AMENDMENT NO. 1

It is agreed this 25th day of September 195 2, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, and Mullin Mines Company, Inc., Golden, Idaho (Docket No. DMEA 2474 - tungsten)

each acting in consideration of the agreement of the other to the terms hereinafter set forth, that the Exploration Project Contract Idm-E 394 of September 3 195 2 between the parties hereto be modified and amended as described in Exhibit "F" attached hereto, which, with any maps or drawings attached thereto, is made a part of this agreement. The effective date of this amendment shall be September 3 195 2.

This amendment is made by authority granted the Executive Officer, DMEA Field Team, Region II, in Order No. 2684 by the Acting Secretary of the Interior.

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "Allowable Maximum."

Executed in sextuplicate the day and year first above written.

MULLIN MINES COMPANY, INC.
(Operator)

By James Collard

THE UNITED STATES OF AMERICA

By A. E. Weissenborn
A. E. Weissenborn, Exec. Officer
DMEA Field Team, Region II

DEPARTMENT OF THE INTERIOR
General Library
OCT 1 1952

MULLIN MINES COMPANY
Exploration Project Contract Ida-E394
Docket No. 2474 (tungsten)

Amendment No. 1

EXHIBIT "A"

Changes and modifications

In Exhibit "A" of the contract, delete paragraph 2, page 1, and substitute:

2. Excavate Trench No. 1 uphill from the washing plant site in a northwesterly direction for a distance of about 300 feet, average depth of about 10 feet and width of approximately 8 feet, with slusher and bulldozer to uncover bedrock. Maintain sides of the excavations at the approximate angle of repose of the alluvium. Excavate Trench No. 2 with bulldozer to extend approximately 300 feet in a southwesterly direction and approximately 50 feet in a northeasterly direction from Trench No. 1. The trench should have an approximate width of about 10 feet and probable average depth of about 12 feet and should uncover bedrock like Trench No. 1 for examination and sampling. Alluvium removed from Trench No. 2 should be doned into Trench No. 1 and scraped to the washing plant for treatment as outlined under Paragraph 4. See attached map for approximate location of Trenches Nos. 1 and 2.

MULLIN MINES COMPANY, INC.
TUNGSTAR MINE
Weiser, Idaho County, Ida.
Exploration Project Contract Idm-E394
Docket No. DMEA 2474 (tungsten)

JUSTIFICATION FOR AMENDMENT NO. 1

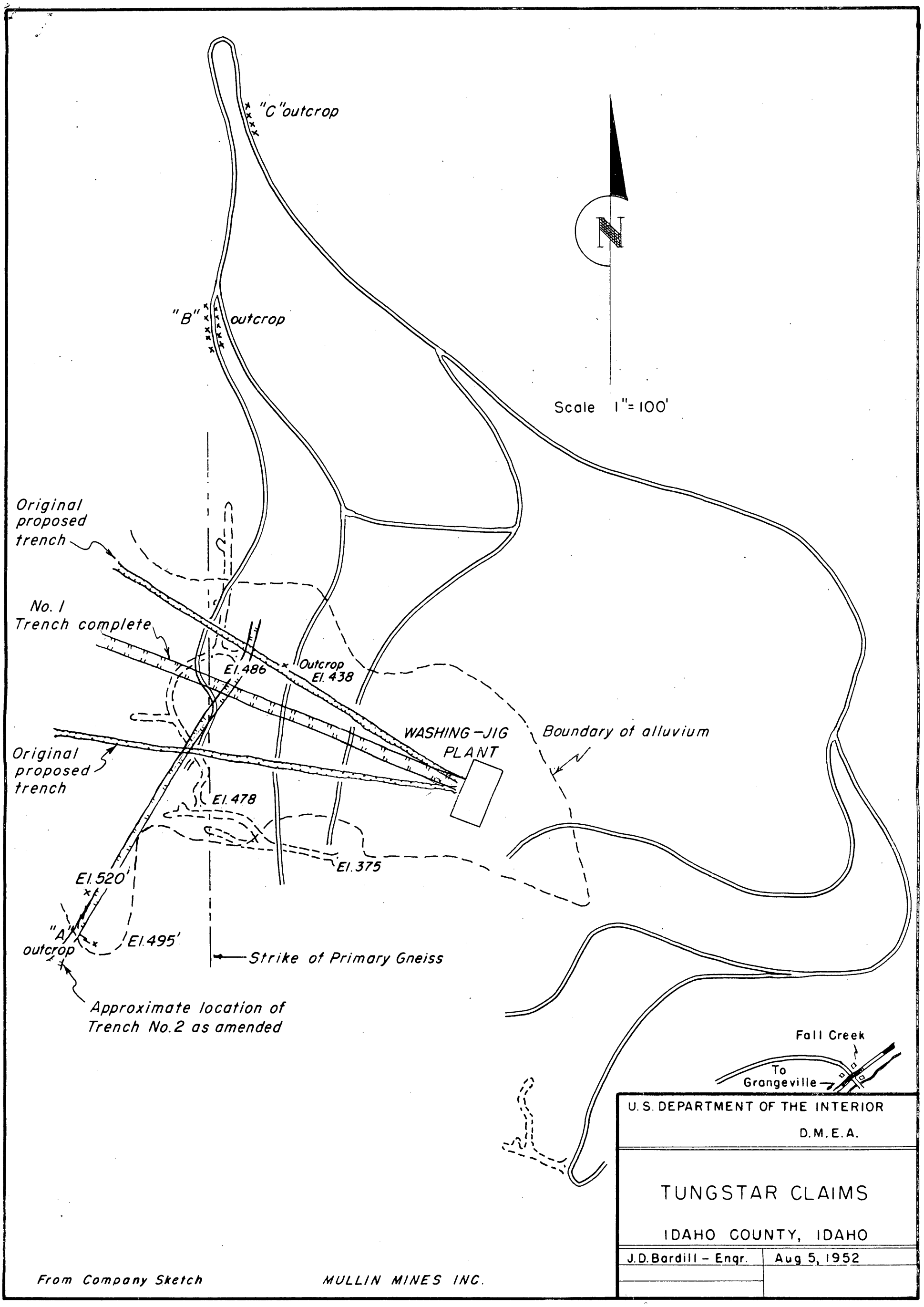
This amendment changes the location of the two original proposed trenches.

