
2 Miners	@ $18/day	33 days	1,188.00
2 Miner helpers	@ $16/day	33 days	1,056.00
2 Trammers	@ $16/day	33 days	1,056.00
2 Hoistmen	@ $18/day	33 days	1,188.00
0.5 Mechanic	@ $20/day	33 days	330.00
0.5 Timber framer	@ $18/day	33 days	297.00
1 Foreman	@ $500/mo.	1.27 months	635.00
1 Cons. Geologist	@ $300/mo.	0.635 months	190.50
1 Truck driver	@ $350/mo.	0.635 months	222.25
Total labor			$6,797.75

(3) Operating materials and supplies:

Explosives	3250#-40% gel.	@ $6/100#	$ 845.00
Blasting caps	1200 No. 8	@ $29/1000	34.80
Fuse	10,000' Trip.Tape	@ $13.50/1000'	135.00
Drill steel and bits		lump	300.00
Repair parts		lump	36.50
Hose: Air w/cplgs	25'	@ $1/ft.	25.00
Water w/cplgs	25'	@ $0.90/ft	22.50
Pipe fittings			38.90

Pipe: Air line	230' 2"	@ $0.443/ft	$ 101.89
Water line	230' 1"	@ $0.207	47.61
Timber	6.8 BM	@ $80/M	544.00
Diesel fuel	4000 gals	@ $0.23/gal	920.00
Lubricants		lump	211.60
Repair parts		lump	85.10
Gasoline ⅛	130 gals	@ $0.27/gal.	35.10
Blacksmith coal	1 ton	@ $55/T.	55.00
Lamps, carbide, etc.		lump	20.00
Small tools		lump	55.00
	Total.....		$3,513.00

(4) Operating equipment: To be furnished.

		Monthly Deprec.	Use Period	Total Cost
1	Blacksmith shop.....	$13.90	1.27	$ 17.65
1	Pump.....	5.00	1.27	6.35
1	Sullivan compressor.....	83.33	1.27	105.83
1	36" x 8' air receiver.....	8.33	1.27	10.58
1	20" x 60" air tank.....	2.78	1.27	3.53
1	Semi-Diesel 75 HP engine.....	55.55	1.27	70.55
1	Westinghouse generator.....	20.83	1.27	26.45
1	Misc. switchboard Assemb.....	8.33	1.27	10.58
2	Stoper drills.....	5.00	1.27	6.35
1	1-ton ore car.....	2.08	1.27	2.64
1	Cameron pump.....	6.95	1.27	8.83
1	Bit grinder J-3.....	6.95	1.27	8.83
1	40 HP mine hoist.....	98.33	1.27	124.88
	Total.....			$ 403.05

(5) Rehabilitation and repairs: None

(6) New buildings, improvements, installations: None

(7) Miscellaneous:

Payroll taxes: 11% of $6797.75.....	$ 747.75
Assays 26 samples @ $5.00/each.....	130.00
Total.....	$ 877.75

(8) Contingencies:

10% of all cost estimates excluding supervision, depreciation and assaying.

10% of $10,353.65 ..... $1,035.36

Total Stage 2: Part 2..... $12,626.91

TOTAL STAGE 2: Parts 1 and 2..... $50,665.40

Pacific Northern Minerals Co.
Spokane, Washington

RECAPITULATION OF COSTS

STAGE 1

	Labor	Oper. Mtls.	Deprec. on Oper. Equip. New	Deprec. on Oper. Equip. Used	Taxes	Assays	Contin-gencies	Total
Prepar-ation:	$ 7,090.00	$3,157.40	-	-	$ 779.90	-	$1,102.73	$12,130.03
Drifts-885 Ft.	19,030.64	12,767.92	$441.05	$379.86	2,093.37	$400.00	3,153.87	38,266.71 $43.24
Raises; 784 ft.	19,018.00	9,942.51	69.04	518.07	2,091.98	400.00	2,896.57	34,936.17 $44.56
Totals:	$45,138.64	$25,867.83	$510.09	$897.93	$4,965.25	$800.00	$7,153.17	$85,332.91

STAGE 2

Prepar. Winze:	890.00	1,483.44	-	-	97.90	-	$ 247.13	$ 2,718.47
Crosscut-Dft.760'	17,943.00	10,763.15	$754.70	$730.03	$1,973.73	$290.00	2,865.41	35,320.02 $46.47
Raise-261 ft.	6,797.75	3,513.00	124.88	278.17	747.75	130.00	1,035.36	12,626.91 $48.38
Totals	$25,630.75	$15,759.59	$879.58	1,008.20	$2,819.38	$420.00	$4,147.90	$50,665.40
GRAND TOTALS	$70,769.39	$41,627.42	$1,389.67	$1,906.13	$7,784.63	$1,220.00	$11,301.07	$135,998.31

D.D. not included

Provisional diamond drilling:

Contract				
$3,650.00	$435.74		$43.57	$4,129.31 $11.31

UNIT COSTS

STAGE 1:

Preparatory work:

		Unit	Unit Cost
Labor	$7,090.00		
Operating materials.....	3,157.40		
Miscellaneous.....	779.90		
Contingencies.....	1,102.73		
Total.....	$12,130.03	Job	

UNIT COSTS (cont.)

STAGE 1 (cont.)		Unit	Unit Cost
Drifts: 885 feet			
Labor	$19,030.64		
Operating materials	12,767.92		
Oper. Equip. Deprec	820.91		
Miscellaneous	2,493.37		
Contingencies	3,153.87		
Total	$38,266.71		
Less Assaying	400.00		
	$37,866.71	Ft.	$42.79
Raises: 784 feet			
Labor	$19,018.00		
Operating materials	9,942.51		
Oper. Equip. Deprec	587.11		
Miscellaneous	2,491.98		
Contingencies	2,896.57		
Total	$34,936.17		
Less Assaying	400.00		
	$34,536.17	Ft.	$44.05
TOTAL - STAGE 1	$85,332.91		
STAGE 2:			
Preparatory work: (Winze)			
Labor	$ 890.00		
Operating materials	1,483.44		
Miscellaneous	97.90		
Contingencies	247.13		
Total	$ 2,718.47	Job	
Crosscut. and drift: 760 ft.			
Labor	$17,943.00		
Operating materials	10,763.15		
Oper. Equip. Deprec	1,484.73		
Miscellaneous	2,263.73		
Contingencies	2,865.41		
Total	$35,320.02		
Less assaying	290.00		
	$35,030.02	Ft.	$46.09

UNIT COSTS (Cont.)

STAGE 2: (cont.)

Raise: 261 feet		Unit	Unit Cost
Labor	$6,797.75		
Operating materials	3,513.00		
Oper. Equip. Deprec	403.05		
Miscellaneous	877.75		
Contingencies	1,035.36		
Total	$12,626.91		
Less Assaying	130.00		
	$12,496.91	Ft.	$47.88
TOTAL STAGE 2:	$50,665.40		
TOTAL STAGES 1 AND 2	$135,998.31		

Not included in above is provisional diamond drilling on 80-Level, as follows:

Contract 365 ft. @ $10/ft	$3,650.00	
Operating materials	435.74	
Contingencies	43.57	
Total	$4,129.31	$11.31 Ft.

NOTE: 1200 feet of provisional diamond drilling as suggested herein - if allowed- should carry a unit price of $12.00 per foot to defray costs of chambering drill stations plus actual contract drilling price.

not included in costs!

(7). (a) Applicant is prepared to purchase all equipment as is called for to be purchased in the within application and to furnish all necessary monies in advance of any that may be received from the United States government, and to carry out to the best of his ability the obligations of any contract that may be entered into with the government. He will pay in cash all payrolls as they become due and meet all other obligations according to the standards of good business. As a part of his contribution in the operating costs outlined in this application he requests that he be allowed three year depreciation on his used equipment which has been priced at nominal prices.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.~~ C.

OFFICIAL BUSINESS

KNOXVILLE
JAN 21
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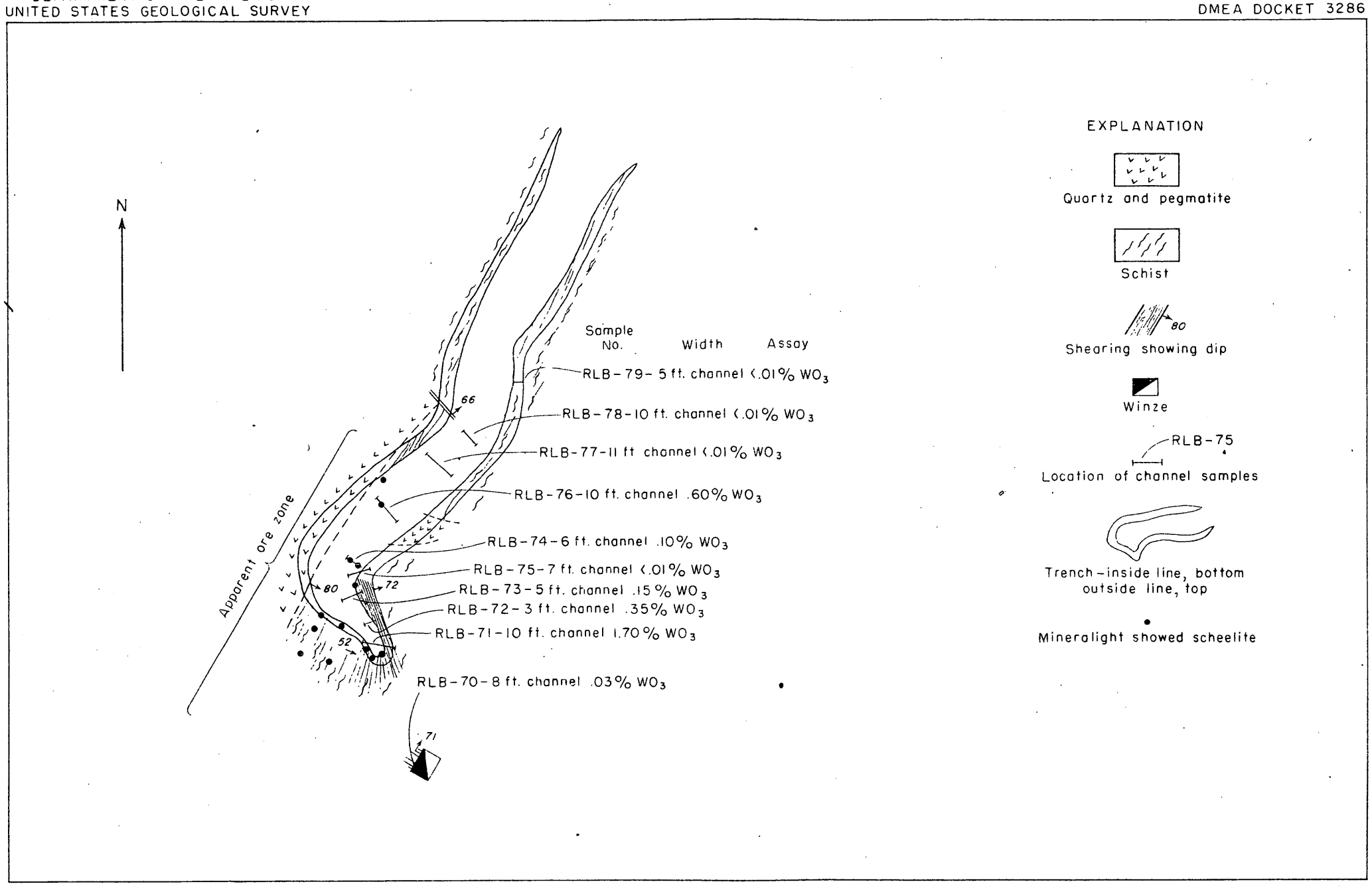
1954
TENN.

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA.
Dept. of the Interior
Washington 25, D.C.

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

DMEA DOCKET 3286



By D.R. MacLaren. April 1954

FIGURE 3.—PLAN SHOWING GEOLOGY, LOCATIONS OF SAMPLE CHANNELS AND ASSAYS, NEW ERA MINING COMPANY, LARAMIE COUNTY, COLORADO

40 20 0 40 Feet

Mr. S. H. Lavaia, Executive Officer
DMEA Field Team, Region I - Alaska District
P. O. Box 2658
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten,
Lead and Zinc
Ryder Mines, Inc.
Riverside mine
Ryder District, Alaska
Contract No. Idm-2648

Dear Mr. Lavaia:

Enclosed are Finance copy, Field Team copies and one extra copy of a Termination Agreement on the subject contract dated April 24, 1957. Also enclosed are copies of a letter of May 2, 1957, from the Operator, Ryder Mines, Inc., transmitting signed copies of the Termination Agreement to the Administrator.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

P. F. Yopes

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

Enclosure

SPEOLT:fac 5/10/57
cc to: Docket
Code 400
Admr. R. File
Oper. Comm.
FT. REG. I - SE ALASKA DIST.
Messrs. R. W. Halliday, USBM
T. H. Kiilsgaard, USGS

HYDER MINES, INC. 904 FOURTH AVENUE • MAin 6496
Seattle 4, Washington

Mining Office:
RIVERSIDE MINE
HYDER, ALASKA

May 2, 1957

UNITED STATES DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

G. O. MITTENDORF Administrator

Re: Docket No. DMEA-5246 (Tungsten Lead and Zinc)
Contract No. Jdm-E668
Hyder District, Alaska

Dear Mr. Mittendorf:

In response to your letter of April 24, 1957, we are herewith five copies of signed Termination Agreement designated as Government Copy, Field Team Copy, Finance Office Copy, Audit Copy and Division Copy. Copy marked Operators Copy we have retained for our record.

We regret losing this contract, particularly under conditions over which we have had no control. However we have now cleared with the Security Exchange Commission are accumulating the necessary funds to start mining as soon as weather conditions in the area permit.

Relative to so called [illegible] we may [illegible] attention should be called to it. We regret [illegible] inconvenience this delay may have caused you.

Thanking you and Mr. [illegible] for [illegible] matter and assuring you that [illegible] now financially able to [illegible]

Sincerely

Docket
Holt
Martin

September 13, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Summary of Project -- Notice of Termination
Docket No. DMEA-3246, Tungsten-Lead-Zinc
Hyder Mines, Inc.
Riverside Mine
Hyder District, Alaska
Contract No. Idm-E668

This Division hereby concludes that the Operator lacks the funds and ability to carry out the work as outlined in the contract and amendments thereto and that the contract should be terminated.

The description of the property, work done, and results obtained follows:

Operator: Hyder Mines, Inc.
310 Stewart St.
Seattle 1, Washington

Property: Eight lode mining claims are held by U. S. Patent, Survey Nos. 1530, 1562, and 1563, and are listed as follows: Riverside, Caribou, Riverview, Spruce, Sunshine, Sunshine No. 1, Pine, and Hillside. Recorded in Book 2, pages 173-5, in the Hyder Recording District, Territory of Alaska.

Contract: Executed May 3, 1954, for mining tungsten, lead, and zinc; was issued to the Pacific Northern Minerals Company. On March 22, 1955, the contract was assigned to Alaska Mining and Exploration Company, Inc., and on September 22, 1955, the name was changed to Hyder Mines, Inc.

The work was divided into two stages. Stage I included rehabilitation, drifting 500 feet, raising 230 feet, and diamond drilling 480 feet. Stage II included drifting 760 feet, raising 261 feet, and diamond drilling 600 feet, at a total cost of $96,120.00, Government participation at 62½ percent, $60,075.00.

Two amendments were written, no change in work; a recess was granted, time was extended from 2 to 3 years, and time for royalty payments was extended to 11 years.

Work Completed: Only work accomplished has been rehabilitation (mainly surface building and machinery repair). The only Forms MF-104 and 104A presented were for June and July 1955, rehabilitation and repairs amounting to $7,735.40. For lack of proper documentation, the Field Team allowed only $1,951.48, and the Government's share, 62½% of $1,219.68, was paid.

Geology: The main geological feature of the property is the Lindborg shear zone, an elongated sheared inclusion of schist and argillite in grano-diorite. A post-mineral grano-diorite porphyry dike and branches cut the shear zone. The shear zone contains the Lindborg vein. The vein splits and is irregular and contains lead, zinc, and copper sulphides and scheelite in five separate orebodies. The scheelite appears to be better in the upper part of the ore bodies.

History & Production: From 1925 to 1951 inclusive through several working periods, 31,706 tons of ore were milled, producing 3,284 ounces gold, 95,946 ounces silver, 101,995 pounds copper, 2,258,000 pounds lead, 52,414 pounds zinc, and 3,763 units of WO_3. In the earlier work, no attempt was made to save the tungsten; later, when attempts were made to save the tungsten, the recovery was poor. Indicated grade of ore milled was 0.1 ounces gold, 5 ounces silver, 7 percent lead, and 0.45 percent WO_3.

Ore Reserves: It is estimated that the present workings indicate 13,720 units of WO_3 and 45,000 units of WO_3 inferred. No estimate has been made of the gold, silver, lead, zinc, and copper content of the ore.

Comments: Reports indicate that if the mine were well managed it should produce 55,000 to 60,000 units of WO_3, and a considerable amount of gold, silver, lead, zinc, and copper.

The Field Team reports that the Operator appears to lack funds and is not competent to carry out the project economically, and recommends termination.

R. W. Holliday, Bureau of Mines, states that ample evidence cited justifies termination of the contract, but action should be withheld unless contract is actually in default. N. E. Nelson, Geological Survey, concurs with the Field Team and recommends termination.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

cc: Docket
Code 400
Oper. Comm.
Adm. Read. File

TLChapman/ls
9/13/56

DMEA Form 17
Feb. 58

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WORK COMPLETED ANALYSIS

After final audit or review report is received, prepare original only and file in official docket

Operator: Hyder Mines, Inc			Actual Cost	x	$10,718.00
State: Alaska - Hyder District			Agreed Unit Cost	x	$85,402.00
Final Report of Audit		Commodity	Docket No. DMEA-3246		
Final Report of Review	X	Tungsten - Lead and Zinc	Contract No. Idm-E668		

Operation	Authorized by Contract and Amendments		Completed		Net cost after sale of Government Property
	Units	Cost	Units	Cost	
Drifting & Crosscutting	Feet 1260	$ 54,440.00	0	$ 0	$ 0
Raising	491	20,162.00	0	0	0
Shafts					
Winzes					
Drilling (Specify) Diamond core	1080	10,800.00	0	0	0
Total unit costs		85,402.00			
Surface Excavation					
Underground Excavation					
Roads and Trails					
Operating Equipment Purchased					
Surface Rehabilitation & Repairs		4,700.00		1,951.48	1,951.48
Underground Rehabilitation		6,018.00		0	0
New Building, Improvements, etc.					
Other (Specify) Total Actual Costs		~~10,718.00~~			
Totals		$96,120.00			* $1,951.48

* Net cost total must agree with final report of audit or review.

Operator showed no interest in the work, so it was determined that the contract should be terminated.

Prepared by s/ James Hopkins Date 4/7/58

31398

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
WASHINGTON 25, D. C.

Memorandum

To: Contract Administration & Audit Division

From: Chief, Iron & Ferro-Alloys Division

Subject: Closed DMEA Files

The file~~s~~ on the contract~~s~~ listed below ~~were~~ was considered closed by this office as of December 31, 1958. No closing letter was written in ~~these~~ this case~~s~~ nor will any be written, however, the Government no longer has the right to certify and there is to the best of our knowledge no outstanding claim for royalty.

Docket No.	Contract No.
3246	668
~~4703~~	~~1117~~
~~3638~~	~~777~~

W. S. Martin

Approved:

Acting Director

W^M^Chamberlain:gjb 1/20/59
Copy to: Mail & Files
Docket
Mr. Talbert
DRF
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/2	Talbert	800
7/2	C	220
7/3	DLC	400

JUL - 2 1957

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
South 157 Howard Street
Spokane 4, Washington

Dear Mr. Weissenborn:

Enclosed are the originals and two copies of Reports of Review for the following terminated exploration project contracts, which were administered by the former Alaska District of Region I:

Contract	Docket	Operator
Idm-E667	DMEA-3288	Alaska Copper Mines, Inc.
668	3246	Ryder Mines, Incorporated
857	3631	Renete Porcupine Mines, Ltd.

If you concur with the facts stated in these reports, which have been prepared in accordance with letters of the DMEA Field Team, Alaska District, confirming the acceptable performance of the work, the original and one copy of each should be forwarded to the Authorized Certifying Officer (L. J. Wilcox, P. O. Box 2688, Juneau, Alaska) and one copy of each should be retained in your files. If for any reason a report does not have your concurrence, please return the original and both copies to this Division with your comments.

According to the records of this Division the status of these project accounts is as follows:

Contract	Proper Govt. Participation	Paid To Operator	Balance Due Operator
Idm-E667	$17,755.55	$17,755.55	$ -0-
668	1,219.67	1,219.67	-0-
857	21,798.75	21,765.00	33.75

As it is understood that the DMEA financial records of the Alaska District will be transferred from Juneau to Spokane, copies of this letter are being sent for information purposes to both Mr. L. J. Wilcox, the Authorized Certifying Officer in Juneau, and Mrs. Dorothy F. Long, the Authorized Certifying Officer in Spokane.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Director
Contract Administration
and Audit Division

Enclosure

EDTalbert/wb 7-2-57

cc to: Docket (3)
Admr. Reading File
Mr. Chambers
L. J. Wilcox
D. F. Long

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/18	Talbert	800
6/18	Ewing	220
6/19	WSM	400
	Idm-E667	

JUN 18 1957

Mr. J. A. Herdlick
Acting Executive Officer
DMEA Field Team, Region I
Alaska District
P. O. Box 2688
Juneau, Alaska

Re: Docket DMEA-3288, Contract Idm-E667
Alaska Copper Mines, Inc.

Docket DMEA-3246, Contract Idm-E668
Hyder Mines, Inc.

Docket DMEA-3831, Contract Idm-E857
Moneta Porcupine Mines Limited

Dear Mr. Herdlick:

It appears from the records of this Division that a Report of Review in lieu of a final audit is in order for each of the referenced terminated contracts. However, before such reports may be issued, it is required that this Division have a communication from you setting forth, for each of the projects, the information specified in my January 9, 1957, memorandum to all DMEA auditors, subject: Instructions on the Release of Audits and Reports of Review, copies of which were forwarded to the Field Team for compliance by the Operating Committee's letter of January 17, 1957.

Your cooperation in submitting the required communications would be appreciated.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Director
Contract Administration
and Audit Division

EDTalbert/wb
June 18, 1957

Copy to: Docket (3)
Admr. Reading File
L. J. Wilcox, Reg. I, Alaska Dist.
Mr. Chambers

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5-10	Holt	400
5-10	Martin	400
5-10	Chapman	800
5/10	Selfridge	130
"	Johnson	110
"	Montenegro	100
5/10	C	220
		400

MAY 10 1957

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I - Alaska District
P. O. Box 2688
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten,
Lead and Zinc
Hyder Mines, Inc.
Riverside mine
Hyder District, Alaska
Contract No. Idm-E668

Dear Mr. Lorain:

Enclosed are Finance copy, Field Team copies and one extra copy of a Termination Agreement on the subject contract (dated April 24, 1957.) Also enclosed are copies of a letter of May 2, 1957, from the Operator, Hyder Mines, Inc., transmitting signed copies of the Termination Agreement to the Administrator.

Sincerely yours,

George C. Selfridge
(By es)
Chairman, Operating Committee

APPROVED:

P. F. Yopes
(By es)
Member, Bureau of Mines

Thor H. Kiilsgaard (By es)
Member, Geological Survey

SPHOLT:foc 5/10/57
cc to: Docket
Code 400
Admr. R. File
Oper. Comm.
FT. REG. I - SE ALASKA DIST.
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

Enclosure

8623

HYDER MINES, INC. 904 FOURTH AVENUE • MAin 6496
Seattle 4, Washington

Mining Office:
RIVERSIDE MINE
HYDER, ALASKA

May 2, 1957

UNITED STATES DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

C. O. MITTENDORF Administrator

Re: Docket No. DMEA* 3246 (Tungsten Lead and Zinc)
Contract No. Idm-E668
Hyder District, Alaska

Dear Mr. Mittendorf:

In response to your letter of April 24, 1957, we are enclosing herewith five copies of signed Termination Agreement designated as Government Copy, Field Team Copy, Finance Office Copy, Audit Copy and Division Copy. Copy marked Operators Copy we have retained for our record.

We regret losing this contract, particularly under conditions over which we have had no control. However we have now cleared with the Security Exchange Commission are accumulating the necessary funds to start active mining as soon as weather conditions in the area permit.

Relative to so called objectional date, we merely felt your attention should be called to it. We regret any inconvenience this delay may have caused you.

Thanking you and Mr. Lorain for past courtesies in this matter and assuring you that under present conditions and management, we are now financially able to carry through this contract, we are,

Sincerely yours,
HYDER MINES INC.

By James W. Booth
Secretary

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 7 1957

		CODE
5/7		320
5/7	WSM	400
5/7		100
5/8		110
		120
		800
5/9		400

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	Rubin	140
	Dwyer	140
	Chapman	400
	Martin	400
4-24	Chambers	800
4/24	Selfridge	130
	Lohbauer	110
	Rittenhouse	100
24		225

Lamb
Kilsgaard

APR 24 1957

Hyder Mines, Incorporated
904 Fourth Avenue
Seattle 4, Washington

Re: Docket No. DMEA-3246 (Tungsten, Lead, and Zinc)
Hyder Mines, Incorporated
Riverside Mine
Hyder District, Alaska
Contract No. Idm-2668

Gentlemen:

In a letter dated July 31, 1956, the Executive Officer informed you that this office was preparing to terminate Government participation in the subject contract. However, instead of terminating the contract ex parte, we attempted to terminate it by execution of an agreement with you. From your letter dated March 14, 1957, to the Executive Officer, it appears that the effective date in the proposed termination agreement submitted to you was objectionable. Accordingly, we have revised the agreement to eliminate the objectionable date.

We should like to point out that all project work is supposed to be completed by May 3, 1957, but no actual exploration work was ever started. Thus, there is no question of the Operator's default. The Government's patience in this matter is acknowledged in your letter by reference to the two years that have elapsed since the contract was assigned to you.

Further delay on our part in winding up this contract is not justified. Therefore, if the proposed termination agreement enclosed with this letter is not executed and returned by your company, the Government will be required to take ex parte action to wind up this contract, and, in such event, demand for repayment of the $1,219.67 paid by the Government under this contract will be made.

Sincerely yours,

SIGNED

Administrator

Enclosure

Copy to: Pacific Northern Minerals Company
P. O. Box 1481
Spokane, Washington

Copy to: DMEA File
Adm. Reading File
Oper. Committee
R.W.Holliday, USBM
T.H.Kilsgaard, USGS
W.S.Martin
R.P.Dwyer
H.C.Rubin
Field Team,Reg.I-Alaska Dist (2)
Pending
Chron.

HCRubin/emd/wog
4/22/57

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	Dwyer	140
	Martin	408
4-15	[redacted]	806
		135
		110
		100
		225

Lamb
Kilsgaard

Hyder Mines, Incorporated
904 Fourth Avenue
Seattle 4, Washington

Re: Docket No. DMEA-3246 - Tungsten, Lead, and Zinc
Hyder Mines, Incorporated
Riverside Mine
Hyder District, Alaska
Contract No. Idm-E668

Gentlemen:

In a letter dated July 31, 1956, the Executive Officer informed you that this office was preparing to terminate Government participation in the subject contract. However, instead of terminating the contract ex parte, we attempted to terminate it by execution of an agreement with you. From your letter dated March 14, 1957, to the Executive Officer, it appears that we have not been successful in agreeing upon an effective date for a termination by agreement.

Accordingly, as further delay on our part is not justified in the circumstances of this case, the enclosed Notice of Termination is issued to you pursuant to the provisions of Article 12 of the contract.

Sincerely yours,

HCRubin/emd
4/12/57

Administrator

Enclosure

Copy to: Pacific Northern Minerals Company
P. O. Box 1481
Spokane, Washington

DMEA File
Adm. R. File
Field Team, Reg. I - Alaska District (2)
Operating Committee
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS
W. S. Martin
R. P. Dwyer
H. C. Rubin chron. pending

8623

Government's copy

Dwyer
Chapman
Martin
Chambers

NOTICE OF TERMINATION

To: Hyder Mines, Incorporated, Assignee
904 Fourth Avenue
Seattle 4, Washington

Operator under Exploration
Project Contract Idm-E668
Docket No. DMEA-3246
dated May 3, 1954.

1. The United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereby terminates the subject contract under the termination provisions thereof on the following grounds:

In the opinion of the Government you have failed to prosecute operations pursuant to the terms of the Contract, in that no work has been performed at the project site since the latter part of 1955; and no actual exploration work has been started, other than some initial rehabilitation work, although all the work is required to be completed by May 3, 1957.

2. Upon receipt of this notice you are required, as provided in said contract, to dispose of any remaining materials, supplies, facilities, buildings, fixtures, equipment, or other items to the cost of which the Government has contributed and in which it has an interest, for the joint account of yourself and the Government.

Dated this _____ day of _____, 1957.

THE UNITED STATES OF AMERICA

By_____
Administrator, Defense Minerals
Exploration Administration

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 29 1957

DATE	INITIALS	CODE
3/1	C	220
		225

P. O. Box 2688
Juneau, Alaska

March 28, 1957

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D.C.

From: Executive Officer, Alaska District, Region I.

Subject: Termination Agreement.
Docket No. DMEA-3246 (tungsten, lead, zinc)
Hyder Mines, Inc.
Contract No. Idm-E668

The proposed termination agreement that I sent to the subject operator some months ago was returned unsigned today. I am enclosing the agreements and a copy of the letter from Mr. Boothe.

Personally, I don't know where to go from here; maybe your legal or accounting division will tell me what to do next.

S. H. Lorain

Enclosures-2

cc: Velikanje
Wilcox

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 29 1957
DATE | INITIALS | CODE

COPY

HYDER MINES INC.
904 Fourth Avenue
Seattle 4, Washington

March 14, 1957

Mr. S. H. Lorain, ~~Executive Officer~~
Alaska District, Region I.
P. O. Box 2688
Juneau, Alaska.

Re: Docket No. DMEA-3246
Contract No. Ida-668

Dear Mr. Lorain:

~~We are returning herewith~~ termination agreements for your inspection as I feel sure you would not wish us to sign them as they now read. It looks as though some where along the line, effective date in termination agreement had been tampered with or changed. If we signed it the way item two (2) now reads the termination agreement would cancel our contract before it began, as the DMEA contract was not assigned to this company until March 25, 1955 with the understanding that time on DMEA had been extended two years and that time of repayment of Government contribution extended for a period 10 years and could be repaid out of royalties on production.

On our first report and voucher covering six days in May and all of June and July as finally approved, we received DMEA voucher No. 35 for $1219.67 Our second monthly report and voucher covering August September and October 1955 was delayed on account of not having sufficient forms to make out report. Later new forms were received, made out and forwarded to you. And on receipt of your letter of February seventh, 1956, I realized we had fumbled again the Operators Report and Voucher due in part to my inability at long range to make the men understand the importance of reporting their time so that it can be tied in with each specific job they are working on under the DMEA contract. I also had two different accountants working on the report. Eventually fired the men at the mine and our accountant. This Spring we are starting from scratch again and I believe we have learned what not to do the hard way.

About a year ago we asked for clearance by the S.E.C. so that we could sell our shares in states other than Washington. We were assured it would be just a routine matter. But they kept us in a straight jacket for one year unable to market our treasury shares until about a week ago. We now have a new board of Directors and a new set of officers., and expect to resume active mining as soon as weather conditions permit Needless to say we would regret very much having to lose the DMEA contract just after having successfully past the S E C ordeal and had our straightjacket removed.

In your letter of February 7, 1956 you stated part payment of our last voucher (August, September and October) 1955 had been ready for some time but, because of a "foul-up" with Washington regarding our certifying officer's bond, we have been unable to release it. This voucher No. 42 for $2003.62 as set up in our report received in your office Feb. 10, 1956; we never did know the final disposition of it, other than the fact that we never received it.

Last Fall we made tentative financial arrangements to carry on the DMEA contract, predicated on our clearing with the S E C, this not accomplished until recently.

Now in the light of your termination agreement, it looks as though we had been hoisted from one horn of the dilemma to the other horn. In any event I wish to thank you and express my appreciation for your patience, courtesy and helpful consideration in this matter.

Sincerely yours,
/s/ James W. Boothe
James W. Boothe
Secretary Hyder Mines Inc.

400

DOCKET
SURNAME

Chapman
Martin
Talbutt
Selfridge
Robinson
Mullaney

DEC 13 1956

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I, Alaska District
P. O. Box 2633
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten,
Lead and Zinc
Hyder Mines, Inc.
Riverside Mine
Hyder District, Alaska
Contract No. Idm-8668

Dear Mr. Lorain:

Reference is made to the letter of November 30, 1956, from Mr. Velikanje, returning the original and all copies of the Termination Agreement pertaining to the subject contract, and giving his reasons for disagreeing with the termination date used therein.

During your visit to this office we mentioned the following reasons why such dates were used:

According to the records of our Contract Administration and Audit Division the Form MP-104 and 104A which are dated May 25 to July 25, 1955, should read May 25, 1954, to July 25, 1955. The work for which payments were made and justified was between May 25, 1954 and July 17, 1954. The project was in authorized recess to June 1, 1955, and as work was not resumed by this date the contract was in default. The next record of any work was on July 26, 1955, for which the Government would not be responsible. The work starting that date was covered by an unpaid MP-104 dated August, September and October 1955.

Accordingly we are returning the aforesaid Termination Agreement, to be presented to the Operator.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosure

APPROVED:

Frank D. Lamb (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

TLChapman:am 12-11-56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. I, Alaska Dist.
Messrs. R. Holliday, USBM
T. H. Kiilsgaard, USGS

Docket copy

RECEIVED
OCT 31 1956

Chapman
Martin
Selfridge
Chandler

TERMINATION AGREEMENT

It is agreed this 12th day of October, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Hyder Mines, Incorporated (formerly known as Alaska Mining and Exploration Co., Inc.), Assignee, hereinafter called the "Operator," parties to that certain Exploration Project Contract No. Idm-8668 (Docket No. DMEA-3246), dated May 3, 1954, as amended, hereinafter called the "Contract," that:

1. Effective July 17, 1954, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the costs of work performed prior to said effective date.

3. The Operator shall promptly perform all winding-up and settlement actions provided for in the Contract, including the rendering of the final report and final account.

4. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this termination agreement.

5. All rights of the Government with respect to certification of discovery or development, percentage royalty, and liens for its payment; and all rights of the Government with respect to records, audits, and recovery of any overpayment, as provided in the Contract, are preserved.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

THE UNITED STATES OF AMERICA

By C. Mittendorf
Administrator, Defense Minerals
Exploration Administration

HYDER MINES, INCORPORATED

By_____

Title_____

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Juneau, Alaska November 30, 1956

RECEIVED DEC 4 1956 D.M.E.A.

Mr. George C. Selfridge, Chairman
Operating Committee
Defense Minerals Exploration Administration
Department of the Interior
Interior Building
Washington 25, D. C.

Re: Docket No. DMEA 3246 - Tungsten, Lead and Zinc
Hyder Mines, Inc.
Riverside Mine
Hyder District, Alaska
Contract No. Idm-E668

Dear Mr. Selfridge:

Your letter of November 23, 1956, to Mr. S. H. Lorain, and the redated copies of the Termination Agreement pertaining to the subject contract have been received, and I find that I cannot agree with you on the new termination date set at July 17, 1954.

No claim was ever submitted on the basis of the work described in Mr. Van Gundy's letter of December 7, 1954, as none of the "units" of the contract had been completed. (See Field Team memorandum dated January 12, 1955.)

The only MF-104 submitted by the Operator is for the period May 25 to July 25, 1955, and includes the work described in Mr. Van Gundy's letter as well as some work done after July 17, 1954.

Unless the effective date for the "Termination Agreement" is set at August 1, 1955, as recommended in Mr. Lorain's letter to you dated October 24, 1956, or at least July 25, 1955, it might be found necessary to recover some or all the money paid to the Operator. I am afraid getting a refund from the Operator would be next to impossible.

I understand Mr. Lorain is presently in Washington, D. C., so if there is any further question on the matter, I suggest you discuss it with him personally.

As the effective date should be changed, and as it is doubtful whether the copies will stand another erasure and will have to be re-typed,

May ** thru July 17, 1954
Asked for
Recess from " "
to June 1, 1955

Started
July 26, 1955

Voucher
Should be May 1954
to July 1955

Covered

I am returning the various copies of the agreement herewith.

Sincerely yours,

R. S. Velikanje

R. S. Velikanje
Acting Executive Officer
Region I (Alaska District)

Enclosure:

cc: Lorain

400

DOCKET
SURNAME
Chapman
Martin
Talbott
Selfridge
Yopes
Matthewson

NOV 23 1956

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I - Alaska District
P. O. Box 2688
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten,
Lead, and Zinc
Hyder Mines, Inc.
Riverside Mine
Hyder District, Alaska
Contract No. Idm-M668

Dear Mr. Lorain:

Reference is made to your letter of October 24, 1956, with which you returned the original and five copies of a "Termination Agreement" pertaining to the subject contract and comments on the aforesaid termination agreement.

Our files indicate that all work that was performed and paid for was prior to July 17, 1954. We refer to the letter to you from Pacific Northern Minerals Company, dated December 7, 1954, in which J. E. Van Grundy advised that, 1,244 hours of labor for rehabilitation were performed prior to July 17, 1954, at a cost of $3,724.00.

Accordingly we are returning the aforesaid Termination Agreement, with the termination date set at July 17, 1954, to you for presentation to the Operator. If he does not sign and return it within a reasonable time, we can consider writing a unilateral termination. We concur in your recommendation that the Operator's final report be waived.

underlining added 11/13/59 WSM

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures

APPROVED:

P. F. Yopes

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

TLChapman:ms:foc:am 11-23-56

cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. I - Alaska Dist.
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

DOCKET
SURNAME
Chapman
Martin
Talbut

400

Mr. S. H. Lerwin, Executive Officer
DMEA Field Team, Region I - Alaska District
P. O. Box 2688
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten,
Lead, and Zinc
Ryder Mines, Inc.
Riverside Mine
Ryder District, Alaska
Contract No. Ida-5668

Dear Mr. Lerwin:

Reference is made to your letter of October 24, 1956, with which you returned the five copies and original of a "Termination Agreement" pertaining to the subject contract and comments on the aforesaid termination agreement.

June 1, 1955, was used as a termination date because Amendment No. 2 granted a recess to this date and to the best of our knowledge work was not resumed by that date.

Our files indicate that all work that was performed and paid for was done prior to July 17, 1954. We refer to the letter to you from Pacific Northern Minerals Company, dated December 7, 1954, in which J. E. Van Grundy advised that 1,240 hours of labor for rehabilitation were performed prior to July 17, 1954, at a cost of $3,724.00.

Accordingly, we are returning the aforesaid Termination Agreement, which we believe is correct as written, to you for presentation to the Operator. If he does not sign and return it within a reasonable time we can consider writing a unilateral termination. Pursuant to your suggestion the final report and accounting can be waived.

Sincerely yours,

APPROVED:

Chairman, Operating Committee

Member, Bureau of Mines

TLChapman:ms:fpc 11/20/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. I - Alaska Dist.
Messrs. R. W. Holliday, USBM
T. H. Killsgaard, USGS

Member, Geological Survey

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~

RECEIVED
OCT 31 1956

P. O. Box 2688
Juneau, Alaska

October 24, 1956

Mr. George C. Selfridge, Chairman,
Operating Committee,
Defense Minerals Exploration Admin.,
Department of the Interior,
Interior Building,
Washington 25, D.C.

re: Docket No. DMEA-3246 (tungsten, lead, zinc)
Hyder Mines, Inc.
Contract No. Idm-E668

Dear Mr. Selfridge:

Your letter of October 15 and the proposed "Termination Agreement" have been reviewed as you requested.

We think that the effective date for termination should be changed to August 1, 1955 because, on October 11, 1955, we made the first (and only) payment of $1,219.67 (Government share of "accepted" costs of $1,951.48) claimed on vouchers which cover the period through July 25, 1955. Obviously the proposed termination date of June 1, 1955 would be prior to the latest date for which participation was accepted.

With regard to item "3", I suppose that we must ask for a final report and final accounting but it is certainly a futile gesture. In the first place there is practically nothing to report and, in the second place, no one in the company is capable of making such reports. I suggest that, if possible, such requirements be omitted. If we ever get their signature to the termination agreement I'll be surprised.