Prior to the Washington approval of the contract, applicant had just started Trench No. 1 at his expense. Rather than abandon the trench it is considered to the benefit of the Government to complete it under the exploration contract. This trench is excavated directly uphill so that probably only float rock in the direction of the trench would be found in the material scraped to the washing plant. No tungsten mineralization of consequence has been observed in bedrock.

Trench No. 2 is located to crosscut the alluvium on the hillside so that if any tungsten-bearing float is encountered there will be more chance of locating its source. Bedrock will be uncovered at a direction approximately normal to Trench No. 1.

This change was approved by Mr. J. C. Selfridge during a telephone conversation with A. E. Weissenborn, Executive Officer, Region II.

John D. Merrill
Chief, DMEA Section
Bureau of Mines, Region II


"C" outcrop
"B" outcrop
N
Scale 1" = 100'
Original proposed trench
No. 1 Trench complete
El. 486
Outcrop El. 438
WASHING-JIG PLANT
Boundary of alluvium
Original proposed trench
El. 478
El. 375
El. 520'
"A" outcrop
El. 495'
Strike of Primary Gneiss
Approximate location of Trench No. 2 as amended
Fall Creek
To Grangeville
U. S. DEPARTMENT OF THE INTERIOR
D. M. E. A.
TUNGSTAR CLAIMS
IDAHO COUNTY, IDAHO
J. D. Bardill - Engr.
Aug 5, 1952
From Company Sketch
MULLIN MINES INC.

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

DOCKET NO. DMEA 2474

COMMODITY Tungsten

Idm-E394 Docket Copy

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 29 1952

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

EXPLORATION PROJECT CONTRACT[1]

IT IS AGREED this 3d day of September, 1952, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Fullin Mines Company, Inc., a corporation organized and existing under the laws of the State of Idaho, Golden, Idaho

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 Idaho County of Idaho, described as follows:[3] Tungsten group of claims located in Sec. 26, T. 23 N., R. 6 E., about ¼ mile northwest of Fall Creek, Idaho. Fall Creek is two miles up the south fork of the Clearwater River from Golden, Idaho. The property is further described in Annex I, attached hereto and made a part hereof.

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 to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:~~

and holds an option to purchase, is

(*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 5 days from the date of this contract shall commence work on a project of exploration for[5] tungsten

in or upon the described land; and shall bring the project to completion within a period of 3 months 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:

(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 [redacted] 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 75 percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $9,300.00, which is 75 percent of $12,400.00, 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 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.

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:* ....

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C O Mittendorf
Acting Administrator
Defense Minerals Exploration Administration

Mullin Mines Co., Inc.
(Operator)

By James Collard Pres.

I, Marjorie Collard, certify that I am the secretary of the corporation named as Operator herein; that James Collard, who signed this contract on behalf of the Operator, was then President 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.

Marjorie Collard

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66328-1

EXPLORATION PROJECT CONTRACT
MULLIN MINES CO., INC.
DOCKET NO. DMEA-2474

ANNEX I

Twelve unpatented mining claims in the Ten Mile Mining District, Idaho County, Idaho, fully described in Certificates of Location recorded in the office of the County Recorder of Idaho County, Idaho, as follows:

Name of Claim	Quartz	Book	Page
Tungstar No. 1	"	72	547
2	"	72	562
3	"	72	563
4	"	72	564
5	"	72	565
6	"	72	566
7	"	72	567
8	"	72	568
9	"	72	569
10	"	72	570
11	"	72	571
12	"	75	160

One patented mining claim, Sacramento No. 2 - Survey No. 3140, the United States patent for which is of record in the office of said County Recorder in Book One of Mineral Patents at page 497, excluding a portion of the surface of said Sacramento No. 2, described as follows: "Beginning at corner No. 1 of said Sacramento No. 2, Survey No. 3140, thence north 58° 10' W. 600 feet; thence South 31° 50' W. 600 feet; thence South 58° 10' E. 600 feet to corner No. 4; thence North 31° 50' E. 600 feet to corner No. 1, the place of beginning." Within the last described fraction the surface rights are reserved and the mineral rights are granted subject to the proviso that exploration for, and extraction of minerals shall be done in such a manner as will not interfere with the beneficial use of the surface by the owners.

EXPLORATION PROJECT CONTRACT
MULLIN MINES CO., INC.
DOCKET NO. DMEA-2474

EXHIBIT "A"

Description of the Work

The project consists of the following items of work:

1. Complete installation of slusher and washing plant equipment.

2. Excavate two trenches with slusher and bulldozer to uncover bedrock, each trench about 450 feet long, about 5 feet wide, and probably averaging about 15 feet deep. Maintain the sides of the excavations at the angle of repose of the alluvium. See attached map for approximate location of trenches.

3. Make geologic map of bedrock exposed in the trenches, and sample and assay any tungsten-bearing veins exposed therein.

4. Treat alluvium excavated from trenches in washing-jig plant. On basis of estimated yardage of alluvium excavated from each trench individually, and the corresponding weight and assay of scheelite recovered, compute recoverable tungsten per cubic yard. Estimated yardage of tailings should confirm the above calculation.

Estimated Costs of Project
(*Indicates Allowable Maximum)

(1) Independent Contracts

None

(2) Labor, Supervision, Consultants

Wages for 1 bulldozer operator at $18/day, 20 days 1/	$ 360.00

1/ Part of the labor may be performed at the specified rates by officers of the company. Payment for labor may not be made to an officer who serves as supervisor-engineer or geologist.

Wages for 2 plant operators at $10/day each, 40 days 2/	$ 800.00	
Wages for slusher operator, miner and mechanic at $12/day each, 40 days 2/	1,440.00	
Salary for supervisor-engineer at $500/mo.,* 2 months* 3/	1,000.00*	
Part time geologist, as needed, to do sampling and geologic mapping	600.00*	$ 4,200.00
(3) Operating Materials and Supplies		
Water pipe and hose, hoist cable, supplies for washing-jig plant and slusher, hoist and bulldozer, gasoline, fuel oil, oil, explosives and any other supplies and materials necessary to complete this project		3,000.00*
(4) Operating Equipment		
To be rented		
1 - No. 13000 Caterpillar Diesel-electric plant, 130 H.P., 75 KVA complete with panel, 2 months @ $500.00	1,000.00	

2/ See footnote 1.

3/ The supervisor-engineer shall direct the exploration project and do the engineering. He shall be responsible for the subsequent handling of representative samples cut by the geologist and for the inclusion of adequate maps or sketches showing progress of the exploration and assay results in the reports required under Article 7 of the contract form.

1 - Double Drum Lidgerwood hoist with 50 H.P. motor, 6000 lb. line pull, 2 months @ $275.00	$ 550.00	
1 - Bodinson built washing plant with 54" x 22' trommel driven by 30 H.P. motor, 2 months @ $210.00	420.00	
1 - Jaeger high pressure gas driven pump, 550 gal/min. at 440' head, 2 months @ $180.00	360.00	
1 - D6 bulldozer with blade for clearing trees, and starting or cleaning trenches, 1 month @ $750.00	750.00	
1 - Pacific slusher, 2 months @ $65.00	130.00	
	$3,210.00	
<u>To be furnished by Operator</u>		
5 - Pan-American placer jigs, 54" fair value $3,000, depreciation allowance $50/mo., 2 months	100.00*	
1 Jeep, value $1,000, depreciation allowance $15/mo., 2 months	30.00*	
	$ 130.00*	$ 3,340.00

(5) <u>Rehabilitation and Repairs</u>

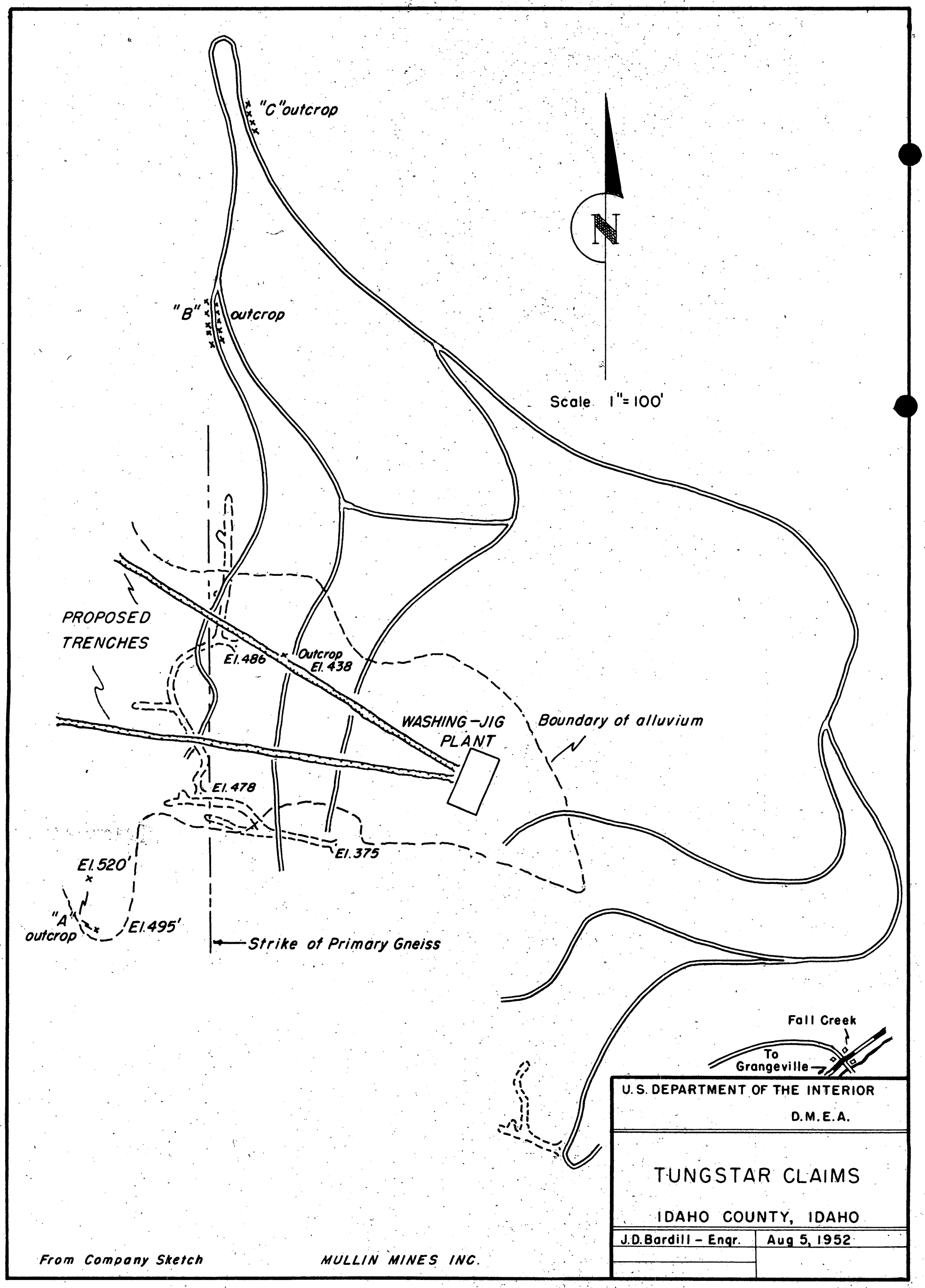
None

(6) <u>New buildings, improvements, installations</u>

Labor, materials and supplies necessary to complete installation of washing-jig plant and slusher-hoist equipment	1,000.00*