Because of the question about the effective date, I am returning the various copies of the agreement herewith.

Yours sincerely,

S. H. Lorain,
Executive Officer,
Alaska District,
Region I.

Enclosure-1
cc: Velikanje

400

Holt
Chapman
Martinkus
Chapman
Selfridge

OCT 15 1956

Mr. S. H. Lorain
Executive Officer
DMEA Field Team
Region I, Alaska District
P. O. Box 2668
Juneau, Alaska

Re: Docket No. DMEA-3246 - Tungsten, Lead, and Zinc
Alaska Mining and Exploration Company, Inc. (name changed to Ryder Mines, Inc.)
Riverside Mine
Ryder District, Alaska
Idm-E 668

Dear Mr. Lorain:

Enclosed are the original and five copies of a proposed Termination Agreement to the above-referenced contract, signed by the Administrator for the Government. Two extra copies are enclosed for the use of the Field Team.

If the terms and conditions of this proposed agreement are satisfactory to you and the Operator, all six copies should be signed by the Operator and the usual distribution made.

If any part of the proposed agreement does not have your approval or that of the Operator and cannot be altered within your delegated authority, the original and all copies are to be returned to this office, together with the proposed changes for consideration.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SHL)

Enclosures

SPHolt/esf - 10/8/56
cc to: Docket
Code 400
Oper. Comm.
Admr. Read. File
TKiilsgaard, USGS
RWHolliday, USBM

APPROVED:

Frank D. Lamb
Member, Bureau of Mines (SHL)

Thor H. Kiilsgaard
Member, Geological Survey (SHL)

R.G.G.

Docket Copy

Appd. Sol. Off.

Holt
Chapman
Martin

TERMINATION AGREEMENT

It is agreed this _____ day of _____, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Hyder Mines, Incorporated (formerly known as Alaska Mining and Exploration Co., Inc.), Assignee, hereinafter called the "Operator," parties to that certain Exploration Project Contract No. Idm-H668, Docket No. DMEA-3246, dated May 3, 1954, as amended, hereinafter called the "Contract," that:

1. Effective August 1, 1955, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the costs of work performed prior to said effective date.

3. The Operator shall promptly perform all winding up and settlement actions provided for in the Contract, including the rendering of the final report and final account.

4. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this termination agreement.

5. All rights of the Government with respect to certification of discovery or development, percentage royalty, and liens for its payment; and all rights of the Government with respect to records, audits, and recovery of any overpayment, as provided in the Contract, are preserved.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals
Exploration Administration

HYDER MINES, INCORPORATED

By _____

Docket
Holt
Chapman

10-8-56

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Notice of Termination
Docket No. DMEA-3246 - Tungsten, Lead, Zinc
Ryder Mines, Inc. (Pacific Northern Minerals Company, transferred to Alaska Mining and Exploration Company, Inc., name changed to Ryder Mines, Inc.)
Riverside Mine
Ryder District, Alaska

This Division hereby concludes that as the Operator has shown little interest or intention to complete the work as outlined in the contract and amendments thereto the contract should be terminated.

The description of the property, work done and results obtained follows:

Operator: Ryder Mines, Inc. James W. Boothe, Secretary and Treasurer
310 Stewart Street
Seattle, Washington

Property: The property consists of eight patented lode mining claims, the Riverside, Caribou, Riverview, Spruce, Sunshine, Sunshine No. 1, Pine and Hillside, Survey Nos. 1530, 1562, 1563, recorded in Book 2, pages 173-175, Ryder Recording District, Territory of Alaska.

Under lease and option from J. H. Scott, Merchants Exchange Building, San Francisco, California

Contract: Dated May 3, 1954

Actual and unit costs	$96,120.00
Government participation 62½ percent	$60,075.00

Amendment No. 1, June 2, 1954, changes time and order of work.
Amendment No. 2, February 4, 1955, recess July 17, 1954, to June 1, 1955. Time extended to three years; royalty to 11 years.

On March 22, 1955, the lease was assigned to Alaska Mining and Exploration Company, Inc. In April, 1956, name was changed to Hyder Mines, Inc.

Work consists of rehabilitation of surface buildings, plant equipment and underground workings on an actual cost basis. 1,260 feet of drifting, 491 feet of raising and 1,080 feet of diamond drilling on a unit cost basis.

Work Completed:
Rehabilitation of residence and bunkhouse after fire and repairs to diesel driven compressor. Change of track gage from 18 inch to 24 inch in tunnel for 220 feet and some rehabilitation. Forms 104 and 104A for May 25, 1955, to July 25, 1955, show an expenditure of $7,735.40, but only $1,951.48 was allowed and the Government's share, 62½ percent, $1,219.67 was paid. 1954

Geology: The main geologic feature is a large shear zone along an inclusion of schist and argillite in granodiorite. Some fault movement has occurred along the shear in which the main mineralization occurs in the Lindbergh vein. This vein has had post-mineral movement and has been cut by lamprophyre dikes. The primary mineralization included gold, silver, lead, zinc and copper, followed by scheelite in zones along the main ore body.

History and Production:
This property has been operated primarily as a gold, silver, lead, zinc and copper mine. From 1925 to 1951, inclusive, about 32,000 tons of ore were mined, which contained 3,284 ounces of gold, 95,946 ounces of silver, 2,835,731 pounds of lead, 52,414 pounds of zinc and 101,995 pounds of copper. In 1940 tungsten was noted in the ore and from 1941 to 1951, inclusive, 75,667 pounds or 3,783 units of WO_3 were recovered, in part from retreated tailings. It is indicated that only about 35 percent of the tungsten present was recovered. Apparently the primary ore averaged 0.45 percent WO_3, 0.1 ounce gold, 5.0 ounces silver and 7.00 percent lead. From the present openings it is indicated that the following units of WO_3 may be found.

Indicated ore will contain 10,000 units
Inferred ore will contain 35,000 units

Comments: While the Field Team reports that proposed work and present workings have relation to a substantial tonnage of indicated and inferred ore of a minable grade, apparently the Operator either lacks the finances or the ability to carry out the project.

The Commodity Division of the Bureau of Mines is inclined to withhold action unless the contract is actually in default. This Division considers the Operator is already in default.

Due to the apparent lack of finances, interest, and ability of the Operator to carry out the contract and amendments thereto a Termination Agreement is recommended.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

SPHolt/esf
10/8/56
cc to: Docket
Admr. R. File
Oper. Comm.
Code 400

400

DOCKET
Holt

September 14, 1956

MEMORANDUM

To: Associate Solicitor,
Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of "Notice of Termination"
Docket No. DMEA-3246, Tungsten-Lead-Zinc
Hyder Mines, Inc.
Riverside Mine
Hyder District, Alaska
Contract No. Idm-E668

Transmitted herewith is a rough draft of a proposed "Notice of Termination" of the above-captioned contract, for your use in preparing the final draft.

S. P. Holt, Acting Chief
Iron and Ferro-Alloys Division

Attachment

CC: Docket

Code 400

LScott/ls
9/14/56

D R A F T

NOTICE OF TERMINATION

To: Hyder Mines, Inc.
310 Stewart Street
Seattle 1, Washington

Operator under Exploration Project Contract No. Idm-E668, Docket No. DMEA-3246, dated May 3, 1954.

The United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereby terminates the subject contract (which preserves the Government's rights to a percentage royalty), on the following ground:

In the opinion of the Government you have failed to prosecute operations pursuant to the terms of the contract, so that little work has been performed on the project as outlined in the contract and amendments thereto since July 1955.

Upon receipt of this notice you are required, as provided in said contract, to render to the Government a full and final report and final accounting of your operations under the contract and your expenditures of money on account thereof.

Any work prosecuted or costs incurred by you after the receipt of this notice shall be for your sole account, except for the cost of reports, wind-up and settlement actions provided for in the contract.

All rights of the Government with respect to certification of discovery or development, percentage royalty and lien for payments, as provided in the contract, are preserved.

Dated this _____ day of _____, 1956.

THE UNITED STATES OF AMERICA

By _____
Administrator, DMEA

Docket
Holt
Martin

TERMINATION AGREEMENT

It is agreed this _____ day of _____, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government" and Hyder Mines, Incorporated, hereinafter called the "Operator", parties to that certain Exploration Project Contract No. Idm-2668, Docket No. DMEA 3246, dated May 3, 1954, hereinafter called the "Contract", that:

1. Effective _____, 195____, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the actual costs of work performed prior to said effective date.

3. Any work or operations prosecuted or costs incurred by the operator beginning with said effective date, except as otherwise provided in this termination agreement, shall be for the sole account of the operator without contribution by the Government.

4. The operator shall promptly perform all winding up and settlement actions provided for in the contract, including the rendering of the final report and final account.

5. The operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this termination agreement.

6. All rights of the Government with respect to certification of discovery or development, percentage royalty, and lien for payments, as provided in the contract, are preserved.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

_____
Operator

By_____

THE UNITED STATES OF AMERICA

BY Administrator, DMEA

Docket

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
SEP 12 1956

September 11, 1956

Re: DMEA 3246, Idm-E666
Hyder Mines, Inc.
Riverside Mine
Hyder, Alaska
$140,128 - Tungsten, Lead, Zinc

Copy retained 400

WSM

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report recommending termination of the contract.

A contract approving expenditure of something less than the amount requested was awarded in 1954. According to the report of the Field Team, June 27, 1956, about $1,900 worth of contract work has been done.

Inasmuch as the applicant appears to be unable and/or unwilling to prosecute the work provided for, the Field Team recommends that the contract be terminated.

I concur with that recommendation.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

402

October 17, 1955

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D. C.

From: Executive Officer, Alaska District, Region I.

Subject: Operator's Monthly Report.
Docket No. DMEA-3246 (tungsten, lead, zinc)
Alaska Mining & Exploration Co., Inc.

Enclosed herewith are two copies each of the Operator's MF-104 and MF-104A for the period May 25 to July 25, 1955.

These vouchers were poorly "supported" and considerably confused; consequently most of the claims had to be withheld. We are struggling with this outfit in an effort to bring them into line - I hope that we will have some success but I cannot help but be pessimistic about them.

S. H. Lorain,
Executive Officer,
Alaska District,
Region I.

Enclosure-2

cc: Velikanje

MF-104
May 25
July 25

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Exploration Project Contract
Alaska Mining & Exploration Co.

Month of May 25 (1954?) to July 25, 1955 Docket No. DMEA - 3246 Contract No. Yukon - E 668

Operator's Name Alaska Mining & Exploration Co. Inc. Minerals Scheelite, copper gold, silver, lead

Address 310 Stewart, Seattle 1, Wash. Mine Office Hyder Alaska, Riverside Mine

Contract Amount, $ $60,075.00 Government Participation 62½ % Amount, $ 96,120.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent / Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs	5960.40		$5960.40	1951.48	-0-	1951.48
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	1775.00		$1775.00			
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
				1951.48	-0-	1951.48
TOTALS	7735.40		$7735.40			

I certify that the above bill is correct and just and that payment therefor has not been received.

Date July 25, 1955 *Payee Alaska Mining & Exploration Co. Inc.

James W. Beetle
By James W. Beetle Title Secretary-Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1219.67

Signature Laurence J. Collins
(Authorized Certifying Officer)

Date 10/11/55 Vou. No. 35

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. [illegible] in accordance with the terms of the contract.

Signature [illegible] Title Examining Engineer Date 10/11/55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature [illegible] Title Executive Officer Date 10/11/55

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
OCT 8 1955

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of May 25 to July 25 (2 mo.) 195 5 Docket No. DMEA - 3246 Contract No. Idm - 2 669

Operator's Name Alaska Mining & Exploration Co. Inc. Minerals scheelite, copper

Address 310 Stewart St. Seattle Wash. Mine Office Hyder lead, zinc, gold & silver

Alaska, Riverside Mine

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting					stage 1	7735.40	cost stage 1	8000.00
Crosscutting							agreed	
Raising							costs	35,000.00
Shafts							stage 2	50,402.00
Winzes								
Drilling: Core							stage2	
Churn							est.cost	2,718.00
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Total cost								96,120.00
Total Distributed Costs								Total Costs Authorized by Contract
Operating Equipment Purchased					Total contract			96,120.00
Initial Rehabilitation and Repairs		1951.48		5960.10	stage 1,a,b,c,d,f,g,			8,000.00
New Buildings, Improvements, etc.								
Tools & repairs to equipment				1775.00				
Total Costs		1951.48		7735.40				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date July 25, 1955 Operator Alaska Mining & Exploration Co. Inc. by

James B. Boothe Title Secretary - Treas.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

Remarks: In allocating cost of rehabilitation to buildings and repairs to machinery it is difficult to arrive at an actual cost figure for both tools and equipment will used on other stages of the contract. a true cost figure can only be arrived at, in the final stages of the contract.

(Instructions on reverse)

(For Government use only)

OK

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

P. O. Box 2688
Juneau, Alaska

RECEIVED
AUG - 3 1956

July 31, 1956

Mr. James W. Boothe,
Secretary-Treasurer,
Ryder Mines, Inc.,
310 Stewart Street,
Seattle 1, Washington.

re: Docket No. DMEA-3246 (tungsten, lead & zinc)
Ryder Mines, Inc.,
Contract No. Idm-P668.

Dear Mr. Boothe:

In order that you may adjust your plans accordingly, I am advising you that I have just received notification from the Washington office of D.M.E.A. that they are preparing to terminate government participation in the referenced project.

The reasons for this action by the government will, I believe, be set forth in the termination notice.

Yours sincerely,

F. H. Lorain,
Executive Officer,
Alaska District,
Region I.

cc: Velikanje
Wilcox
Operating Committee, DMEA

Interior Department
Defense Minerals Exploration Administration
14X4401(01) Revolving Fund, Defense Production Act, Interior (Allocated Working Fund to the Office of Secy)

TELETYPE

JUL 26 1956

DOCKET
Surname:

Chapman
Martin
Yoder
Jeffrey
Johnson
Mottaedoy

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region 1, Alaska District
Juneau, Alaska

Reurlet July 20 and enclosed copy of letter from Hyder Mines, Inc., concerning Docket DMEA-3246, Contract Idm-2668, Hyder Mines, Inc., we are writing a termination to the project and you may so advise the operator.

George C. Seffridge
(Copy Sig)
Chairman, Operating Committee

CC: Docket
Code 400
Oper. Comm.
Adm. Read. File
T. Kiilsgaard, USGS
H. W. Holliday, USBM
FT, Reg. I-Alaska Dist.

TLChapman/ls
7/25/56

R.C.L.

cw

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REGION I

RECEIVED
JUL 23 1956

OFFICE OF
Asst. REGIONAL DIRECTOR for Alaska

P. O. BOX 2688
JUNEAU, ALASKA

July 20, 1956

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D. C.

From: Executive Officer, Alaska District, Region I.

Subject: Riverside Mine
Docket No. DMEA-3246 (tungsten, lead, zinc)
Hyder Mines, Inc.
Contract No. Idm-E668

I am enclosing a copy of a letter I have just received from Mr. Boothe, Secretary-Treasurer of the subject company.

In view of the fact that Mr. Boothe is counting on DMEA participation, he should be advised as soon as possible whether such support will be forthcoming. As you know, the Field Team does not think that DMEA will get anything but trouble out of this project.

S. H. Lorain

Enclosure-1
cc: Velikanje

-C-O-P-Y-

ALASKA MINING & EXPLORATION CO., INC.

310 Stewart Street Seattle 1, Washington Main 9126

RECEIVED JUL 23 1956

July 17, 1956

Mining Office:
Riverside Mine
Hyder, Alaska

Producing:

Tungsten
Gold
Silver
Copper
Lead

Amended to

HYDER MINES, INC.

DMEA 3246
Serial E-668

S. H. Lorain
Chief Executive DMEA
Region 1
Juneau, Alaska

Copy retained 400

Dear Mr. Lorain:

Since your visit to the mine I have heard nothing from you. The writer just returned from Hyder and have made tentative arrangements to start mining under stage one of the DMEA contract.

Have arranged with an expert miner in the Hyder area to take the contract for mining the first five hundred feet set forth in the contract. We had hopes of hearing from you relative to our last report or the government cheque for work performed. We regret all the delays in this matter. They have no doubt been irritating to you and failure to receive government cheque has made it extremely difficult for us as we have several thousand dollars in work performed. We are reorganizing company affairs at the mine and placing an experienced foreman in charge. Would appreciate hearing from you at an early date.

Sincerely yours,

HYDER MINES INC.

/s/ James W. Boothe

Secretary-Treasurer

JWB:GBO

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

RECEIVED
JUL 11 1956

July 10, 1956

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Chief, Branch of Ferrous Metals and Ferroalloys

From: R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals and Ferroalloys

Subject: Termination of Contract Idm-E668
Docket No. DMEA-3246 (Tungsten-lead-zinc)
Hyder Mines, Inc.

Reference is made to the memorandum of June 27, 1954 from the Alaska District Field Team to the Operating Committee. 1956

The memorandum (Reference) recommends termination of the contract and cites numerous haphazard procedures at the property.

Although evidence cited may be ample justification for ending the agreement I would be inclined to withhold action unless the contract is actually in default.

R W Holliday
R. W. Holliday

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~

P. O. Box 2688
Juneau, Alaska

RECEIVED
JUL 2 - 1956

June 27, 1956

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D.C.

From: Field Team, Alaska District, Region I.

Subject: Termination of Contract Idm-E668
Docket No. DMEA-3246 (tungsten-lead-zinc)
Hyder Mines, Inc.

On June 5, 1956, the undersigned visited the Riverside mine to determine what progress, if any, has been made on the subject project.

One man, L. E. Bingham, the "superintendent", and his wife were living at the property. Mr. Bingham, with another man who lives in Hyder, were doing carpenter work on one of the buildings which, according to Mr. Bingham, was to be used as a bunkhouse. Another building, in which Mr. and Mrs. Bingham were living, showed some signs of having had some rehabilitation work done on it. The former bunkhouse had burned down last fall and these two buildings were being prepared as replacement; the work had, according to reports from the company office, been in progress since the date of the fire which was, approximately, November 15, 1955. All the carpenter work that we could see could have been done by two good men in not more than a week or so.

An old diesel-driven compressor appeared to have been put into running condition but, otherwise, there was no sign of any rehabilitation work on the surface plant. In the mine the track gauge had been widened from 18" to 24" from the portal to a point about 220 ft. in from the portal. Apparently this had been done some time ago because some caving had taken place near the midpoint of the track widening operations. It appears that the track was being widened to accommodate a 24" gauge mucking machine and several 24" gauge mine cars which were standing alongside the road where they had been unloaded from the truck. There was no evidence that any other work had been done underground although, in general, the mill level workings were in good condition. Track (18" gauge beyond 220') and air pipe were in

place to about 700 feet from the portal. The winze appeared to be in good condition except that it was entirely "unimproved"; as nearly as we could determine by rolling stones, the water was about 50 feet below the collar.

It appears that most of the work done by the present operators is represented by a few truck loads of sacked "concentrates" which they have been digging from between the floor joists in the mill. The material looked to us like sand that had been washed in from the hillside. The proceeds from these "concentrates" are supposed to help finance the company operations.

Mrs. Bingham stated that she and Mr. Bingham had been "operating the mine" on their "Social Security" pension. We were told by reputable people in Hyder that workers had been shipped up from Seattle to the mine and then turned loose on the community without funds. Bingham, although something of a prospector, is, by trade, a cook and "joint" operator; obviously he knows nothing about mining. Up to now we have not received a properly prepared MF-104 although we were able to approve a small part of the first claim. The amount approved (about $1,900) would cover all the contract work that has been done.

It is the opinion of the Field Team that the company is financially irresponsible and technically incompetent; therefore the contract should be terminated.

FIELD TEAM, ALASKA DISTRICT, REGION I

S. H. Lorain, Executive Officer

Couple on Social Security

R. S. Velikanje

R. S. Velikanje, Member,
Geological Survey

cc: Velikanje
Wilcox

DOCKET
SURNAME
400 Chapman
Martin
Ryton
Sawyer
Chapman
Selfridge
Mathews

MAY 4 1956

Mr. S. M. Lorain, Executive Officer
DMEA Field Team, Region I - Alaska District
P. O. Box 2588
Juneau, Alaska

Re: Docket No. DMEA 324 - Tungsten, Lead, and Zinc
Alaska Mining and Exploration Company, Inc.
Riverside Mine
Ryder District, Alaska
Contract No. Ida-2668

Dear Mr. Lorain:

Reference is made to your memorandum of April 20, 1956, with which you enclosed photostat of letter from Mr. James Roche, Secretary-Treasurer of the subject company, dated April 16, and other related correspondence and documents with respect to change of company name.

This is to confirm that the correspondence you submitted is sufficient and no further documentation is necessary.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

APPROVED:

/s/ Robert W. Geehan (GCS)
Member, Bureau of Mines

N. E. Nelson (GCS)
Member, Geological Survey

TLChapman/fec 5/1/56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. I - Alaska Dist.
Robert Holliday, USBM
Thor H. Kiilsgaard, USGS

400

DOCKET
SURNAME
Chapman
Martin

April 25, 1956

MEMORANDUM

To: Associate Solicitor, Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Change of name of Operating Company
Docket No. DMEA 3246 - Tungsten, Lead & Zinc
Alaska Mining and Exploration Company, Inc.
Hyder District, Alaska
Contract No. Idm-E668

Please review the attached correspondence and advise us if any further documentation is necessary.

W. S. Martin
W. S. Martin, Chief
Iron and Ferro-Alloys Division

Attachment

TLChapman/foc
4-25-56
cc to: Docket
Code 400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~

RECEIVED
APR 23 1956

P. O. Box 2688
Juneau, Alaska

April 20, 1956

Memorandum

To: Operating Committee, Defense Minerals Explorations Admin., Department of the Interior, Washington 25, D.C.

From: Executive Officer, Alaska District, Region I.

Subject: Change of company name.
Docket No. DMEA-3246 (tungsten, lead, zinc),
Alaska Mining and Exploration Co., Inc.,
Contract No. Idm-E668.

Enclosed is a photostat copy of a letter from Mr. James Boothe of the subject company, and one copy each of some correspondence which pertains to a change of the company name.

Please let me know whether these documents are enough to permit our recognition of the change of name or whether additional documentation is required.

On the basis of the statements in Mr. Boothe's letter it is apparent that only Item (a) of Stage I has been completed. Velikanje and I plan to make a trip down there in the near future.

S. H. Lorain

Enclosures-4
cc: Velikanje
Wilcox

file +00

ALASKA MINING & EXPLORATION CO., INC.

310 STEWART STREET »»» SEATTLE 1, WASHINGTON ««« MAIN 9126

RECEIVED
APR 23 1956

AMENDED TO
HYDER MINES, INC.

Mining Office:
RIVERSIDE MINE
HYDER, ALASKA

Producing:
TUNGSTEN
GOLD
SILVER
COPPER
LEAD

S. H. Lorain, Executive Officer
Alaska District, Region I
P. O. Box 2688
Juneau , Alaska

April 16, 1956

re: Docket No. DMEA - 3246
Alaska Mining & Exploration Co. Inc. name
amended to Hyder Mines, Inc.
Contract No. Ida - 3 668

Dear Mr. Lorain:

Replying to your letter of March 19?, I wish to thank you for those few kind words in the first paragraph of your letter. Now replying to enquiries. One, two and three:

First - As the Alaska Mining & Exploration Co. Inc. (State of Washington Corp.) run afoul of a conflict of names in Alaska and the Auditor in Juneau refused to accept Corporation for filing: - following his suggestion outlined in enclosed letter - after several months delay we succeded in locating the secretary of the Alaska Exploration & Mining Co. (Incorporated in Alaska). We later received a letter from him, stating his company refused to give it's consent to our using our name in Alaska - but suggested we buy a controlling interest in his Company. - This we refused to do and on Sept. 22, 1955, a special meeting of the directors was called for the purpose of selecting a name acceptable to the Auditor at Juneau; Hyder Mines, Inc. was later approved by the Auditor and the necessary steps are being taken, for filing the Corporation as amended, in Juneau Alaska. (Alaska Mining & Exploration Co. Inc. has been changed in no way, other than the name being amended to Hyder Mines, Inc. and has been consented to and approved by the Secretary of State of Washington.

Second - We are not sure just what you mean in this paragraph. Under our contract, $8,000.00 was authorized to be expended for re-habilitating mill level by clearing muck from drifts, timbering, laying new track and pipe lines and rehabilitate equipment and buildings. Now the only definite statement that the work specified in the contract, and for which payment is claimed has been completed, would be the mess and bunkhouse. We started work on this building first because because we needed mess house and bunkhouse facilities as quickly as possible. Unfortunately after about 2 months occupancy it caught fire and burned. We have now rehabilitated and completed the construction and alteration of the apartment house. Converting it into a mess and bunk house for 15 men. With hot and cold water, showers and toilet, in the basement.

Now on account of an early freeze last September and extremely cold winter many of the jobs classified under stage one had to be posponed until Spring and warm weather.

Third - This paragraph states payroll transcripts do not supply the information needed to pro-rate payroll, taxes yet that is the very information we attempted to convey - 1st. by showing total wage for the month, then showing amount charged to each subdivision, then showing amount not applicable to DMEA contract. Quarterly payment of Workmen's Compensation handled in the same way. Engineer's Fee not applicable O.K.

I am enclosing c c of this letter with supporting facts concerning amended name should you wish to forward a copy to Mr. Mittendorf. Articles of amendment, were approved and filed Nov. 7, 1955 by Earl Coe Secretary of State, State of Washington. Presently all papers pertenent to the matter will be filed with the Auditor in Juneau. Have had two so called accountants on this last report and they both left the job unfinished. Thank you for your patience in this matter,

Sincerely yours
James W. Boothe
James W. Boothe Secretary-treasurer
Hyder Mines , Inc.

TERRITORY OF ALASKA

AUDITOR OF ALASKA

INSURANCE COMMISSIONER FOR ALASKA

BOX 2420

JUNEAU

RECEIVED
APR 23 1956

July 18, 1955

Chaveille & Millard
Attorneys at Law
733-736 Dexter Horton Building
Seattle 4, Washington

Attention: Mr. Chaveille

Gentlemen:

We are in receipt of your letter of July 15 in re the qualification of the "Alaska Mining and Exploration Company, Inc.", a Washington corporation, to do business in the Territory of Alaska.

We presume this is the same corporation about which you inquired in a letter addressed to the Secretary of Alaska under date of November 29, 1954, which letter was referred to and answered by this office under date of November 23, 1954, and to which we respectfully refer you.

We are still unable to accept this corporation for filing as we already have of record a corporation by name of ALASKA EXPLORATION AND MINING COMPANY, INC. You will readily see that the name of the corporation you are attempting to file is so similar as to cause confusion with the corporation of record.

We can only make the same suggestion as made in our previous letter, that you either secure the permission of the corporation now of record (see our letter November 29, 1954, giving you the address of the Secretary-Treasurer of the corporation) or change the name of the corporation so as not to be in conflict.

We trust that some satisfactory solution to the filing of this corporation may be worked out.

Very truly yours,

John A. McKinney

John A. McKinney
Director of Finance

nc

MINUTES OF SPECIAL MEETING OF BOARD OF DIRECTORS

of

ALASKA MINING AND EXPLORATION CO., Inc.

RECEIVED
APR 23 1958

September 22, 1955

Upon call of the Secretary-Treasurer, Mr. James W. Boothe, a Special Meeting of the Board of Directors of the Alaska Mining and Exploration Co., Inc. was held on September 22, 1955, at 1401-04 Dexter Horton Building, Seattle, Washington. Mr. James W. Boothe, Mr. Cornelius C. Chavelle, Mr. James B. Harris, and Mr. Donald W. Walters were present.

Upon motion of Mr. Chavelle, Mr. Boothe was unanimously elected chairman of the meeting. Mr. Boothe then announced that it had become necessary to change the name of the corporation in order to operate in Alaska and to ship ore, because of a conflict in corporate names with an Alaska corporation, namely the Alaska Exploration & Mining Co.

Mr. Walters made a motion that the name of the corporation be changed to:

HYDER MINES, INC.

and said motion was voted upon by all the directors present, constituting a majority of the directors of this corporation, and unanimously approved and the following Resolution was submitted to the directors present and unanimously approved:

> "BE IT RESOLVED that the name of this corporation, the Alaska Mining and Exploration Co., Inc., a Washington corporation, be and it is hereby changed to HYDER MINES, INC., and the Secretary is hereby directed and empowered to take such steps necessary to make such change official and of record."

There being no further business, the meeting adjourned by common consent.

James W. Boothe

Don W. Walters

Cornelius C. Chavelle

WAIVER OF NOTICE
OF SPECIAL MEETING OF
DIRECTORS

RECEIVED
APR 23 1956

of

ALASKA MINING AND EXPLORATION CO., INC.

We, the undersigned, being all the Directors of the Alaska Mining and Exploration Co., Inc., a Washington Corporation, do hereby waive notice of time, place, and purpose of the Special Meeting of Directors to consider a change of name of the corporation, and do fix the date and time as

September 22, 1955
5:00 o'clock p.m.

at 1401-04 Dexter Horton Building
Seattle, Washington,

and do hereby consent to the transaction of all business that may come before said meeting.

Dated this 22 day of September, 1955.

James W. Booth

H W Watts

Cornelius C. Chadwick

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~

P. O. Box 2688
Juneau, Alaska

March 29, 1956

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D.C.

From: Executive Officer, Alaska District, Region I.

Subject: Payments to Alaska Mining and Exploration Co., Inc. Docket No. DMEA-3246 (tungsten, lead, zinc)

The enclosed copy of a letter from me to the Operator is, I think, self explanatory. We have been writing back and forth since last fall in an attempt to get a properly prepared claim out of them. In addition, I spent a day in their Seattle office trying to explain it to them. We still don't have a claim that can be paid. We are wondering whether you would feel justified in sending either an auditor or finance officer over from Spokane to see whether they have the needed data in their files and, if so, show them how to prepare it.

As soon as practicable we will send someone down from here to see what progress, if any, is being made at the mine. I am beginning to think that it might be advisable to settle up this contract and terminate it. It looks as if the Operator is totally incompetent.

to 400 only | cy recd

The attached copy of a memo from Wilcox to me is enclosed for such help as it may be to the auditor if one is sent from Spokane. You will note that Wilcox raises a question about the possibility of some payments being due to Van Gundy (Spokane) instead of to the Seattle group.

S. H. Lorain

Enclosures-2
cc: Velikanje
Wilcox

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

P. O. Box 2688
Juneau, Alaska

March 29, 1956

James W. Boothe,
Secretary-Treasurer,
Alaska Mining & Exploration Co., Inc.,
310 Stewart Street,
Seattle 1, Washington.

re: Docket No. DMEA-3246 (tungsten, lead & zinc)
Alaska Mining & Exploration Co., Inc.,
Contract No. Ida-2668

Dear Mr. Boothe:

We have examined the 104s and supporting data submitted under date of March 13 and note a big improvement but there are still one or two items to be cleared up.

First, we note that the company name has been "amended" to "Hyder Mines, Inc." but DMEA has received no official notification to that effect nor has it received any notice of transfer of contract from Alaska Development and Exploration Co., Inc. to Hyder Mines, Inc. Please straighten this matter out directly with Mr. Mittendorf in Washington.

Second, we have not yet received from you any definite statement that the work specified in the contract, and for which payment is claimed has been completed. Inasmuch as such a narrative is one of the basic documents on which our certifying officer must base his certification, it is most essential.

Third, payroll transcripts do not supply the information needed to pro-rate payroll taxes, liability insurance, and workmen's compensation to the items for which government participation is claimed.

The fee for consulting engineer is not applicable to the rehabilitation phase of the contract.

I am asking our Washington office if it will not send in an auditor to go over your books and see if he can get you straightened out to the point where we can certify payment of your vouchers.

S. H. Lorain,
Executive Officer,
Alaska District, Region I.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REGION I

3246

2688

OFFICE OF Assistant
REGIONAL DIRECTOR , Alaska

March 27, 1956

P. O. BOX 2990
JUNEAU, ALASKA

Memorandum

To: DMEA Field Team, Juneau

From: L. J. Wilcox, Authorized Certifying Officer

Subject: Review of Contract No. Idm-E 668,
Alaska Mining and Exploration Co., Inc.

In reviewing the MF 104 and 104a submitted by the above company covering work performed in August, September and October, some peculiarities show up which probably need clarification before an inspection of the work completed results in clearance of the payment.

One item of interest, which was particularly noted during the recent GAO audit, although not mentioned by those auditors, is the letter written by J. E. Van Gundy of Pacific Northern Minerals Co. dated 12/7/54. In this letter it was stated that certain items of rehabilitation had been completed with direct labor charges as follows:

Stage I	Classification	Hours Labor	% Complete	Amount
	(a)	272	75	$ 841
	(b)	240	10	653
	(c)	104	65	295
	(d)	292	75	1018
	(e)	80	10	211
	(f)	256	5	706
	(g)	none	0	
	Totals	1244		$3724

In the same letter Van Gundy requested a suspension of the work, and an extension of time and suspension of activities was authorized by Amendment #2 to the contract. This amendment appears to have been based to some extent on Van Gundy's letter. Item 1.(b) of the amendment provides "The Operator at his own cost and expense, without contribution by the Government, during the period of suspension shall preserve and protect the project work and any property in which Government has an interest, and the Government shall not contribute to any costs of rehabilitation or repair which, in its opinion, would not have occurred if there had been no suspension of the work." Shortly after this amendment was issued, the Pacific Northern Minerals Co. assigned the contract to the present

operator. The Government's Consent of the assignment contained the usual provision of not releasing the assignor from the terms, provisions and conditions of the contract. Thus, it might be assumed that $3724.00 worth of work (labor costs only) on the rehabilitation phase of Stage I of the contract had been completed prior to the assignment of the contract. There appears to be no evidence that Van Gundy's statement is disputed. This seems to result in a situation wherein Alaska Mining and Exploration Company, Inc. is expected to complete the balance of the rehabilitation under Stage I for not to exceed $4276.00. The $3724.00 worth of rehabilitation work performed by Pacific Northern Minerals Company appears to be reimbursable to the assignee as long as they can secure the copies of the payrolls, etc., which would substantiate the expenditures mentioned by Van Gundy and in addition produce evidence that they have settled that claim on an actual cost basis. Considering the fact that Pacific Northern Minerals Company is a Spokane concern, it seems that the DMEA auditors located there might be able to assist in clearing up this situation between the assignor and assignee. The exchange of correspondence with Van Gundy also indicates a mutual understanding that the rehabilitation work would be considered a unit of the contract and payment would be made on a completed unit basis. Possibly this arrangement can still be considered pertinent insofar as the present operator is concerned.

Another peculiarity that is of interest is that the Alaska Mining and Exploration Company, Inc. has apparently changed its corporate name to Hyder Mines, Inc. It appears that another assignment of the contract may be in order, with the usual government approval required, prior to payment being made to this concern.

The MF-104 presently being reviewed appears to be fairly well documented except for some few exceptions, i.e.: Consulting Engineer fee and Payroll taxes. The Consulting Engineer fee, of course, is part of the mining costs that will be covered by the unit cost phases of the work and is not separately a contractual item. Payroll taxes and liability insurance are presumably to be prorated to the rehabilitation items of the contract on the basis of work performed on these items vs. work performed on other activities at the mine. Due to the lack of adequate payroll information it is difficult to properly proportion these items. In view of the detailed explanation of what information is required on transcripts of payrolls as provided in Chambers' letter of February 14, it is presumed that additional payroll documentation will be forthcoming both for this claim and the preceding claim submitted by the operator.

For both claims submitted so far adequate narratives are required. The question of submitting proper narratives will assume major importance when the claims involve payments on the basis of units of work performed. The narrative will then become the documentary backbone of the claim and will have to very precisely detail the work in direct relation to the contract specifications.

A proration of the Workmen's Compensation expense listed on the distribution sheet for payroll and other check payments is tentatively accepted subject to later review when actual payroll transcripts are available.

Based on the listings on the distribution sheet allowable costs would appear to be as follows, subject to receipt of payroll transcripts and narratives specifically outlining the work accomplished:

	(a)	$1100.00
	(b)	378.00
	(c)	127.00
	(d)	1139.79
	(e)	153.00
	(f)	970.00
	(g)	18.00
Undistributed		135.65 (Prorated Workmen's Compensation)
Total:		$4021.44

If the $3724.00 worth of work mentioned by Van Gundy is considered as applying to completion of Stage I Rehabilitation, only $2324.52 of the above $4021.44 would appear to be allowable, presuming that all Stage I rehabilitation is completed in accordance with the contract specifications.

It is recommended that assistance from the DMEA audit staff be secured for purposes of making an interim check on the operators' records, particularly as regards the arrangement wherein employees apply a portion of their wages to the purchase of stock as mentioned in the May - July claim (104), as well as the effect of the Pacific Northern Minerals Company's activities as previously mentioned.

L. J. Wilcox

cc: Velikanje
Lorain

Docket copy

Talbert

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

FEB 14 1956

Mr. S. H. Lorain
Executive Officer, Alaska District
DMEA Field Team, Region I
P. O. Box 560
Juneau, Alaska

Re: Docket No. DMEA-3246 Tungsten-Lead-Zinc
Alaska Mining and Exploration Co., Inc.
Riverside Mine
Hyder District, Alaska
Contract No. Ida-1668

Dear Mr. Lorain:

Reference is made to your letter of February 7, 1956, which requested this Division's opinion as to the propriety of the documentation submitted by the referenced Operator in support of the Monthly Report and Voucher, Form MF-104, for the months of August, September, and October, 1955. The following documents were enclosed with your letter and are returned herewith:

(a) A copy of your letter of February 7, 1956, to the Operator;
(b) The Fiscal Officer's memorandum of January 27, 1956, to the Field Team;
(c) A copy of your memorandum of January 5, 1956, to the Operating Committee;
(d) A copy of the Operator's letter of December 28, 1955, to you;
(e) The original and three copies of unpaid Voucher and Schedule of Payments, Form I-1017, in the amount of $1,003.62;
(f) The original and four copies of the Form MF-104;
(g) The original and four copies of the Form MF-104A;
(h) Fairbanks, Morse & Co. acknowledgment of order dated July 29, 1955;
(i) Northwest Motor Parts invoice No. 57137 for $27.76;
(j) Williams & Mamouth invoice No. 3074 for $2,686.00; and
(k) The Operator's certified copy of a "Distribution of Payroll and Checks".

It is the opinion of this Division that, of the total of $6,813.89 in costs claimed by the Operator, only the amount of $27.76 is adequately documented. It is recommended, therefore, that the Operator's claim be returned with a request for resubmission with documentary evidence of costs incurred under the "actual costs" provisions of the contract. Such documentation ordinarily should consist of:

(1) Certified copies or transcripts of payrolls. Where all payrolled employees are charged to project work, a certified copy (photostatic, typed or handwritten) should be submitted. Where some payrolled employees are engaged on other than project work, a certified transcript (typed or handwritten) is adequate, provided all payroll information applicable to project employees is indicated therein. Either a copy or transcript must list each employee by name, wage or salary rate, period (hours, days or months) of employment, gross earnings, itemized deductions, (withholding tax, employee's share of social security contribution, board and lodging or other employer's charges to employee, etc.), and net earnings.

(2) Original or certified copies of invoices, statements of account or purchase orders. Each such document, original or copy (carbon, photostatic, typed or handwritten) covering materials or services furnished by a vendor, should indicate date of order, shipment or receipt, adequately identify the items of material or service, and indicate quantities, unit prices, total charges and payment terms.

(3) Memoranda from Operator. Supplemental memoranda should be submitted by the Operator to explain the computation of other undocumented charges such as depreciation (when specifically authorized by the contract), Territorial and Federal Unemployment taxes (as applicable, but never in excess of 2.7% and .3%, respectively, on the payroll charged to the project), and employer's liability insurance costs (at rates set forth in the insurance policy applied to the payroll charged to the project). No statement is required as evidence of F. I. C. A. (social security) taxes, inasmuch as the employer's cost chargeable to the project is a matching amount to the employees' contributions as shown on the payroll copy or transcript.

It is suggested that you incorporate the above comments regarding documentation requirements in the transmittal letter returning the Operator's claim. Your letter also should advise the Operator that payment cannot be made unless the Form MF-104 is accompanied by an adequate narrative report of the work performed during the period covered by the claim.