(7) Miscellaneous

Assays	$ 380.00	
Workmen's Compensation and Employer's Liability Insurance, payroll and sales taxes	480.00	$ 860.00
Estimated Total Cost of Project		$12,400.00*
Government participation @ 75%		$ 9,300.00*


"C" outcrop
"B" outcrop
N
Scale 1" = 100'
PROPOSED TRENCHES
El. 486
Outcrop El. 438
WASHING-JIG PLANT
Boundary of alluvium
El. 478
El. 375
El. 520'
"A" outcrop
El. 495'
Strike of Primary Gneiss
Fall Creek
To Grangeville
U. S. DEPARTMENT OF THE INTERIOR
D. M. E. A.
TUNGSTAR CLAIMS
IDAHO COUNTY, IDAHO
J. D. Bardill - Engr.
Aug 5, 1952
From Company Sketch
MULLIN MINES INC.

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Idaho, County of Idaho, 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

1/ MULLIN MINES COMPANY, INC.

GOLDEN, IDAHO

hereinafter called the "Operator"; and

WHEREAS, under certain provisions of said Contract which are set forth on the reverse side hereof, the Government will acquire certain rights and equities which do or may conflict with or be adverse to the interest of the undersigned in said property;

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

1. The Government's equity in and right to remove facilities, buildings, fixtures, and equipment, as provided in the Contract, shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned.

2. The Government's percentage royalty on net smelter returns or other net proceeds realized from ore, concentrates, or metal produced within ten (10) years from the date of the Contract, and the Government's lien for the payment of said percentage royalty shall attach to the mineral deposit and the production therefrom, in the amount of the Government's contribution, not in excess of 2/ $ 20,000.00, all upon the terms and conditions set forth in said Contract.

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 the said Contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

Dated this 18th day of March, 1952.

H. W. White Helen White

F. C. Franke Neta C. Franke

B. M. Kelsch J. M. Kelsch by B. M. Kelsch attorney in fact

1/ Insert the name of the Operator as it will appear in the Exploration Project Contract.

2/ Insert the maximum amount of the Government's contribution.

RELEVANT CONTRACT PROVISIONS

Title to and disposition of property. All facilities, buildings, fixtures, equipment, or other items costing more than $50 each, paid for or purchased with funds contributed jointly by the Operator and the Government, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the termination of the contract, if they have any salvage value, shall be disposed of for their joint account unless the Government, in writing, waives its interest in any such items. The Government may require the dismantling, severance from land, and removal of any such items in order to realize its interest in the salvage value thereof, and the cost of any such removal and of the disposal of the items shall be for the joint account of the parties in proportion to their respective interests.

Repayment by Operator. If, upon the completion of the exploration project or termination of the contract, the Government considers that a discovery or development has resulted from the work from which commercial production of ore may be made, the Government, within 6 months thereafter, shall so certify to the Operator, particularly describing and delimiting its estimate of the discovery or the development. Thereafter, if and as ore is produced as a result of such discovery or development, the Operator and his successor in interest shall be and become obligated to pay to the Government a percentage royalty on the net smelter returns or other net proceeds realized from such ore, concentrates, or metal produced within ten (10) years from the date of this contract, until the total amount contributed by the Government, without interest, is fully repaid or said 10 years have elapsed, whichever occurs first, as follows:

> Of net smelter returns or other net proceeds not in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent.
>
> Of net smelter returns or other net proceeds in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent, plus one-half (½) percent for each additional full fifty cents ($0.50) in excess of eight dollars ($8.00) per ton of ore, but not in excess of a maximum of five (5) percent.

This obligation to repay from net returns or proceeds shall be and remain a claim and lien upon the mineral deposit which is the subject of the exploration project and upon any production resulting from such discovery or development, in favor of the Government, until fully paid, or until said 10-year period has elapsed; and this claim and lien and the Government's right to repayment shall survive any termination of the contract, whether by completion of the exploration project or otherwise. This article is not to be construed as imposing any obligation on the Operator or his successor in interest to produce ore from any such discovery or development.

168958

TO WHOM IT MAY CONCERN: January 11, 1951

This is to certify that I, Louis M. Kelsch, using the signature of L. M. Kelsch, in all business transactions connected in my business relationship with my co-partner, and brother Ben, under the business heading of B.M. & L. M. Kelsch, is granting my brother Ben, full POWER OF ATTORNEY, to use my signature to transact, and to complete any and all business deals, jointly, and singularly, he, B. M. Kelsch, deems best in behalf of all our business acitivities.

Signed Louis M. Kelsch

INDIVIDUAL ACKNOWLEDGMENT

State of California)
) SS.
City and County of Los Angeles)

On this 11 day of January, 1951, before me. H. G. Mackintosh, a Notary Public in and for said County, personally appeared Louis M. Kelsch known to me to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same.

WITNESS my hand and official seal.

"Notary Public, Los Angeles "
" Co. Calif. Eureka "

H. G. Mackintosh, Notary Public
in and for said County and State
My commission expires 19
H.G. MAC KINTOSH, NOTARY PUBLIC
in and for the County of Los Angeles
State of California.
My commission expires June 13,1952

STATE OF IDAHO)
) ss.
County of Idaho)

I hereby certify that this Instrument was filed for record in the office of the Recorder of Idaho County at the request of B. M. Kelsch at 30 minutes past 9 o'clock A.M., this 15 day of Jan., A.D. 1951

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

So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 29 1952

September 25, 1952

Mr. Frank E. Johnson, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA 2474 - Tungsten
Mullin Mines Company, Inc.
Tungstar Mines
Ten Mile Mining District
Idaho County, Idaho

Dear Mr. Johnson:

Enclosed herewith are the original and two signed copies of the above-captioned contract. Copies have been retained by this office and by the Operator.

In accordance with instructions received in your letter dated September 3, 1952, a copy of J. D. Bardill's map of August 5, 1952, has been attached to each copy of the contract. Also, as noted in your letter of September 3, 1952, the Owner's Consent to Lien has been duly executed.

By copy of this letter, the Regional Finance Officer's copy is being distributed.

RECEIVED
OCT 6 - 1952
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure
cc: USBM (2)
Finance Officer, Albany w/encl.

GDS
9/30/52

168958

TO WHOM IT MAY CONCERN: January 11, 1951

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Signed Louis M. Kelsch

INDIVIDUAL ACKNOWLEDGMENT

State of California)
) SS.
City and County of Los Angeles)

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WITNESS my hand and official seal.

"Notary Public, Los Angeles "
" Co. Calif. Eureka "

H. G. Mackintosh, Notary Public
in and for said County and State
My commission expires 19
H.G. MAC KINTOSH, NOTARY PUBLIC
in and for the County of Los Angeles
State of California.
My commission expires June 13,1952

STATE OF IDAHO)
) ss.
County of Idaho)

I hereby certify that this Instrument was filed for record in the office of the Recorder of Idaho County at the request of B. M. Kelsch at 30 minutes past 9 o'clock A.M., this 15 day of Jan., A.D. 1951.

Carl T. Reuter, County Recorder

Fee 75¢

By Bob J. Waite, Deputy.

5 Power of Attorney 508

52 15 Sept.

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

So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 29 1952

September 25, 1952

Mr. Frank E. Johnson, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA 2474 - Tungsten
Mullin Mines Company, Inc.
Tungstar Mines
Ten Mile Mining District
Idaho County, Idaho

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RECEIVED
OCT 6 - 1952
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure
cc: USBM (2)
Finance Officer, Albany w/encl.

SES
9/30/52

DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMEA ~~DMA~~ Docket No. 2474

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

EXPLORATION PROJECT

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

Copies to USBM, USGS, Region II

To:	Code 400, Rm. 3538	Date	4-8-52
To:	Op Com	Date	9-3-52
To:		Date	
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DO NOT DETACH

CONTROLLED DOCUMENT

C ✓ 400

Hopkins
Nealin
Chambers

JAN 27 1954

Mr. James Collard, President
Mullin Mines Company, Inc.
Golden, Idaho

Re: Docket No. DMEA 2474 - Tungsten
Tungstar Mine
Idaho County, Idaho
Contract No. Idm-E394

Dear Mr. Collard:

This is with reference to the subject exploration contract between your corporation and the Government.

The report of review of the contract expenditures and the final reports of the Operator and of the Field Team have been received and accepted by this Administration. Of the total amount of $12,400.00 approved under the contract, the sum of $10,476.08 was expended, 75 percent of which, or $7,857.06, represented the Government's share. There were no unused materials, supplies or equipment to be disposed of for the joint account of the Operator and the Government. The exploration work was completed in a satisfactory manner.

Because the results of the exploration were unfavorable, it is not our intention to make a certification of discovery or development which would create a lien against the subject property. We are, therefore, closing our books and records with respect to this project. Your attention is called, however, to Article 7(d) of the contract which requires the Operator to "keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of the contract."

Your interest in the Exploration Program of the Defense Minerals Exploration Administration and your willingness to participate therein are appreciated.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

JHopkins/ls
1/25/53

cc: Docket ✓
Code 400
Field Team, Reg. 2
Adm. Read. File
Oper. Committee
Code 800 - Mr. Chambers
T. P. Thayer, USGS
R. W. Geehan, USBM

R.C.G. 1-27-54

Hopkin
Martin

January 25, 1954

MEMORANDUM

To: Administrator, D.M.E.A.

From: Iron and Ferro-Alloys Division, D.M.E.A.

Subject: General summary of contract and results obtained
Docket No. DMEA 2474 - Tungsten
Mullin Mines Company, Inc.
Tungstar Mine
Idaho County, Idaho
Contract No. Idm-E394

1. Operator's Property Rights:
   Lessee-Lease
   Owner's Consent to Lien dated March 18, 1952.

2. Contract - Dated September 3, 1952
   Work authorized:
   1. Complete installation of slusher and washing plant equipment.
   2. Excavate 2 trenches with slusher and bulldozer to uncover bedrock, each trench about 450 feet long, about 5 feet wide, and probably averaging about 15 feet deep.
   3. Make geologic map of bedrock exposed in the trenches, and sample and assay any tungsten-bearing veins exposed therein.
   4. Treat alluvium excavated from trenches in washing-jig plant. Compute recoverable tungsten per cubic yard.

   Following costs were estimated:

1. Independent Contracts	
None	
2. Labor, Supervision, Consultants	$4,200.00
3. Operating Materials and Supplies	3,000.00
4. Operating Equipment	
To be rented	3,210.00
To be furnished by Operator	3,340.00
5. Rehabilitation and Repairs	
None	
6. New buildings, improvements	
Installations	1,000.00
7. Miscellaneous	860.00
Estimated Total Cost of Project	$12,400.00
Government participation @ 75%	$ 9,300.00

R. L. H.
1-27-54

3. Amendments:

No. 1 - dated September 25, 1953. In Exhibit "A" of the contract, delete paragraph 2, page 1, and substitute, "Excavate Trench No. 1 uphill from the washing plant site in a northwesterly direction for a distance of about 300 feet, average depth of about 10 feet and width of approximately 8 feet, with slusher and bulldozer to uncover bedrock."