With regard to the certification of the vouchers, as mentioned in the last paragraph of your letter, it is presumed that this matter has been cleared as indicated by the Administrator's telegram of February 7, 1956, and the Operating Committee's letter of February 10, 1956.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Chief
Contract Administration
and Audit Division

Enclosures

EDTalbert/wb
February 14, 1956

Copy to: Docket
Admr. Reading File
Mr. Wilcox
Mr. Martin
Mr. Chambers

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~

RECEIVED
FEB 10 1956

P. O. Box 560
Juneau, Alaska

February 7, 1956

E. D. Talbert, Acting Chief,
Contract Administration and Audit Division,
Defense Minerals Exploration Admin.,
Department of the Interior,
Interior Building,
Washington 25, D.C.

re: Docket No. DMEA-3246 (tungsten-lead-zinc)
Alaska Mining And Exploration Company, Inc.
Contract No. Idm-E668

Dear Mr. Talbert:

I am taking the liberty of sending you the MF-104s and "supporting documents" from the referenced operator. Also copies of a couple of office memos from Wilcox to me and a copy of a letter that I have just written to Mr. Boothe.

The company has submitted and resubmitted claims but we have felt that we could pay only a small part of the first claim. The enclosed material is their latest attempt which follows numerous letters of explanation from me and practically an entire day spent by me in their Seattle office trying to tell them how to do it. I can't make up my mind whether (assuming that we get a proper "narrative" from them) we would be justified in approving their labor claims on the basis of the "certified payroll transcript" which they submitted. I will appreciate your opinion.

It has developed that neither Wilcox nor I have a valid certifying officers bond; therefore we cannot sign even if we do approve. Please return the material with your comments and any suggestions for handling the certification.

Yours sincerely,

S. H. Lorain,
Executive Officer,
Alaska District,
Region I.

Attachments
cc: Wilcox

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

400

P. O. Box 560
Juneau, Alaska

For details on royalty procedure see Talbert's memo to Lorain of 4/28/55 in Audit Files

January 5, 1956

WJM

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D.C.

From: Executive Officer, Alaska District, Region I.

Subject: Narrative report.
Docket No. DMEA-3246 (tungsten, lead, zinc)
Alaska Mining and Exploration Co. Ltd.
Contract No. Idm-E668

Enclosed are two copies of a letter from Mr. Boothe. The company has submitted only one MF-104 and probably wont submit another until Stage I is completed. In the meantime this letter from Mr. Boothe will serve as a narrative report.

S. H. Lorain

Enclosure-1

cc: Velikanje
Wilcox

RECEIVED
JAN 9 1956

-C-O-P-Y-

Wash

ALASKA MINING & EXPLORATION CO., INC.

310 Stewart Street Seattle 1, Washington Main 9126

Mining Office:
Riverside Mine
Hyder, Alaska

December 28, 1955

Producing:
Tungsten
Gold
Silver
Copper
Lead

S. H. Lorain
Executive Officer
Alaska District
Region 1.

Re - Docket No. DMEA - 3246
Contract No. Idm - E 668

Dear Mr. Lorain:

In compliance with sub-section (e) Narrative supplemental to our last report covering August, September and October I willendeavor to give a Brief resume of results accomplished and unusual and unusual difficulties encountered. We are still working on Stage 1, rehabilitation of mine and mine plant sub sections (a) (b) (c) (d) (e) (f)(g) this work was fairly well completed except for roofing the powerhouse and replacing some dimension timbers we have been unable to get delivered. We have the roofing on hand and and expect to put it on as weather conditions permit.

Now for the unusual conditions; on or about November 15, shortly after the men had their noonday meal and returned to the mine the mess house and bunkhouse caught fire and burned to the ground fortunately we had $3500.00 ins. on building and contents which we believe will be ample to replace the building and contents. At the time it burned we had just completed putting it in shape to house and board the necessary crew. We immediately started planning to replace it, and now have about 10,000 feet of shiplap on the ground and several thousand feet of dimention timbers for frame work. We now have six men on the job two of them carpenters. It has been quite a problem getting them comfortably housed until a new mess house and bunk house can be built. The old mess house and bunk house was a three story affair and in case of a fire constituted quite a hazard to the men sleeping on the second and third floors.

We were quite fortunate in getting a prompt adjustment of the insurance and should have the new messkouse ready in time to house the necessary crew for stage 2 of DMEA contract. While the carpenters are rebuilding we have a crew sacking ore in and around the mill for shipment and cleaning broken ore from drifts and stopes and shipping where ever the ore is sufficiently high in grade to warrant shipping.

We believe our next report will show completion of rehabilitation work under stage 1, and we will be in a position to start doing the mining indicated on contract under Stage 1, on an agreed footage cost basis.

Yours sincerely,

/s/ James W. Boothe

RECEIVED
JAN 9 1956

James W. Boothe
Secretary-Treasurer
Alaska Mining And Exploration Co. Inc.

-C-O-P-Y-

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON, D.C.~~

P. O. Box 2688
Juneau, Alaska

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 7 1957

DATE	INITIALS	CODE
1/8/57	[illegible]	800
1/15/57	WSM	400
		225
January 2, 1956		

1957

Mr. James W. Boothe,
Secretary-Treasurer,
Hyder Mines, Inc.,
310 Stewart St.,
Seattle 1, Wash.

re: Docket No. DMA-3246
Hyder Mines, Inc.
Contract No. Idm-8668

Dear Mr. Boothe:

I am enclosing an original and five copies of a proposed "Termination Agreement" for the referenced contract which, as you know, pertains to the Riverside mine near Hyder, Alaska. Will you please sign all copies of this agreement, retain the copy which is marked "Operator's Copy" in the upper right hand corner, and return the other signed copies to this office.

We are sorry that you were unable to make progress on this contract and we hope that you may be able to get reorganized in such a manner as to justify reactivation of the project under a new contract.

Yours sincerely,

E. H. Lerain,
Executive Officer,
Alaska District,
Region I.

Enclosure-1

cc: ✓ Operating Committee
Velikanje
Wilcox

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~

RECEIVED
DEC - 1 1955

P. O. Box 560
Juneau, Alaska

November 28, 1955

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D. C.

WSM

From: Executive Officer, Alaska District, Region I.

Subject: Apparent sale of property and promotional activity.
Docket No. DMEA-3246 (tungsten, lead, zinc)
Alaska Mining and Exploration Company

Enclosed is a copy of some material which, I have been told, is being circulated in Seattle. This is my first knowledge of the developments indicated by the circular. Incidentally, the "Bureau of Mines" reserve estimates do not agree with any estimates in our records. Furthermore the purported quotations from U.S.B.M. reports are not correct.

I expect to be in Seattle next week at which time I will have an interview with Mr. Boothe if he is there. I will also make other inquiries.

S. H. Lorain,
Executive Officer,
Alaska District,
Region I.

Enclosure

cc: Velikanje
Thorne

COPY

COPY

HYDER MINES, INC.
formerly
ALASKA MINING & EXPLORATION COMPANY
310 STEWART ST.
S E A T T L E 1

RECEIVED
DEC - 1 1955

We are pleased to advise our fellow shareholders and friends that we have recently acquired on an extremely favorable royalty purchase basis the eight patented claims of the Riverside Mine, mill and buildings, located on the government highway running past the property seven miles north of Hyder, Alaska, and leading to our four other properties farther up the Salmon River valley.

The U. S. Bureau of Mines previously diamond drilled 47 holes totaling 4,660 feet, took 52 channel samples and drove one raise in a limited area at its own expense estimated to be about $35,000.00, and estimated that this vein carries values in tungsten ore worth upwards of $1,500,000.00.

They estimated that this and additional ore could be blocked out at a cost of $96,120.00 and have contracted to advance 62-1/2 per cent of this amount or $60,075.00 without interest, to be repaid by a five per cent royalty on production over an eleven year period.

This property fits in with our other properties and with mill and camp buildings gives us an ideal mining headquarters for concentrating milling-grade ore from our other mines as well as Riverside.

In order to utilize this government loan, we must match it by providing $36,045.00 for the development work including labor, use of equipment and materials.

We have three years in which to do this work but intend to complete it this season. To provide this additional financing, the Company has allotted an additional 200,000 shares to be sold at 25 cents per share.

With the assets of the Company being increased several fold by the acquisition of the Riverside property and improvements, thousands of dollars worth of new equipment and Government assistance which is expected to continue after the completion of blocking out this initial ore, these shares are due for further increases in value as soon as commercial ore shipments start.

Of course, it is understood that this new activity will be supplemental to our original program of developing the other properties and acquiring new ones.

HYDER MINES, INC.

By /s/ James W. Boothe
James W. Boothe, Secy.-Treas.

Main 9126

COPY

COPY

RECEIVED
DEC - 1 1955

HYDER MINES, INC.
formerly
ALASKA MINING & EXPLORATION CO., INC.
310 Stewart Street
Seattle 1, Washington

MAin 9126

WE HEREWITH QUOTE FROM BUREAU OF MINES REPORT
ON
HYDER MINING DISTRICT - 1948

The J. H. Scott Co., operated the Riverside Mine (now being operated by the Hyder Mines, Inc.) from May 15th to June 15th and again from August 1st to December 15th, treating lead ore (containing scheelite) in its increased capacity 100 ton combination flotation-gravity concentration mill. From 4005 tons of lead ore milled 916 tons of lead concentrate (containing 736 ounces of gold, 23,290 ounces of silver, 33,488 pounds of copper, 647,798 pounds of lead and 28,343 pounds of zinc) were produced and shipped to a smelter in the United States. These shipments were made almost entirely during the latter half of the year.

1948 Year Book

The above statement gives you an idea of the tremendous possibilities for profit open to the Hyder Mines, Inc. We now have an estimated 1,000 tons of ore ready for the mill as soon as mill repairs are completed. Under our government exploration contract, we are constantly blocking out more ore in area diamond drilled by Government Engineers estimated to contain upwards of $1,500,000 in scheelite alone, with the other associated metals in the area estimated to be worth several million dollars.

To further enhance the outlook, we have a firm contract with the Government to purchase our 60% scheelite concentrate for $63.00 per unit (20#) scheelite concentrate or $6,300.00 per ton F.O.B. mill.

Not at all !

We feel sure if the average investor realized just what this means, in profit and possibilities for shareholders, our total allotment of 200,000 shares @ 25¢ would be oversubscribed in a matter of days.

HYDER MINES, INC.

By /s/ James W. Boothe

James W. Boothe, Secy.-Trea.

60% scheelite concentrate
@ $63.00 per unit =
$3780 per ton

L. E. Bingham
President ! ?

COPY

COPY

RECEIVED
DEC - 1 1955

Box W, Stewart, B. C.
August 24th, 1955

Mr. L. E. Bingham, Pres.
Alaska Mining and Exploration Co., Inc.
Box 145, Stewart, B. C.

Dear Mr. Bingham:

Re Available Broken Ore Reserves at Riverside Mine:

The following is an estimate of the available broken ore reserves at Riverside Mine, Hyder, Alaska. It is based on my examination of the property on August 15th and August 23rd, 1955, plus the values of the ore as supplied by the management.

1. Mill Level Dump
   150 Tons of 1% WO_3 ($63.00 per unit) ---------- $ 9,450.00

2. Ball Mill Clean Up
   (partially sacked)
   A. 40 tons @ $258.00 per ton ---------- 10,320.00
   B. 40 tons @ $239.00 per ton ---------- 9,560.00

3. Under settling Tanks in Mill
   100 tons @ $564.00 per ton ---------- 56,400.00

4. Tailings Dump
   600 tons @ 1% WO_3 - ---------- 37,800.00

5. 590 Dump
   75 tons @ 1% WO_3 ---------- 4,725.00

6. 810 Dump
   75 tons @ 1% WO_3 ---------- 4,725.00

7. Broken Underground
   A. 590 Level : 60 tons @ 2-1/2% WO_3 ---------- 9,450.00
   B. 810 Level : 35 tons @ 1-1/2% WO_3 ---------- 3,290.00

TOTAL 1175 tons ---------- gross value $145,720.00

In addition there is also a block of unbroken ore between the 320 and 810 levels containing a probable 16,000 tons of ore of unsampled grade.

At an estimated expenditure of $50,000.00 the mill could be renovated and the capacity increased to 50 tons per day which could be easily maintained by 3 working places. It seems a worthwhile endeavor to rehabilitate the mill, treat the broken ore and realize a profit of $75,000.00 which can be used for further development of a promising mine.

Yours very truly,

/s/ R. E. Renshaw

R. E. Renshaw, P. Eng.
Mining Geologist (SEAL)

400

DOCKET
Surname:
Rutledge
Martin
Selfridge
Hedges
Kiilsgaard

JUN - 3 1955

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I - Alaska District
P. O. Box 560
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten, Lead, and Zinc
Pacific Northern Minerals Co.
Riverside mine
Hyder District, Alaska
Contract No. Idm-E668

Dear Mr. Lorain:

Enclosed are the Finance Office copy and the Field Team copy of an assignment of contract from the Pacific Northern Minerals Company to Alaska Mining and Exploration Co., Inc.

Two copies of a letter dated May 23, 1955, from Mr. Don W. Walters, Pacific Northern Minerals Company, are also enclosed for your information.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (SHB)

Enclosures

APPROVED:

J. H. Hedges (SHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (SHB)
Member, Geological Survey

cc: Docket
FT, Reg. I-Alaska Dist.
Code 400
Adm. Read. File
Oper. Committee
Thor Kiilsgaard, USGS
Robt. Holliday, USBM

FARutledge/ls
5/31/55

R.C.S.

1 Dakota St.

Phone GL. 2726

PACIFIC NORTHERN MINERALS CO.

P. O. Box 1481
SPOKANE, WASHINGTON

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 26 1955

May 23, 1955

Mr. Frank E. Johnson
Acting Administrator
Defense Minerals Exploration Administration
U. S. Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA 3246
Tungsten, Lead & Zinc
Riverside Mine
Hyder District, Alaska
Contract No. Idm-E668

Dear Mr. Johnson:

With reference to the above we are, in accordance with instructions contained in your letter of May 6th, retaining the assignor's copy, forwarding assignee's copy to 813 Arctic Building, Seattle, and returning herewith the three requested copies and two additional copies.

We wish to thank you for expediting this matter for us and it is our pleasure to advise that a crew is already at the mine and starting work as of this morning.

Yours very truly,

Don W. Walters

Don W. Walters

DWW:C

Copied from the Engineering and Mining Journal - Vol.156, No. 5, Page 124
May 1955.

Docket DMEA 3246

Two Juneau attorneys have incorporation Red Hawk Mines Alaska, Inc., to take over the reopening of the Riverside Mine under DMEA agreements. Operation was previously planned by Pacific Northern Minerals of Spokane.

DOCKET
SURNAME
400 Rutledge
Martin

MAY - 6 1955

Pacific Northern Minerals Company
P. O. Box 1451
Spokane, Washington

Re: Docket No. DMEA 3216 - Tungsten, Lead, & Zinc
Riverside mine
Ryder District, Alaska
Contract No. Idm-8668

Gentlemen:

Reference is made to the above-docketed contract for exploration assistance at the Riverside mine and to your letter of April 20, 1955.

Enclosed are all five copies submitted of an "Assignment of Contract" from the Pacific Northern Minerals Company to Alaska Mining and Exploration Co., Inc., that has been approved by the Administrator, Defense Minerals Exploration Administration, for the Government. Please note that the third recital on page 1 of the assignment form has been deleted as no such certification has been issued. It would be appreciated, therefore, if you would have this deletion initialed by both the assignor and assignee; retain the assignor's copy; forward the assignee's copy to 813 Arctic Building, Seattle, Washington; and return the Government's copy, the Docket copy, and the Finance Office copy to this Administration. In addition, two additional copies of the assignment should be furnished the Government.

Your request that the Government delete its provision by which the assignor is not released from any of the terms, provisions, and conditions of the contract was also noted. There is nothing in the contract that recites that an operator will be released if the Government consents to an assignment, and it is usual for the Government, as a condition to granting the consent to assignment, not to release the operator.

Sincerely yours,

Frank E. Johnson (for)
ACTING Administrator

FARutledge:foc
5-6-55
cc to: Docket
Code 400
Adm.Red.File
Oper.Comm.
FT. REC.
Reg. I - Alaska Dist.
Messrs. Holliday, USBM
Kiilsgaard, USGS

Enclosure

R.C.L.

DOCKET
Surname

Martin
Rubin
Hoffland
Robinson

MAY - 4 1955

Defense Minerals Expl. Adm.
Dept. of the Interior

14X4401(01) Revolving Fund, Defense
Production Act, Interior
(Allocated Working Fund to the
Office of the Secretary)

STRAIGHT WIRE

Mr. L. N. Colborn
602 Spokane and Eastern Building
Spokane, Washington

Giving immediate consideration requested assignment Docket DMEA 3246, Contract Idm-E668, in substantially its present form. Writing.

C. O. Mittendorf (for)

Administrator
Defense Minerals Exploration Administration

cc: Docket
Code 400
Adm. Read. File
FT, Reg. I-Spokane
Confirmation to Mr. Colborn
T. Kiilsgaard, USGS
R. Holliday, USBM

WSMartin/ls
5/3/55

R.C.S.

Rubin

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

MAY 4 1955.

Memorandum

To: The Administrator, DMEA
Attention: Mr. W. S. Martin

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3246, Pacific Northern Minerals Company (tungsten-lead-zinc)

Pursuant to a reference slip dated April 26 from Mr. Rutledge, we have reviewed the assignment of lease and assignment of contract documents submitted with the letter dated April 20, 1955, from the Operator, and have found them in order, with the exception of the third recital on page 1 of the assignment of contract combination form. This recital should be lined out and initialed by the Administrator prior to his executing the Government's Consent form, and the Assignor and Assignee also should be required to initial the lined-out recital.

The Operator's letter requests a release from the contract and that the provisions to the contrary be deleted from the Government's consent. The letter states that no provision in the contract requires continued obligation after the Government's consent. In this regard, the Operator need merely be informed that there is nothing in the contract that recites that an operator will be released if the Government consents to an assignment; and that it is usual for the Government, as a condition to granting the consent to assignment, not to release the operator.

J. L. Hofflund

J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

HCRubin/emd
Copy to: DMEA Docket
Solicitor's Docket
W. S. Martin (2)
J. L. Hofflund
H. C. Rubin
chron.

2601 Dakota St. Phone GL. 2726

PACIFIC NORTHERN MINERALS CO.

P. O. Box 1481
SPOKANE, WASHINGTON

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 22 1955

April 20, 1955

File No. DMEA 3246 IDM E668
Pacific Northern Minerals Company
Riverside Mine, Hyder, Alaska

WSay

Mr. Frank E. Johnson
Acting Administrator
Department of the Interior
Washington, D. C.

Dear Mr. Johnson:

Attached please find five copies of assignment of contract, together with two copies of transfer of interest, all of which pertains to the assignment of and transfer of the Riverside Mine, Hyder, Alaska, to the Alaska Mining and Exploration Company.

An examination of the contract fails to reveal to us any obligations under the terms of said contract if an assignment is consented to by the Government. If this is so and the Government consents to an assignment, we wish that you would delete from the form of consent that the Pacific Northern Minerals Co. is not released from the terms, provisions and conditions of the contract.

We sincerely trust this will meet with the approval of your Review Board.

Very truly yours,

Don W. Walters

Don W. Walters

DWW:MS
Encl. 7

RECEIVED
APR 26 1955
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~

P. O. Box 560
Juneau, Alaska

March 18, 1955

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D. C.

From: S. H. Lorain, Executive Officer, Alaska District, Region I.

Subject: Amendment No. 2,
Docket No. DMEA-3246 (tungsten-lead-zinc)
Pacific Northern Minerals Co.

Enclosed herewith are the "Government", "Docket", and "Division" copies of the subject amendment; the "Operator's copy" has been retained by the Operator; the "Finance Office" and "Field Team" copies have been retained here. All copies have been signed by the Operator.

Attached to each of the above-named copies is a copy of "Owner's Consent to Lien" covering the RIVERSIDE, CARIBOU, RIVERVIEW, SPRUCE, SUNSHINE, SUNSHINE NO. 1, PINE & HILLSIDE mining claims.

S. H. Lorain,
Executive Officer,
Alaska District, Region I.

cc: Velikanje

Docket
Surname

400 Rutledge
Martin
Johnson

FEB 1 5 1955

Mr. J. E. Van Gundy
Pacific Northern Minerals Company
402 Simons Building
Spokane, Washington

Re: Docket No. IMEA 3266 - Tungsten,
Lead, & Zinc
Pacific Northern Minerals Company
Riverside mine
Ryder District, Alaska
Contract No. Idm-E668

Dear Mr. Van Gundy:

Reference is made to your telephone conversation of February 14, 1955, regarding assignment of the above-docketed contract.

A draft of an assignment of contract form is enclosed for your guidance in preparing the contract assignment. In addition, we will also need two copies of a transfer of interest in the land which is the subject of the exploration contract.

As soon as the referenced documents are received, they will be reviewed by our legal division and you will be notified of our findings.

Sincerely yours,

Frank E. Johnson
by CSY

Acting Administrator

Enclosure

FARutledge:fec
2-15-55
cc to: Docket
Code 400
Adm. Reading File
FT. REG. I - Alaska Dist.
W. McInnis, USBM
T. H. Kiilsgaard, USGS

R.C.G.

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

W. P. MARSHALL, PRESIDENT

1220

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=Int'l Letter Telegram

VLT=Int'l Victory Ltr.

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

SYA285 OA218 PRB094 FEB 1 4 1955

PR SKA132 NL PD=SPOKANE WASH 13=

C O MITTENDORF=ADMINISTRATION DEFENSE MINERAL
INTERIOR DEPT
EXPLORATION ADMN WASHDC=

RE CONTRACT IDM E668 PER ARTICLE 10. PACIFIC NORTHERN MINERALS CO REQUESTS AUTHORITY TO ASSIGN ABOVE CONTRACT TO EXISTING CANADIAN CORPN WHICH WILL PROCEED WITH RIVERSIDE EXPLORATION. CAN WARREN AND WALTERS AS PARTNERS MAKE DIRECT ASSIGNMENT TO CANADIAN CORPN OR SHOULD YOUR OPERATING COMMITTEE AUTHORIZE SAME. OTHERWISE MAY CANADIAN CORPN BE PERMITTED TO CONTROL PACIFIC NORTHERN MINERALS COMPANY IF LATTER BE INCORPORATED IN STATE OF WASHINGTON. CANADIAN CORPN PRFERS TO ACT AS DIRECT OPERATORS WITHOUT INTERVIEWING COMPANY IF PERMISSABLE. WILL PHONE YOU MONDAY=

J E VAN GUNDY 402 SIMONS BLDG=

IDM E668 402=..

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

Copy retained 400

OF MINES

3246

FEB 14 1955

NIGHT LETTER

FEBRUARY 11, 1955

FROM S H LONAIN BUREAU OF MINES JUNEAU ALASKA

TO J E VAN GUNDY PACIFIC NORTHERN MINERALS CO N 2601 DAKOTA ST SPOKANE WASHINGTON

ARTICLE 10 CONTRACT IDM-E668 REQUIRES WRITTEN CONSENT TO ASSIGN WHICH MUST BE OBTAINED BY YOU FROM OPERATING COMMITTEE, DEFENSE MINERALS EXPLORATION ADMINISTRATION WASHINGTON 25 D C AMENDMENT NO 2 FOR RECESS IN MAIL TODAY

J. A. Herdlick,
Acting Asst. Reg. Dir. for Alaska,
Juneau, Alaska.

DOCKET
Surname:
Rutledge
Martin
Talbot
Kiilsgaard
McInnis
Selfridge
Gleason

400

R.C.4.

FEB 7 1955

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I - Alaska District
P. O. Box 560
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten
Lead, and Zinc
Pacific Northern Minerals Co.
Riverside mine
Ryder District, Alaska
Contract No. Idm-E668

Dear Mr. Lorain:

Enclosed are the original and five copies of a proposed amendment, Amendment No. 2, to the above-referenced contract signed by the Administrator for the Government.

If the terms and conditions of this proposed amendment are satisfactory to you and the Operator, all six copies should be signed, subject to the attachment of an Owner's Consent to Lien executed on the enclosed forms, and the usual distribution made.

If any part of this proposed amendment does not have either your approval or that of the Operator and cannot be amended within your delegated authority, the original and all copies of the proposed amendment are to be returned to this office, together with the proposed changes for consideration.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

cc: Docket
FT, Reg. I-Juneau
Code 400
Adm. Read. File
Oper. Committee
W. McInnis, USBM
T. Kiilsgaard, USGS

FARutledge/ls
2-1-55

R.C.4.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

JAN 27 1955

Memorandum

To: The Administrator, DMEA
Attention: Mr. W. S. Martin

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3246, Pacific Northern Minerals Co., (Tungsten)

As requested in Mr. Martin's memorandum dated January 21, we have prepared the attached amendment No. 2, providing for suspension of work and an additional year for repayment of royalty.

An Owner's Consent to Lien on the attached form should be obtained prior to execution of the amendment.

J. L. Hofflund

J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

Attachments 16

HCRubin/emd
Copy to: DMEA Docket
Solicitor's Docket
W. S. Martin
H. C. Rubin
J. L. Hofflund
Chron.

Docket
Surname:
Rutledge
Martin

January 21, 1955

MEMORANDUM

To: Acting Assistant Solicitor, Defense Minerals

From: Chief, Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of amendment
Docket No. DMEA 3246 - Tungsten
Pacific Northern Minerals Co.
Riverside mine
Hyder District, Alaska
Contract No. Idm-E668

Please prepare an appropriate amendment to the above-referenced contract as follows:

1. Authorize suspension of operations from July 17, 1954, to June 1, 1955.

2. Increase the period for completion of the project from two to three years.

3. Increase the repay period accordingly.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Attachment

cc: Docket
Adm. Read. File
Code 400

FARutledge/ls

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~

P. O. Box 560
Juneau, Alaska

January 12, 1955

Memorandum

To: Operating Committee, Defense Minerals Exploration Admin., Department of the Interior, Washington 25, D.C.

From: Executive Officer, Region I

Subject: Amendment for extension of time
Docket No. DMEA-3246 (tungsten, lead, zinc)
Pacific Northern Minerals Co.

During my recent trip to Spokane (Dec. 3-4) I had the opportunity of discussing the subject project with Mr. Van Gundy. It seems that the company did actually start the project on May 25, 1954 and continued some rehabilitation work until July 17, 1954 when they had difficulties with the Immigration Service ~~about~~ employing Canadian labor which is the only labor that is locally available. I gather that, before this situation was straightened out, some financial difficulties developed which Mr. Van Gundy hopes to have remedied by next spring.

The above data with regard to the dates of beginning and ending have been stated to me in a letter signed by Mr. Van Gundy under date of December 7, 1954. Mr. Van Gundy also stated in the letter that the company had expended $3724 for labor and supervision but that no claim for payment was made because no "unit" of the contract had been completed. Four copies of Mr. Van Gundy's letter are enclosed herewith.

The operator asks for an amendment that will permit the company to suspend operations from July 17, 1954 to June 1, 1955; the Field Team recommends that such an amendment be prepared.

Encl. (in quad.)

cc: Velikanje
Wilcox

S. H. Lorain, Executive Officer,
Field Team, Region I.

Concurred:

R. S. Velikanje, Geological Survey,
Member, Field Team, Region I.

-C-O-P-Y-

PACIFIC NORTHERN MINERALS CO.
Spokane, Washington
402 Symons Building.

Dec. 7, 1954

RECEIVED

Mr. S. H. Lorain, Executive Officer,
Field Team, Region I,
P. O. Box 560,
Juneau, Alaska.

Dear Mr. Lorain:

Re: Docket No. DMEA-3246
Contract No. Idm-E 668

With further reference to your letters of November 16 & 23, and my reply of November 18, to the former, and our personal conference in Spokane during the past week, all relative to the above subject, I beg to advise the following:

The first applicable expense to the contract began on May 25, 1954 when Donald H. Duncan arrived at Riverside mine to take charge of operations.

That operations were begun immediately upon his arrival is evidenced by payroll ending June 5, 1954 when during the prior 2-weeks period, five workman were employed working an aggregate 364 hours regular time, and 56 hours overtime, exclusive of time for Duncan. Actual work on rehabilitation dates from May 24, 1954.

Work continued until the end of third week in July, or July 17th when Duncan was advised by Ketchikan Immigration Service that Canadians could not be employed on jobs in Alaska without first having been qualified through the Ketchikan office.

When representatives from your office and U.S.G.S. visited the property on August 28-30 they found work suspended for that reason.

Between initial date and July 17 when work was interrupted as aforesaid, the hours of direct labor performed under each classification under Stage-I of contract, together with wages paid and approximate percentage of completion of each job is shown following; In the labor costs there is included a dollar value proportionate amount for supervision at the rate of $500 a month for 2.5 months.

Stage-I	Classification	Hrs Labor	% complete	Amt.
	(a)	272	75	$ 841
	(b)	240	10	653
	(c)	104	65	295
	(d)	292	75	1018
	(e)	80	10	211
	(f)	256	5	706
	(g)	none	0	
	Totals	1244		$ 3724

-C-O-P-Y-

As previously advised, it was my understanding that as the contract was segregated into the several categories (a) to (g), that reimbursement would not be made until all of these jobs had been completed and reported on Form 104. This understanding accounts for the fact that these forms have not been submitted. If, however, they should be filed, I shall be pleased to conform with such request. Also, if it is in order to receive partial reimbursement while the work is still in progress, we would appreciate receiving same.

From date of interruption caused by Immigration action there has been no constructive work at the mine. Duncan has been kept at the property, anticipating resumption of operations.

There is now no assurance that work can be started before next spring. It is requested, therefore, that a shutdown period until June 1, 1955 be granted by which date it is expected that work will get underway and carried on to completion.

Please connumicate with me if additional information is required.

Yours very truly,

Pacific Northern Minerals Co.

/s/ By J. E. Van Gundy
J. E. Van Gundy

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Defense Minerals Administration
RECEIVED
DEC 30 1954

REGION I

560

OFFICE OF
REGIONAL DIRECTOR

P. O. BOX 2990
JUNEAU, ALASKA

December 27, 1954

J. E. Van Gundy
Pacific Northern Minerals Company
402 Symons Bldg.,
Spokane, Washington

Re: Docket No. DMA-3246 (tungsten, lead, zinc)
Pacific Northern Minerals Company

Dear Mr. Van Gundy:

This will acknowledge receipt of your letter of December 7 in which you present a statement to the effect that work on the referenced project was started on May 25, 1954 and continued until about July 17, 1954.

You state also that no request for government financial participation have been made because none of the units authorized in the contract have been completed. I think that you are correct in your assumption that, inasmuch as the contract was set up on a "unit" basis we cannot pay for any unit until that unit is completed.

I will request our Washington office for an amendment which will permit the suspension of operations from July 17, 1954 to June 1, 1955. As soon as we receive their decision we will advise you accordingly.

Thank you very much for your clear and definite statement.

Yours sincerely,

S. . Lorain
Regional Director
Region I

cc - Wilcox
BMG-Ketikanle
Operating Committee DMA

Copy made & retained 400

Department of the Interior
Defense Minerals Administration
RECEIVED
NOV 26 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

P. O. Box 560
Juneau, Alaska

November 23, 1954

Mr. J. E. Van Gundy
Pacific Northern Minerals Co.
402 Symons Building
Spokane, Washington

WSM

Amer 3346

Dear Mr. Van Gundy:

Thanks for your prompt reply to my letter of November 16. If you actually did work that would qualify under the contract you could have submitted 104s; your letter of September 12 must have been overlooked during the rather "hectic" rush of that period. For several months this summer I scarcely had time to look at mymail.

The work that you did probably would qualify as a start under "rehabilitation"; however the long shutdown until January 1, 1955 (or later) will require official approval by the Washington office. If you will make an "official" letter request to the Field Team for a specific shutdown period we will be happy to arrange for a suitable amendment.

In view of the fact that I will be in Spokane the latter part of next week, it might be just as well to delay your request until we have had a talk. We all are pleased to learn that you expect to complete the contract.

Yours sincerely,

S. N. Lorain, Executive Officer
Field Team, Region I

cc: Oper. Comm. DMEA
USGS - Velikanje

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

P. O. Box 560
Juneau, Alaska

Defense Minerals Administration
RECEIVED
NOV 19 1954

JAR.

November 16, 1954

Pacific Northern Minerals Co.
402 Symons Building
Spokane, Washington

Re: Docket No. DMEA-3246 (tungsten, lead, zinc)
Contract No. Idm-E668
Pacific Northern Minerals Co.

Gentlemen:

I am forced to call your attention to the fact that, according to the terms of the referenced contract, you were to start operations at the Riverside Mine within 60 days of the date of the contract; in other words, by July 2, 1954. Inasmuch as we have no information to the effect that any substantial amount of work has been performed, we must assume that you are in default and that the contract is subject to cancellation.

We know that you ran into some unexpected difficulties, consequently we will be glad to cooperate with you in any reasonable request for additional time. If you still are planning to go ahead with the project and will send us an explanation for past delays, together with a request for a specific time extension, we will try to get through an amendment which will put the contract back into good standing.

I expect to be in Spokane for the Northwest Mining Convention on December 3 and 4; we could talk it over at that time. Nevertheless I suggest that, in the meantime, you write us a letter which will indicate your intentions.

Yours sincerely,

S. H. Lorain, Executive Officer
Field Team, Region I

cc: Oper. Comm. DMEA - Wash.

C/

40

DOCKET
surname:

Selfridge
Rutledge

NOV 12 1954

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I
Bureau of Mines
P. O. Box 560
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten, lead, and zinc
Pacific Northern Minerals Co.
Riverside Mine
Hyder District, Alaska
Contract No. Idm-E668

Dear Mr. Lorain:

Exploration under Contract No. Idm-E668, dated May 3, 1954, was to start within 60 days from the date of the contract, or by July 2, 1954. Mr. J. E. Van Gundy's letter dated September 10, 1954, to R. S. Velikanje states that none of the work authorized under the contract had been started. Obviously, therefore, the operator is in default and the contract may be cancelled.

We believe, however, that this exploration program has merit and we are still willing to cooperate in the project. Therefore, you should inform the operator that, since the project was not started within the specified period, he is in default, but we would consider a request for additional time in which to start the project work. Such a request must be supported by a valid report on the extenuating circumstances that caused the delay. If such a request is not received within a reasonable time, we shall cancel the contract and consider the case closed.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Approved:

J. H. Hedges

Member, Bureau of Mines (JHB)

E. L. Newcomb

Member, Geological Survey (JHB)

cc: Docket
FT, Reg. I
Code 400
Adm. Read. File
Oper. Comm.
R. W. Geehan, USBM
Thor Kiilsgaard, USGS

FARutledge/ls 11-8-54

R.G.S.

DOCKET
Surname:
Rutledge
Martin

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I
Bureau of Mines
P. O. Box 560
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten, lead, and zinc
Pacific Northern Minerals Co.
Riverside Mine
Hyder District, Alaska
Contract No. Idm-E668

Dear Mr. Lorain:

Amendment No. 1 to the subject contract was forwarded by your letter of June 10, 1954, to the operator for execution. To date we have not received our copies of this amendment.

Exploration under Contract No. Idm-E668, dated May 3, 1954, was to start within 60 days from the date of the contract, or by July 2, 1954. Mr. J. E. Van Gundy's letter dated September 10, 1954, to R. S. Velikanje states that none of the work authorized under the contract had been started. Obviously, therefore, the operator is in default and the contract may be cancelled.

We believe, however, that this exploration program has merit and we are still willing to cooperate in the project. Therefore, you should inform the operator that, since the project was not started within the specified period, he is in default, but we would consider a request for additional time in which to start the project work. Such a request must be supported by a valid report on the extenuating circumstances that caused the delay. If such a request is not received within a reasonable time, we shall cancel the contract and consider the case closed.

Sincerely yours,

Chairman, Operating Committee

Approved:

Member, Bureau of Mines

Member, Geological Survey

cc: Docket
FT, Reg. I
Code 400
Thor Kiilsgaard, USGS

cc: Operating Comm.
Adm. Read.File
R.W.Geehan,USBM

FARutledge/ls
11-5-54

OFFICE OF THE ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
P. O. Box 560
Juneau, Alaska
September 30, 1954

Defense Minerals Administration
RECEIVED
OCT 4 1954

Memorandum

To: Operating Committee, Defense Minerals Exploration Administration

From: Executive Officer, Alaska Field Team, Region I

Subject: Current progress status
Docket No. DMEA-3246 (tungsten, lead, zinc)
Pacific Northern Minerals Company

Inasmuch as no claims for payment have been submitted by the subject company, you probably are wondering what has happened to the project; therefore I am enclosing herewith a copy of a letter from Mr. J. E. Van Gundy that was received recently by Mr. Velikanje. I think that the letter is self explanatory.

We have heard rumors to the effect that the real reason for lack of progress on the project is that the man who was putting up the money for the operation has withdrawn his financial support and that, therefore, the company is financially embarrassed. Although we have had no official confirmation of this rumor we are inclined to think that it is correct and that the project probably never will be activated.

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

cc: R.S. Velikanje

Enclosure to 400

C
O
P
Y

PACIFIC NORTHERN MINERALS CO.
Spokane, Washington
402 Symons Building

September 10, 1954

Mr. R. S. Velikanje,
Acting Executive Officer
DMEA Field Team
P. O. Box 2659
Juneau, Alaska

Dear Mr. Velikanje: Re: Docket DMEA 3246

Mr. Don Duncan, superintendent of the Riverside mine advises me that representatives of both the Bureau of Mines and Geological Survey visited the property during the latter part of August.

In view of this fact it is not necessary for me to detail such work as has been accomplished since we took over the property.

As you have been previously advised we have run into a snag as far as employing Canadian labor is concerned, and, as the first work that was called for was the rehabilitation of certain physical facilities we found it necessary to employ labor on more or less of a temporary basis.

We have taken steps to, and have been assured that the USES, Ketchikan office will issue clearance to permit us to employ up to ten Canadians. Their Seattle office advised us yesterday that said clearance had not yet been received from Ketchikan. This problem, no doubt, will be adjusted satisfactorily within the next few days.

Inasmuch as we have made no material performances under the terms of our government contract it seems hardly necessary to submit Form's 104 & 104A at this time but if you consider it necessary to report expenditures up to the end of August, I will forward these to you.

If there is any information that you require other than this brief narrative, please let me know.

Pacific Northern Minerals Co.

By /s/ U. E. Van Gundy
J. E. Van Gundy

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
P. O. Box 560
Juneau, Alaska
July 2, 1954

MEMORANDUM

To: Operating Committee, Defense Minerals Exploration Administration

From: Executive Officer, Alaska Field Team, Region I

Subject: Amendment No. 1
Docket No. DMEA-3246 (tungsten, lead, zinc)
Pacific Northern Minerals Company

Enclosed herewith are the "Government", "Docket", and "Division", copies of the subject amendment; the "Operator's Copy" has been retained by the Operator; the "Field Team Copy" and the "Finance Office Copy" are being retained by this office.

All copies have been signed by the operators.

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

cc: R.S. Velikanje
L.J. Wilcox

Enclosures

3296

XXXXXXXXXXXXXXXXXX
P. O. Box 560
Juneau, Alaska
June 23, 1954

WSM

Mr. J. E. Van Gundy
Pacific Northern Minerals Co.
402 Symons Building
Spokane 4, Washington

Dear Mr. Van Gundy:

I have just received your letter of June 18 in which you ask about a "questionnaire" that I had sent you. I hope very much that this has not been lost because I assume that it must be the various copies of the proposed amendment which will give you authority to proceed simultaneously with Stage I and Stage II of your contract. These various copies had been signed by the Administrator, D.M.E.A., consequently, I have no other copies to replace them. If they have been lost, please let us know immediately, so that we can take steps to have another set prepared.

Thank you very much for your information about progress in the mine. I am sending a copy of this letter to Hyder.

Yours sincerely,

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

cc: Operating Comm., DMEA
J.E. Van Gundy
Hyder, Alaska

XXXXXXXXXXXXXXXXXXX
P. O. Box 560
Juneau, Alaska
June 10, 1954

Mr. J.E. VanGundy
Pacific Northern Minerals
Company
P. O. Box 1481
Spokane, Washington

Re: Docket No. DMEA-3246
(tungsten-lead-zinc)
Pacific Northern
Minerals Company

Dear Mr. VanGundy:

I had just completed dictating a letter to you when I found on my desk a letter from the D.M.E.A. office in Washington enclosing six copies of "Amendment No. 1" to Contract Idm-E668 (Docket No. DMEA-3246).

The six copies of the proposed amendment are being enclosed herewith. Please sign all copies, retain the copy that is marked "Operator's Copy" in the upper right hand corner, and return the other copies to me.

Yours sincerely,

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

cc: Operating Committee, DMEA
C.L. Sainsbury

Enclosures - 6

40

DOCKET
Martin
Boring
Hoffland
Jackson
Ellis

JUN - 3 1954

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I
Bureau of Mines
P. O. Box 560
Juneau, Alaska

Re: Docket No. DMEA-3246 - Tungsten, lead, zinc
Pacific Northern Minerals Company
Riverside Mine
Hyder District, Alaska
Contract No. Idm-2668

Dear Mr. Lorain:

This will acknowledge receipt of your letter of May 18, 1954, transmitting for our approval an authorization for simultaneous execution of Stage I and Stage II of the subject contract.

Inasmuch as the signed contract reached us shortly after your letter, we have prepared Amendment No. 1 covering the same points as the proposed authorization. Enclosed are the original and five copies of the amendment which have been signed by the Administrator for the Government. The proposed authorization, with attached letter from the applicant, will be filed in lieu of the usual justification.

If the terms and conditions of this amendment are satisfactory to you and the Operator, all six copies should be signed and the usual distribution made.

Sincerely yours,

Ernest Wm. Ellis

ACTING Chairman, Operating Committee (245)

Enclosures

APPROVED:

J. H. Hedges

Member, Bureau of Mines (245)

D. M. Larrabee

Member, Geological Survey (245)

cc: DOCKET
FT, REG. I
CODE 400
OPER. COMM.
ADM. READING FILE
R. W. GEEHAN, USBM
T. P. THAYER, USGS

WSMartin/ls
5/27/54

P.C.

Government's copy

EXPLORATION PROJECT CONTRACT
PACIFIC NORTHERN MINERALS CO.
DOCKET NO. DMEA-3246

AMENDMENT NO. 1

It is agreed this _____ day of _____, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Pacific Northern Minerals Co. that Exploration Project Contract Idm-E668 (Docket No. DMEA-3246), dated May 3, 1954, is amended, effective May 3, 1954, as follows:

In Exhibit "A," under "Description of the Work":

a. On the second line of the first paragraph, delete the words "to be performed successively," ~~and~~

b. In the fourth paragraph delete the second sentence reading: "Work under Stage II shall be undertaken only if approved in advance by the Government," and

c. Delete the Joint Schedules under Stage I and Stage II.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the amount of any item designated as "allowable maximum."

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals
Exploration Administration

PACIFIC NORTHERN MINERALS CO.

By _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
P. O. Box 560
Juneau, Alaska
May 19, 1954

MEMORANDUM

To: Operating Committee, Defense Minerals Exploration Administration, Washington D. C.

From: Executive Officer, Alaska Field Team, Region I

Subject: Signed contracts for exploration project
Docket No. DMEA-3246 (tungsten, lead, zinc)
Pacific Northern Minerals Company

Enclosed herewith are three copies of contract IBM-668 for distribution to the Government file, Docket file, and Division file respectively of the Washington office. The "Operator's Copy" has been retained by the operator and the "Field Team Copy" and "Finance Office Copy" are being retained at this office.

A proposed letter of authorization to permit simultaneous performance of Stage I and Stage II was forwarded to your office yesterday.

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

cc: C. L. Sainsbury

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
P. O. Box 560
Juneau, Alaska
May 18, 1954

Docket

Defense Minerals Administration
Received
MAY 21 1954

MEMORANDUM

WSM

To: C. O. Mittendorf, Administrator, Defense Minerals Exploration Administration, Washington D. C.

From: Executive Officer, Alaska Field Team, Region I

Subject: Authorization for simultaneous execution of Stage I and Stage II; Docket No. DMEA-3246 (tungsten-lead-zinc); Pacific Northern Minerals Company.

Enclosed herewith is an original and 6 copies of a letter of authorization from the Field Team to permit simultaneous execution of Stage I and Stage II of the subject contract. This authorization is based on the Field Team memorandum of May 13 to the Operating Committee and of the Operating Committee's telegraphic reply of May 17.

Inasmuch as we do not have a copy of the contract in our files (they have not been returned by the operator) we have prepared a letter of authorization instead of a formal amendment. We hope this is satisfactory.

If the authorization meets with your approval please sign and send the original to the Operator or return it to us. Also please sign or initial the enclosed Finance Office and Field Team copies and return to us. The other four copies are for your files.

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

cc: C. L. Sainsbury

Enclosures - 6

For Docket

Attached amendment to/ rewritten here and sent to field for selection.

Operator

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REGION I

OFFICE OF
REGIONAL DIRECTOR

May 18, 1954

560
P. O. BOX 2290X
JUNEAU, ALASKA

Pacific Northern Minerals Company
P. O. Box 1481
Spokane, Washington

re: Docket No. DMEA-3246
Pacific Northern Minerals
Company

Gentlemen:

In reply to your request dated May 11, 1954 you are authorized to proceed simultaneously with the execution of Stage I and Stage II of the referenced exploration project. This authorization is given for the following reasons:

1. The geologic data to be obtained from Stage I will not necessarily influence the desirability of performing Stage II.

2. Certain operational economies, as set forth in your request (attached herewith), may be obtained by simultaneous execution of Stage I and Stage II.

3. The rate of completion of the project will be substantially increased by simultaneous execution of Stage I and Stage II.

The above-stated authorization will not increase the amount of Government participation in this project.

Yours very truly,

ALASKA FIELD TEAM, REGION I

S. H. Lorain, Executive Officer
Bureau of Mines Member

C. L. Sainsbury
Geologic Survey Member

cc: Administrator, DMEA - 4
C. L. Sainsbury
Finance Office
J. A. Herdlick

APPROVED:

Administrator, Defense Minerals Exploration Administration.

DOCKET
Rutledge
Martin
Selfridge
Jackson
McBendy

MAY 18 1954

INTERIOR DEPARTMENT
DEFENSE MINERALS EXPLORATION
ADMINISTRATION
14X4401(01) Revolving Fund, Defense
Production Act, Interior
(Allocated Working Fund to the
Office of the Secretary).

T E L E T Y P E

To: S. H. Lorain, DMEA Executive Officer, Juneau, Alaska

Reurlet May 13, Contract 16m-1.666, Docket DMEA 3245, Pacific Northern Minerals Company. Our teletype May 14 intended to authorize and request you to execute amendment allowing Operator to carry out Stages I and II concurrently.

George C. Selfridge
G. C. Selfridge (JB)
Chairman, Operating Committee

cc: FIELD TEAM, REG. I _ CONFIRMATION
DOCKET
ADM. READ. FILE
CODE 400
AUDITS DIVN., BUR. MINES
OPERATING COMMITTEE
R. W. GEEHAN, USBM
T. P. THAYER, USGS

FARutledge/ls 5/17/54

R.C.B.

TELETYPE

XXXXXXXXXXXXXXXXXXXXXXXX

FARUTLEDGE/FOC
INTERIOR DEPARTMENT
DEFENSE MINERALS EXPLORATION
ADMINISTRATION
14X1401(01) Revolving Fund, Defense
Production Act, Interior
(Allocated Working Fund to the Office
of the Secretary

MAY 17 1954

TO: MR. S. H. LORAIN, DMEA EXECUTIVE OFFICER, JUNEAU, ALASKA

RE VAN GUNDY'S REQUEST OF MAY 11 FOR PERMISSION TO CARRY OUT STAGES I AND II OF CONTRACT IDM-E668 CONCURRENTLY, DOCKET NO. DMEA 3246, PACIFIC NORTHERN MINERALS COMPANY. AN AMENDMENT TO THE CONTRACT ALLOWING THE EXECUTION OF STAGES I AND II CONCURRENTLY HAS OUR APPROVAL.

George C. Selfridge

G. C. SELFRIDGE (JHE)
CHAIRMAN, OPERATING COMMITTEE

CC: CONFIRMATION - Field Team, Reg. I

cc: Docket
Code 400
Operating Comm.
Adm. Reading File
Audits Divn., BM
R. W. Geehan, USBM
T. P. Thayer, USGS

Rutledge
Martin
Hodges
Gould
Selfridge
Rutin
Johnson
Whitendorf

R.C.S.

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
P. O. Box 560
Juneau, Alaska
May 13, 1954

No reply necess. See our wire of May 14 WSM

MEMORANDUM

To: Operating Committee, Defense Minerals Exploration Administration, Washington D. C.

From: Executive Officer, Alaska Field Team, Region I

Subject: Modification of Contract Requirements
Docket No. DMEA-3246
Pacific Northern Minerals Company

The enclosed copy of a letter from the referenced applicants is self-explanatory. Possibly the decision required would be within the authority of the Field Team but we think that, in view of its direct relation to the explicit wording of the contract, the decision should be made in your office.

When the Field Team first read the contract we could not help but wonder why Stage II was made dependent upon Stage I; they have no direct geologic relationship. In view of the fact that the two "stages" are not dependent upon each other and, in view of the sound operating reasons advanced by the applicants, the Field Team recommends that their request be granted.

With your telegraphic authority we will prepare a letter advising them of your decision unless you would prefer to advise them directly.

Yours sincerely,

ALASKA FIELD TEAM, REGION I

S. H. Lorain, Executive Officer
Bureau of Mines Member

Copy retained 4

C. L. Sainsbury

C. L. Sainsbury
U. S. Geological Survey Member

cc: Sainsbury

Enclosure

N. 2601 Dakota St.

Phone GL. 2726

PACIFIC NORTHERN MINERALS CO.

P. O. Box 1481
SPOKANE, WASHINGTON

Defense Minerals Administration
RECEIVED
MAY 21 1954

May 11, 1954

Mr. S.H. Lorain
Alaska Field Team
Defense Minerals Exploration Adm.
P.O. Box-560
Juneau, Alaska

Dear Mr. Lorain

Re: Docket DMEA-3246

This will acknowledge your air mail letter of May 7, 1954, with enclosed six copies of exploration contract. I wish to thank you for the prompt manner in which this contract was expedited through your office. We find the approved contract, the amount of allowable work, unit costs, terms, etc., generally agreeable.

It is noted, however, that exploration under Stage I and Stage II is, according to the contract, to be performed successively, and, the "work under Stage II shall be undertaken only if approved in advance by the Government."

If it be in order at this time I would kindly request that you modify the terms of the contract to permit the work under Stages I and II to be carried on concurrently, in which event it will be necessary to have your approval prior to commencement of work under Stage I, both of which could begin within 60 days as specified in Article 3 of contract.

The above request is made for the following reasons: Our estimates of costs were based upon driving four headings simultaneously, that is, two drift headings and two raise headings. Obviously, driving the four headings would considerably reduce the cost of producing compressed air, the cost of overseeing the work and the cost of all necessary extra labor and overhead. In addition, the amount of time saved would be represented by the length of time required to complete the lesser project which is important to us as we eventually hope to qualify under the GSA Domestic Tungsten Program.

In all probability it will be necessary to maintain boarding house facilities at the property, the cost of which would be prohibitive on the single heading basis.

It will be observed that the work under Stages I and II are in different locations of the mine, that is, easterly and westerly respectively on the Lindeborg vein; and at rather widely separated vertical horizons. Being so, exploration under Stage I, will be quite apart from Stage II, as to the interpretation of exploratory results.

If Stage I and Stage II projects can be planned to start as nearly as practicable at the same time it will greatly simplify the entire undertaking for us. It will permit appreciable saving in the cost of assembling necessary equipment and

RECEIVED
MAY 1 3 1954
BUREAU OF MINES
JUNEAU, ALASKA

Mr. S.H. Lorain May 11, 1954

supplies and laying them down at the property at one time. As mentioned above, caring for the men will be simplified, overhead costs will be reduced, and, a great saving in time will result. It will permit completing as much of the work as possible during the summer months, which you know is of importance in that location.

May I please have your reaction to the above as soon as you may conveniently do so?

Sincerely,

PACIFIC NORTHERN MINERALS CO.

By: J.E. Van Gundy

J.E. Van Gundy
402 Symons Building
Spokane, Washington

JEV/k
cc-Mr. C.O. Mittendorf

RECEIVED
MAY 1 3 1954
BUREAU OF MINES
JUNEAU, ALASKA

N. 2601 Dakota St.

Phone GL. 2726

PACIFIC NORTHERN MINERALS CO.

P. O. Box 1481
SPOKANE, WASHINGTON

Defense Minerals Administration
RECEIVED
MAY 13 1954

May 11, 1954

Mr. C.O. Mittendorf, Administrator
Defense Minerals Exploration Adm.
Washington 25, D.C.

WSM

Dear Mr. Mittendorf: Re: Docket DMEA-3246

There is enclosed herewith copy of letter under even date, addressed to Mr. Lorain at Juneau, Alaska.

I am not advised as to whether the question discussed in my letter to Mr. Lorain is one solely within his jurisdiction — or is one that requires collective action by your department in Washington. Nevertheless, I am sure that you will appreciate why I have requested that both phases of the work in question be carried on simultaneously.

In the approved contract, unit costs are some lower than our original estimates which were based on getting the work done at the quickest possible moment. Even at that, I had no idea that we could come within our estimated costs on the basis of carrying four headings at once, for which we have sufficient compressor capacity.

On the basis outlined in the contract, that is driving a single drift and then driving a single raise, I know that the costs will exceed considerably our original estimates.

As a whole, the contract is very satisfactory and whether or not a modification is made as to the point in question we will still go ahead, conforming to the contract in every detail. But we are in hopes that we can start the two jobs at once and complete the work in the least time possible.

I wish at this time to express my appreciation for the consideration that you and your organization have given this matter and to express the hope that you will not be disappointed in your sponsoring our enterprise.

With kind personal regards,

Sincerely,

PACIFIC NORTHERN MINERALS CO.

By: J.E. Van Gundy

J.E. Van Gundy
402 Symons Bldg. Spokane, Wash.

JEV/k
cc-Mr. S.H. Lorain

Defense Minerals Administration
RECEIVED
MAY 13 1954

May 11, 1954

Mr. S.H. Lorain
Alaska Field Team
Defense Minerals Exploration Adm.
P.O. Box-560
Juneau, Alaska

Dear Mr. Lorain Re: Docket DMEA-3246

This will acknowledge your air mail letter of May 7, 1954, with enclosed six copies of exploration [redacted] I wish to thank you for the prompt manner in which this contract was e[redacted]hrough your office. We find the approved contract, the amount of allo[redacted], unit costs, terms, etc., generally agreeable.

It is noted, however, that exploration under Stage I and Stage II is, according to the contract, to be performed successively, and, the "work under Stage II shall be undertaken only if approved in advance by the Government."

If it be in order at this time I would kindly request that you modify the terms of the contract to permit the work under Stages I and II to be carried on concurrently, in which event it will be necessary to have your approval prior to commencement of work under Stage I, both of which could begin within 60 days as specified in Article 3 of contract.

The above request is made for the following reasons: Our estimates of costs were based upon driving four headings simultaneously, that is, two drift headings and two raise headings. Obviously, driving the four headings would considerably reduce the cost of producing compressed air, the cost of overseeing the work and the cost of all necessary extra labor and overhead. In addition, the amount of time saved would be represented by the length of time required to complete the lesser project which is important to us as we eventually hope to qualify under the GSA Domestic Tungsten Program.

In all probability it will be necessary to maintain boarding house facilities at the property, the cost of which would be prohibitive on the single heading basis.

It will be observed that the work under Stages I and II are in different locations of the mine, that is, easterly and westerly respectively on the Lindeborg vein; and at rather widely separated vertical horizons. Being so, exploration under Stage I, will be quite apart from Stage II, as to the interpretation of exploratory results.

If Stage I and Stage II projects can be planned to start as nearly as practicable at the same time it will greatly simplify the entire undertaking for us. It will permit appreciable saving in the cost of assembling necessary equipment and

COPY

Mr. S.H. Lorain May 11, 1954

supplies and laying them down at the property at one time. As mentioned above, caring for the men will be simplified, overhead costs will be reduced, and, a great saving in time will result. It will permit completing as much of the work as possible during the summer months, which you know is of importance in that location.

May I please have your reaction to the above as soon as you may conveniently do so?

Sincerely,

PACIFIC NORTHERN MINERALS CO.

By: J.E. Van Gundy

J.E. Van Gundy
402 Symons Building
Spokane, Washington

JEV/k
cc-Mr. C.O. Mittendorf

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REGION I
May 7, 1954

560
~~XXX~~

OFFICE OF
REGIONAL DIRECTOR

P. O. BOX 2990
JUNEAU, ALASKA

Pacific Northern Minerals Company
P. O. Box 1481
Spokane, Washington

re: Docket No. DMEA-3246

Gentlemen:

Inclosed are six copies of an exploration contract for work at the Riverside mine, Hyder, Alaska. These copies have been signed by the Administrator, D.M.E.A. If the contract is acceptable to you, please sign all copies, retain the copy marked "Operator's Copy" near the upper right hand corner, and return the other copies to me.

I have taken the liberty of inserting "60 days" in the appropriate space on the first line of Article 3 in order to save the time that would be required for discussion by mail. If this is not satisfactory I suggest that you wire me your alternative proposal; we probably can work out a satisfactory compromise and make the necessary change without referring to Washington.

As soon as you have signed and mailed the contract it will be in effect. I will then explain the requirements for monthly reporting and for obtaining the monthly settlements.

Yours sincerely,

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

cc: C. L. Sainsbury
Operating Committee, D.M.E.A.

Enclosures

DOCKET COPY

400

Hopkins
Martin
Chandler
Geehan
Guild
Johnson

Air Mail

MAY 3 - 1954

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I
P. O. Box 560
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten, Lead, and Zinc
Pacific Northern Minerals Co.
Riverside Mine
Hyder District, Alaska

Dear Mr. Lorain:

We are enclosing the original and five copies of the above-referenced contract, signed by the Administrator for the Government, together with Annex I (3 pages), Exhibit A (3 pages), Owner's Consent to Lien, Map Riverside Group Patented Mining Claims, and Plan Map Riverside Mine.

If any part of this contract does not have either your approval or that of the Operator, and cannot be amended within your delegated authority, the original and all copies of the contract, together with any proposed changes, should be returned to this office for consideration.

Please note that the "Plan Map Riverside Mine" shows in green the proposed exploration work on the 810-foot level. This work is not authorized at the present time but might be considered under an amendment to the contract at a later date if the applicant acquired the adjoining Fehring Claim and geologic data obtained from the present work, in the opinion of the Government, indicate that exploration on the 810 level is warranted.

Under Article 3, the starting date has been left blank and is to be filled in by you when the contract is signed by the Operator.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee (SHS)

Enclosures

APPROVED:

J. H. Hedges

Member, Bureau of Mines (SHS)

D. M. Larrabee (SHS)

Member, Geological Survey

cc: DOCKET
FT, REG. I
CODE 400
OPER. COMMITTEE
ADM. READING FILE
R. W. GEEHAN, USBM
T. P. THAYER, USGS

JHopkins/ls 4/28/54

R.C.J.

FILE COPY

Hopkins
Martin
Chamber
Geehan
Guild
Hedges
Jarvis

APR 30 1954

INTERIOR DEPARTMENT
DEFENSE MINERALS EXPLORATION
ADMINISTRATION
14X4401(01) Revolving Fund,
Defense Production Act,
Interior (Allocated Working
Fund to the Office of the Secy)

J. E. VAN GUNDY
PACIFIC NORTHERN MINERALS CO.
402 SYMONS BUILDING
SPOKANE, WASHINGTON

RE DOCKET DMEA 3246-TUNGSTEN, RIVERSIDE MINE.
FOR WORK IN LOWER LEVELS ONLY

COPIES OF PROPOSED CONTRACT/SIGNED BY ADMINISTRATOR

TRANSMITTED TODAY AIRMAIL TO S. H. LORAIN, EXECUTIVE

OFFICER, DMEA FIELD TEAM, JUNEAU, ALASKA.

C. O. Mittendorf By 457

C. O. MITTENDORF
ADMINISTRATOR, DEFENSE MINERALS
EXPLORATION ADMINISTRATION

Copy to: Mr. J. E. Van Gundy - CONFIRMATION
DOCKET
CODE 400
OPER. COMMITTEE
FIELD TEAM, REG. I
ADM. READ. FILE
AUDITS DIV., BUR. MINES
R. W. GEEHAN, USBM
T. P. THAYER, USGS

JHopkins/ls 4/21/54

R.C.G.

TELETYPE

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

D[illegible] Interior

Defense Minerals Exploration Administration

1[illegible](OL) Revolving Fund, Defense Production Act, Interior (Allocated Working Fund to the Office of the Secy).

APR 12 1954

Docket
Surname
Martin

To: Mr. J. E. Van Gundy
Pacific Northern Minerals Co.
402 Symons Building
Spokane, Washington

Reurtel April 7, 1954, Docket 3216 Tungsten, Riverside Mine, we expect to telegraph you within next few days regarding our action on your application.

C. O. Mittendorf (for

C. O. Mittendorf
Administrator, DMEA

Copy to: Docket
Confirmation
Code 400
FT. Reg. 1
Adm. Reading File
R. W. Geehan, USBM
T. P. Thayer, USGS

R.C.G.

Hopkins
Martin

Chief Counsel, DMEA

April 9, 1954

Iron and Ferro Alloys Division

Docket No. DMEA 3246 - Tungsten-Lead-Zinc
Pacific Northern Minerals Company
Riverside Mine
Hyder Precinct, Territory of Alaska

Transmitted herewith is a rough draft of a proposed contract for your use in preparing the contract in final form:

The draft consists of the following:

1. Exhibit "A"
2. 2 Maps
3. Annexes I and II
4. Owner's Consent to Lien

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Attachments

JHopkins/ls
4/9/54

cc: DOCKET
ADM. READ. FILE
CODE 400

Owners Consent to lien being photostated

Peck's back + attached

More Maps being prepared (by coloring proposed work)

~~0-12~~
~~13-24~~

MF-200
(June 1951)
(Revised Feb. 1952)

DOCKET NO. DMEA 3246

COMMODITY Tungsten-Lead-Zinc

2 maps
OCL
Annexes I II

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT [1]

IT IS AGREED this .... day of ...., 195..., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Pacific Northern Minerals Co., ~~an unincorporated~~ partnership consisting of Carl B. Warren and D. W. Walters, P. O. Box 1481, Spokane, Washington as set forth in Annexes I and II, attached hereto and made a part hereof, and as follows:

hereinafter called the "Operator," ~~as follows~~:

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the ~~State of~~ Territory of Alaska Division No. 1, ~~County of~~ Hyder ~~Recording Precinct~~ District, described as follows: 8 Patented Lode Mining Claims, namely; Riverside, Caribou, Riverview, Spruce, Sunshine, Sunshine No. 1, Pine and Hillside, U. S. Mining Survey Nos. 1530, 1562 and 1563, recorded in Book 2, Pages 173-5, Hyder Recording Precinct, District and Territory of Alaska, Division I, ~~hereinafter called "the land";~~

the Operators represent and undertakes: [4]

(*a*) ~~That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:~~ ....

and optionee

(*b*) That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to Lien is attached.

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within .... days from the date of this contract shall commence work on a project of exploration for [5] Tungsten-Lead-Zinc

in or upon the described land; and shall bring the project to completion within a period of 2 years from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided.

ARTICLE 4. *Performance of the work.*—(*a*) *Operator's responsibility.* The work shall be performed efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmens' compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. To the extent specified in Exhibit "A," attached hereto, the work may be performed by independent contractor or contractors; and work not specified in Exhibit "A" for performance by independent contractor may nevertheless be so performed upon amendment of Exhibit "A," as agreed to by the parties, to state the work to be so performed and the estimated unit costs thereof, as provided hereafter.

(*b*) *Independent contracts.*—Any independent contract for the performance of work shall be on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved), or on some basis that will indicate the amount due for work performed at any stage of the work to be performed under such independent contract. The Government shall not be nor be considered to be a party to any such independent contract, and the Government's right to terminate the exploration project contract under any of its provisions shall not in any manner be affected by reason of any such independent contract. If the reference in Exhibit "A" to any such independent contract states that the Government's approval thereof is required, the Government may refuse to participate in the cost thereof unless and until it has given its written approval of the independent contract.

(*c*) *Government may inspect.*—The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 5. *Estimated costs of the project.*—A statement of the estimated cost of the project is set forth in Exhibit "A," attached hereto. Except insofar as any item of requirement or the estimated cost thereof set forth in Exhibit "A" is there or elsewhere designated as an "allowable maximum," such items of requirement and of related cost are estimates only, and may be exceeded to the extent that the Government may from time to time approve for the most economic and beneficial performance of the work within the limitation of the total aggregate estimate of costs. The Government's approval of any such excess over the estimate for an item of requirement or related cost will be signified by its approval and payment of any invoice or voucher for payment which expressly calls attention to such excess. Items expressly designated in Exhibit "A" or elsewhere as "allowable maximum," and the total aggregate estimated cost are limitations, and any excess therein will be for the sole account of the Operator in which the Government will not participate.

ARTICLE 6. *Allowable costs of the project.*—(*a*) The costs of the project in which the Government will participate are limited to ~~the following:~~ those agreed unit costs set forth in Exhibit "A" and to the following:

(1) *Independent contracts.*—Payments to independent contractors under independent contracts listed in Exhibit "A." The estimated cost of any work to be performed under an independent contract is or shall be included in the estimate of costs in Exhibit "A" in terms of the estimated numbers of units of work to be performed, the estimated amount to be paid per unit, and the estimated total amount to be paid to the independent contractor, and such estimates shall be allowable maximums above which the Government will not contribute. Regardless of the provisions of any such independent contract, the Government will participate in the payments to the independent contractor only on account of work actually performed and that conforms with the provisions of the exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable and necessary. No such independent contract shall have the effect of increasing the estimated total cost of the exploration project contract nor the maximum amount which the Government will pay as provided in the exploration project contract.

(2) *Labor, supervision, consultants.*—Labor, supervision and technical services (including engineering and geological consultants), a schedule of which is included in the estimate of costs set forth in Exhibit "A." The requirements and related estimated costs for supervision and technical services are allowable maximums.

(3) *Operating materials and supplies.*—Necessary materials and supplies including items of equipment costing less than $50.00 each, and power, water, and fuel, a schedule of which is included in the estimate of costs in Exhibit "A."

(4) *Operating equipment.*—Any operating equipment to be rented or purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or the allowable depreciation, as the case may be, a schedule of which is included in Exhibit "A." Any items listed as owned and to be furnished by the Operator, and related initial allowable depreciation, are allowable maximums.

(5) *Rehabilitation and repairs.*—Any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and to be devoted to the purposes of the exploration contract, a schedule of which is included in the estimate of costs set forth in Exhibit "A." These items are allowable maximums.

(6) *New buildings, improvements, installations.*—Any necessary buildings, fixed improvements, or installations to be purchased, installed, or constructed for the purposes of the exploration work, with the estimated cost of each, a schedule of which is included in the estimate of costs in Exhibit "A." All of these items are allowable maximums.

(7) *Miscellaneous.*—Repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance and payroll taxes.

(8) *Contingencies.*—Such other necessary, reasonable direct costs of performing the exploration work, within the limit of the total aggregate estimate of costs, whether or not included in any schedule of costs in Exhibit "A," as may be approved by the Government in the course of the work, as indicated by its approval and payment of invoices and vouchers.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

16—66328-2

(*b*) The Government's payment[illegible] all cases will be based on actual, necessa[illegible]osts (including contract unit prices) incurred not in excess of any "allowa[illegible]maximum," and not in excess of the fixed perce[illegible]ge of the total aggregate estimated cost. Costs will be considered to be incurred only as they are or become due and payable.

(*c*) No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes) or any other indirect costs, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

ARTICLE 7. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operators shall provide the Government with monthly reports of work performed and costs (including contract unit prices) incurred under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of costs incurred on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) Compliance with requirements.—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account as provided in Article 12.

ARTICLE 8. *Payments by the Government.*—(*a*) The Government will pay sixty-two & one-half percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $79,675.00, which is 62½ percent of $127,480.00, the agreed, estimated total cost of the project in which the Government will participate; *Provided*, that until the Operator's final report and final accounting have been rendered to the Government, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract.

(*b*) The Government may make any payment or payments direct to independent contractors and to suppliers, for the account of the Operator, rather than to the Operator.

ARTICLE 9. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations. See Annex I, substituted for Article 9.

ARTICLE 10. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided*, that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator. See Annex I, substituted for Article 10.

ARTICLE 11. *Title to and disposition of property.*—All facilities, buildings, fixtures, equipment, or other items costing more than $50.00 each, paid for or purchased with funds contributed jointly by the Operator and the Government, although title may be taken in the name of the Operator, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the completion of the work or the termination of the contract shall be disposed of promptly by the Operator for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator at a price at least as high as could otherwise be obtained, as may appear to be for the best interest of the Government, unless the Government, in writing, waives its interest in any such item. If necessary to accomplish such disposition, the Operator shall dismantle, sever from the land, and remove any such item, the cost thereof to be for the joint account of the parties in proportion to their respective interests. If the Operator, within 90 days after the receipt of written notice from the Government, fails, neglects, or refuses to dispose of such property, the Government may itself enter upon the land, take possession of, and remove and dispose of any such property as above provided.

ARTICLE 12. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall dispose of any remaining materials, supplies, facilities, buildings, fixtures, and equipment in which the Government has an interest, for the joint account of the Operator and the Government in the proportion of their respective interests; shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; and shall pay to the Government its pro rata share of any money remaining.

ARTICLE 13. *Changes and added provisions.* The operator, regardless of certification and production, shall pay royalty as provided in Annex I on all ore mined from the Zehring claim and transported through the working of the claims specified in Article 2, for a period of ten years from the date of the contract or until the total amount contributed by the Government, without interest, is fully repaid.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

(Operator)

By

By

See last paragraph of Annex I for added provision

I, , certify that I am the secretary of the corporation named as Operator herein; that , who signed this contract on behalf of the Operator, was then of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

As drifting on the 810 foot level will benefit the Zehring claim shown off the claim map attached as Exhibit "A"

[CORPORATE SEAL]

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

PACIFIC NORTHERN MINERALS CO.

Exploration Project Contract

Docket No. DMEA-3246

EXHIBIT "A"

Description of the Work

The exploration work is divided into two stages to be performed successively and is indicated, in part, on the maps attached hereto entitled "Plan Map, Riverside Mine, Showing Proposed Exploration," and "Riverside Group, Patented Mining Claims, Hyder District, Alaska."

All drifts shall be not less than 4 feet by 6½ feet in cross section in the clear, ~~and~~ shall be timbered where necessary ~~and~~. All raises shall be 2-compartment and shall be not less than 4 feet by 8 feet in cross section. The Location of raises shall be approved in advance by the Government.

Each sample taken concurrently with the advance in mineralized ground, as required by the contract, shall be divided into at least two parts, one of which shall be furnished to the Government.

The location, direction, and extent of all work is subject to approval of the Government. Work under Stage II shall be undertaken only if approved in advance by the government. The work to be performed is as follows:

STAGE I

~~Step~~ | ~~Time Schedule~~ ~~0 - 12 months~~

1. ~~Rehabilitation of~~ The mine workings and plant shall be rehabilitated to the extent ~~(To be confined solely to that portion essential to the exploration.)~~ essential to the exploration project.

2. Drift approximately 400 feet southeasterly on the 810-foot level from the present face to the end line of the Caribou claim.

3. Raise approximately 236 feet on the Lindeborg vein from a point on the 810-foot level ~~at~~ approximately 200 feet southeast ~~from~~ of the present face.

4. Drift approximately 500 feet southeasterly on the Mill Level from the present face.

5. Raise approximately 228-feet from the Mill Level to the Intermediate (530-foot) Level ~~at~~ from a point approximately 250 feet southeast ~~from~~ of the present face.

6. Drill ~~approximately~~ not to exceed 600 feet of diamond drill holes to explore for parallel veins at ~~points~~ locations approved in advance by the Government. not to exceed an aggregate of 900 feet of drifting ~~[illegible]~~ not 564 feet of raising ~~[illegible]~~ shall be performed under Stage I.

STAGE II

Time Schedule ~~9~~ 13 — 24 months

1. Unwater and rehabilitate the winze on the Cross Vein

2. Drift approximately 200 feet on the 80-foot level of the Cross Vein to intersect~~ion~~ ~~with~~ the Lindeborg Vein.

3. Drift approximately 560 feet northwesterly on the Lindeborg Vein from the point of intersection with the Cross vein.

4. Raise ~~approximately~~ not to exceed 261 feet from the 80-foot level to the Mill Level at the face of the drift on the Lindeborg Vein.

5. Drill ~~approximately~~ not to exceed 600 feet of diamond drill holes to explore for parallel veins at points approved in advance by the Government. not to exceed an aggregate of 760 feet of drifting shall be performed under Stage II.

ESTIMATED COSTS OF PROJECT
AGREED UNIT COSTS

Stage I

900 feet of drifting @ $42.05/ft (rounded to)	$37,800.00	
564 feet of raising @ $40.00/ft	22,560.00	
600 feet of diamond drill holes @ $10.00/ft	6,000.00	$66,360.00

Stage II

760 feet of drifting @ $44.00/ft	$33,440.00	
261 feet of raising @ $42.00/ft	10,962.00	
600 feet diamond drill holes @ $10.00/ft	6,000.00	
		$50,402.00

The Government will contribute to the costs of drifting, raising, and diamond drilling on the basis of the~~se~~ agreed ~~estimated~~ unit costs as they accrue, in lieu of the actual costs as set forth in Article 6(a) of the contract form. The rest of the described work will be contributed to by the Government on the basis of those actual costs specified in Article 6(a) of the contract form up to the allowable maximum ~~which are~~ scheduled ~~below:~~ of estimated costs there referred to for such work below. are waived.

Actual Costs
(*Indicates allowable maximum)

Stage I

Rehabilitation of mine and mine plant	$8,000.00*

Stage II

Unwater and rehabilitate winze and hoist station on Cross Vein	2,718.00

TOTAL ESTIMATED COST OF PROJECT	$127,480.00 *
GOVERNMENT PARTICIPATION @ 62-1/2 PERCENT	$79,676.25 *
	79,675.00 ?

ANNEX NO. I

Operator shall agree that drifting on the 810-foot level to the end line of Caribou claim may also be for the benefit of the Fehring claim which is not the subject of this contract. All ore mined in the Fehring claim during the life of this contract and transported through the workings of the Riverside mine shall be subject to royalty to the Government.

ANNEX II

The following provisions are in lieu of Article 6.

(See mimeograph form)

MF-200
(June 1951)
(Revised Feb. 1952)

DOCKET DMEA 3246

COMMODITY Tungsten-Lead-Zinc

Government's Copy

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT [1]

IT IS AGREED this _____ day of _____, 195__, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Pacific Northern Minerals Company, a partnership consisting of Carl B. Warren and D. W. Walters, P. O. Box 1481, Spokane, Washington as set forth in Annex I, attached hereto and made a part hereof, and as follows: hereinafter called the "Operator,"

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the Territory of Alaska, Hyder District, described as follows: [3] 8 Patented Lode Mining Claims, namely: Riverside, Caribou, Riverview, Spruce, Sunshine, Sunshine No. 1, Pine, and Hillside, U. S. Mining Surveys Nos. 1530, 1562, and 1563, recorded in Book 2, Pages 173-5, Hyder Recording Precinct, District and Territory of Alaska, Division I, hereinafter called "the land," the Operator represents and undertakes: [4]

(*a*) ~~That the Operator is the owner in possession and entitled to possession, and that the property is free of all liens or encumbrances as to each of which the consent of the holder is attached.~~

and optionee,

(*b*) That the Operator is a lessee in possession and entitled to possession, and the Owner's Consent to Lien is attached.

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within _____ days from the date of this contract shall commence work on a project of exploration for [5] Tungsten-Lead-Zinc in or upon the described land; and shall bring the project to completion within a period of Two (2) Years from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided.

ARTICLE 4. *Performance of the work.*—(*a*) *Operator's responsibility.* The work shall be performed efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmens' compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. To the extent specified in Exhibit "A," attached hereto, the work may be performed by independent contractor or contractors; and work not specified in Exhibit "A" for performance by independent contractor may nevertheless be so performed upon amendment of Exhibit "A," as agreed to by the parties, to state the work to be so performed and the estimated unit costs thereof, as provided hereafter.

(*b*) *Independent contracts.*—Any independent contract for the performance of work shall be on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved), or on some basis that will indicate the amount due for work performed at any stage of the work to be performed under such independent contract. The Government shall not be nor be considered to be a party to any such independent contract and the Government's right to terminate the exploration project contract under any of its provisions shall not in any manner be affected by reason of any such independent contract. If the reference in Exhibit "A" to any such independent contract states that the Government's approval thereof is required, the Government may refuse to participate in the cost thereof unless and until it has given its written approval of the independent contract.

(*c*) *Government may inspect.*—The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

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(1) *Independent contracts.*—Payments to independent contractors under independent contracts listed in Exhibit "A." The estimated cost of any work to be performed under an independent contract is or shall be included in the estimate of costs in Exhibit "A" in terms of the estimated numbers of units of work to be performed, the estimated amount to be paid per unit, and the estimated total amount to be paid to the independent contractor, and such estimates shall be allowable maximums above which the Government will not contribute. Regardless of the provisions of any such independent contract, the Government will participate in the payments to the independent contractor only on account of work actually performed and that conforms with the provisions of the exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable and necessary. No such independent contract shall have the effect of increasing the estimated total cost of the exploration project contract nor the maximum amount which the Government will pay as provided in the exploration project contract.

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[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) The Government's payments in [illegible] cases will be based on actual, necessary c[illegible] (including contract unit prices) incurred not in excess of any "allowable maximum," and not in excess of the fixed percentage of the total aggregate estimated cost. Costs will be considered to be incurred only as they are or become due and payable.

(*c*) No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes) or any other indirect costs, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

ARTICLE 7. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operators shall provide the Government with monthly reports of work performed and costs (including contract unit prices) incurred under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of costs incurred on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) Compliance with requirements.—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account as provided in Article 12.

ARTICLE 8. *Payments by the Government.*—(*a*) The Government will pay 62-1/2 percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $ ~~77,175.00~~ 60,075.00, which is 62-1/2 percent of $ ~~123,480.00~~ 96,120.00, the agreed, estimated total cost of the project in which the Government will participate; *Provided,* that until the Operator's final report and final accounting have been rendered to the Government, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract.

(*b*) The Government may make any payment or payments direct to independent contractors and to suppliers, for the account of the Operator, rather than to the Operator.

ARTICLE 9. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations. See Annex I, substituted for Article 9.

ARTICLE 10. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided,* that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator. See ~~Art~~ Article 13.

ARTICLE 11. *Title to and disposition of property.*—All facilities, buildings, fixtures, equipment, or other items costing more than $50.00 each, paid for or purchased with funds contributed jointly by the Operator and the Government, although title may be taken in the name of the Operator, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the completion of the work or the termination of the contract shall be disposed of promptly by the Operator for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator at a price at least as high as could otherwise be obtained, as may appear to be for the best interest of the Government, unless the Government, in writing, waives its interest in any such item. If necessary to accomplish such disposition, the Operator shall dismantle, sever from the land, and remove any such item, the cost thereof to be for the joint account of the parties in proportion to their respective interests. If the Operator, within 90 days after the receipt of written notice from the Government, fails, neglects, or refuses to dispose of such property, the Government may itself enter upon the land, take possession of, and remove and dispose of any such property as above provided.

ARTICLE 12. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall dispose of any remaining materials, supplies, facilities, buildings, fixtures, and equipment in which the Government has an interest, for the joint account of the Operator and the Government in the proportion of their respective interests; shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; and shall pay to the Government its pro rata share of any money remaining.

ARTICLE 13. *Changes and added provisions.* ~~a/~~ In Article 10, that part of the second sentence beginning with the word "Provided" is deleted.
~~b/ See last paragraph of Annex I for added provision.~~

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals Exploration Administration

PACIFIC NORTHERN MINERALS COMPANY
(Operator)

By _____ (Partner)

By _____ (Partner)

I, _____, certify that I am the _____ secretary of the corporation named as Operator herein; that _____, who signed this contract on behalf of the Operator, was then _____ of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66328-1

EXPLORATION PROJECT CONTRACT
PACIFIC NORTHERN MINERALS COMPANY
DOCKET NO. DMEA-3246

EXHIBIT "A"

Description of the Work

The exploration work is divided into two stages to be performed successively, and is indicated, in part, on the maps attached hereto entitled "Plan Map, Riverside Mine, Showing Proposed Exploration," and "Riverside Group, Patented Mining Claims, Hyder District, Alaska."

All drifts shall be timbered where necessary and shall be not less than 4 feet by 6½ feet in cross section in the clear. All raises shall be 2-compartment and shall be not less than 4 feet by 8 feet in cross section. The location of raises shall be approved in advance by the Government.