Work Completed:

Operation	Accepted Costs	Units	Unit Cost
Bulldozing (2 Trenches excavated)	$4,955.63	6,150 cu.yds.	$0.81
Milling	5,520.45	6,150 " "	0.90
Total	$10,476.08	6,150 " "	$1.71

Following are combined Costs of Mining and Milling 6,150 cu.yds. of alluvium excavated from trenches:

Item		Total Cost	Unit cost per cu. yd. mined and treated
2. Labor and Supervision			
Labor	$2,764.74		
Supervision	700.00		
Technical Services	200.00		
		$3,664.74	$0.60
3. Operating Materials & Supplies			
Timber	$100.80		
Diesel oil & gasoline	1,035.40		
Plant supplies	309.27		
		$1,445.47	0.24
4. Operating Equipment			
Rental	$3,824.00		
Depreciation	130.00		
		$3,954.00	0.64
6. New Buildings, Improvements		$ 885.14	0.14
7. Miscellaneous			
Sampling & analysis	$203.90		
Payroll taxes	176.09		
Liability insurance	146.74		
		$ 526.73	0.09
Total Items of Costs		$10,476.08	$1.71
Government participation		$ 7,857.06	

The work completed in October 1952 was in conformance with the contract and the Operator has complied with all contract requirements.

4. Audit
   Report of review by Contract Administration and Audit Division dated August 13, 1953.

5. No Certification of Discovery was issued.

6. Comments:

The project was established to explore a tungsten placer deposit in the Ten Mile Mining District, Idaho County, Idaho. The objective of the program was to explore for scheelite-bearing veins and evaluate the scheelite-bearing alluvium at the Tungstar Mine with two bulldozer trenches to expose bedrock and obtain a representative sample of alluvium for treatment in a washing-jig plant to compute recoverable tungsten per cubic yard. Two trenches were excavated to obtain 6,150 cubic yards of alluvium that was treated in the milling plant and yielded 65.837 short ton units of WO_3 having a total market value of $2,600.38. The short ton units of WO_3 recovered per 1,000 tons of alluvium was 7.93.

The 2-month washing-jig plant treatment of the alluvium provided information which demonstrated that only fair grade scheelite concentrates were produced and that the deposit could not be worked profitably. The trenches exposed no significant scheelite-bearing veins in bedrock.

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

CC: DOCKET
CODE 400
ADM. READ. FILE
OPER. COMMITTEE

JHopkins/ls
1/25/54

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

January 25, 1954

MEMORANDUM

To: Administrator, D.M.E.A.

From: Iron and Ferro-Alloys Division, D.M.E.A.

Subject: General summary of contract and results obtained
Docket No. DMEA 2474 - Tungsten
Mullin Mines Company, Inc.
Tungstar Mine
Idaho County, Idaho
Contract No. Idm-E394

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   Owner's Consent to Lien dated March 18, 1952.

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   Following costs were estimated:

1. Independent Contracts	
None	
2. Labor, Supervision, Consultants	$4,200.00
3. Operating Materials and Supplies	3,000.00
4. Operating Equipment	
To be rented	3,210.00
To be furnished by Operator	3,340.00
5. Rehabilitation and Repairs	
None	
6. New buildings, improvements	
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7. Miscellaneous	860.00
Estimated Total Cost of Project	$12,400.00
Government participation @ 75%	$ 9,300.00

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Timber	$100.80		
Diesel oil & gasoline	1,035.40		
Plant supplies	309.27	$1,445.47	0.24
4. Operating Equipment			
Rental	$3,824.00		
Depreciation	130.00	$3,954.00	0.64
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Liability insurance	146.74	$ 526.73	0.09
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The work completed in October 1952 was in conformance with the contract and the Operator has complied with all contract requirements.

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5. No Certification of Discovery was issued.

6. Comments:

The project was established to explore a tungsten placer deposit in the Ten Mile Mining District, Idaho County, Idaho. The objective of the program was to explore for scheelite-bearing veins and evaluate the scheelite-bearing alluvium at the Tungstar Mine with two bulldozer trenches to expose bedrock and obtain a representative sample of alluvium for treatment in a washing-jig plant to compute recoverable tungsten per cubic yard. Two trenches were excavated to obtain 6,150 cubic yards of alluvium that was treated in the milling plant and yielded 65.837 short ton units of WO_3 having a total market value of $2,600.38. The short ton units of WO_3 recovered per 1,000 tons of alluvium was 7.93.

The 2-month washing-jig plant treatment of the alluvium provided information which demonstrated that only fair grade scheelite concentrates were produced and that the deposit could not be worked profitably. The trenches exposed no significant scheelite-bearing veins in bedrock.

W S Martin

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

January 5, 1954

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

Re: Docket No. DMEA-2474 (tungsten)
Mullin Mines, Inc.
Idaho County, Idaho
Contract No. Idm-E394

Dear Mr. Selfridge:

We are enclosing four copies of a final report on the captioned exploration contract written by John D. Bardill, metallurgist, U. S. Bureau of Mines, and Howard B. Nickelson, geologist, U. S. Geological Survey.

The field examiners recommend no further exploration and that a certification of discovery or development should not be made. The Field Team concurs with their recommendations.

By DMEA Field Team, Region II

A. E. Weissenborn

A. E. Weissenborn, Exec. Officer
(U. S. Geological Survey)

Thomas E. Howard

Tom E. Howard, Acting Member
(U. S. Bureau of Mines)

Enclosures (4)
cc: USBM(2)
Nickelson

Reviewed by
DMEA OPERATING COMMITTEE
1-15-54
(date)

DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

FIELD TEAM, REGION II

FINAL REPORT

Contract Idm-E394

by

John D. Bardill
Metallurgist
U. S. Bureau of Mines

Howard B. Nickelson
Geologist
U. S. Geological Survey

MULLIN MINES, INC.
Golden, Idaho

Docket No.:	DMEA 2474
Commodity:	Tungsten
Contract date:	September 3, 1952
Completion date:	November 1, 1952

Reviewed by
DMEA OPERATING COMMITTEE
1-15-54
(date)

TUNGSTAR MINE
Ten Mile Mining District
Idaho County, Idaho

Spokane, Washington

December 1953

FINAL REPORT

MULLIN MINES, INC.
Tungstar Mine
Ten Mile Mining District
Idaho County, Idaho

Contract Idm-E394

* * * *

INTRODUCTION

This report describes a project conducted by Mullin Mines, Inc., under a contract with the Defense Minerals Exploration Administration for the exploration of a tungsten deposit at the Tungstar mine, Idaho County, Idaho.

Authorship

This final report has been written by John D. Bardill, U. S. Bureau of Mines, with the section on geology by Howard B. Nickelson, U. S. Geological Survey.

Summary

The purpose of the project was to explore for scheelite-bearing veins and evaluate the scheelite-bearing alluvium at the Tungstar mine by exposing bedrock with two bulldozer trenches and concentrating the scheelite in the alluvium excavated from the trenches in a washing-jig plant.

Two bulldozer trenches approximately 300 and 350 feet long were excavated from which about 2,450 and 3,700 cubic yards of alluvium, respectively, were slusher transported to the washing-jig plant and concentrated.

The two-month washing-jig plant treatment of the alluvium provided information which demonstrated that only fair grade scheelite concentrates were produced and that the deposit could not be worked profitably. The trenches exposed no significant scheelite-bearing veins in bedrock.

Recommendations

Certification of discovery or development is not recommended. It is recommended that any future applications for Government exploration assistance on this property be denied.

LOCATION AND ACCESSIBILITY

The Tungstar mine is located in Idaho County, Idaho, about a quarter of a mile northwest of the town of Fall Creek. Fall Creek is on the South Fork of the Clearwater River approximately 35 miles east of Grangeville or 2 miles east of the town of Golden on Idaho Highway No. 14 which is a dirt road following the river on water level grade.

The mine is situated on a steep, wooded mountainside in in the Nez Perce Mountains in Nez Perce National Forest at an elevation of about 4,500 feet and experiences sub-zero winter weather with heavy snowfalls. The summer climate is mild.

PROPERTY

The mining property consists of twelve unpatented and one patented claim, namely Tungstar 1 to 12 inclusive, and the Sacramento No. 2 patented lode claim, located in Idaho County in Ten Mile Mining District, in sec. 26, T. 23 N., R. 6 E., about a quarter of a mile northwest of Fall Creek, Idaho. The unpatented claims are recorded in Books 72 and 75 in the office of the County Recorder at Grangeville, Idaho. The patented claim is recorded in Book 1 of Mineral Patents on page 497.

Although title records of ownership have not been searched, it is presumed that H. W. White, Helen White, F. C. Funks, Nita C. Funks, B. M. Kelsch and L. M. Kelsch, who signed the Owner's Consent to Lien, are the claim owners.

The underground workings consist of an upper and lower adit at elevations of 486 and 375 feet, respectively, above the creek level. The adits are irregular in direction and can best be described by referring to the attached geologic plan map. The general trend of the upper adit is north-south and the lower adit roughly east-west. The upper adit has two portals, one of which is caved.

Surface workings consist essentially of two bulldozer trenches exposing bedrock. The slusher cut, or Trench No. 1, is about 300 feet long at an approximate angle uphill of 35 degrees.

Trench No. 2 extends roughly north and south from Trench No. 1, a total of about 350 feet as indicated on the map. The depth of alluvium to bedrock varied from a few inches to a maximum of about 25 feet.

THE PROJECT

Scheelite occurrences are exposed in quartz and pegmatite veins in the two underground adit levels. Scheelite float is present in varying amounts in the alluvium. These evidences of scheelite were considered sufficient to warrant exploration.

The Operators applied for a $45,530 production loan in December 1951 to construct a beneficiation plant and purchase mining equipment to mine and mill the Tungstar scheelite-bearing placer deposit. DMPA denied the request in January 1952 because the applicant could not submit sufficient evidence of grade and tonnage of ore reserves. The mill tests were not adequate to determine the recovery that might be expected. The Director of the Program Development Division suggested that an application be made for an exploration contract to sample the placer and make any necessary milling tests.

An application for a $26,154 exploration contract was transmitted to the Chairman, DMEA Operating Committee, late in March 1952, proposing to systematically trench the deposit, sample bedrock, and treat the excavated alluvium in a washing-jig plant. This application was denied in April because, by the proposal, approximately 15 to 20 percent of the material in the deposit would comprise the sample, and the project might be interpreted as a production operation instead of an exploratory one. A test pit sampling program was suggested as a substitute.

An exchange of correspondence between applicant and DMEA at Washington, D. C., discussed various alternate exploration proposals for several months. In the meantime, the applicant became impatient and purchased and rented equipment for the washing-jig plant, Diesel electric plant, pump and slusher installation, which left the company without operating funds.

Finally, on September 3, 1952, a contract was approved in the amount of $12,400 of which the Government's participation was $9,300. The contract provided for completion and installation of slusher and washing plant equipment, excavating two trenches with slusher and bulldozer to uncover bedrock, map and sample tungsten-bearing veins exposed therein, and treat alluvium excavated from trenches in the washing plant to determine recoverable scheelite content.

The Operators had been working spasmodically most of the summer of 1952, erecting the washing plant, and several days before the date of the contract had commenced excavation of a trench on their own account to sample the alluvium and uncover the bedrock. The Operators had located Trench No. 1 about halfway between the locations proposed in their application, so rather than abandon this trench and start anew it was completed by the end of September for a length of about 300 feet. An estimated 2,450 cubic yards was excavated from it and treated in the washing-jig plant. A single quartz pegmatite vein containing trace amounts of scheelite was exposed in this trench.

The contract was amended to excavate Trench No. 2 about 350 feet long, crossing Trench No. 1 and normal to it so that Trench No. 2 would cross, instead of parallel, the natural downward path of any tungsten-bearing float. The trench was completed October 31. About 3,700 cubic yards of excavated alluvium from it was treated in the plant. No significant scheelite-bearing veins were exposed in bedrock by the trench.

Mr. L. C. Clark, mining engineer for Bradley Mining Company, Stibnite, Idaho, was retained by the Operators as a mining and metallurgical consultant. Mr. Clark submitted the final report on November 19, but because of some technical discrepancies the corrected report was not accepted until February 5, 1953.