Each sample taken concurrently with the advance in mineralized ground, as required by the contract, shall be divided into at least two parts, one of which shall be furnished to the Government.

The location, direction, and extent of all work is subject to approval of the Government. Work under Stage II shall be undertaken only if approved in advance by the Government.

The work to be performed is as follows:

Stage I

Time Schedule, 0 - ~~12~~ 8 months

1. The mine workings and plant shall be rehabilitated to the extent essential to the exploration project.

2. Drift approximately 400 feet southeasterly on the 810-foot level from the present face to the end line of the Caribou claim.

3. Raise approximately 236 feet on the Lindeborg vein from a point on the 810-foot level approximately 200 feet southeast of the present face.

4. Drift approximately 500 feet southeasterly on the Mill level from the present face.

5. Raise approximately ~~228~~ 230 feet from the Mill level to the Intermediate (530-foot) level from a point approximately 250 feet southeast of the present face.

6. Drill not to exceed 600 feet of diamond-drill holes to explore for parallel veins at locations approved in advance by the Government.

Not to exceed an aggregate of 900 feet of drifting, nor 464 feet of raising, shall be performed under Stage I.

Stage II

Time Schedule, ~~13~~ 9 - ~~24~~ 18 months

1. Unwater and rehabilitate the winze on the Cross vein.

2. Drift approximately 200 feet on the 80-foot level of the Cross vein to intersect the Lindeborg vein.

3. Drift approximately 560 feet northwesterly on the Lindeborg vein from the point of intersection with the Cross vein.

4. Raise not to exceed 261 feet from the 80-foot level to the Mill level at the face of the drift on the Lindeborg vein.

5. Drill not to exceed 600 feet of diamond-drill holes to explore for parallel veins at points approved in advance by the Government.

Not to exceed an aggregate of 760 feet of drifting shall be performed under Stage II.

Stage I

Rehabilitation of mine and mine plant (individual items are not to be maxima):

(a)	Rehabilitate camp buildings and put into shape to house and board necessary crew; new material excluded. Includes 4-apartment building. ~~and manager's dwelling~~	$1,000.00
(b)	Recover and repair power house; New roof and rebuild building	1,800.00
(c)	Repair water supply line and rebuild intake.	300.00
(d)	Rehabilitate power machinery—power units, compressor, etc.—by installing new rings, new bearings, etc.	1,000.00
(e)	Rehabilitate mine equipment by cleaning, oiling, and general repairs to mine cars, hoists, and supply equipment.	600.00
(f)	Rehabilitate mill level by clearing muck from drifts, tim bering laying new track, and pipe lines.	2,900.00
(g)	Rehabilitate underground water and air lines, ~~2 men~~, 10 days @ $40.00/day	400.00
	Total cost - Stage I	$8,000.00*

RECEIVED
APR 26 1954
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

ESTIMATED COSTS OF PROJECT

Agreed Unit Costs

Stage I		
~~900~~ feet of drifting @ $42.00/ft. ~~(rounded to)~~	~~$37,800.00~~	
~~464~~ feet of raising @ $40.00/ft.	~~18,560.00~~	
~~600~~ feet of diamond-drill holes @ $10.00/ft.	~~6,000.00~~	$62,360.00
Stage II		
760 feet of drifting @ $44.00/ft.	33,440.00	
261 feet of raising @ $42.00/ft.	10,962.00	
600 feet diamond-drill holes @ $10.00/ft.	6,000.00	50,402.00

The Government will contribute to the costs of drifting, raising, and diamond drilling on the basis of the agreed unit costs set forth above, as they accrue, in lieu of the actual costs set forth in Article 6 (a) of the contract form. The rest of the described work will be contributed to by the Government on the basis of those actual costs specified in Article 6 (a) of the contract form up to the allowable maximum cost indicated for such work below ~~but the schedules of estimated costs there referred to are waived.~~

Actual Costs
(*Indicates allowable maximum)

~~Stage I~~		
Rehabilitation of mine and mine plant (individual items ~~are not to be maxima~~)	$8,000.00*	
INSERT: ~~Items (a) thru (g)~~		
Stage II		
Unwater and rehabilitate winze and hoist station on Cross vein	2,718.00	~~$10,718.00~~
Total Estimated Cost of Project		$123,480.00*
Government Participation @ 62-1/2%		$77,175.00*

f. Lien for payment.--To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

g. Notice to purchasers.--The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

h. No obligation to produce.--Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

i. Government not obligated to buy.--Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

j. Added provision.--As drifting on the 810-foot level will benefit the Fehring claim shown on the claim map attached to Exhibit "A," the Operator, regardless of certification and regardless of whether the Operator is the producer, shall pay royalty as provided in Annex I on all ore mined from the Fehring claim and transported through the workings of any of the claims mentioned in Article 2 for a period of ten years from the date of the contract or until the total amount contributed by the Government, without interest, is fully repaid.

58694

MF-200
(June 1951)
(Revised Feb. 1952)

DOCKET DMEA 3246

COMMODITY Tungsten-Lead-Zinc

Docket Copy

rewritten 4-29-54

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]

IT IS AGREED this _____ day of _____, 195__, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Pacific Northern Minerals Company, a partnership consisting of Carl B. Warren and D. W. Walters, P. O. Box 1481, Spokane, Washington as set forth in Annex I, attached hereto and hereinafter called the "Operator" ~~as follows:~~ made a part hereof, and as follows:

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the ~~State of~~ Territory of Alaska, _____, ~~County of~~ Hyder District, described as follows:[3] 8 Patented Lode Mining Claims, namely: Riverside, Caribou, Riverview, Spruce, Sunshine, Sunshine No.1, Pine, and Hillside, U.S. Mining Surveys Nos. 1530, 1562, and 1563, recorded in Book 2, Pages 173-5, Hyder Recording Precinct, District and Territory of Alaska, Division I, hereinafter called "the land," the Operator represents and undertakes:[4]

(*a*) ~~That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:~~

and optionee,

(*b*) That the Operator is a lessee in possession and entitled to possession, and the Owner's Consent to Lien is attached.

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within _____ days from the date of this contract shall commence work on a project of exploration for[5] Tungsten-Lead-Zinc in or upon the described land; and shall bring the project to completion within a period of Two (2) Years from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided.

ARTICLE 4. *Performance of the work.*—(*a*) *Operator's responsibility.* The work shall be performed efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmens' compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. To the extent specified in Exhibit "A," attached hereto, the work may be performed by independent contractor or contractors; and work not specified in Exhibit "A" for performance by independent contractor may nevertheless be so performed upon amendment of Exhibit "A," as agreed to by the parties, to state the work to be so performed and the estimated unit costs thereof, as provided hereafter.

(*b*) *Independent contracts.*—Any independent contract for the performance of work shall be on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved), or on some basis that will indicate the amount due for work performed at any stage of the work to be performed under such independent contract. The Government shall not be nor be considered to be a party to any such independent contract, and the Government's right to terminate the exploration project contract under any of its provisions shall not in any manner be affected by reason of any such independent contract. If the reference in Exhibit "A" to any such independent contract states that the Government's approval thereof is required, the Government may refuse to participate in the cost thereof unless and until it has given its written approval of the independent contract.

(*c*) *Government may inspect.*—The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 5. *Estimated costs of the project.*—A statement of the estimated cost of the project is set forth in Exhibit "A," attached hereto. Except insofar as any item of requirement or the estimated cost thereof set forth in Exhibit "A" is there or elsewhere designated as an "allowable maximum," such items of requirement and of related cost are estimates only, and may be exceeded to the extent that the Government may from time to time approve for the most economic and beneficial performance of the work within the limitation of the total aggregate estimate of costs. The Government's approval of any such excess over the estimate for an item of requirement or related cost will be signified by its approval and payment of any invoice or voucher for payment which expressly calls attention to such excess. Items expressly designated in Exhibit "A" or elsewhere as "allowable maximum," and the total aggregate estimated cost are limitations, and any excess therein will be for the sole account of the Operator in which the Government will not participate.

ARTICLE 6. *Allowable costs of the project.*—(*a*) The costs of the project in which the Government will participate are limited to ~~the following:~~ those agreed unit costs set forth in Exhibit "A" and to the following:

(1) *Independent contracts.*—Payments to independent contractors under independent contracts listed in Exhibit "A." The estimated cost of any work to be performed under an independent contract is or shall be included in the estimate of costs in Exhibit "A" in terms of the estimated numbers of units of work to be performed, the estimated amount to be paid per unit, and the estimated total amount to be paid to the independent contractor, and such estimates shall be allowable maximums above which the Government will not contribute. Regardless of the provisions of any such independent contract, the Government will participate in the payments to the independent contractor only on account of work actually performed and that conforms with the provisions of the exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable and necessary. No such independent contract shall have the effect of increasing the estimated total cost of the exploration project contract nor the maximum amount which the Government will pay as provided in the exploration project contract.

(2) *Labor, supervision, consultants.*—Labor, supervision and technical services (including engineering and geological consultants), a schedule of which is included in the estimate of costs set forth in Exhibit "A." The requirements and related estimated costs for supervision and technical services are allowable maximums.

(3) *Operating materials and supplies.*—Necessary materials and supplies including items of equipment costing less than $50.00 each, and power, water, and fuel, a schedule of which is included in the estimate of costs in Exhibit "A."

(4) *Operating equipment.*—Any operating equipment to be rented or purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or the allowable depreciation, as the case may be, a schedule of which is included in Exhibit "A." Any items listed as owned and to be furnished by the Operator, and related ~~initial~~ allowable depreciation, are allowable maximums.

(5) *Rehabilitation and repairs.*—Any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and to be devoted to the purposes of the exploration contract, a schedule of which is included in the estimate of costs set forth in Exhibit "A." These items are allowable maximums.

(6) *New buildings, improvements, installations.*—Any necessary buildings, fixed improvements, or installations to be purchased, installed, or constructed for the purposes of the exploration work, with the estimated cost of each, a schedule of which is included in the estimate of costs in Exhibit "A." All of these items are allowable maximums.

(7) *Miscellaneous.*—Repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance and payroll taxes.

(8) *Contingencies.*—Such other necessary, reasonable direct costs of performing the exploration work, within the limit of the total aggregate estimate of costs, whether or not included in any schedule of costs in Exhibit "A," as may be approved by the Government in the course of the work, as indicated by its approval and payment of invoices and vouchers.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) The Government's payments in all cases will be based on actual, necessary costs (including contract unit prices) incurred not in excess of any "allowable maximum," and not in excess of the fixed percentage of the total aggregate estimated cost. Costs will be considered to be incurred only as they are or become due and payable.

(*c*) No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes) or any other indirect costs, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

ARTICLE 7. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operators shall provide the Government with monthly reports of work performed and costs (including contract unit prices) incurred under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of costs incurred on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) Compliance with requirements.—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account as provided in Article 12.

ARTICLE 8. *Payments by the Government.*—(*a*) The Government will pay 62-1/2 percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $77,175.00, which is 62-1/2 percent of $123,480.00, the agreed, estimated total cost of the project in which the Government will participate; *Provided,* that until the Operator's final report and final accounting have been rendered to the Government, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract.

(*b*) The Government may make any payment or payments direct to independent contractors and to suppliers, for the account of the Operator, rather than to the Operator.

ARTICLE 9. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 10. *Assignment, transfer, or loss of* **See Annex I, substituted for Article 9.** ...ment, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided,* that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 11. *Title to and disposition of property.*—**See a/ Article 13.** All facilities, buildings, fixtures, equipment, or other items costing more than $50.00 each, paid for or purchased with funds contributed jointly by the Operator and the Government, although title may be taken in the name of the Operator, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the completion of the work or the termination of the contract shall be disposed of promptly by the Operator for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator at a price at least as high as could otherwise be obtained, as may appear to be for the best interest of the Government, unless the Government, in writing, waives its interest in any such item. If necessary to accomplish such disposition, the Operator shall dismantle, sever from the land, and remove any such item, the cost thereof to be for the joint account of the parties in proportion to their respective interests. If the Operator, within 90 days after the receipt of written notice from the Government, fails, neglects, or refuses to dispose of such property, the Government may itself enter upon the land, take possession of, and remove and dispose of any such property as above provided.

ARTICLE 12. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall dispose of any remaining materials, supplies, facilities, buildings, fixtures, and equipment in which the Government has an interest, for the joint account of the Operator and the Government in the proportion of their respective interests; shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; and shall pay to the Government its pro rata share of any money remaining.

ARTICLE 13. *Changes and added provisions.*
a/ In Article 10, that part of the second sentence beginning with the word "Provided" is deleted.
b/ See last paragraph of Annex I for added provision.

Executed in sextuplicate the day and year first above written.

PACIFIC NORTHERN MINERALS COMPANY
(Operator)

By ____________________ (Partner) Rubin Hoflund
By ____________________ (Partner) Chamber

THE UNITED STATES OF AMERICA

By ____________________
Administrator, Defense Minerals Exploration Administration

I, , certify that I am the secretary of the corporation named as Operator herein; that , who signed this contract on behalf of the Operator, was then of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

____

[CORPORATE SEAL]

2001 Dakota St.

Phone GL. 2726

Docket

PACIFIC NORTHERN MINERALS CO.

P. O. Box 1481
SPOKANE, WASHINGTON

DEPARTMENT OF
Defense Minerals Exp...
RECEIVED
APR - 9 1954

April 7, 1954

Mr. C.O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Washington 25, D.C.

WSM

Dear Mr. Mittendorf:

Your Reference: Docket No. 3246
Tungsten - Alaska

Above application for Exploratory Loan was mailed to your office, Washington, D.C. and to Juneau, Alaska, per my letter of January 21, 1954.

Watchman at the Hyder mine in Alaska advises that road is open to the mine and work can be started within a few weeks.

I wish to inquire present status of application. Most of the equipment is to be purchased from Coeur d' Alene Hardware Company at Wallace, Idaho -- this includes six mine cars which require ten days time for fabrication after order is placed. Assembly of other items will also require considerable time.

Because of the urgency to get the job under way as early in the season as possible, I would appreciate any indicative information that may be forthcoming from your office at this time. I shall be glad to pay telegraph charges if you find it convenient to send me a collect telegram to 402 Symons Building.

Thanking you, and with

Warm personal regards,

Sincerely,

J.E. Van Gundy

JEVG/k

docket

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

March 25, 1954

WSM

Memorandum

To: W. S. Martin, DMEA

From: P. W. Guild, USGS

Subject: Review of field team reports on DMEA 3246 - Tungsten Riverside Mine, Hyder, Alaska

R. L. Thorne, Bureau of Mines, Region I, has reviewed pertinent data on the subject property, including the records of past production and the geologic evidence favoring the persistence of the ore shoots. He shows that the mine produced 75,667 lbs., or 3,783 S.T.U., of WO_3 during the period when an attempt was made to recover the scheelite. He estimates that the average grade of all the ore may have been 0.45% WO_3, 7.0% Pb, 0.1 oz. Au and 5.0 oz Ag. "Possibly less than a third of the tungsten in the total mill feed was recovered. Pan American laboratories have demonstrated in tests run on the ore in 1940 that more than 70 percent of the scheelite contained in the ore can be recovered in a plus 60 percent concentrate."

C. L. Sainsbury, Geological Survey, Region I, has reviewed and brought up to date the geological picture and calculations of reserves for the mine. He emphasizes that "only sporadic attempts--- were made to recover scheelite..." For example, the lessees in 1949 and 1950 discarded to waste much rich scheelite ore worth "many times the value of the base metal ore milled." Sainsbury presents evidence that the downward split of the shear zone is not necessarily a limiting factor to mineralization. The malchite, lamprophyre, and granodiorite porphyry dikes are considered to be post-ore, and should not influence the distribution of ore shoots, although the large porphyry dike could occupy part of the vein structure southeast of the present workings.

Both Thorne and Sainsbury recommend the application, though with modifications designed to meet some of the objections that have been made, chiefly concerning the semi-development aspects of part of the exploration.

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Comments: The crux of the problem for this mine is the presence or absence of extensive reserves in depth. The near-surface, partly-explored ore shoots above the mill drift (330 feet) can be mined now, if they are economic. The vein structure has a horizontal length of more than 1,800 feet, and has been productive through a vertical distance of more than 600 feet, hence could develop into a rather good mine if strong mineralization continues downward. Exploration to test this possibility would be relatively expensive and less likely to make a "discovery" than the semi-development work near known ore, but would increase the chances for making a truly significant contribution to the national economy. It should settle whether the mine has, as many have thought, a real future, and now appears to me to be the best course to follow.

Recommendation: Suggest a modified exploration program to the applicant. Eliminate his phases 1 to 5, inclusive, as being too close to the known ore shoots or too close to the end line. Expand phase 6, the extension southeastward of the mill level drift, to 500 feet, as suggested by Sainsbury, to explore below the two ore shoots developed on the upper level. The split in the shear zone should be tested by one or more crosscuts to the foot- or hanging-wall vein, depending on which one is followed by the drift. This drift may settle the role played by the prophyry dike in this area.

Propose the rehabilitation of the winze below the mill level, and drifting along the Cross vein to its intersection with the Lindeborg shear zone, to test the area where the two structures unite. If conditions appear favorable, drift northwest on the Lindeborg to test for a possible downward extension of the west ore body. This is essentially phase 8, but might be curtailed short of the full 760 feet.

Some plan for staging the project should probably be adopted, to provide for a measure of flexibility. Diamond drilling might be advisable at some stage; it is impossible to spot holes at present, however, and the spotty nature of the mineralization suggests that drilling is not the best way to explore the vein structure.

It appears that further correspondence or discussion is advisable to determine whether the suggested program will be acceptable to the operators, and to iron out details.

P. W. Guild

P. W. Guild

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DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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MAR 11 1954

GCS
4/23/54

Excerpt from Byers'

Open File Report

Tungsten Deposits of the Hyder District

southeastern Alaska, as revised by

Sainsbury and Byers, 1952

Figures referred to are those
accompanying original report.

Reviewed by
DMEA OPERATING COMMITTEE
3-17-54
(date)

MINES AND PROSPECTS
Riverside Mine

The Riverside mine is 7 miles north of Hyder and on the east side of the Salmon River road. About a mile of workings are accessible on three main levels of which about 3,000 feet are on the Lindeborg vein, the principal vein in the mine (see figs. 3 and 4). A mill, with a capacity in 1951 of 25 to 30 tons per day, and living quarters for about 20 men are on the property.

Production[1]

The following production is recorded for the Riverside Mine:

Year	Tons ore milled	Au, oz.	Ag, oz.	Cu, lbs.	Pb, lbs.	WO_3 units*	Zn. lb.
1925	105 tons concentrate, grade unreported						
1927	6,500	419.5	15,210	-------	460,200	---	---
1941	3,368	---	----	-------	---	1,320	---
1942	1,381	23	830	-------	29,000	372	---
1943	no production reported						
1944	no production reported except WO_3					976	
1945	1,300	not reported					
1946	1,819	70	6,996	4,000	230,000	115 (not sold)	
1947	5,064	697	22,284	24,000	510,000	amt. unknown	
1948	4,005	736	25,290	28,000	634,000	amt. unkn.	2,100
1949	2,100	151	3,500	7,700	97,000	---	3,800
1950	3,500	356	12,700	12,000	298,000	99	12,000
Total	29,142	2,441.5	86,810	65,700	2,258,200	2,882	17,900

GEOLOGY

The main geologic feature of the Riverside mine is the Lindeborg shear zone (see figs. 3, 4, and 5), an elongate, sheared inclusion of schist and argillite in the Texas Creek granodiorite. Tongues of the granodiorite have been intruded into the shear zone parallel to the schistosity. The zone strikes N. 45° - 55° W. and dips steeply northward. It is exposed for about 2,000 feet along its strike and through a vertical interval of more than 700 feet.

The Lindeborg shear zone is essentially a well-foliated schist inclusion along which some movement has taken place parallel to the foliation. The principal fault is now occupied by the Lindeborg vein; some movement has taken place along this fault since the emplacement of the vein.

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[1] From Bureau of Mines records, Geological Survey and information kindly furnished by J. H. Scott Co.

* These production figures are known to be incomplete.

The schistosity of the metamorphic rocks of the Lindeborg shear zone is approximately parallel to the zone. The shear zone has within it no persistent stratigraphic or structural units other than the Lindeborg vein.

A granodiorite porphyry dike and a smaller branch from it are exposed on the surface and in the underground workings, and are penetrated by some of the diamond-drill holes. The large main dike strikes about N. 10° W. and dips west (see figs. 2 and 3). This dike probably cuts the Lindeborg vein a short distance southeast of the face of the Upper level drift (see fig. 5). The smaller branch dike strikes about N. 40° W. and dips steeply southward at the surface (see fig. 3). At depth it encounters the Lindeborg shear zone, where its dip is reversed to steeply northward parallel to the schistosity.

Thin lamprophyre dikes are common parallel to the schistosity of the shear zone. Malchite dikes cut the shear zone approximately in the middle of its exposed length (see figs. 2 and 4). A post-mineral fault along the Lindeborg vein has displaced horizontally the malchite dikes about 20 feet (see figs. 3 and 4). The pitch of striations and the displacement of the dikes indicate that the hanging wall shifted about 28 feet, 45 degrees downward to the southeast. An attempt was made to trace this fault southeast of the malchite dikes along the vein, but within 100 feet the displacement is taken up along numerous small parallel faults, none of which could be traced more than 50 feet.

The Lindeborg shear zone contains the Lindeborg vein, which is not a single continuous vein but a mineralized zone containing discontinuous mineralized quartz veins and stringers. This vein or mineralized zone is generally nearer the footwall of the shear zone (see figs. 3 and 4). The vein in its leaner portions consists of pyritized schist or of quartz stringers in a network as much as 6 feet wide with scattered grains of scheelite and sulfide containing sulfide minerals, and scheelite. Below an altitude of about 500 feet the Lindeborg vein splits downward (see section, fig. 5). The separate veins below the split are narrower than the vein above.

Other veins in the mine include the Cross and Ickis (sometimes called the Riverview) veins which are in Texas Creek granodiorite. The Cross vein is exposed on the Mill level for 750 feet, and contains only rare scattered grains of scheelite. The Ickis vein, exposed in the Mill level for about 260 feet, contains a few scheelite crystals within 100 feet of the portal. The large, elongate mass of quartz as much as 60 feet thick exposed on the surface above the Upper level (see fig. 3) is barren of scheelite and is probably later than the scheelite mineralization.

Scheelite bodies

Five scheelite ore bodies, all of which are partially mined out, are known in the Lindeborg vein. The largest ore body, the extent of which was determined mainly by diamond-drilling, extends approximately 60 feet northwest and 90 feet southeast of the East raise on the Upper level (see fig. 5), and is believed to extend nearly 200 feet above and 100 feet below the level. The ore

bodydips northeastward, steepening from 50° or 60° at the top of the East raise to about 70° at the floor of the Upper level, and appears to rake southeastward. It is here called the East ore body, in accordance with the usage of the Bureau of Mines. Judging from the exposures in the Upper level, the East raise, and from the diamond-drill cores, both scheelite and galena are more abundant in the upper part of the ore body, 50 to 150 feet above the Upper level. The outline of the East ore body shown in fig. 5 contains some barren portions, and the vein within this body ranges in thickness from about half a foot to slightly more than 7 feet.

A second ore body, which was opened by the Footwall, Hanging-wall, and Intermediate level stopes (see fig. 5), was nearly mined-out during 1941. The lean margin of this ore body is partly exposed between the Intermediate level and the Hanging-wall stopes and in the back of the Intermediate level stope (see fig. 5). Fifteen feet above the Intermediate level the ore body splits downward, (see section B-B', fig. 5). It is reported that the quartz vein was 2 to 3 feet thick at the Intermediate level and thinned to about 1 foot in the Footwall and Hanging-wall stopes. In several large specimens of the mined-out vein the scheelite is segregated in a nearly solid band, 2 to 4 inches thick, in quartz.

The ore that was removed from the Overhead and Underhand stopes near the face of the Northwest drift, and the ore now assumed to be present beneath the Underhand stope is referred to as the West ore body (see section A-A', fig. 5), in accordance with Bureau of Mines usage. The ore body is a white vitreous quartz vein containing large crystals of scheelite, pyrite, and barite, up to several inches across. The vein is from one-half to 3½ feet thick but has an average thickness of 2½ feet. It extends for 33 feet in the bottom of the Underhand stope and is exposed for several more feet to the northwest in the Northwest drift. This ore body is believed to have little depth because drill hole S1 encountered no scheelite 50 feet below the ore body and because similar scheelite bodies in white vitreous quartz veins in the Bureau of Mines raise, in the No. 3 stope, and elsewhere in the mine are small.

A fourth scheelite orebody is shown by the scheelite exposed in the pillars between the Upper level Upper Sub-level, and the pillars directly above in the stope in the Upper Tunnel level. The probable dimensions of the original body were 130 feet high by 80 feet wide, with scheelite ore ranging in thickness from 1 foot to 4 feet. Approximately 50 per cent of this body remains; this orebody appears to rake southeast. The barren portions of the orebody may aggregate 50 per cent of the total volume. The scheelite content of the orebody averages 5.4 per cent, as estimated by examination with an ultraviolet light, over a vein thickness of 3 feet. It appears that very little of the scheelite in this orebody was recovered as the ore was milled primarily for lead, gold, silver, and copper. This orebody is designated the Upper level Upper Sub-level orebody.

A fifth orebody is indicated by the scheelite exposures in the Upper Tunnel level Upper stope; the scheelite in the open pits above may be the lean extensions of this body. The southeast limit of this body is not determined, but judging from the dimension of the other scheelite bodies in the mine it probably does not extend more than 50 to 60 feet beyond the southeast heading in the stope.

Exposures are insufficient to define this body, so it is shown as an ellipse with a surface cutoff midway between the underground ore and the sparse scheelite showing in the open pits above. The scheelite in this orebody occurs as narrow, high-grade bands in white quartz. Little of the scheelite from this ore-body was recovered as the mine was under lease during the mining of the Upper Tunnel level Upper stope, and the lessees milled the ore primarily for lead, silver, and gold. Fortunately, much scheelite-bearing quartz was hand sorted from the lead ore and thrown on the dumps where it remains.

In addition to the three principal known scheelite-bearing bodies it is probable that the ore mined in 1927 from the large stope above the Northwest drift (see fig. 5) contained considerable scheelite. Scheelite-bearing quartz is exposed in many places about the margins of the stope. It has been reported that a heavy white mineral, presumably scheelite, appeared on the mill tables in 1927, but it was not recovered.

On the surface at an altitude of approximately 950 feet the Lindeborg vein has been almost completely exposed for a distance of 125 feet by three open cuts along the vein (see figs. 3 and 5). The vein is from 2 to 3 feet thick. It contains scattered grains of scheelite and a band of solid galena as much as 3 inches thick.

Reserves

Considerable information is available for estimating the reserves in the Riverside mine. The Bureau of Mines took 52 channel samples on the Lindeborg vein, drilled 41 diamond-drill holes, and drove a raise 15 feet on the Upper level.

The diamond-drilling consisted of 37 holes started from underground stations and 4 holes started from stations on the surface, totalling 4,660 feet. Analyses were made of 36 samples of scheelite-bearing drill cores and 47 sludge samples. In most of the drill holes the core recovery was 95 percent or better; sludge analyses which are lower than the corresponding core analyses are not considered in the computations of grade in this report. Core was lost in three drill holes (holes M2, M32, and M34) and sludge analyses from these holes are included. The Bureau of Mines data are supplemented by four analyses of channel samples taken by the Geological Survey. The location and WO_3 content of the samples are shown on figure 5. The data from the drill-cores obtained by the Bureau of Mines are summarized in table 1. For convenience the holes are listed numerically. The cores of 16 holes contain no scheelite and these holes are omitted from table 1.

Cores from drill holes S3 and M18 were also analyzed for other metals, and the data furnished the Geological Survey by the Bureau of Mines. The following are composite figures:

Drill hole	Lead (Percent)	Copper (percent)	Silver (ounces per ton)	Gold (ounces per ton)
S3	4.05	no report	no report	no report
M18	3.58	none	4.79	0.017

Table 1

Drill hole number	Depth of sample in hole (feet)	Distance sampled (feet)	Percent of WO_3	Total sampled footage	Estimated angle, hole to vein	Calculated vein thickness	Weighted average percent of WO_3
S2	260.5-260.7	0.2	0.40	0.2	80°	0.2	0.40
S3	421.0-423.0	2.0	0.15	6.3	80°	6.1	2.60
	423.0-425.0	2.0	7.70				
	425.0-427.3	2.3	0.30				
S4	299.0-299.3	0.3	0.25	3.0	80°	2.9	0.04
	299.3-301.8	2.5	barren				
	301.8-302.0	0.2	0.16				
M2	54.0-59.5	5.5	0.67				
		and	0.15	5.5	65°	5.0	0.20 4/
	73.0-73.4	0.4	1.12	0.4	65°	0.4	1.12
M6	7.4-7.6	0.2	0.04	0.2	80°	0.2	0.04
M7	4.8-6.0	1.2	0.11	1.2	80°	1.2	0.11
M8	7.7-7.9	0.2	0.50	0.2	80°	0.2	0.50
M10	7.5-7.7	0.2	0.28	0.2	70°	0.2	0.28
M15	59.0-61.0	2.0	0.57	2.0	50°	1.5	0.57
M16	57.5-60.3	2.8	0.05	4.5	45°	3.0	0.04
	60.3-62.0	1.7	0.03				
M17	74.5-78.0	3.5	1.43	7.7	30°	3.8	0.76
	78.0-82.2	4.2	0.20				
M18	88.5-94.8	6.3	0.05	21.3	17°	6.2	1.68
	94.8-97.6	2.8	0.03				
	97.6-100.0	2.4	0.15				
	100.0-103.0	3.0	8.30				
	103.0-106.2	3.2	1.23				
	106.2-109.8	3.6	1.78				
M19	90.7-93.0	2.3	0.67	16.3	26°	7.3	0.14
	93.0-97.4	4.4	0.03				
	97.4-98.8	1.4	0.04				
	98.8-101.0	2.2	0.03				
	101.0-106.0	5.0	0.03				
	106.0-107.0	1.0	0.03				
M21	3.4-3.5	0.1	0.61	0.1	60°	0.1	0.61
M25	36.6-37.2	0.6	0.20	0.6	70°	0.6	0.20
M28	82.5-86.0	3.5	1.18	3.5	27°	1.6	1.18
	105.0-105.4	0.4	0.80	0.4	27°	0.2	0.80
M29	128.0-135.2	7.2	0.03	7.2	17°	2.3	0.03
M32 5/	20.0-25.0	5.0	0.05	5.0	50°	3.8	0.05
M33	40.4-41.0	0.6	0.05	0.6	30°	0.3	0.05
M34 5/	30.0-35.0	5.0	0.03	10.0	30°	5.0	0.04
	35.0-40.0	5.0	0.04				
M36	35.5-38.0	2.5	0.10	2.5	5°	0.3	0.10

4 Combined core and sludge analysis.
5 Sludge analysis

8 cut of 4

The calculated average WO_3 content of selected parts of the ore bodies is shown on figure 5 by bracketing the samples included in the average.

For the estimation of reserves, material arbitrarily is considered ore if the product of percent of WO_3 times the thickness in feet is 0.5 or more. The minimum grade used for calculation, however, is 0.2 percent of WO_3 irrespective of thickness. Thus 1 foot of material containing 0.5 percent of WO_3 or 2 feet of material containing 0.25 percent of WO_3 is considered ore.

The data from which the grade and tonnage of the East ore body are estimated are shown on section D-D', figure 5. Cut-off points, as defined above, were determined by graphic interpolation where data are available and indicate a roughly elliptical ore body on which the reserve estimates are based. Because the grade ranges widely and abruptly, and because the data, though numerous, are not well-distributed throughout the ore body, it is believed that only a generalized statement of grade is justified.

The ore above the Upper level contains, according to a weighted average, slightly more than 1 percent of WO_3, and ore below the Upper level averages slightly less than 1 percent of WO_3. An average grade of about 1 percent of WO_3 is indicated for the entire body as outlined on Section D-D'. The average thickness of the upper one-third of the body is slightly greater than 4 feet; near the low-grade margins the average thickness is little more than 2 feet. An average thickness of about 3½ feet is indicated for the entire body.

The outlined ore body has an area of about 32,000 square feet measured on the longitudinal profile of the vein, and a volume of about 112,000 cubic feet. Using a tonnage factor of 11.5 cubic feet to the ton, the East ore body originally contained about 9,700 tons of ore with an average grade of 1 per cent of WO_3. At present, roughly 60 per cent of this ore body remains and contains about 6,300 units of WO_3. Considerable barren ground probably lies within the orebody as outlined, but it is likely that barren portions are compensated for by ore which is near but outside the limits shown.

The grade of ore in the Upper level Upper Sub-level ore body is calculated by estimation of scheelite content from mineral light examination. Experience indicates that much error may result from estimation of scheelite that is less than 1 per cent by volume; therefor, no indicated ore is based upon a scheelite grade of less than 2 per cent, irrespective of the width of the vein. The area outlined by the three exposures is a rough ellipse with an area of 16,000 square feet as measured on the longitudinal profile of the vein. The upper one-half of the orebody is mined out, but the lower one-half is almost untouched. The two halves are considered separately in computation of reserves. The weighted scheelite average over the entire area is 5.4 per cent through an average vein width of 3 feet. Assuming a specific gravity of 6.0 for scheelite, and a barrenness factor of .5, the lower half of the ore body contains 4,982 units of WO_3. The volume of the pillars remaining in the upper half of the ore body is 4,085 cubic feet. This volume, again considering one-half too lean to be ore, contains about 1,662 units of WO_3. A total of about 6,645 units of WO_3 is indicated for the ore body.

The Upper Tunnel level Upper stope ore body has an area of approximately 6,000 square feet, as measured on the longitudinal profile. The vein, in the three exposures, averages about 1.1 feet wide and contains an average of 1.1 per cent scheelite by volume. The body originally contained about 540 units of WO_3 of which about 40 per cent is mined out leaving 325 units of WO_3 in indicated ore in the ore body.

The ore body at the Footwall and Hangingwall stopes above the Upper level is mined out and no scheelite reserves are indicated.

In addition to the underground reserves at the Riverside mine, approximately 50 tons of 5 per cent ore are on the dump at the Upper level. The dump at the Mill level contains an undetermined amount of ore that may be recoverable. These two dumps are combined, and a total of 250 units of WO_3 is indicated as available on the dumps.

The total indicated ore is tabulated below:

East Raise ore body.	6,300 units
West ore body.	200 units
Upper level Upper sublevel	6,645 units
Upper Tunnel level Upper stope	325 units
Dumps.	250 units
Total Indicated Reserves	13,720 units

If a safety factor of .5 is introduced into the volumes calculated by mineral light estimations, the reserves indicated are approximately 10,000 units of WO_3.

= 10,000 x .10 x .63 = 631,000

Inferred Ore

Sufficient data are available to calculate inferred ore reserves at the Riverside mine. First, it should be noted that most of the scheelite bodies (East Raise body excepted) were discovered during mining of lead, gold and silver ore, and probably do not give a true picture of the scheelite occurrences in the Riverside mine. Much accumulated evidence shows that scheelite does not always occur with lead ore, but may occupy a position much higher or lower with respect to the hangingwall of the vein. In several places high grade scheelite ore goes into the hangingwall of present workings (West ore body and No. 3 stope particularly). Where lead ore was too narrow to mine, and the vein wider, it is reasonable to assume that some scheelite was missed. Therefore, any calculation of inferred ore based upon known scheelite bodies will be conservative.

Scheelite ore bodies are exposed over a vertical distance of 660 feet and a horizontal distance of 1,550 feet. The ratio of the areas of the scheelite ore bodies to the explored area of the Lindeborg shear zone is about 1.7. Extension of the inferred ore zone to a depth below the Mill level equal to the height of the ore zone above the Mill level, and 80 feet southeast of the Upper Tunnel level heading (to the approximate claim boundary) gives an area of 1,020,000 square feet in the Lindeborg shear zone. In addition, an area of unexplored ground above the Mill level southeast of the present workings totalling

200,000 square feet is added for purposes of calculating inferred ore. Adding 110,000 square feet more of unexplored ground northwest of the East Raise gives a total of 1,331,000 square feet of vein surface that can be expected to contain 190,000 square feet of scheelite ore bodies. If the average grade and width of these inferred ore bodies approximates the average grade and width of the ore exposed in the ground above the Mill level, a total of about 35,000 units of WO_3 is inferred for the Riverside mine. In addition, approximately three-fourths this amount is inferred for the Last Shot group of claims immediately southeast of the Riverside claims.

Total reserves, Riverside mine:

Indicated ore.	10,000 units of WO_3
Inferred ore	35,000 do
Total reserves	45,000 units of WO_3

These reserves are contained in ore that will contain a minimum of 1 per cent of WO_3.

Considerable lead, zinc, gold, copper, silver ore remains in the Riverside mine, but data are not available for accurate estimation of the grade and amount.

February 24, 1954

Docket

IN REPLY REFER TO:
G-Alas-CLS (nmg)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Alaskan Geology Branch
4 Homewood Place
Menlo Park, California

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 11 1954

March 9, 1954

Docket DMEA 3246
Tungsten, Riverside Mine,
Hyder, Alaska

Mr. George C. Selfridge, Chairman
Operating Committee
Defense Minerals Exploration Administration
Washington 25, D. C.

Dear Mr. Selfridge:

Attached are four copies of the geologic appraisal of the subject application.

A field examination was not required to process the application because all the data required were in our files.

Attached as part of the report are pertinent calculations of reserves excerpted from an unpublished report by Byers and Sainsbury previously intended for open file release, but subsequently withheld for inclusion in a bulletin. The figures referred to in this attachment are those accompanying Byer's original mimeographed report, and they are not included herewith.

Very truly yours,

C. L. Sainsbury

C. L. Sainsbury, Field Team
Region I, U. S. Geological Survey

Attach: 4
cc: S. H. Lorain

Reviewed by
DMEA OPERATING COMMITTEE
3-17-54
(date)

BN-SITE
EXAM

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 1 1954

GEOLOGIC APPRAISAL

Docket DMEA 3246, Tungsten
Riverside Mine, Hyder, Alaska
Pacific Northern Minerals Company
Box 1481, Spokane, Washington

February 25, 1954

Reviewed by
DMEA OPERATING COMMITTEE
3-17-54
(date)
GCL
4/23/54

Introduction

The subject application follows an earlier application, DMA No. 558, that was denied by letter of October 2, 1951. A field examination occupying five days was made in the course of the earlier application by C. L. Sainsbury, geologist, and R. L. Thorne, mining engineer, and a brief summary report sent to Washington in order to meet a time deadline requested by the applicant for personal conferences in Washington. Owing to the press of DMA matters, the time deadline set by Mr. Scott's request, and the newness of the DMA program, no adequate geologic or engineering reports based on the field examination were submitted with the Field's summary report, which recommended favorable action on the proposed exploration, but did not discuss in detail any desirable modifications of the proposed exploration.

This report is written to discuss the exploration program in the light of the attached report that modifies and brings up to date the original geologic report on the property by Frank M. Byers, Jr., U. S. Geological Survey, published as an open file report in 1945, Tungsten Deposits of the Hyder District, southeastern Alaska.

Geology

The attached longitudinal section of the Lindeborg shear zone shows the workings to date in the Lindeborg vein. Added to this section are the drill hole data based upon the Bureau of Mines drilling program, cross sections of the mine and geology based upon the original geologic mapping by Byers, Wahrhaftig, and Gault, and the results of the ultra-violet examination of the mine made by Thorne and Sainsbury in 1951. The writer was not aware previously of the detailed field maps and sections made by Byers, Wahrhaftig and Gault, and so certain questions raised in the previous application and the present application by Washington commodity men of the Bureau of Mines and Geological Survey are discussed in relation to the detailed geology shown in Byers field maps.

Ore shoots: Byers field maps indicated that scheelite ore shoots pitched steeply southeasterly, and Sainsbury independently arrived at the same conclusion with respect to the two ore bodies discovered by work done after 1945. The inferred pitch of ore shoots is shown upon the attached section with what now is believed to be a reasonable

degree of accuracy. The shoots without exception pitch southeasterly in the Lindeborg shear zone, but the physical factors controlling this attitude are not known definitely, but it seems significant to the writer that the projected intersection of the Cross vein with the Lindeborg shear zone pitches south easterly through the main stope between the Mill level (altitude 330') and the Upper level (altitude 530').

It should be remembered that most of the stopes opened were mined for base metal sulphides, and that only sporadic attempts, late in the history of the mine, were made to recover scheelite, and that no sustained effort was made to work out the metallurgical problems involved in milling the scheelite ores. In 1949 and 1950 the mine was under lease, and the leesees mined out the larger portion of two hitherto unknown small but rich scheelite orebodies while stoping base metal ore, and no provision was made to recover scheelite. In fact, much scheelite ore was hand sorted from the base metal ore and discarded as waste, even though the estimated value per ton of the scheelite ore so mined and discarded was many times the value of the base metal ore milled. Where scheelite is considered, the past productive history of the mine in relation to the known potential productivity of the mine is "enough to make a strong man weep like a child."

In denying the previous application it was stated that "evidence is presented to indicate that ore shoots are localized along the intersection of a lamprophyre dike with the Lindeborg shear zone," and that this intersection corresponded roughly with the topographic slope of the hill, thus limiting the depth to which ore bodies may be expected. Wherever seen by the writer in the mine, the late dikes definitely were post-sulphide ore, although the dikes have been cut and displaced by post mineral faulting in the shear zone. It is hoped this report will remove once and for all the presumption based upon no facts and contrary to the indicated facts of Byers that the ore is localized by the dike-shear intersection.

Inferred split in the Lindeborg vein: Byers presents evidence that the Lindeborg shear zone splits above the Mill level, and continues downward as two distinct mineralized veins below the west stope (see sections A-A', etc.). However, Byers himself says "the inferred split in the vein" and in later correspondence with the writer says that he considered the ground below the split to be less favorable for ore partly because of the increased costs of mining and of pumping large volumes of water from workings below the level of the Salmon River. In the writer's opinion, work from the winze can be done at only slightly increased costs for hoisting, and the winze is known to make only a very little water - for instance, it had not filled up at the time of the writer's visit in August, 1951, from a dewatering in July of 1951. The only danger of large amounts of water being encountered below the Salmon River would be if a drift to the northwest broke through solid rock into the alluvial fill of the Salmon River valley.

By reference to the cross section of the attached map (based entirely upon work by Byers, Wahrhaftig and Gault), it can be seen that the split

in the vein corresponds in position with a roll in the normal fault to a steeper dip. All the evidence shown by Byers in his cross sections indicates that discrete shearing has taken place over a wider zone in the schist and gneiss inclusion in the areas of steeper dip of the fault and the schist inclusion, than above in the flatter portion.

If the solutions from which were deposited the scheelite and base metal ores of the Lindeborg veins entered along fractures formed by normal faulting, it is to be expected that fractures or shears (tensional) will be more widespread in areas of steeper dips of the fault, particularly where the wall rocks are schistose or gneissic. This is not a valid reason for assuming that the splits, once formed, will never recombine. If the fault rolls back to a flatter dip below the Mill level, the vein again may consist of one larger vein.

Good ore (sulphide) extends down the present winze on the Cross vein, and an old shaft 80' deep behind the bunkhouse was reported to bottom in good lead ore, although this shaft could not be located by the writer. The reason the ground above the Mill level is developed much more than the ground to the east or below the level seems only to be a natural result of the old mining maxim that "it is cheaper to raise than to sink." The original opening was the Mill level and continued development up has disclosed continuing orebodies, thus obviating the necessity of exploration below the Mill level. In the writer's opinion there is no concrete evidence that good ore will not be found below the Mill level at least to the lower level of the winze.

Ore reserves: A discussion of the individual ore bodies is given in the attached report, and only a summary is presented here, as follows:

Table I. Summary of Ore Reserves, Riverside Mine
Indicated Reserves (in ore averaging 1% of WO_3)

East Raise ore body	6,300 units
West ore body.	200 units
Upper level Upper sublevel ore body.	6,645 units *
Upper Tunnel level upper stope ore body.	325 units *
Dumps.	250 units
Total indicated reserves	13,720 units *

Inferred reserves (see attached report for computations) amount to 35,000 units of WO_3, of which the major portion is believed to be contained in ground below the Mill level. Byers has accepted these computations, and will include them in the lump sum reserves quoted

* If a safety factor of .5 is introduced into the volumes calculated by mineral light estimates, the total indicated reserves are reduced to approximately 10,000 units of WO_3.

for the Hyder district. The computations are based upon the previous oral report that the Caribou claim boundary was 80 feet east of the heading of the Upper Tunnel level, and the newly quoted figure of 400 feet for this distance (based upon survey) adds an additional safety factor to the reserve figures.

In the past, computations of reserves by the Geological Survey and the Bureau of Mines failed to treat the scheelite ore of the Riverside mine as an integral and inter-related part of the total ore, including base metal sulphides. In the writer's opinion the two types of ore cannot be divorced, and computations of "ore" should involve assays of tungsten, base metals, and gold and silver wherever the two exist together. The failure of past operators to recover values in base metals and scheelite in mixed ores in large part explains Mr. P. W. Guild's true statement (in the Washington analysis of the last application):

"This mine has consistently failed to come up to expectations. Thus, Byers estimated the reserves in the east body alone at 9,000 tons of one percent ore in 1943, but although the applicant's longitudinal section shows that much of this orebody was mined out by the previous operator, production statistics suggest that the overall yield from all the stopes has not been more than 3,000 units since that time. Mill recovery has been poor, but should not be so inefficient as to account for this discrepancy."

The writer already has pointed out that the leesees of 1949-50 made no attempt whatsoever to recover scheelite from rich scheelite bodies; in fact, they hand sorted some rich scheelite ore and discarded it as waste. Scheelite and base metals must be considered in any evaluation of the potential of the mine. In an area of good base metal ore, scheelite concentrations of much less than 1% of WO_3 can be mined at a profit, provided the mill is set up to handle mixed ores.

General geologic considerations: Byers considers the malchite, lamprophyre and monzonite dikes in the shear zone to be post-scheelite, and states that the large monzonite porphyry dike exposed on the surface "probably cuts the vein" a short distance east of the heading of the Upper level (altitude 530'). If so, the vein may be cut out (or wedged toward the end line of the Caribou claim) for such a distance as to effectively decrease the area favorable for ore to the east of all headings. If the dike is post ore, and if it cuts the vein on an oblique angle as indicated, the effect will be a wedging of the vein to the northeast a distance equal to the thickness of the dike. If so, this will not (when referred to the longitudinal section) cut out the vein, but will displace it out of the plane of the section only.

APPLICANTS PROPOSED EXPLORATION

In the following geologic appraisal, each item of the applicant's proposal is discussed separately in relation to the comments of

Washington commodity men, and the geology of the mine.

Area 1 & 2: Drift 1 will explore the area beneath surface crops of sulphide ore, as will also raise 2. If the sparse scheelite in the open cuts is part of the ore shoot mined out below, the general rake is southeasterly, and drift 1 will cut the downward projection of this ore zone.

Sulphide ore almost certainly will be found, and the chances of finding some scheelite seem good.

Area 3, 4 & 5: If any of the proposed program can be classed as "development work", this would be. These items call for 720' of openings to be driven in a very restricted area where ore reserves in scheelite already are partially blocked out. In view of the indicated rake of the ore shoot exposed in the stope above, the drift east might be classed as good exploration to test the inferred downward projection of the ore in the Upper level Upper sublevel orebody, but 300 feet of drifting is excessive. If an ore shoot is cut by this drift, the raise certainly would be development.

The 100 foot drift northwest from the East raise penetrates an area already partially explored by a short adit below the Upper Tunnel level (alt. 801') in which good sulphide ore reportedly is exposed, and probably constitutes development of this body.

Raise 5, if allowed, should be located to the northwest so as to cut the inferred ore body raking southeasterly from the upper workings rather than to cut only the extreme easterly portion of the inferred ore body at drift level. Raise 4 is development of the sulphide ore mined above, will not test an area of inferred scheelite ore, and should not be allowed as exploration.

Area 6 & 7: As pointed out by R. W. Geehan, Bureau of Mines, raise 7 will open an area that contains indicated reserves of scheelite ore based on diamond-drill holes, and is development rather than exploration. Drift 6, on the other hand, if continued to the east 500 feet would cut the projected extensions of the East ore body and the Upper level Upper sublevel ore body, and would constitute true exploration. The exact position and effect of the monzonite porphyry dike is still largely a matter of conjecture, but if it cuts the vein on a slight angle, it would displace the vein rather than cut it out. The writer would favor 500 feet of drifting here rather than the 550 feet of drifting and raising at 3 and 4.

Area 8 & 9: In the writer's opinion, the work from the lower winze constitutes the best true exploration proposed. The present winze on the Cross vein contains good sulphide ore on both sublevels, and the drift on the Cross vein to the Lindeborg shear zone and along the Lindeborg vein would explore an area universally favorable for ore (intersection areas of two mineralized veins). The veins on the property

other than the Lindeborg vein have not produced tungsten ore; however, scheelite grains and pods occur sporadically in these other veins, and the intersection area may reasonably be assumed to be favorable for scheelite deposition. As pointed out by the applicant, a few preliminary drill holes may be used to test the Lindeborg vein at this depth prior to actual drifting along it. The writer would favor these holes being oriented to intersect the projected position of the West ore body assuming it rakes steeply southeasterly, and to test the Lindeborg vein to the southeast. A definite provision might be made in any contract for a drill station in the hangingwall of the Lindeborg vein and drill holes to test the vein vertically above and below the level. Raise 9 should be located about 100 feet southeast of its proposed position to cut the West ore body along its rake (mining could be done by a short sublevel).

Exploration below the Mill level, if successful, will expand the known areas favorable for scheelite-sulphide ore more rapidly than exploration in any other area, except possibly in the area to the east of proposal 6.

General Comments

The writer is leaving the discussion of costs to the Bureau of Mines. Because the applicant proposes a unit cost program, the Government will be assurred that the work contracted for will be completed.?

Exploration in the Lindeborg shear zone can be done effectively only by drifting or raising unless long crosscuts for drill stations are driven; therefore, it seems best to allow such exploration. Where natural diamond-drilling stations exist, such as in the winze, drilling might be used effectively and cheaply.

Recommendations

The data presented herein should serve to overcome most of the objections to the exploration in general raised by Guild and Geehan in Washington. The writer agrees, however, that the size of the loan requested is too large for the indicated tungsten reserves, and possibly large in relation to the inferred tungsten reserves.

The Riverside Mine has been a rather consistent base metal producer - for several years it was the only producing base metal mine in Alaska - and the writer believes that if the scheelite potentialities of the mine are considered as an integral portion of the ore that will be explored and mined under any exploration program, the mine definitely warrants some exploration.

The exploration below the Mill level is based upon previous oral recommendations to J. H. Scott Co. by the writer, and this phase of the exploration certainly is warranted.

The writer recommends, therefore, that an exploration program modified somewhat along the lines suggested above, and perhaps reduced in total amount, be outlined by the Washington staff of DMEA and officials of the Pacific Northern Minerals Company, and a firm contract be entered into on a unit cost basis.

C. L. S.

C. L. Sainsbury, Geologist
Alaskan Field Team
Region I.

Refer also to
RI 4174
June 1948
Bureau of Mines Report
"Tungsten Deposits in Alaska"
Hyd. Mines, Ketchikan

106051

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Washington

TUNGSTEN DEPOSITS OF THE HYDER DISTRICT, SOUTHEASTERN ALASKA

By

F. M. Byers, Jr.

INTRODUCTION

The Ryder district (see fig. 1) is largely in the Salmon River drainage basin at the head of Portland Canal in southeastern Alaska. The district has 22 miles of graded gravel road, connecting with roads in British Columbia to the towns of Premier and Stewart, both within 2 miles of the International Boundary. Premier is 13 miles by road north of Hyder. Stewart, with a population of about 150 in 1943, has adequate dock facilities within 1 mile of Hyder. In 1943 Hyder had about 60 inhabitants.

Many claims and groups of claims have been located in the part of the Hyder district known to contain tungsten deposits and some of them are shown on figure 2.

The writer worked in the district from June 3, 1942, to February 6, 1943. He was assisted by H. R. Gault until July 1, 1942, and by Clyde Wahrhaftig from August 12 to December 4, 1942. From October 27, 1942, to February 6, 1943, the Bureau of Mines diamond-drilled, sampled, and drove an exploratory raise at the Riverside mine, and sampled the Mountain View mine. In the summer of 1944 the Bureau of Mines extended to the northwest the Skookum tunnel drift in the Mountain View mine, and on October 1, 1944 it had been extended for 130 feet to the position shown on figure 6.

GENERAL GEOLOGY

A comprehensive report on the general geology of the Hyder district was prepared by Buddington 1/ and published in 1929. From that report many of the general statements regarding the geology have been abstracted.

1/ Buddington A. F., Geology of Hyder and vicinity, southeastern Alaska: U. S. Geol. Survey Bull. 807, 1929.

The oldest rocks of the district comprise the Hazelton group, of probable Jurassic age, and include greenstone, tuff, volcanic breccia, graywacke, slate, argillite, and quartzite. These rocks crop out abundantly between Salmon River and the International Boundary. The Hazelton rocks in general strike west, but many exceptions to this general strike are seen, particularly near intrusive bodies.

The Hazelton rocks are intruded by plutonic rocks of the Coast Range batholith. The Texas Creek granodiorite, a small batholith confined chiefly to the central portion of the district, is the oldest of the several Coast Range intrusives in the district and is intimately and probably genetically related to most of the significant mineral deposits. Elongate bodies of sheared Hazelton greenstone schist and argillite, up to at least 100 feet wide and 2,000 feet long, are included in the Texas Creek granodiorite. The largest known of these inclusions comprises the Lindeborg shear zone at the Riverside mine.

Younger Coast Range intrusives include the Hyder quartz monzonite and the Boundary granodiorite. Granodiorite porphyry dikes, 10 to 1,000 feet wide and related to the Hyder quartz monzonite, intrude the Texas Creek granodiorite and cut some of the scheelite-bearing veins. Dikes of granite aplite, granite pegmatite, malchite, and lamprophyre cut all the batholithic intrusives, the rocks of the Hazelton group, and the veins.

Veins and dikes are displaced by faults, such as the two faults followed roughly by Fish and Skookum creeks (see fig. 2). These two faults dip steeply westward and show zones of gouge and breccia as much as 30 feet wide.

TUNGSTEN DEPOSITS

Most of the scheelite known in the Hyder district is on the east side of the valley of Salmon River in an area about 1½ miles wide and 3 miles long, beginning 5½ miles north of Hyder (see fig. 2). Scheelite is known in abundance on only two properties in this area — the Riverside and the Mountain View.

The scheelite-bearing bodies are mineralized shoots in quartz veins which cut Texas Creek granodiorite and inclusions of Hazelton rocks in the granodiorite. Most of the veins strike N. 40° - 60° W. and dip 50° to 80° NE. The veins, therefore, are at an angle to the gneissic banding of the Texas Creek granodiorite, which in general strikes N. 85° E. and dips steeply northward. The scheelite-bearing veins are as much as 7 feet thick.

The ore minerals include scheelite, galena, pyrite, tetrahedrite, pyrrhotite, chalcopyrite, sphalerite, and native gold. Galena and pyrite are present in nearly all of the veins, and in some veins pyrrhotite makes up a notable proportion of the sulfide minerals. Sphalerite and chalcopyrite are present as accessory minerals in nearly all the veins, and small amounts of tetrahedrite and native gold occur in many of them. The sulfide minerals and scheelite occur in shoots within the quartz veins. The principal gangue mineral is quartz with lesser amounts of calcite, ankerite, and barite.

Scheelite in small, sparsely-distributed crystals is known in a few deposits in the Hyder district and in adjacent British Columbia outside the 1½-by 3-mile area described above. A little scheelite has been recognized in a vein on the Engineer group 2/ about 6 miles northwest of the Riverside mine. In British Columbia, between 4 and 6 miles southeast of the Mountain View property, scheelite has been recognized in two replacement deposits and in a quartz vein containing tetrahedrite, all in rocks of the Hazelton group 3/.

MINES AND PROSPECTS

Riverside mine

The Riverside mine is 7 miles north of Hyder and on the east side of the Salmon River road. About a mile of underground workings are now accessible on three main levels, of which about 2,300 feet are in the Lindeborg vein, the principal vein in the mine (see figs. 3 and 4). A mill, with a reported capacity in 1942 of nearly a ton per hour, and living accommodations for about 20 men are on the property.

Production

The following production data for the years 1925 and 1927 are from Geological Survey records. In 1925, 105 tons of concentrates of unreported grade were produced from ore mined from the Cross vein stopes. In 1927, 6,500 tons of ore were produced from the Lindeborg vein which yielded 390 tons of concentrates containing 59 percent of lead, 39 ounces of silver per ton, and 1.05 ounces of gold per ton; scheelite was not recovered.

In 1941 the first scheelite concentrates were produced. The following production data have been kindly furnished by Mr. J. H. Scott, present owner and operator of the mine. In 1941, 3,368 tons of ore were treated, from which were produced 30 tons of concentrates, containing 44 percent of WO_3. In 1942, 1,284 tons of tailings from previous operations and 97 tons of mine ore were milled, yielding 36.6 tons of concentrates containing 10.15 percent of WO_3.

Geology

The main geologic feature of the Riverside mine is the Lindeborg shear zone (see figs. 3, 4, and 5), an elongate, sheared inclusion of schist and argillite in the Texas Creek granodiorite. Tongues of the granodiorite have been intruded into the shear zone parallel to the schistosity. The zone strikes N. 45° - 55° W. and dips steeply northward. It is exposed for about 2,000 feet along its strike and through a vertical interval of more than 700 feet.

2/ Buddington, A. F., op. cit., p. 110.

3/ Mathews, W. H., Dept. of Mines, British Columbia, personal communication.

The Lindeborg shear zone is essentially a well-foliated schist inclusion along which some movement has taken place parallel to the foliation. The principal fault is now occupied by the Lindeborg vein; some movement has taken place along this fault since the emplacement of the vein.

The schistosity of the metamorphic rocks of the Lindeborg shear zone is approximately parallel to the zone. The shear zone has within it no persistent stratigraphic or structural units other than the Lindeborg vein.

A granodiorite porphyry dike and a smaller branch from it are exposed on the surface and in the underground workings, and are penetrated by some of the diamond-drill holes. The large main dike strikes about N. 10° W. and dips west (see figs. 2 and 3). This dike probably cuts the Lindeborg vein a short distance southeast of the face of the Upper level drift (see fig. 5). The smaller branch dike strikes about N. 40° W. and dips steeply southward at the surface (see fig. 3). At depth it encounters the Lindeborg shear zone, where its dip is reversed to steeply northward parallel to the schistosity.

Thin lamprophyre dikes are common parallel to the schistosity of the shear zone. Malchite dikes cut the shear zone approximately in the middle of its exposed length (see figs. 2 and 4). A post-mineral fault along the Lindeborg vein has displaced horizontally the malchite dikes about 20 feet (see figs. 3 and 4). The pitch of striations and the displacement of the dikes indicate that the hanging wall shifted about 28 feet, 45 degrees downward to the southeast. An attempt was made to trace this fault southeast of the malchite dikes along the vein, but within 100 feet the displacement is taken up along numerous small parallel faults, none of which could be traced more than 50 feet.

The Lindeborg shear zone contains the Lindeborg vein, which is not a single continuous vein but a mineralized zone containing discontinuous mineralized quartz veins and stringers. This vein or mineralized zone is generally nearer the footwall of the shear zone (see figs. 3 and 4). The vein in its leaner portions consists of pyritized schist or of quartz stringers in a network as much as 6 feet wide with scattered grains of scheelite and sulfide minerals. The richer portions consist of a quartz vein up to 7 feet thick containing sulfide minerals and scheelite. Below an altitude of about 500 feet the Lindeborg vein splits downward (see sections, fig. 5). The separate veins below the split are narrower than the vein above.

Other veins in the mine include the Cross and Ickis (sometimes called the Riverview) veins which are in Texas Creek granodiorite. The Cross vein is exposed on the Mill level for 750 feet, and contains only rare scattered grains of scheelite. The Ickis vein, exposed in the Mill level for about 260 feet, contains a few scheelite crystals within 100 feet of the portal. The large, elongate mass of quartz as much as 60 feet thick exposed on the surface above the Upper level (see fig. 3) is barren of scheelite and is probably later than the scheelite mineralization.

Scheelite bodies

Three scheelite ore bodies, two of which are essentially mined out, are known in the Lindeborg vein. The largest ore body, the extent of which has been determined mainly by diamond-drilling, extends approximately 60 feet northwest and 90 feet southeast of the East raise on the Upper level (see fig. 5), and is believed to extend nearly 200 feet above and 100 feet below the level. The ore body dips northeastward, steepening from 50° or 60° at the top of the East raise to about 70° at the floor of the Upper level, and appears to rake southeastward. It is here called the East ore body, in accordance with the usage of the Bureau of Mines. Judging from the exposures in the Upper level, the East raise, and from the diamond-drill cores, both scheelite and galena are more abundant in the upper part of the ore body, 50 to 150 feet above the Upper level. The outline of the East ore body shown in fig. 5 contains some barren portions, and the vein within this body ranges in thickness from about half a foot to slightly more than 7 feet.

A second ore body, which was opened by the Footwall, Hanging-wall, and Intermediate level stopes (see fig. 5), was nearly mined-out during 1941. The lean margin of this ore body is partly exposed between the Intermediate level and the Hanging-wall stopes and in the back of the Intermediate level stope (see fig. 5). Fifteen feet above the Intermediate level the ore body splits downward, (see section B-B', fig. 5). It is reported that the quartz vein was 2 to 3 feet thick at the Intermediate level and thinned to about 1 foot in the Footwall and Hanging-wall stopes. In several large specimens of the mined-out vein the scheelite is segregated in a nearly solid band, 2 to 4 inches thick, in quartz.

The ore that was removed from the Overhead and Underhand stopes near the face of the Northwest drift, and the ore now assumed to be present beneath the Underhand stope is referred to as the West ore body (see section A-A', fig. 5), in accordance with Bureau of Mines usage. The ore body is a white vitreous quartz vein containing large crystals of scheelite, pyrite, and barite, up to several inches across. The vein is from one-half to 3½ feet thick but has an average thickness of 2½ feet. It extends for 33 feet in the bottom of the Underhand stope and is exposed for several more feet to the northwest in the Northwest drift. This ore body is believed to have little depth because drill hole S1 encountered no scheelite 50 feet below the ore body and because similar scheelite bodies in white vitreous quartz veins in the Bureau of Mines raise, in the No. 3 stope, and elsewhere in the mine are small.

In addition to the three principal known scheelite-bearing bodies it is probable that the ore mined in 1927 from the large stope above the Northwest drift (see fig. 5) contained considerable scheelite. Scheelite-bearing quartz is exposed in many places about the margins of the stope. It has been reported that a heavy white mineral, presumably scheelite, appeared on the mill tables in 1927, but it was not recovered.

On the surface at an altitude of approximately 950 feet the Lindeborg vein has been almost completely exposed for a distance of 125 feet by three open cuts along the vein (see figs. 3 and 5). The vein is from 2 to 3 feet thick. It contains scattered grains of scheelite and a band of solid galena as much as 3 inches thick.

Reserves

Considerable information is available for estimating the reserves in the Riverside mine. The Bureau of Mines took 52 channel samples on the Lindeborg vein, drilled 41 diamond-drill holes, and drove a raise 15 feet on the Upper level.

The diamond-drilling consisted of 37 holes started from underground stations and 4 holes started from stations on the surface, totalling 4,660 feet. Analyses were made of 36 samples of scheelite-bearing drill cores and 47 sludge samples. In most of the drill holes the core recovery was 95 percent or better; sludge analyses which are lower than the corresponding core analyses are not considered in the computations of grade in this report. Core was lost in three drill holes (holes M2, M32, and M34) and sludge analyses from these holes are included. The Bureau of Mines data are supplemented by four analyses of channel samples taken by the Geological Survey. The location and WO_3 content of the samples are shown on figure 5. The data from the drill-cores obtained by the Bureau of Mines are summarized in table 1. For convenience the holes are listed numerically. The cores of 16 holes contain no scheelite and these holes are omitted from table 1.

Cores from drill holes S3 and M18 were also analyzed for other metals, and the data furnished the Geological Survey by the Bureau of Mines. The following are composite figures:

Drill hole	Lead (percent)	Copper (percent)	Silver (ounces per ton)	Gold (ounces per ton)
S3	4.05	no report	no report	no report
M18	3.58	none	4.79	0.017

The calculated average WO_3 content of selected parts of the ore bodies is shown on figure 5 by bracketing the samples included in the average.

For the estimation of reserves, material arbitrarily is considered ore if the product of percent of WO_3 times the thickness in feet is 0.5 or more. The minimum grade used for calculation, however, is 0.2 percent of WO_3 irrespective of thickness. Thus 1 foot of material containing 0.5 percent of WO_3 or 2 feet of material containing 0.25 percent of WO_3 is considered ore.

The data from which the grade and tonnage of the East ore body are estimated are shown on section D-D', figure 5. Cut-off points, as defined above, were determined by graphic interpolation where data are available and indicate a roughly elliptical ore body on which the reserve estimates are based. Because the grade ranges widely and abruptly, and because the data, though numerous, are not well-distributed throughout the ore body, it is believed that only a generalized statement of grade is justified.

Table 1

Drill hole number	Depth of sample in hole (feet)	Distance sampled (feet)	Percent of WO_3	Total sampled footage	Estimated angle, hole to vein	Calculated vein thickness	Weighted average percent of WO_3
S2	260.5-260.7	0.2	0.40	0.2	80°	0.2	0.40
S3	421.0-423.0	2.0	0.15	6.3	80°	6.1	2.60
	423.0-425.0	2.0	7.70				
	425.0-427.3	2.3	0.30				
S4	299.0-299.3	0.3	0.25	3.0	80°	2.9	0.04
	299.3-301.8	2.5	barren				
	301.8-302.0	0.2	0.16				
M2	54.0-59.5	5.5	0.67 and 0.15	5.5	65°	5.0	0.20 4/
	73.0-73.4	0.4	1.12	0.4	65°	0.4	1.12
M6	7.4-7.6	0.2	0.04	0.2	80°	0.2	0.04
M7	4.8-6.0	1.2	0.11	1.2	80°	1.2	0.11
M8	7.7-7.9	0.2	0.50	0.2	80°	0.2	0.50
M10	7.5-7.7	0.2	0.28	0.2	70°	0.2	0.28
M15	59.0-61.0	2.0	0.57	2.0	50°	1.5	0.57
M16	57.5-60.3	2.8	0.05	4.5	45°	3.0	0.04
	60.3-62.0	1.7	0.03				
M17	74.5-78.0	3.5	1.43	7.7	30°	3.8	0.76
	78.0-82.2	4.2	0.20				
M18	88.5-94.8	6.3	0.05	21.3	17°	6.2	1.68
	94.8-97.6	2.8	0.03				
	97.6-100.0	2.4	0.15				
	100.0-103.0	3.0	8.30				
	103.0-106.2	3.2	1.23				
	106.2-109.8	3.6	1.78				
M19	90.7-93.0	2.3	0.67	16.3	26°	7.3	0.14
	93.0-97.4	4.4	0.03				
	97.4-98.8	1.4	0.04				
	98.8-101.0	2.2	0.03				
	101.0-106.0	5.0	0.03				
	106.0-107.0	1.0	0.03				
M21	3.4-3.5	0.1	0.61	0.1	60°	0.1	0.61
M25	36.6-37.2	0.6	0.20	0.6	70°	0.6	0.20
M28	82.5-86.0	3.5	1.18	3.5	27°	1.6	1.18
	105.0-105.4	0.4	0.80	0.4	27°	0.2	0.80
M29	128.0-135.2	7.2	0.03	7.2	17°	2.3	0.03
M32 5/	20.0-25.0	5.0	0.05	5.0	50°	3.8	0.05
M33	40.4-41.0	0.6	0.05	0.6	30°	0.3	0.05
M34 5/	30.0-35.0	5.0	0.03	10.0	30°	5.0	0.04
	35.0-40.0	5.0	0.04				
M36	35.5-38.0	2.5	0.10	2.5	5°	0.3	0.10

4/ Combined core and sludge analysis.
5/ Sludge analysis

The ore above the Upper level contains, according to a weighted average, slightly more than 1 percent of WO_3, and ore below the Upper level averages slightly less than 1 percent of WO_3. An average grade of about 1 percent of WO_3 is indicated for the entire body as outlined on Section D-D'. The average thickness of the upper one-third of the body is slightly greater than 4 feet; near the low-grade margins the average thickness is little more than 2 feet. An average thickness of about $3\frac{1}{2}$ feet is indicated for the entire body.

The outlined ore body has an area of about 32,000 square feet measured on the vein surface, and a volume of about 112,000 cubic feet. Using a tonnage factor of 11.5 cubic feet to a ton, the East ore body originally contained about 9,700 tons of ore, with an average grade of about 1 percent of WO_3. This tonnage is classed here as indicated ore. About 650 tons have been mined out (as of 1943), so that the present (1943) reserves aggregate about 9,000 tons. This tonnage contains about 9,000 units (20 pounds equal one unit) of WO_3. Considerable barren ground probably lies within the ore body as outlined, but it is likely that barren portions are compensated by ore which is near but outside the limits shown.

Since the examination of the Riverside mine by the Geological Survey in 1943, a portion of the East ore body has been mined. How much ore has been removed is not known but it may be as much as one fourth of the body (January 1945).

The grade of the ore remaining in the West ore body is indicated by nine channel samples taken in the bottom of the Underhand stope of the Northwest drift (see section A-A', fig. 5). The samples average 1.3 percent of WO_3 for an average vein thickness of 2.4 feet. The exposed strike length is 36 feet. For purposes of claculating tonnage it is assumed the ore extends downward for 20 feet. The body outlined above has a volume of about 1,700 cubic feet. If one ton of ore has a volume of 11.5 cubic feet, the body comprises about 150 tons of ore classed here as indicated. This tonnage contains nearly 200 units of WO_3.

Other scheelite ore bodies are probably present elsewhere within the unexplored parts of the Lindeborg vein. The scheelite exposed in the open cuts at an altitude of about 950 feet (see fig. 5) may be a part of a buried ore body. Scheelite-bearing portions of the vein exposed elsewhere underground may also be parts of other ore bodies. However, the data are too few to estimate the amount of inferred tungsten ore that may be present in the unexplored parts of the vein.

Suggestions for further exploration.

The ground between the Upper level and the surface could be tested by diamond-drilling from the surface on the hanging-wall side of the vein. Several thousand feet of drilling, involving holes up to several hundred feet long spaced to intersect the vein at appropriate intervals would be necessary.

Mountain View mine

The Mountain View mine is 5½ miles north of Hyder between Fish and Skookum creeks (see fig. 2). Buildings on the property consist of a bunkhouse for 12 men, a waterwheel power house, and several small sheds for storing equipment.

Geology

The property which includes several known veins, has been described by Buddington 6/, who recognized scheelite in one of the veins. From 1925 to 1929 a total of 3,600 feet of tunnels were driven at the Mountain View mine. Of these workings, 3,500 feet are on the Skookum tunnel level at an altitude of 540 feet (see fig. 6). No ore has been produced from the mine.

The mine is principally in Texas Creek granodiorite, a few hundred feet west of the main body of rocks of the Hazelton group (see fig. 2). The only vein on the property known to contain scheelite is the Fish Creek No. 2 or "Gray Copper" vein (see fig. 6). This vein, which cuts the Texas Creek granodiorite, strikes N. 45° W. and dips 50° N. The vein is exposed on the surface for 480 feet by several open cuts, and underground by a 50-foot shaft and a 60-foot drift in a short adit. In the Skookum tunnel the vein is exposed for a horizontal distance of 240 feet (as of October 1, 1944). Pits dug on the surface along the projected trend of the vein to the southeast do not reach bedrock.

The principal ore minerals in the Fish Creek No. 2 vein are pyrite, pyrrhotite, and scheelite with some chalcopyrite, galena, and a little sphalerite, tetrahedrite, and freibergite. The gangue minerals are quartz with much lesser amounts of barite. The vein also carries some gold and silver.

Reserves

In 1942 the Bureau of Mines took 15 channel samples underground on the Fish Creek No. 2 ("Gray Copper") vein of the Mountain View mine. One sample was collected by the Geological Survey. The location and WO_3 content of the samples are shown on figure 6. The weighted average of 12 channel samples taken in the Skookum tunnel drift and representing a strike length of 45 feet and an average thickness of 1.3 feet is about 1 percent of WO_3

6/ Buddington, A. F., op. cit., pp. 63 - 67.

Four samples were taken in 1942 by the Bureau of Mines from the short adit 300 feet above the Skookum tunnel drift (see fig. 6). On the basis of examination with the ultraviolet lamp, the better portions of the vein in the Skookum tunnel drift are believed to contain more scheelite than the vein in the short drift above, although the WO_3 analyses do not support this observation. Three of the four samples taken in the short drift are believed to show too high a WO_3 content to be considered representative of an average for this drift. Apparently the samples were taken on the richest parts of the vein. The WO_3 content of the vein in this drift is estimated to be about 0.5 percent.

In 1944 the Bureau of Mines extended the Northwest drift of the Skookum tunnel. On October 1, the drift had been extended for 130 feet. The Bureau of Mines has carefully sampled the new vein exposures, but the analytical results are not yet available. However, on the basis of examination with the ultraviolet lamp, it appeared that the better portions of the vein are exposed in the old drift and that the average grade in the extended part of the drift will average less than 1 percent of WO_3.

The ore exposed in the Skookum tunnel drift forms the basis for estimating a small volume of indicated ore. The main ore-bearing portion of the vein averages about 1.3 feet wide and is about 90 feet long. Assuming it extends 30 feet up and 30 feet down the dip of the vein, approximately 600 tons of ore, c ntaining about 1 percent of WO_3 are indicated.

Additional reserves may be inferred elsewhere in the Fish Creek No. 2 vein. A small proportion of the additional reserves can be considered as indicated ore, for example, the ore exposed in the surface cuts and shallow workings and the scheelite-bearing portions of the vein northwest and southeast of the main ore-bearing part of the vein in the Skookum tunnel drift. The Skookum tunnel drift is approximately 400 feet down the dip of the vein from the surface. Within this interval is a large unprospected portion of the vein and it is probable that some of the vein contains sufficient scheelite to be classed as ore.

Fish Creek Property

On the Fish Creek group of claims along the east bank of Skookum Creek (see fig. 2) two veins in Texas Creek granodiorite near the Hazelton rocks, contain sparse scheelite. At an altitude of about 1,600 feet an adit known as adit No. 3 has been driven southeastward for 60 feet on a quartz vein that strikes N. 35° W. and dips 65° N. The vein is 4 feet thick at the adit portal but splits into a network of quartz stringers about 20 feet from the portal and pinches out 10 feet above it. Scheelite occurs as scattered small crystals in the quartz for 40 feet along the drift. The vein is estimated to contain less than 0.1 percent of WO_3.

According to Buddington: 7/

".....about 350 feet northeast of this vein.....is another vein, which has been prospected by three adits (Nos. 4, 5, and 6) at altitudes of about 1,930, 1,900, and 1,800 feet, with lengths of 60, 109, and 185 feet, respectively. The vein strikes N. 50° W. and dips 45°-50° NE. Its width at the portals of the three adits is 19, 24, and 15 inches. A raise connects the middle and upper adits, and the vein has been partly stoped for 30 feet above the upper adit. In these workings it averages less than a foot in thickness but contains shoots of ore up to the full width."

"The visible sulphides comprise galena and pyrite with tetrahedrite, sphalerite, and a little chalcopyrite."

The adits are mostly in granodiorite, but, near their faces a fault separates the granodiorite from rocks of the Hazelton group and cuts off the veins. Minor amounts of scheelite are present in the vein in all of the adits. Adits No. 4 and No. 6 contain only sparse grains, but adit No. 5 contains a 3-inch quartz-scheelite stringer next to a quartz-sulfide vein. In the first 40 feet of adit No. 5 about 20 feet of this stringer is estimated to contain from 1 to 2 percent of WO_3. The scheelite is in distinct crystals as much as 1 inch across. From 40 to 80 feet from the portal the scheelite is sparse, and the stringer probably contains less than 0.1 percent of WO_3.

Last Chance prospect

The Last Chance prospect (see fig. 2) is on the ridge between Skookum Creek and Salmon River at an altitude between 2,600 and 2,900 feet and approximately 1 mile east of the Riverside mine. The Last Chance claims, formerly known as the Olympia Extension claims, are described by Buddington 8/. The underground workings comprise 700 feet of tunnels, a 50-foot raise, and two 50-foot winzes. The winzes are now filled with waste rock.

The vein, known as the Olympia Extension vein, has been traced on the surface for several hundred feet by a series of open cuts and is exposed underground for a total distance of 180 feet along the strike in two drifts 25 feet and 75 feet below the outcrop and 90 feet and 100 feet long respectively. The east end of the upper drift and the west end of the lower drift are connected by the 50-foot raise. The vein in the lower drift averages 1 foot thick and contains sparsely distributed grains of scheelite for a length of 50 feet; the grade of this part of the vein is estimated to be

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7/ Buddington, A. F., op. cit., p. 69.

8/ Buddington, A. F., op. cit. pp. 69-71.

about 0.05 percent of WO_3. In the upper drift and on the surface above the upper drift the vein is 3 to 4 feet thick and is well mineralized with galena, tetrahedrite, chalcopyrite, and sphalerite. Several small crystals of scheelite were seen in the upper drift, but examination of the surface cuts with the ultraviolet lamp failed to reveal any scheelite.

Monarch prospect

A 30-foot drift on the Monarch group of claims, has exposed a quartz veinlet containing scheelite. The veinlet may be part of the Olympia Extension vein that crops out 1,000 feet to the southeast. The veinlet, which averages 4 inches in thickness, is exposed in the face and along the drift except for an interval 10 feet from the face, where it is absent. The veinlet is estimated to contain from 0.5 to 3.0 percent of WO_3 throughout its exposed length. A surface cut on a fissured zone above the drift failed to show any scheelite when examined with the ultraviolet lamp.

Bluebird prospect

In October 1942, the Bluebird claim (see fig. 2) was located by Arthur O. Moa. The vein was not examined by the author. It is reported to be in Texas Creek granodiorite about 1,500 feet west of rocks belonging to the Hazelton group and at an altitude of about 2,300 feet. According to Mr. Moa, the vein is exposed for only a few feet in a creek bottom and is 4 inches wide. It contains molybdenite along its walls, and quartz with sparsely disseminated pyrite, chalcopyrite, galena, and scheelite in the central portion. Three hand specimens of the vein were estimated by the writer to contain about 0.5 percent of WO_3.

Other properties

Scheelite in rare grains was observed on the Brigadier (Hyder Butte), Liberty, Bear (Lucky Boy Extension), Alaska Premier (south workings only), and Engineer properties. The Engineer property is outside the area shown in fig. 2. Search with an ultraviolet lamp failed to reveal scheelite on the Last Shot, Helen (Howard), Six Mile, Cantu, Hyder Skookum, Titan, Cripple Creek, Daly-Alaska, 96, Texas Discovery, Hyder Lead, Morning, Lake, Blasher, Edelweiss, and Jumbo properties. Many of these properties are outside the area shown in fig. 2.

SUMMARY OF RESERVES

Scheelite has been observed in veins on 11 properties in the Hyder district. Only the Riverside mine and the Mountain View mine are known to contain scheelite-bearing rock in sufficient quantity and of sufficiently high grade to constitute ore reserves.

The Riverside mine is estimated to contain about 9,000 tons of indicated ore (from this should be subtracted ore mined from the East ore body since early 1943), averaging about one percent of WO_3. The Mountain View mine is estimated to contain about 600 tons of indicated ore of similar grade.

Additional ore reserves are probably present in the unprospected parts of the veins at both the Riverside mine and the Mountain View mine, but not enough development work has been done to estimate quantitatively their size and grade.

January 1945

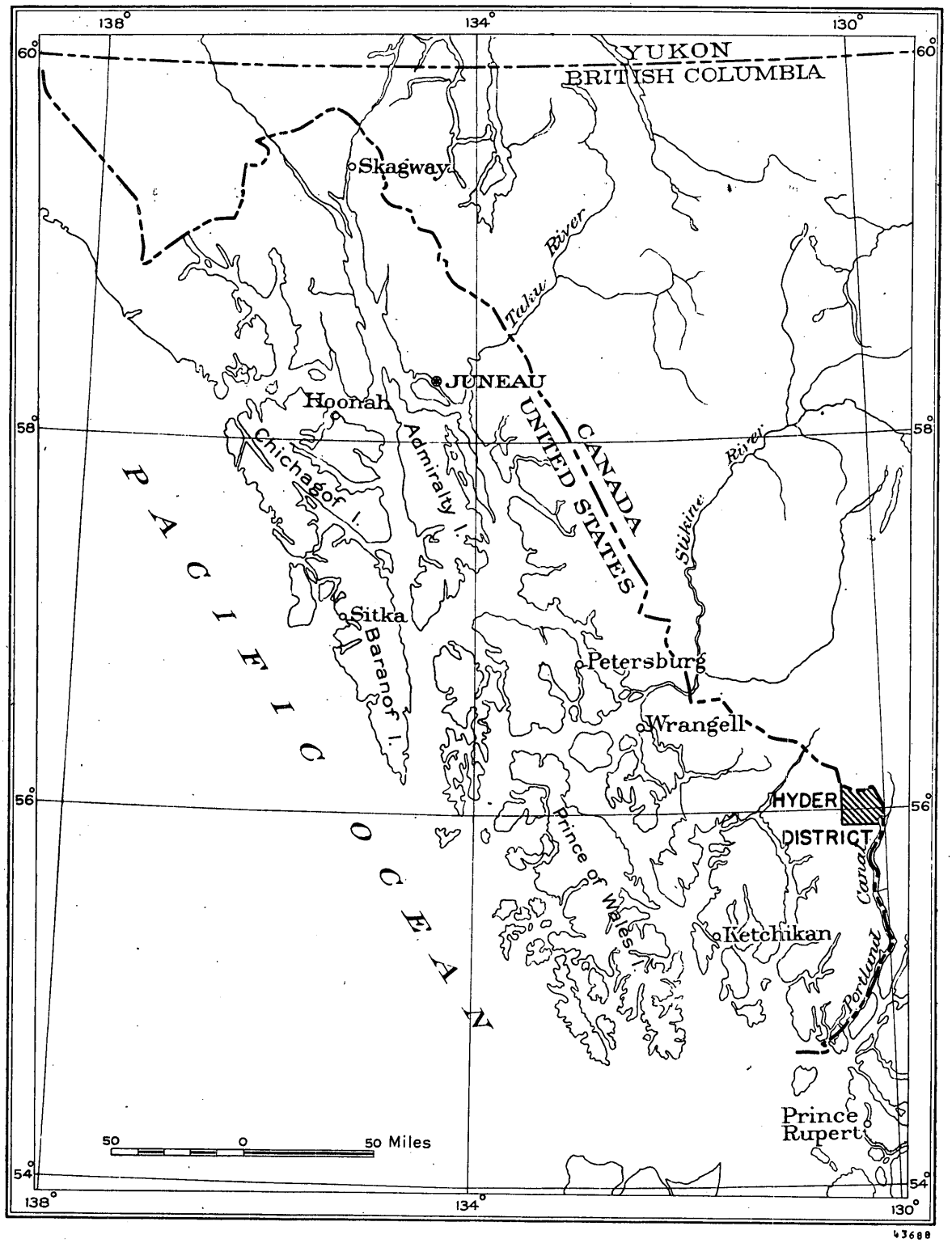


Fig. 1. Index map showing location of the Hyder district, southeastern Alaska

Docked

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration
MAR 8 - 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~

P. O. Box 560
Juneau, Alaska
March 3, 1954

WGM

Mr. George C. Selfridge, Chairman
Operating Committee
Defense Minerals Exploration Administration
Washington 25, D. C.

re: Docket No. DMEA-3246 (tungsten)
Pacific Northern Minerals Company

Dear Mr. Selfridge:

Your letter of February 5 requesting a Field Team estimate of the referenced application, and enclosing copies of Geological Survey and Bureau of Mines comments, was received on February 9. Two copies of the application had been received from the Pacific Northern Minerals Company on January 25.

Because our previous recommendation for exploration of this property was reversed in Washington we have spent considerable time trying to analyze the proposal and to present our conclusions in such a way that the Washington staff might understand, more clearly, our reasons for favoring the project. We suspect that earlier presentations did not give an understandable "picture" of the true situation as we see it. At my suggestion, Mr. Sainsbury took his "Geologic Appraisal" with him to Washington where he will be able to discuss it with you in person. I am enclosing, herewith, four copies of Mr. Thorne's analysis and recommendations. Although Sainsbury and Thorne approach the subject from somewhat different viewpoints, they arrive at essentially the same conclusion - with which I am in entire agreement.

The application is exceptionally well prepared. Our only important disagreement is that we favor work that will be more truly exploratory than the semi-development approach requested by the Operators. Although Thorne's estimate of unit costs differs slightly from the Operator's estimate I do not think that the difference is enough to argue about.

Mr. Geehan pointed out, quite properly, that some of the proposed work would tend to develop the adjoining "Fearing" ground which is not included in the application. It is my understanding that the Company has not obtained control of the Fearing ground but that they hope to obtain it. I suggest that a clause might be inserted to the effect that ore mined from the Fearing ground by this Company should contribute to royalty payments on the same basis as would ore from the present holdings.

I will not go into a detailed discussion of the project and the geology but I wish to point out that the ore shoots give every indication of persistence to very considerable depth (there is no evidence of depth limitations related to present surface), that the mine is one of the most favorably situated in Alaska and that the applicants give every evidence of being competent. I do not know Mr. Van Gundy but he appears to know what he is doing. I am personally acquainted with Walter Melrose, their consulting geologist; Melrose is held in high esteem throughout the Pacific northwest.

I am of the opinion that, with competent management, (and good metal prices) the property could be a steady though small producer for many years to come. I recommend that the application be approved in the amount requested but that the program be modified as we have suggested.

Yours sincerely,

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

Enclosure

cc: C.L.Sainsbury
R.L.Thorne
J.A.Herdlick

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION I

DEPARTMENT OF THE INTERIOR
Minerals Administration
RECEIVED
8 - 1954

OFFICE OF
REGIONAL DIRECTOR

P. O. BOX 2990
JUNEAU, ALASKA

4/23/54

Memorandum:

To: S. H. Lorain, Executive Officer, Field Team, Region I

From: Robert L. Thorne, Mining Engineer, Region I

Subject: Docket No. DMEA-3246 (tungsten)
Pacific Northern Minerals Co.
Riverside Mine, Hyder, Alaska

Review

An application by the John Scott Co., Docket No. DMA-558, for production assistance including some exploration was recommended by the Field Team but denied in Washington, D. C. by a letter of October 2, 1951.

To effectively evaluate the subject docket, it is necessary to determine whether the original reasons for denial have been abated and whether the new proposal offers a sound exploration program.

A careful survey of all available records indicates the following production:

Year	Tons ore	Tons tails	WO_3 lbs.	Pb lbs.	Zn lbs.	Cu lbs.	Au lbs.	Ag lbs.
1925	*			163,957		5,487	9	278
1926	4,000			203,692		7,007	219	7,478
1927	6,500			460,655			412	13,252
1929				61,780		419	575	1,600
1941	3,368		26,400					
1942	97	1,284	7,430					
1943								
1944	1,253		19,442					
1945								
1946	1,819		8,294	238,126	433	4,700	70	6,951
1947	5,064		12,101	537,433		26,154	697	22,284
1948	4,005		1,700	647,798	28,343	33,488	736	25,290
1949	2,100		300	99,441	4,494	8,335	151	3,500
1950	3,500			346,500	17,740	14,668	356	12,700
1951				43,013		1,737	36	1,783
11	31,706	1,284	75,667	2,835,736	52,414	101,995	3,284	95,946

3793

* Cross vein ore not included as tonnage.

In the report of R. G. Mellin, R.P.E. he indicated that mining done by Strong, Barbour and Black was on the cross vein and the production in 1926

and 1927 by the Riverside Mining and Milling Company was the first production from the Lindborg vein. The presence of scheelite in the ore is not mentioned in this report.

In a report of March 25, 1940 by Durand A. Hall for the J. H. Scott Co. samples taken by Arthur Moa in 1937 were found to carry values in tungsten. A new study of the mine was made and in 1941 it was put into operation as a tungsten producer. During 1942, 97 tons of mine ore and 1,284 tons of tailing were put through the mill. The mill did not operate in 1943, but was put back into production again under the supervision of Ellis Coke in 1944. In this period all effort was directed to the exploration, mining, and recovery of scheelite.

Only development work was done in 1945 but in 1946 normal production resumed and continued through 1950.

In 1946 and 1947 possibly 30 to 50 percent of the tungsten was recovered but in 1948 and 1949 only a very small percentage was scavenged by running flotation tails over a Wilfley table. During the leasing operation in 1950 no attempt was made to recover the tungsten but fortunately some of the higher grade coarse ore was sorted out as waste.

Possibly less than a third of the tungsten in the total mill feed was recovered. Pan American laboratories have demonstrated in tests run on the ore in 1940 that more than 70 percent of the scheelite contained in the ore can be recovered in a plus 60 percent concentrate. cont?

A line 200 feet below and parallel to the surface of the vein would cover nearly all of the stoping. The exhaustion of the 200-foot area adjacent to the surface is between 60 and 75 percent complete. This may leave 10,000 tons of ore in this area, and an additional 80,000 tons in the next 400 feet below.

Since the surface length of the deposit is in excess of 1,800 feet, and there is no geologic evidence indicating a special near surface deposition, the 600-foot zone parallel to the surface could be considered a good area for exploration. The vein is productive through a vertical distance of more than 600 feet. ?

An attempt to reconstruct the grade of the original ore by correcting from the estimated recovery would indicate a possible average head of:

WO_3	Pb	Au	Ag
0.45%	7.0%	0.1 oz/T	5.0 oz/T

This ore was up-graded to some extent by sorting but this procedure does not alter the metal content of the area.

The above ore might be considered to have a gross value of $50 per ton and a recoverable value of $35 per ton. An inferred 90,000 ton discovery would have a $3,150,000 gross value and the possible return from the production of such ore at 5 percent would be $157,500.

A study of the past production methods would indicate that with good management, good metallurgy, and an explored ore reserve, the property should make a profitable small producer. Remnants of ore left from past exploration are not large enough or well enough defined to justify the capital expenditure required to initiate an operation. Exploration is indicated as the next logical procedure and the length of surface exposures combined with an analysis of the productivity of the mined area would indicate that the exploration should have a moderately good chance of success.

Two adverse geologic points have been brought out in connection with the proposed exploration. The split in vein has been assigned to a particular elevation (about 500 feet) and is expected to persist downward. The split condition of the vein does not rule out the possibility of ore as is shown by the very good ore mined between the mill level and the 530-foot level. There is no special reason to expect this split to persist in depth or longitudinally. It has been suggested that 50 percent of the area above the mill level drift has been explored which is correct if only the present length of the mill level drift is considered, but it is 1,000 feet from the S.E. end of the mill level drift to the property line. The location of the porphyry dike projected through this area is based on very little factual evidence. A porphyry dike parallels the shearzone on the surface; on the intermediate level it is located at the end of crosscut from the east raise and in the east wall at the end of the drift and on the mill level it is encountered in 3 diamond drill holes. In diamond drill hole M-13 from the southeast mill level drift a second porphyry dike was encountered at the end of the hole and this was interpreted as a parallel situation to the junction of the porphyry dikes on the surface. A simpler explanation of the second dike encountered in the drill hole would be a split in the parallel dike similar to the split in the vein.

The possibility of a dike reducing the ore-bearing area by crossing it or occupying sections of the shearzone either on the Riverside or Fearing portions of the Lindborg vein is indicated, but is not considered a delimiting factor for exploration.

Metallurgy

The recovery of metals in the Riverside mill has not been good but satisfactory tests on Riverside lead-tungsten ore were conducted by Pan American Engineering Company and there is no evident reason why these

tests could not be duplicated in actual practice. The procedure followed was grinding to 28-mesh, screening to plus and minus 65-mesh with sand tabling of the oversize and slime tabling of the undersize. Concentrates were combined and ground to minus 65-mesh. The concentrate was cleaned by bulk sulphide flotation and the tailing was slime tabled producing a 65.8 percent WO_3 concentrate with a recovery of 72.5 percent. The bulk sulphide concentrate contained 11.9 percent lead, 0.27 ounces per ton gold and 6.12 ounces per ton silver. The lead in the bulk flotation concentrate can be cleaned to 76.6 percent lead concentrate with a recovery of more than 80 percent of the lead in the primary heads. Approximately 80 percent of the gold and 26 percent of the silver were discarded in a pyrite concentrate which has less than 18 percent of the weight of the original heads. It is probable that the only feasible means of up-grading gold and silver in the pyrite concentrate would be by use of corduroy in the tail launders from the lead cleaner cells. Most of the gold and silver could probably be recovered by direct leaching with weak cyanide solution but this method on the small volume of material would probably not be economic.

It is also possible that a better overall recovery of scheelite can be made by adding flotation to the slime table tailing circuit to produce a low-grade concentrate.

The point that much of the outlined exploration closely resembles development is well taken. It could also be said that most of the outlined exploration is too close to existing development to accomplish the required object of indicating and inferring large enough tonnage of ore to justify an operation.

Drifting southeast on the Lindborg shearzone on the mill level from the general position shown as 6 on the proposed exploration plan map appears to be the field in which the greatest possible potential can be tested at the lowest cost. The scheelite encountered in hole M-21 should be used as the starting point.

The raise proposed from this drift at (7) is considered a good means of testing inferred ore above, providing valuable information on the rake of the orebodies and bringing ventilation much closer to the face of the southeast drift.

The crosscut following the Cross vein to the Lindborg vein and thence northwest along that vein is good exploration but the final raise to the scheelite orebody is not a necessary component. If the suspected rake to the southeast is verified in raise (7) from the mill level, a similar condition could be anticipated in the morthwest mill level sill orebody and this winze level could be stopped 100 feet short of the position indicated.

The 810-foot level drift is considered good exploration.

Costs

Operating Equipment

No stopers are shown in the used equipment furnished or the equipment to be purchased. They will be needed in raising and are listed in one raise operation while jackhammers are listed in the other.

Rehabilitation

When considering this item for an old mine plant that has not been in operation for several years the opportunity for a considerable expenditure is quite evident. It is felt that by confining the rehabilitation to only that portion of the mine and plant absolutely necessary to the exploration that this item could be handled for $8,000. Articles (a), (e), and (g) particularly seem higher than necessary if the work is confined to 3 drifts and a raise.

Exploration

Labor: The general estimate is well calculated. Some slight discrepancies are evident in claculation of overtime in some instances and not in others. In Stage 2, Part 1 the trammers are reduced to half-time for no explicable reason. It is considered probable that overlapping duties might reduce the general labor estimate slightly and thus make up for these possible oversights.

Materials and Supplies: The subject is very well covered and well estimated.

Unit Costs: The following unit costs, after rehabilitation are considered fair:

Mill level and 810 level drift	$40.00 per foot
Mill level raise	$45.00 per foot
Winze level drift	$46.00 per foot

Summary or Conclusion

The Riverside mine has a spotty complex ore and orebody but one which has been persistent along 1,800 feet of strike length, and 600 feet of elevation. Within the square of this area there is a prospective potential of 90,000 tons of additional ore. Due to the complex nature of the ore and its deposition, fairly large ore reserves will have to be indicated to justify the mining and metallurgical plant required for good operation. It is believed the suggested program will indicate these reserves.

Much of the subject application is directed toward exploration of fringe areas of present stopes and would do little more than perpetuate

the futility of past operation hence it is not recommended.

A rather bold attack of the problem is indicated as the more logical approach. The extension of the 810-level to the property line would indicate the nature of the mineralization in the area and the presence or absence of porphry dikes or sills which could eliminate much of the area to be explored. The inclusion of the Fearing ground under the conditions of the contract would do much to justify this work. An extension of the mill level drift southeast 250 feet and completion of the raise indicated as 7 on the proposal would test and evaluate the extensions of the east orebody sufficiently to determine whether the continuation of the exploration is justified.

The cost of the above first step is estimated as follows:

Rehabilitation	$ 8,000.00	
810-level 400' @ $40/ft.	16,000.00	
Mill level drift 250' @ $40/ft.	10,000.00	
Mill level raise 228' @ $45/ft.	10,260.00	
Total first stage	$44,260.00	$44,260.00

If the initial stage produces favorable results the following second stage is proposed to substantially increase the indicated and inferred ore:

Advance the mill level drift 500' southeast cost	$20,000.00	
Dewater and rehabilitate winze and hoist station on Cross vein	3,000.00	
Crosscut & drift 660' on winze level @ $46/ft.	30,360.00	
Total second stage	$53,360.00	$53,360.00
Total for application		$97,620.00
Government share		$73,215.00

Some long hole sampling should be done to check for parallel orebodies.

This program should produce definite results and appears to have an average chance of success. The ground in this property is extremely sound and even a presently sub-economic discovery would remain open indefinitely for future use.

Robert L. Thorne

Robert L. Thorne,
Mining Egnineer, Region I

400

DOCKET

Surnamed by
Rutledge
Martin
Hedges
Guild
Selfridge
Johnson
Martin

FEB - 9 1954

Mr. J. E. Van Gundy
Pacific Northern Minerals Company
P. O. Box 1481
Spokane, Washington

Re: Docket No. DMEA 3246 - Tungsten
Riverside mine
Hyder, Alaska

Dear Mr. Van Gundy:

The above-docketed application for exploration assistance has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. S. H. Lorain, Executive Officer, DMEA Field Team, Region I, P. O. Box 560, Juneau, Alaska, for review and possibly a field examination of the property.

The Field Team will advise you well in advance if an examination is to be scheduled and if any specific aid from you will then be required. Any assistance that you might render the members of the Field Team under those circumstances would be much appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

CC: DOCKET
FT, REGION I
CODE 400
ADM. READ. FILE
T. P. THAYER, USGS
R. W. GEEHAN, USBM

FARutledge/WSMartin/ls
2/9/54

HHR 2-9-54

400

DOCKET
SURNAME
Rutledge
Martin
Hedges
Guild
Selbridge
Hoffman

Pacific Northern Minerals Company
P. O. Box 1481
Spokane, Washington

Re: Docket No. DMEA 3246 - Tungsten
Riverside mine
Ryder, Alaska

Dear Sirs:

The above-docketed application for exploration assistance has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. S. H. Loredo, Executive Officer, DMEA Field Team, Region I, P. O. Box 560, Juneau, Alaska, for review and possibly a field examination of the property.

Any assistance that you can render the members of the Field Team will be appreciated.

Sincerely yours,

Administrator

Received 2/9

FARutledge:foc
2-5-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. 1
R. W. Geehan, USBM
T. P. Thayer, USGS

C

400

Docket
Surname
Rutledge
Martin
Selfridge
Wirkkala

FEB - 5 1954

Mr. S. H. Lorain, Executive Officer
DMEA Field Team, Region I
P. O. Box 560
Juneau, Alaska

Re: Docket No. DMEA 3246 - Tungsten
Pacific Northern Minerals Company
Riverside mine
Hyder, Alaska

Dear Mr. Lorain:

The subject application for exploration assistance is being referred to your office for review and possibly a field examination of the property if required. We understand, generally, from your letter of January 29, 1954, that many of the data necessary for a review are already in your files. An earlier application by the J. H. Scott Co., Docket No. DMA 558, for production assistance included some exploration, but was denied by letter of October 2, 1951.

Enclosed are two copies each of memoranda of January 27 and February 4, by the U. S. Bureau of Mines and U. S. Geological Survey, respectively, concerning the above-captioned docket.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (24B)

Enclosures

APPROVED:

J. H. Hedges (24B)
Member, Bureau of Mines

s/ Philip W. Smith
Member, Geological Survey (24S)

FERutledge/foc 2-5-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. 1
R. W. Gaehan, USBM
T. P. Thayer, USGS

R.C.S.
2-5-54

Docket

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

February 4, 1954

WSM

Memorandum

To: W.S. Martin, D.M.E.A.

From: P. W. Guild

Subject: Review of application for loan

Docket number: DMEA 3246 (Tungsten)

Applicant: Pacific Northern Minerals Co. (Carl B. Warren and D.W. Walters)
P.O. Box 1481
Spokane, Washington

Name of property: Riverside mine
Hyder district, Southeastern Alaska

Summary: The applicant requests $140,128 to be used as follows: Rehabilitate camp, mine, and machinery, $12,130; explore the Lindeberg shear zone by drifts, raises, and winzes, $123,868; diamond drilling, $4,130.

Discussion: This mine and the district were studied by the Geological Survey and Bureau of Mines during World War II, and have been described in an open-file report, Tungsten deposits of the Hyder district, S.E. Alaska by F.M. Byers, Jr., 1945, 13pp., 5 maps, three of them dealing specifically with the subject property, and in Bureau of Mines R.I. 4174, Tungsten deposits in Alaska, 1948, pp. 38-44, with maps and sections. The deposit is thus rather well known. Scheelite-bearing quartz veins occur along a shear zone in a schist inclusion in granodiorite. The zone can be followed about 2,000 feet horizontally and is exposed vertically for over 700 feet. It splits into two parts at an elevation of about 500 feet and the branches ~~wedge~~ wedge out downward, so that the upper, near surface

part of the zone is more favorable for ore and has furnished most of the production. Three minable ore shoots have been found and largely exhausted. The records show that about 5,000 units of WO_3 have been produced.

Probably 75 percent of the area above 500 feet and 50 percent of the area above the mill level (330') has been explored closely enough to rule out any significant undiscovered ore bodies. The best hope for finding new reserves probably lies south of the present heading of the 801 drift, under the open cuts at 950 feet (Byers, p. 8) but the area is not large and the porphyry dike occupies part of it. Phases 1 and 2 of the proposal, therefore, seem to be the most favorable ones.

As no geologic guides to the distribution of the ore shoots within the shear zone are known, the chances that future exploration will be successful can best be calculated from the past record. Twenty-six hundred feet of drifts have led to production of about 5,000 units. Eight hundred, eighty-five feet might locate 1,700 units, other factors being equal. But much of the proposed work is below the split where the odds are greater.

This mine has consistently failed to come up to expectations. Thus, Byers estimated the reserves in the east body alone at 9,000 tons of one percent ore in 1943, but although the applicant's longitudinal section shows that much of this orebody was mined out by the previous operator, production statistics suggest that the overall yield from all stopes has not been more than 3,000 units since that time. Mill recovery has been poor, but should not be so inefficient as to account for this discrepancy.

Recommendation: The application should be referred to the Field Team for consideration. Past records should be studied to reconcile past predictions and actual results. No such ambitious exploration program as that proposed seems justified, as the discovery of a few thousand units of WO_3 will not recompense such exploration costs.

P.W. Guild

P.W. Guild

OFFICE OF THE ADMINISTRATOR

Docket
MEA 3246
Pacific Northern Minls Co.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~

P. O. Box 560
Juneau, Alaska
January 29, 1954

WSM

MEMORANDUM

Department of the Interior
Defense Minerals Administration
RECEIVED
FEB 1 1954

To: Operating Committee
Defense Minerals Exploration Administration

From: S. H. Lorain

Subject: Contract application, J. E. Van Gundy (tungsten)

I have just received from your office a copy of an application from J. E. Van Gundy for a tungsten exploration project at the Riverside Mine near Hyder, Alaska.

We will file this report pending a possible request from your office for a Field Team report. I believe that you already have considerable data from us that was prepared in connection with an earlier application by another operator.

S. H. Lorain, Executive Officer
Alaska Field Team, Region I

cc: C.L.Sainsbury

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 27 1954

January 27, 1954

WSM

Memorandum

To: W. S. Martin, DMEA

From: R. W. Geehan, Bureau of Mines

Subject: DMEA 3246, Riverside Mine, Alaska
Pacific Northern Minerals Company

The Riverside mine is described in R. I. 4174.

The application lists exploration of numbered areas, 1 to 9 inclusive.

Area 1, 400 feet of drifting may be questioned as being a means to get at ore not included in the application.

Area 2, 236-foot raise to surface, is rather near the raises from the upper stope.

Area 3, 400 feet of drifting, seems logical exploration.

Area 4, 150-foot raise, is not needed.

Area 5, 170-foot raise, will start in a zone where the Bureau of Mines had 4 blank drill holes. However, it may serve as exploration if a favorable showing is encountered in Area 3 above.

Areas 6 and 7 have been explored by 6 Bureau of Mines drill holes. See Fig. 15, R. I. 4174.

Area 8 has not been explored.

Area 9 is cut by 2 Bureau of Mines drill holes.

The entire application seems to be slanted toward development rather than exploration. There is an extensive unexplored area southeast of area 6; however, perhaps there is some reason for not exploring this part of the shear zone. Diamond drill holes bearing east from the lower winze level would cut the shear zone in an unexplored zone.

It is recommended that this application be referred to the Field Team.

Robert W. Geehan

Robert W. Geehan

Pacific Northern Minerals Co.
P. O. Box 1481
Spokane, Washington

January 25, 1954
Subject: DMEA-3246
Re: Exploration Assistance
Riverside Mine

The receipt of your application dated January 22, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3246 and referred to the Iron and Ferro Alloys Division.

Kindly refer to DMEA-3246 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams
Chief, Operation's Control
and Statistics Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

January 25, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region I

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region I.

DMEA-3246 Pacific Northern Minerals Company

ROBERT E. ADAMS
Robert E. Adams
Chief, Operation's Control
and Statistics Division

N. 2601 Dakota St.

Phone GL. 2726

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JAN 25 1954

PACIFIC NORTHERN MINERALS CO.

P. O. Box 1481
SPOKANE, WASHINGTON

January 22, 1954

Defense Minerals Exploration Administration
New Interior Building
Washington 25, D.C.

Gentlemen:

Herewith enclosed are four copies of application for exploration loan covering the Riverside mining property, Hyder District, Alaska. Attached are Owner's Consent to Lien and Lease and Option agreement, and three maps as follows:

1. Composite Plan Map of underground workings
2. Longitudinal Cross Sections
3. Claim Map

Two copies of this application have been forwarded by airmail to Executive Officer, DMEA, Juneau, Alaska.

Mr. Walter Melrose, designated in the application as Consulting Geologist and I, after examining the Riverside Mine, called at Juneau on November 17, 1953, and covered the general situation with Mr. Herdlick and Mr. Thorne of the Bureau of Mines and with Mr. Sanisbury of the U.S.G.S.

The application as submitted covers the minimum amount of exploratory work that I consider should be undertaken under a loan.

You will note that considerable preliminary work is to be done before work can be started underground. It is imperative that this preliminary work be completed prior to our scheduled starting date of May 1, 1954. For this reason we shall greatly appreciate your early consideration of our application and trust that you will accord it favorable action.

Costs in Alaska run considerably higher than in the States for similar work. It is possible that we will be subject to losses under the unit prices indicated. We are in position to accept these losses if the government will join us in the exploration of this property. It possesses a great deal of merit, and we have plans for pushing development and complete rehabilitation of the mill immediately after the exploration program is completed.

We believe that the Riverside Mine will become an important and consistent producer of tungsten products.

Yours very truly,

J.E. Van Gundy

JEVG/kvg

N. 2601 Dakota St.

Phone GL. 2726

PACIFIC NORTHERN MINERALS CO.

P. O. Box 1481
SPOKANE, WASHINGTON

Received
JAN 23 1954
3246

January 21, 1954

Mr. C.O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Washington 25, D.C.

Dear Mr. Mittendorf:

On behalf of Pacific Northern Minerals Company, an unincorporated partnership consisting of Mr. Carl B. Warren and Mr. D.W. Walters, of Spokane, Washington, I am forwarding under separate cover, air-mail, special delivery, four copies of application for exploratory loan on the Riverside mining property, Hyder District, Territory of Alaska.

Two exact copies of this application have been forwarded to Executive Officer, P.O. Box 2990, Juneau, Alaska.

On my second trip to the Riverside mine after talking to you at the American Mining Congress in Seattle last Fall, I flew from Stewart, B.C. to Juneau and on November 17, 1953, had a conference with Mr. Herdlick, Acting Regional Director of the U.S. Bureau of Mines, in the absence of Mr. S.H. Lorain, Director, Mr. Robert L. Thorne also of the Bureau and Mr. C.L. Sainsbury of the United States Geological Survey.

Mr. Walter Melrose, Consulting Geologist of Spokane, who is the geologist designated in the application, accompanied me to the mine and attended the conference with the Bureau of Mines and Geological Survey representatives.

The application represents what I consider should be the minimum amount of exploratory work that should be undertaken at the property. The mine has much merit and under capable management should become an important producer of tungsten.

It is our intention to complete the exploratory project as quickly as conditions will permit. Prior to its completion we expect to start development and re-equip the mill from top to bottom so that we may get into production of tungsten concentrates as soon as possible. We have received certificate from General Services Administration authorizing delivery of tungsten concentrates.

If it is convenient for your organization, we would appreciate early consideration of the application to permit work to get under way at the mine as early in the Spring as possible, provided our application receives government approval.

Sincerely,

J.E. Van Gundy

J.E. Van Gundy

JEBG/k

Area 3246 Work Sheets

Rehabilitation of Winze:

Labor and Payroll Tax	987.90
Materials and Boting	1730.10
	$2718.00

Stage I

500 ft of drifting	@ 42.00	21,000.00
230 " " Raising	@ 40.00	9200.00
480 " " D.D.	@ 10.00	4,800.00
		35,000.00

Stage II

760 ft of drifting	@ 44.00	33,440.00
261 " " Raising	@ 42.00	10,962.00
600 " " D.D.	@ 10.00	6,000.00
		50,402.00

Actual Costs

Stage I

Rehabilitation	8,000.00

Stage II

Rehabilitation	3,718.00
	10,718.00
Total	96,120.00
Gov participation @ 62½	60,075.00

3084.00
4916.00
8000.00

Rehabilitation

Stage I

(a) Rehabilitate Camp Buildings to put into shape to house and board necessary crew — new material excluded. This is to apply to building and managers dwelling limit 1600 — 1000.00

(b) Clean and repair power house.
New roof and rebuild building
1800.00

(c) Repair, water supply line and rebuild intake
300.00

(d) Rehabilitate power machinery — power units, compressors etc. by installing new rings, new bearings etc.
2 men 20 days @ 50 — 1000.00

(e) Rehabilitate mine equipment by cleaning, oiling and general repairs to mine cars, hoists and hoisting equipment
2 men 15 days @ 50 — 600.00

(f) Rehabilitate Mill head by cleaning mud from shafts laying new tracks and pipe lines

400 yds 30# mine rail @ $10.30/100#	824.00
Rail accessories 20%	164.60
600' 3" air line @ $0.912/ft	547.20
600' 3" air line @ 0.443	265.00
Pipe fittings 20%	162.60
300 mine ties @ 0.43	130.00
	~~2,094.00~~
Cleaning Drift, laying track and pipes	816.40
	2900.00

Rehabilitate

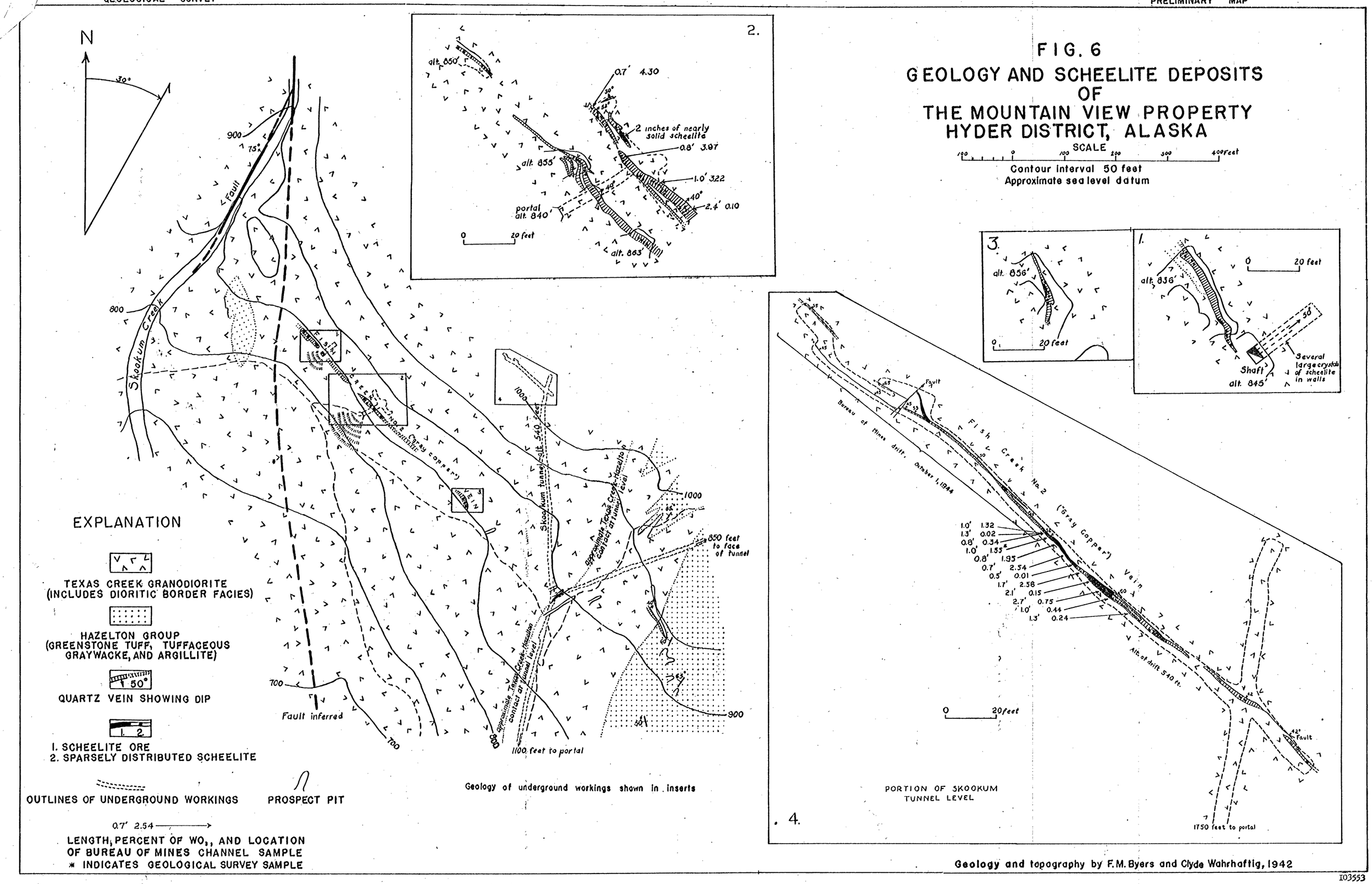
g. Water and Archers — 2 men 10 days @ 40 — 400.00

Total 8000.00

FIG. 6
GEOLOGY AND SCHEELITE DEPOSITS OF THE MOUNTAIN VIEW PROPERTY HYDER DISTRICT, ALASKA

SCALE
100 0 100 200 300 400 Feet

Contour interval 50 feet
Approximate sea level datum



Geology and topography by F.M. Byers and Clyde Wahrhaftig, 1942

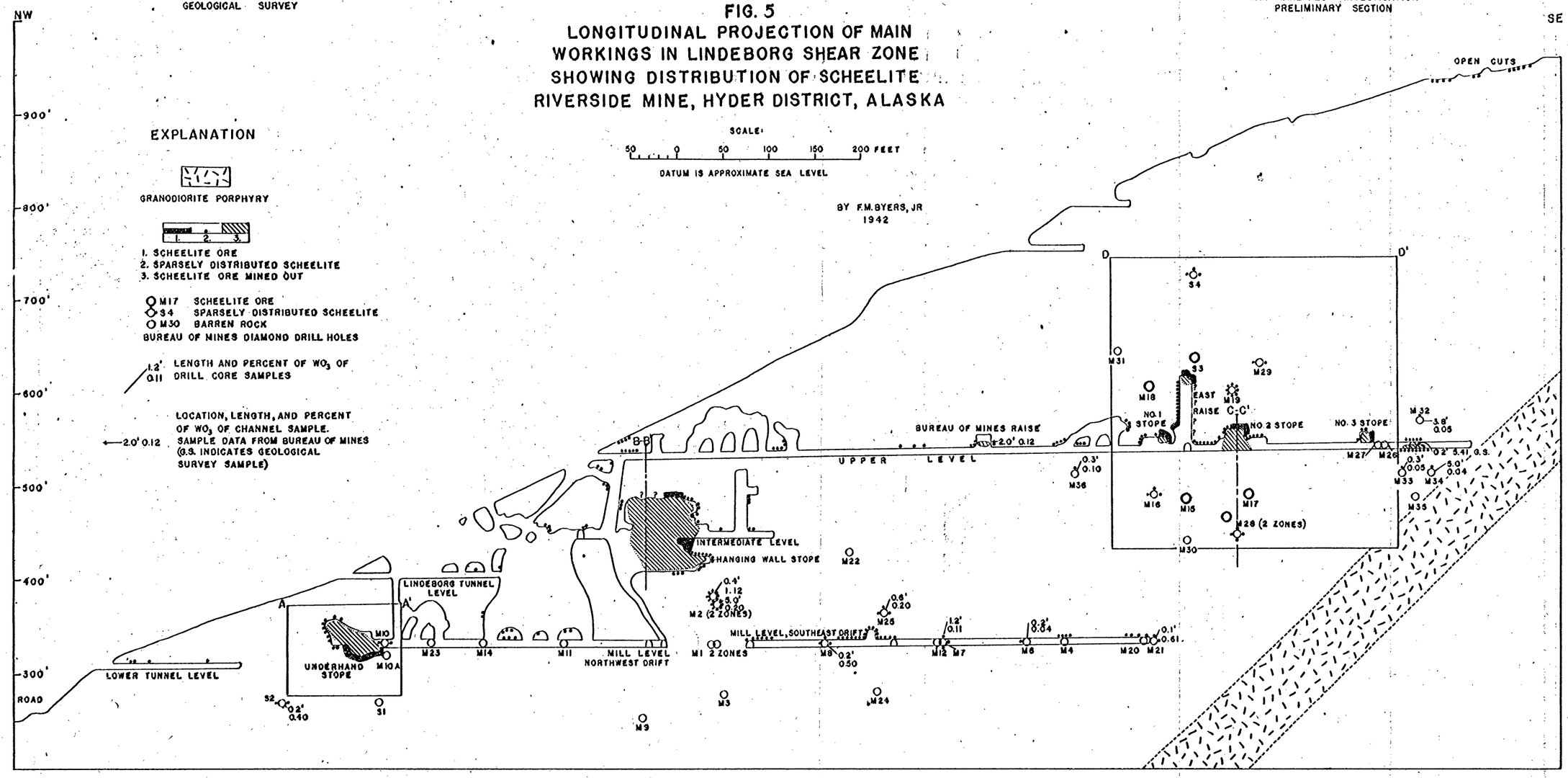
U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

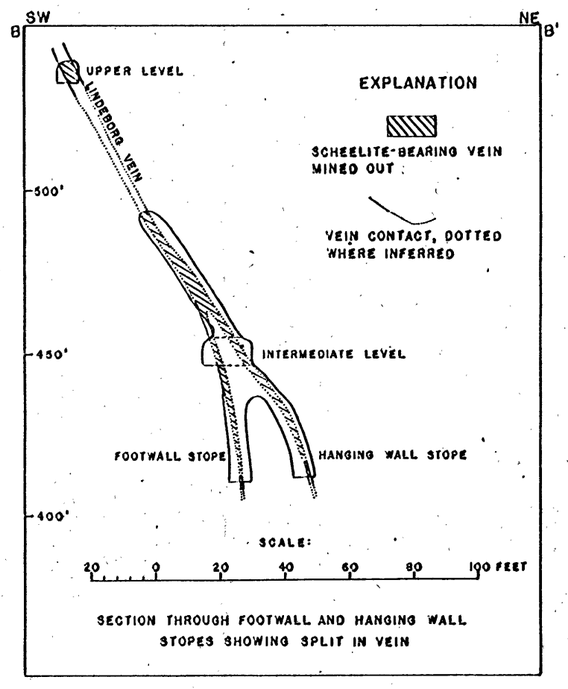
WAR MINERALS INVESTIGATION
PRELIMINARY SECTION

FIG. 5
LONGITUDINAL PROJECTION OF MAIN WORKINGS IN LINDEBORG SHEAR ZONE SHOWING DISTRIBUTION OF SCHEELITE RIVERSIDE MINE, HYDER DISTRICT, ALASKA

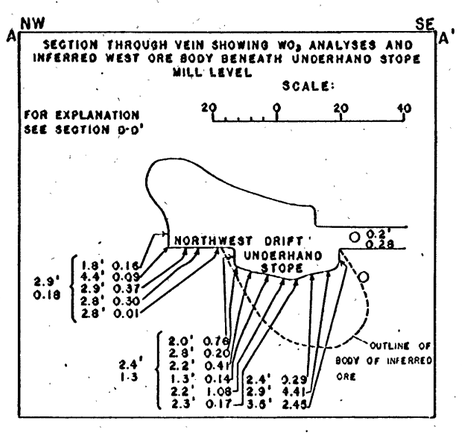
SCALE:
50 0 50 100 150 200 FEET
DATUM IS APPROXIMATE SEA LEVEL

BY F.M. BYERS, JR
1942

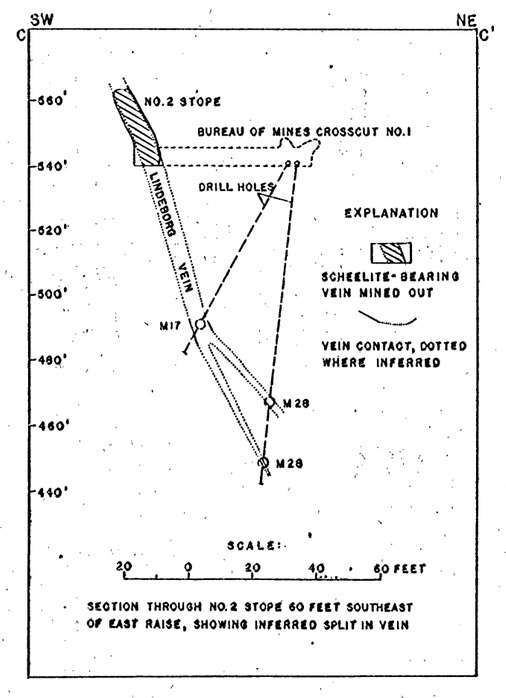




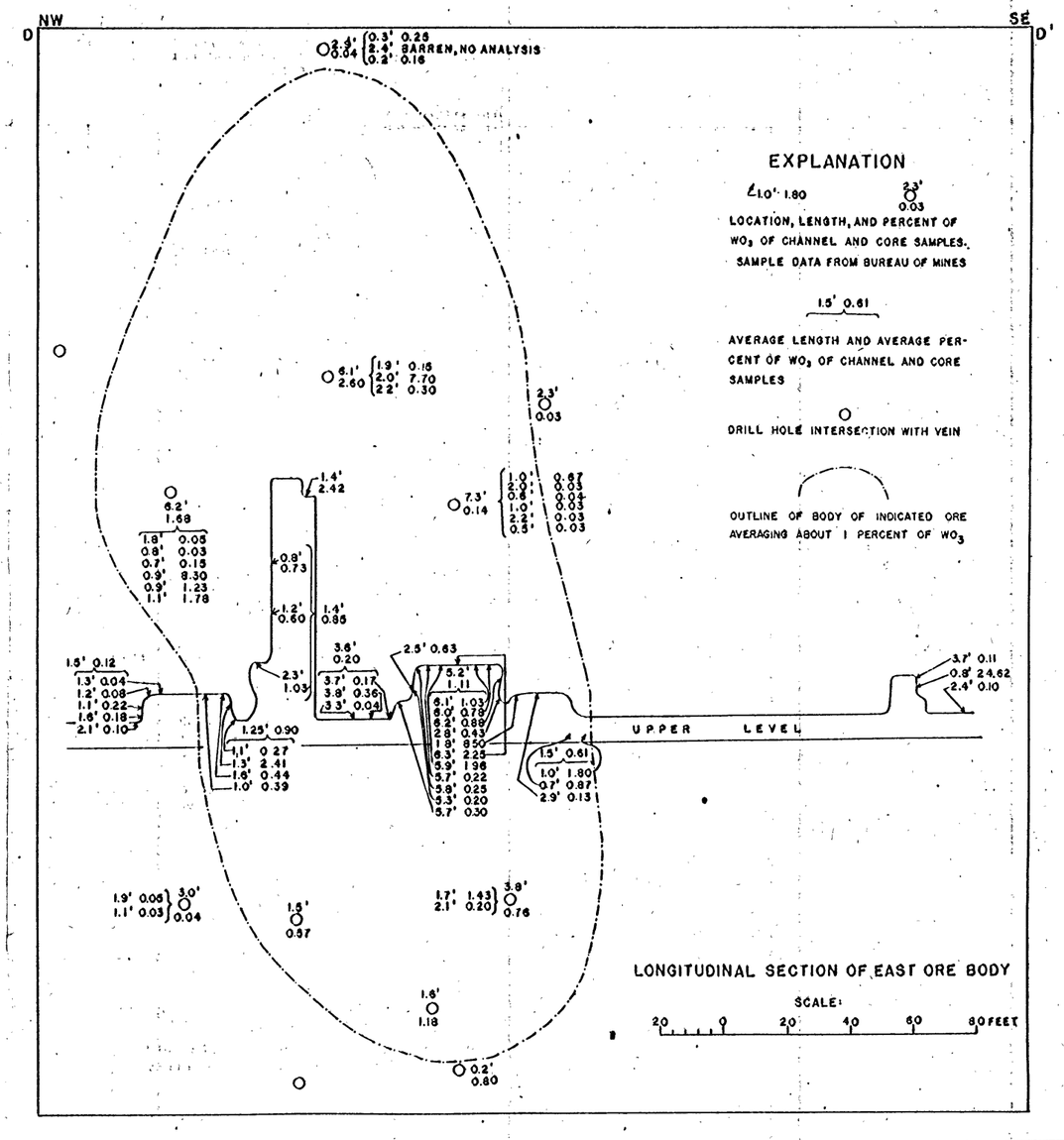
SECTION THROUGH FOOTWALL AND HANGING WALL STOPES SHOWING SPLIT IN VEIN



SECTION THROUGH VEIN SHOWING WO_3 ANALYSES AND INFERRED WEST ORE BODY BENEATH UNDERHAND STOPE MILL LEVEL



SECTION THROUGH NO. 2 STOPE 60 FEET SOUTHEAST OF EAST RAISE, SHOWING INFERRED SPLIT IN VEIN



LONGITUDINAL SECTION OF EAST ORE BODY

SCALE:
20 0 20 40 60 80 FEET

4368g

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

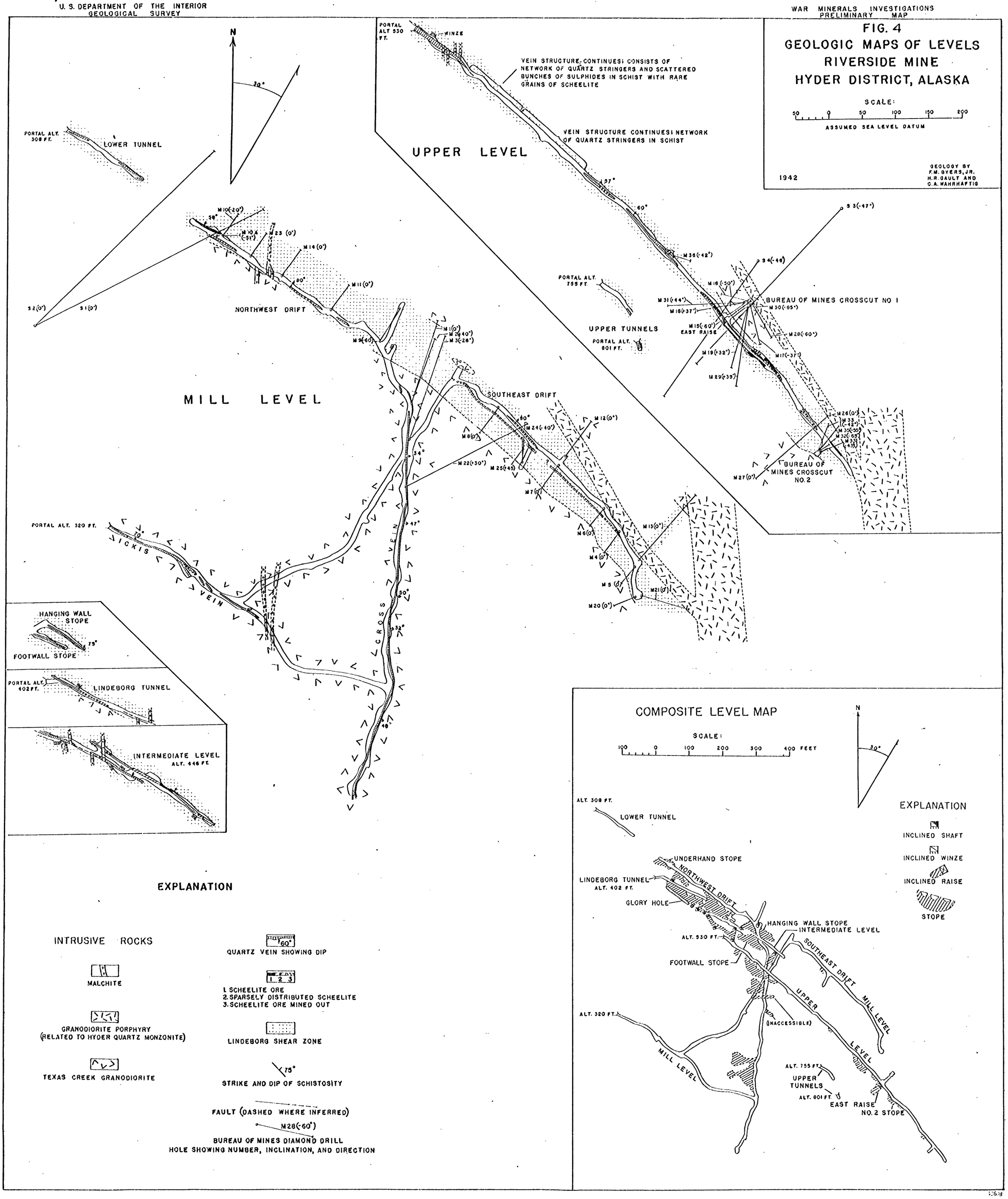
WAR MINERALS INVESTIGATIONS
PRELIMINARY MAP

FIG. 4
GEOLOGIC MAPS OF LEVELS RIVERSIDE MINE HYDER DISTRICT, ALASKA

SCALE:
50 0 50 100 150 200
ASSUMED SEA LEVEL DATUM

1942

GEOLOGY BY
F.M. BYERS, JR.
H.R. GAULT AND
G.A. WAHRHAFTIG



U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

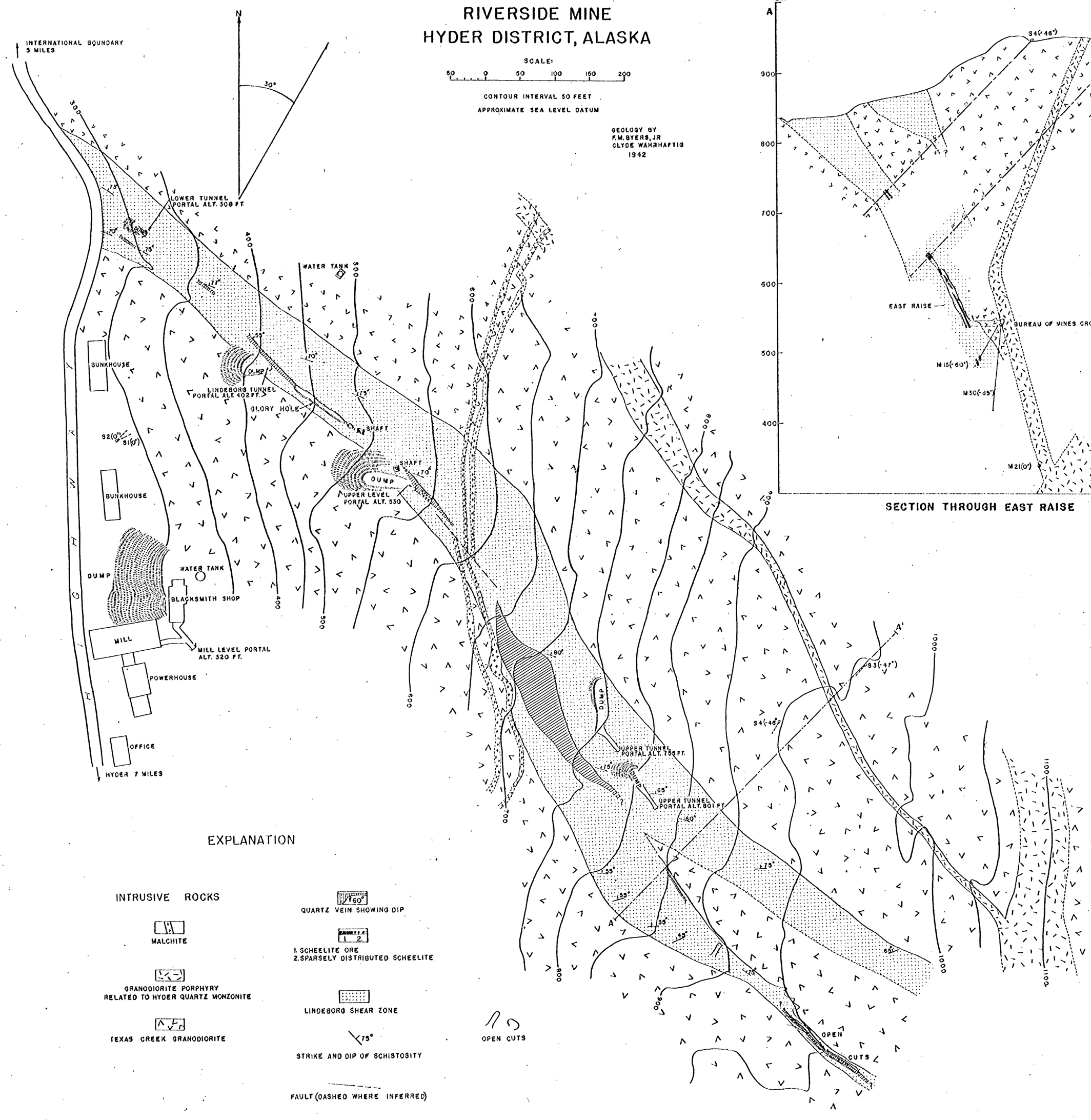
WAR MINERALS INVESTIGATION
PRELIMINARY MAP

FIG. 3
GEOLOGIC MAP OF THE LINDEBORG SHEAR ZONE RIVERSIDE MINE HYDER DISTRICT, ALASKA

SCALE:
50 0 50 100 150 200

CONTOUR INTERVAL 50 FEET
APPROXIMATE SEA LEVEL DATUM

GEOLOGY BY
F.M. BYERS, JR
CLYDE WAHRHAFTIG
1942



EXPLANATION

INTRUSIVE ROCKS

MALCHITE

GRANODIORITE PORPHYRY
RELATED TO HYDER QUARTZ MONZONITE

TEXAS CREEK GRANODIORITE

60° QUARTZ VEIN SHOWING DIP

1 2
1. SCHEELITE ORE
2. SPARSELY DISTRIBUTED SCHEELITE

LINDEBORG SHEAR ZONE

75° STRIKE AND DIP OF SCHISTOSITY

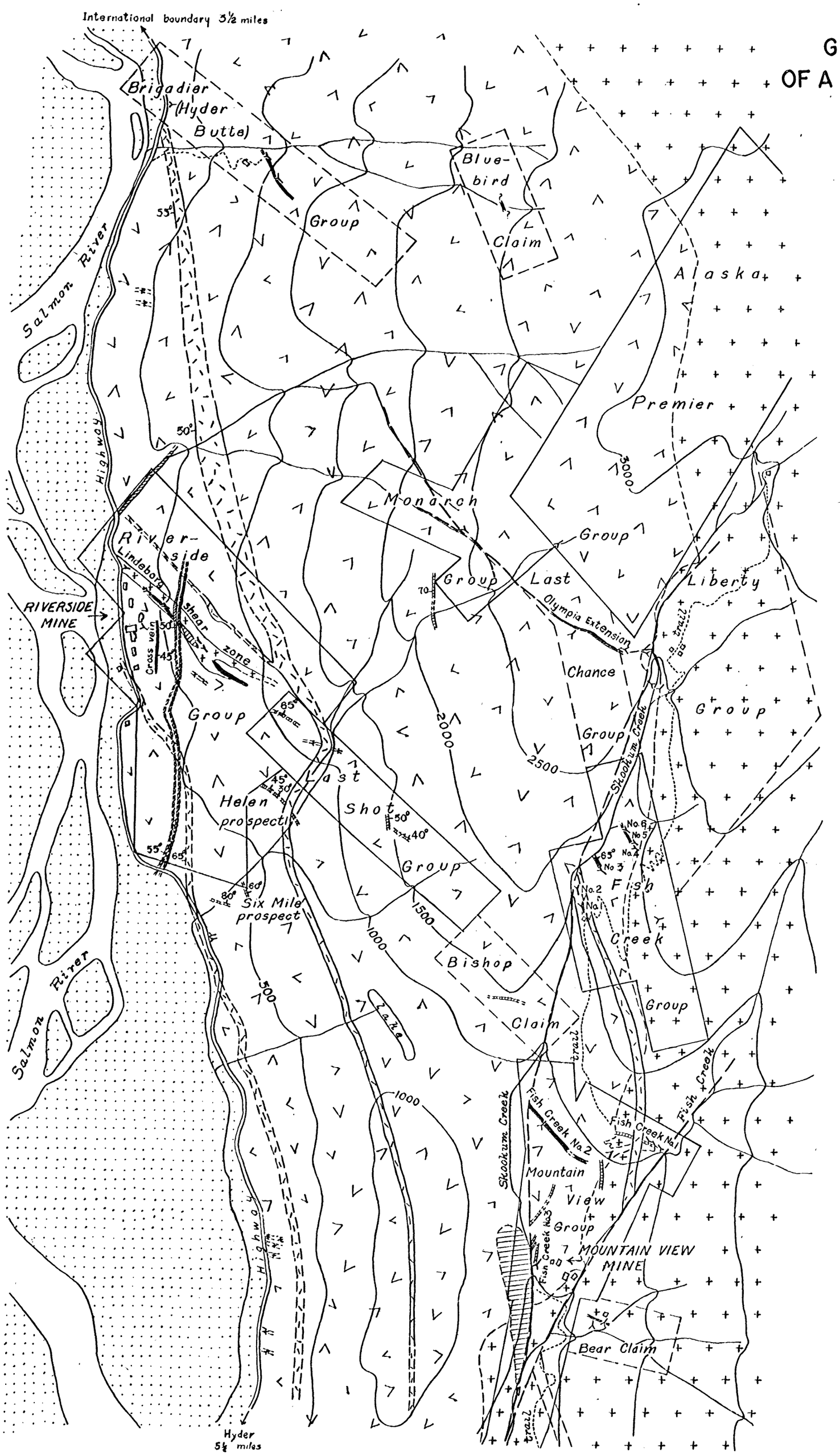
FAULT (DASHED WHERE INFERRED)

34(-46°)
BUREAU OF MINES DIAMOND DRILL HOLE
SHOWING NUMBER, INCLINATION, AND DIRECTION

OPEN CUTS

4368

FIG. 2
GENERALIZED GEOLOGIC MAP OF A PART OF THE HYDER DISTRICT, SOUTHEASTERN ALASKA



SCALE

1000 0 1000 2000 feet.

CONTOUR INTERVAL 500 FEET

EXPLANATION

QUATERNARY

ALLUVIUM

JURASSIC OR CRETACEOUS

DARK FINE-GRAINED DIKE (includes lamprophyre and malchite)

GRANODIORITE PORPHYRY DIKE (related to Hyder quartz monzonite)

TEXAS CREEK GRANODIORITE (includes some granodiorite porphyry and quartz diorite border facies)

JURASSIC (?)

HAZELTON GROUP (includes tuffaceous graywacke, slate, argillite and quartzite)

SCHEELITE-BEARING QUARTZ VEIN

BARREN QUARTZ VEIN

FAULT

ADIT PORTAL

BUILDINGS

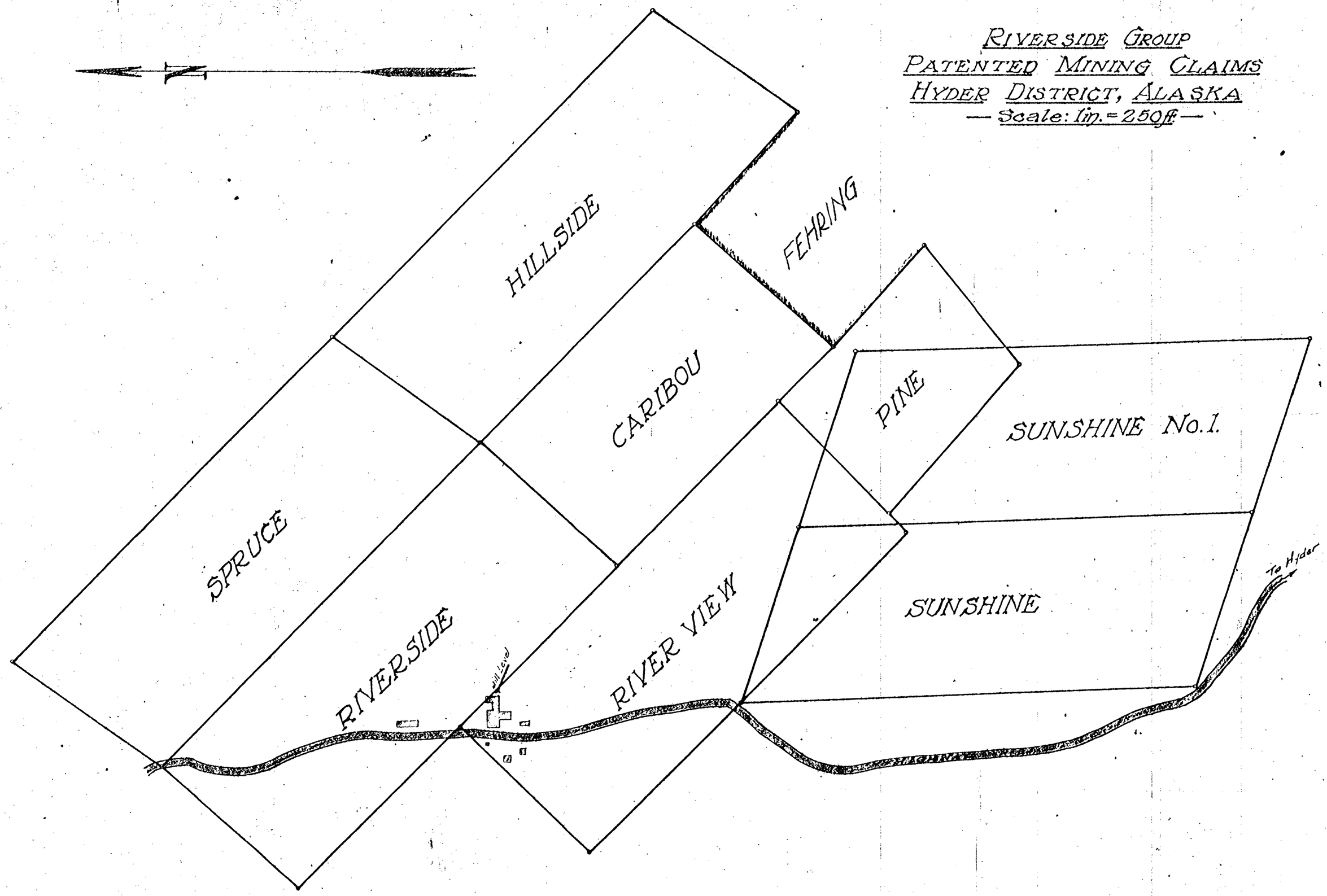
T. N.

30°

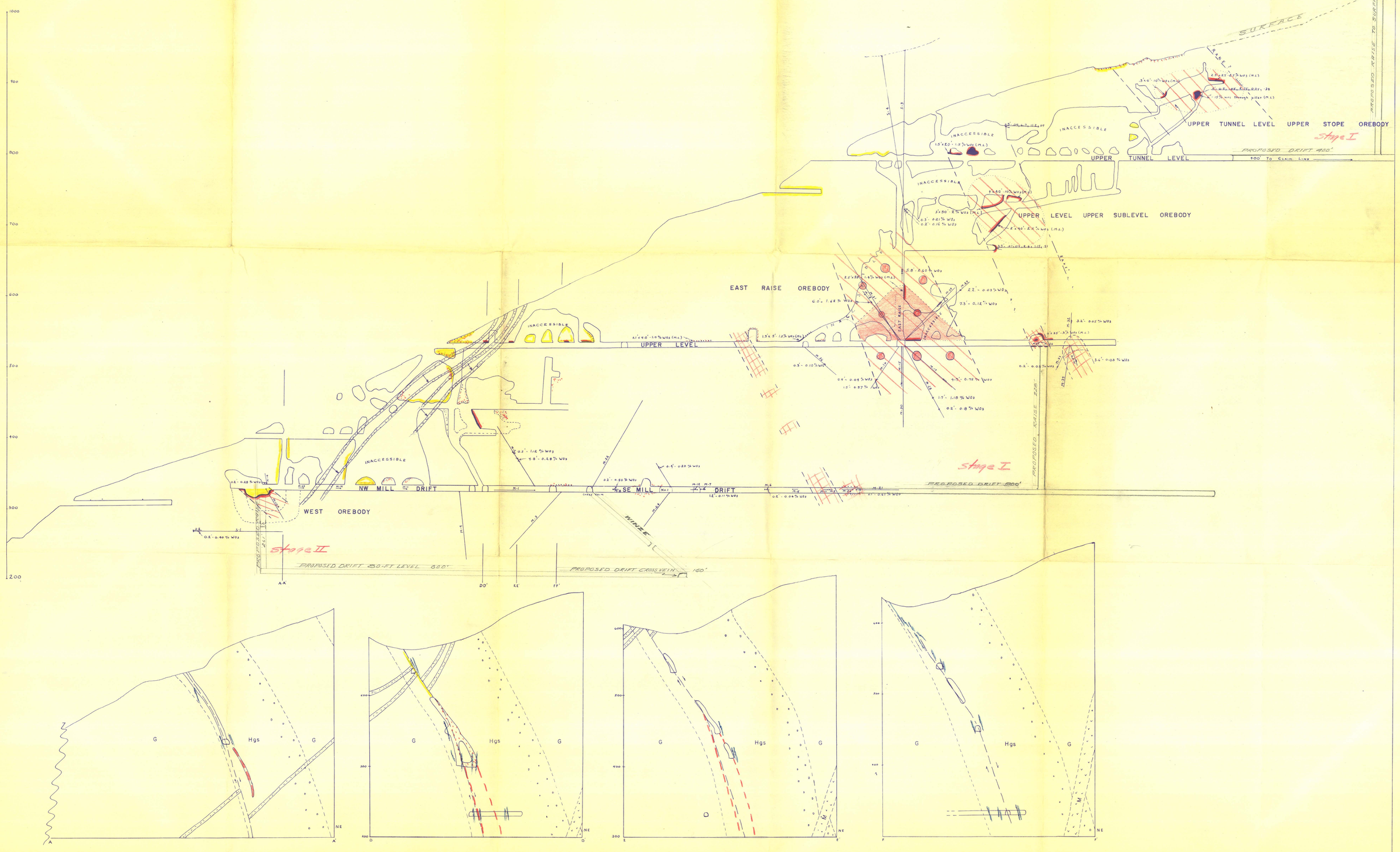
PATENTED CLAIMS BOUNDED BY SOLID LINES

GEOLOGY BY BYERS AND WAHRHAFTIG, 1942
AND FROM U.S. GEOL. SURVEY BULL. 807, PL. 2
TOPOGRAPHY FROM U.S. GEOL. SURVEY BULL. 807, PL. 1

104365


RIVERSIDE GROUP
PATENTED MINING CLAIMS
HYDER DISTRICT, ALASKA
— Scale: 1in. = 250ft —
HILLSIDE
FEHRING
CARIBOU
PINE
SUNSHINE No.1.
SPRUCE
RIVERSIDE
RIVER VIEW
SUNSHINE
Jill Level
To Hyder

U.S.G.S. FOR D.M.E.A. ONLY



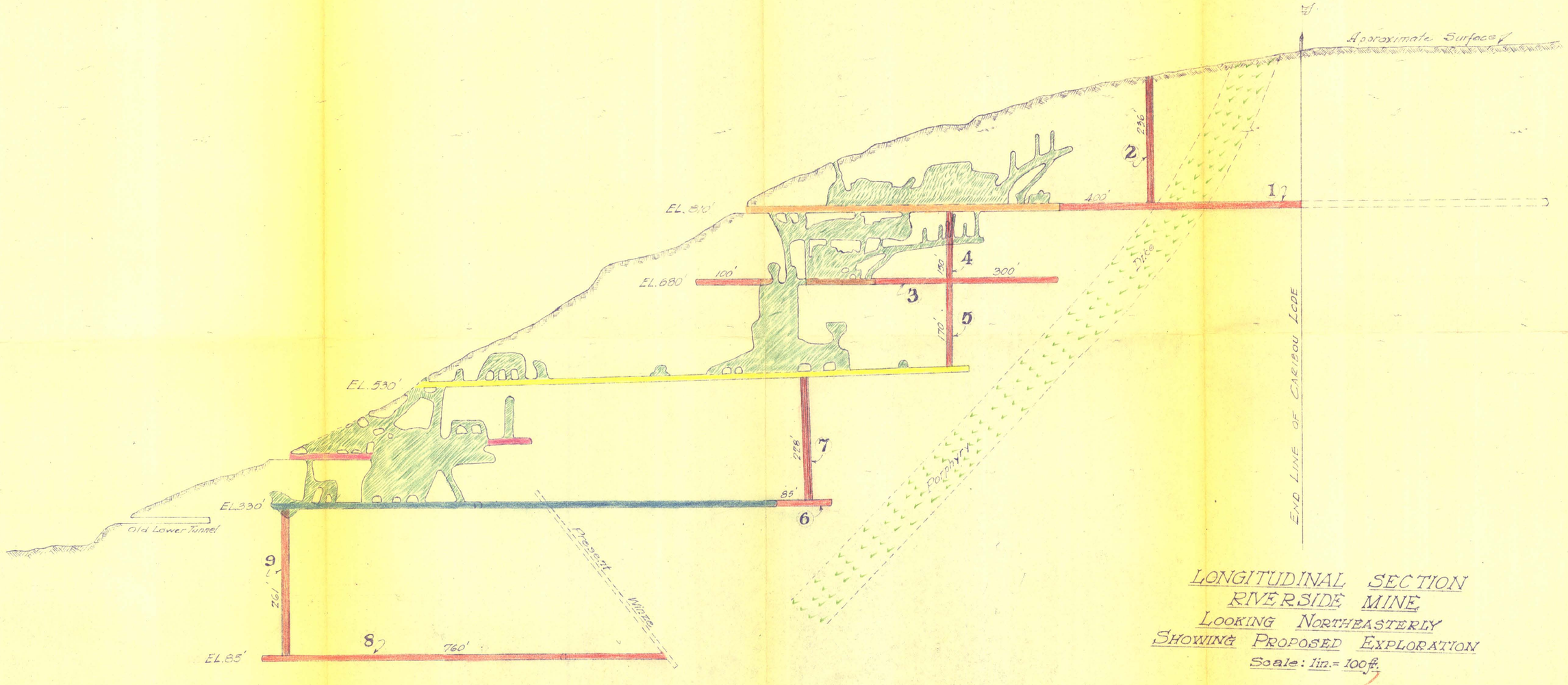
EXPLANATION

- MALCHITE
- Hgs — GNEISS AND SCHIST OF HAZELTON GROUP
- G — GRANODIORITE AND GRANODIORITE PORPHYRY
- M — MONZONITE
- SCHEELITE OREBODY BOUNDARY, AFTER BYERS
- SCHEELITE " " " SAINSBURY
- MEASURED ORE
- INDICATED OR INFERRED ORE, sub ore grade
- SCHEELITE EXPOSED IN WALLS, FIGURES SHOW DIMENSIONS AND GRADE AS ESTIMATED BY MINERAL LIGHT (3' X 10' – 0.27 % WO_3 M.L.)
- QUARTZ AND/OR SULPHIDE IN VEIN (AFTER BYERS)
- DISCRETE SHEAR
- FAULT
- SCHEELITE VEIN IN CROSS SECTIONS (AFTER BYERS)
- BUREAU OF MINES DIAMOND-DRILL HOLE SHOWING SCHEELITE ZONES AND GRADE BY ASSAY
- LOCATION OF CHANNEL SAMPLE, FIGURES = WIDTH IN FEET, % WO, OZ Au/TON, OZ Ag/TON, % Pb, % Cu

50 100 150
SCALE

MAP COMPILED FROM DATA OF U.S. GEOL. SURVEY, U.S. BUR. MINES, J.H. SCOTT CO. by C.L.S.

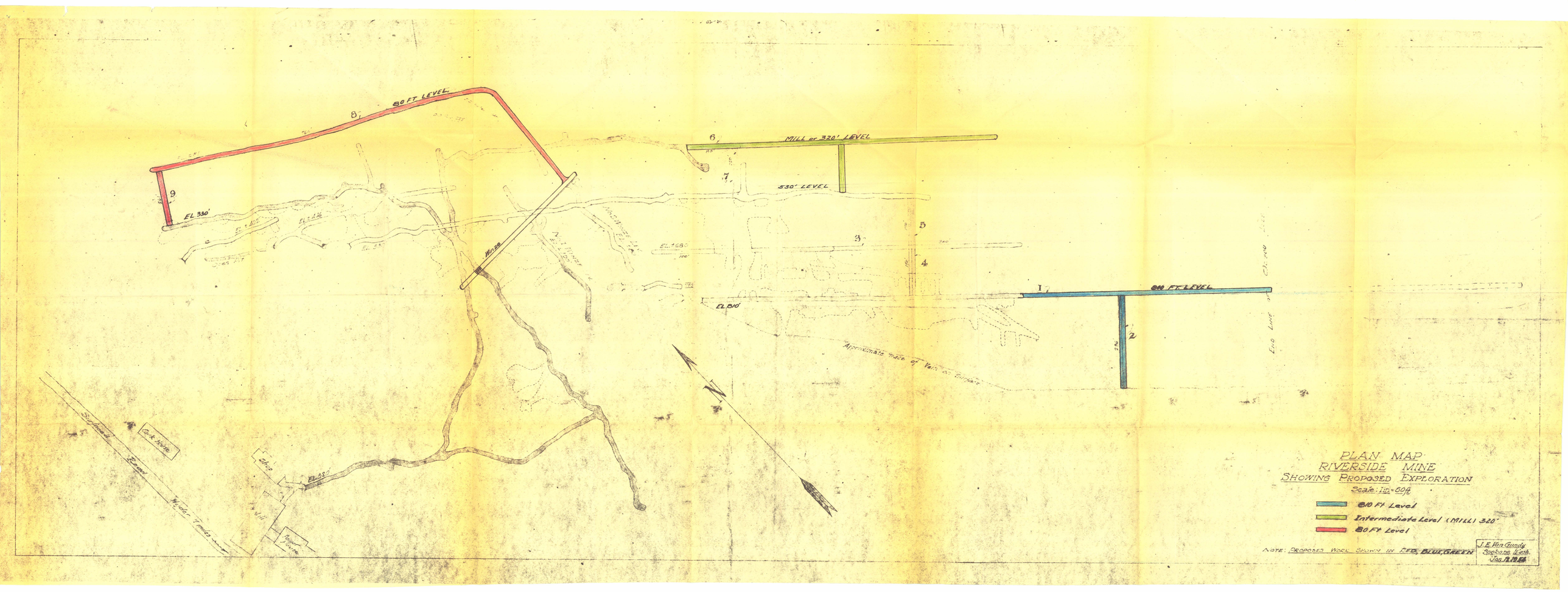
LONGITUDINAL SECTION OF WORKINGS IN LINDEBORG SHEAR ZONE
RIVERSIDE MINE, HYDER, ALASKA



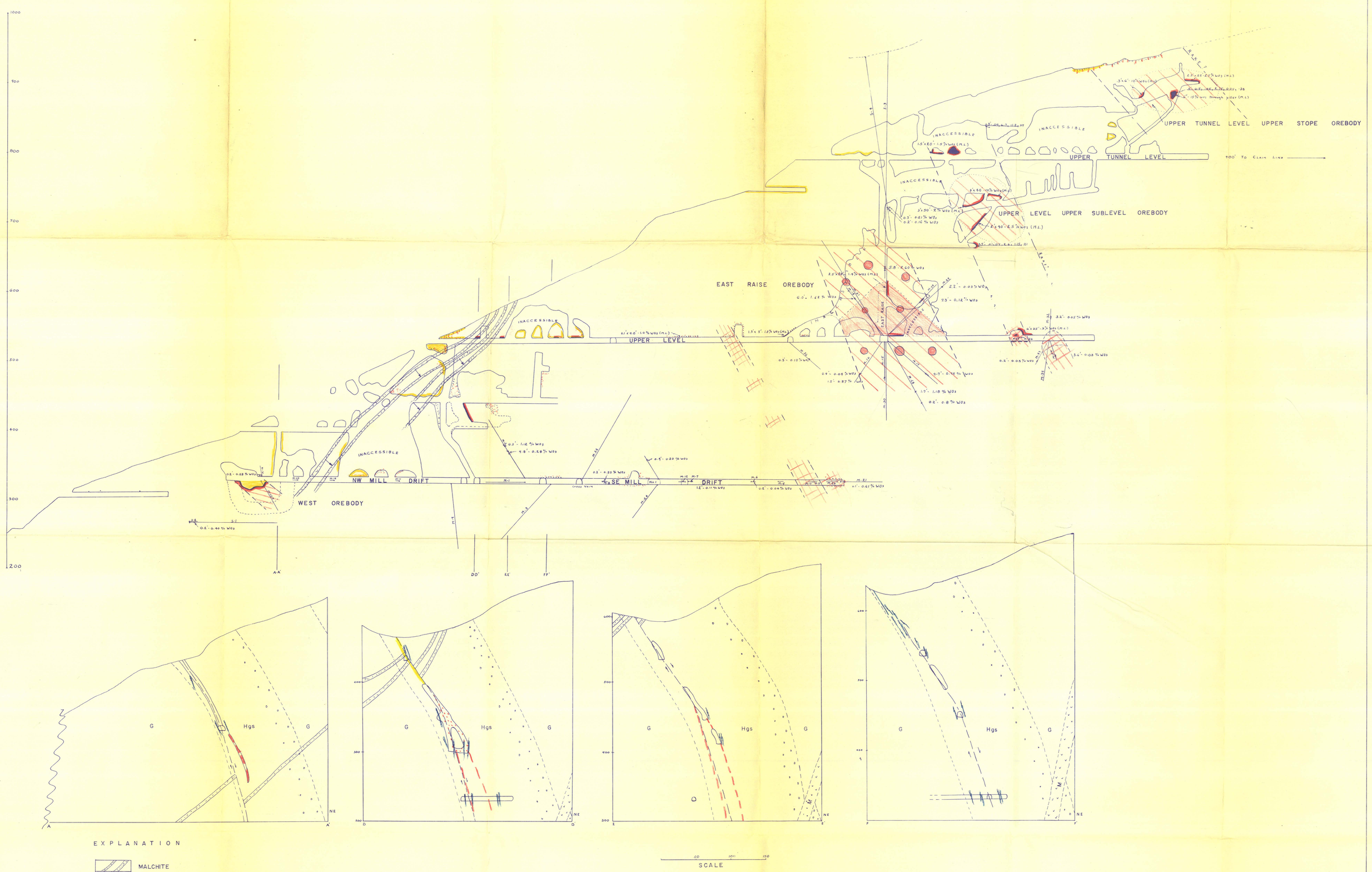
LONGITUDINAL SECTION
RIVERSIDE MINE
LOOKING NORTHEASTERLY
SHOWING PROPOSED EXPLORATION
Scale: 1in. = 100ft.

NOTE: PROPOSED WORK SHOWN IN RED.

J.E. VAN GUNDY.
SPOKANE, WASH.
JAN. 12. 1954.


80 FT. LEVEL
8
9
EL 330'
MILL or 320' LEVEL
6
7
530' LEVEL
3
5
4
EL 168'
EL 610'
610 FT. LEVEL
1
2
Approximate Trace of Vein or Bunch
Line of Claims
Mill
EL 520'
Shop
Power House
Oak Hole
Stockwell Road
Weber Tunnel
N
PLAN MAP
RIVERSIDE MINE
SHOWING PROPOSED EXPLORATION
Scale: 1in = 60ft
610 Ft Level
Intermediate Level (MILL) 320'
80 Ft Level
NOTE: PROPOSED WORK SHOWN IN RED, BLUE, GREEN
J. E. Van Gundy
Spokane Wash.
Jan. 1, 1944

U.S.G.S. FOR D.M.E.A. ONLY



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