Water for the washing-jig plant was pumped a vertical distance of about 400 feet in two lifts by gasoline-driven pumps from the river. Power for most of the equipment was supplied by a rented No. 13000 Caterpillar diesel-electric plant, 130 HP, 75 KVA. A rented double drum Lidgerwood hoist, with 50 HP motor, powered a Pacific slusher. A D-6 bulldozer was used to clear the deposit of trees and brush, help feed the washing plant, and for trenching.

A slusher-hoist delivered the alluvium from Trench No. 1 to a hopper which discharged into the 54-inch by 22-foot trommel of the Bodison washing plant. Water sprays in the trommel washed the alluvium. The plus three-eighth-inch material was discharged onto a 26-inch by 50-foot stacker-sorting belt from which scheelite-bearing rock was picked and stockpiled. The minus three-eighth-inch trommel undersize was distributed to two 2-compartment 42- by 42-inch Pan-American end flow rougher jigs. The jig tailing was discarded. A high grade scheelite bed concentrate was removed from time to time and stockpiled for subsequent shipment to market. The rougher jig hutch product was fed to one 2-compartment 16- by 24-inch Pan-American cleaner jig. The cleaner jig concentrate was tabled on a half-size sand table and a cut made between the concentrates and tailing.

The table and cleaner jig tailings were returned to the trommel wash water. Concentrates were produced from the rougher and cleaner jig beds and the table.

The volume of alluvium mined and washed was calculated from a tally of the total number of bucket loads slushed to the plant.

A plus 60 percent WO_3 concentrate should be recovered to obtain the best market price. Several attempts to concentrate the table concentrate by magnetic separation at the Bradley Mining Company's mill only increased the grade from 20 to 28 percent WO_3.

An estimated 6,150 cubic yards (8,302.5 tons) of alluvium were treated in the two-month period and yielded the following results:

Product	Weight - tons	Assay - %WO_3	Short ton units
Heads	8302.5	---	---
Table concentrate	3.726	14.36	53.510
Jig bed concentrates	0.267	46.19	12.327
			65.837

Short ton units WO_3 recovered/1,000 tons alluvium: 7.93

Included in the two-month plant test run was a short test of seven days intended to be made under optimum washing-jig plant operating conditions after the early difficulties had been overcome. However, although the weights of the heads, table concentrate, jig bed concentrate and sorted rock were reported, these products were not assayed. The Operator, for some unaccountable reason, also used the analysis of the table and jig bed concentrate of the two-month test for the seven-day run. Obviously, this is incorrect so that the results of the test are considered of no value.

Since this deposit is considered a placer, the plant heads or tails were not sampled or assayed. The Mineralight showed the tailings to be high in scheelite.

The jig bed and table concentrates were marketed with the following returns:

National Hardware & Supply Co.,
Bishop, California (Wah Chang
Corp. Agent)
Jig bed concentrates: 534 dry lbs.
@ 46.19% WO_3 @ $46.19/S.T.U. $ 567.00

U. S. Vanadium Co., Bishop, Calif.
Table concentrate: 7,452 dry lbs.
@ 14.36% WO_3 @ $38/S.T.U. 2,033.38

Total - $2,600.38

Value of recovered WO_3 per cubic yard of alluvium before deducting for concentrate freight	$ 0.423
Operator's actual mining and washing-jig plant operation cost per cubic yard of alluvium	$ 1.71
Net return per unit WO_3 from sale of concentrates	$ 39.50

The contract was started September 4, 1952, and continued without interruption until its completion November 1, 1952.

Geology

Very little geologic mapping has been done in the area by Survey geologists. Geologic interpretations in this report are based almost entirely upon the maps and final report submitted by L. C. Clark.

The country rock in the local area is a biotite gneiss in which irregular pegmatites, quartz veins, and quartz pods have been injected more or less parallel to the foliation. The regional strike of these rocks is generally in a northwest-southeast direction. Fault movement along a series of north-south structures has offset the pegmatites and quartz bodies.

The quartz pods vary in size from a few feet to about 40 feet in width. The quartz veins vary in width from a few inches to several feet, but do not seem to have any great strike length. From observing the underground maps, the quartz veins and pods are found almost entirely within and associated with pegmatitic rocks.

Scheelite occurs within milky white quartz and in the pegmatitic rocks, but all of the quartz veins, pods, and pegmatites are not scheelite bearing. Scheelite crystals have been found in the quartz measuring as much as four inches across. The occurrence of scheelite is not uniformly distributed within any one body of pegmatite, quartz vein, or pod but in localized areas within them.

Erratic distribution of quartz veins and pods and the extreme localization of tungsten ore within the quartz makes it impractical to calculate ore reserves.

The over-all tungsten content of the quartz bodies is believed to be too low to support any mining operation, although it might be possible for a small operator to extract some ore by careful hand sorting.

Exploitation Possibilities

The varying depth and erratic occurrence of the scheelite in the alluvium made an estimate of the volume of alluvium in the deposit impossible because it was prospected by only two trenches. The scheelite-bearing deposit as a whole is subgrade and not commercial as demonstrated by the results of this project.

In his final report, Mr. Clark estimates 49,000 tons of minable ore containing 500 units of tungsten in Block "F", yet he has failed to give a single sample assay to substantiate his estimate.

Visual examination of the plus three-eighth inch material on the stacker belt indicated that it should be hand-sorted and the sorted material ground.

No grinding tests were made on the table concentrates to liberate the scheelite, but in all probability such a treatment would be necessary to upgrade this concentrate. Similarly, the jig bed concentrates should be ground for upgrading.

Finer grinding is necessary for scheelite liberation. The Operators were warned of this condition before starting work in 1951. Grinding is seldom associated with a placer operation.

The Operators stated at the end of the project that the alluvium tonnage was too low to warrant the additional cost of installing grinding equipment.

Summary of Factual Data

Work

The contract was in the amount of $12,400, of which $9,300 was the Government's participating share. The project accounts have been audited. A total of $10,476.08 was spent on the project, of which amount the Government contributed $7,857.06.

Approximately 300 lineal feet containing 2,450 cubic yards were excavated in Trench No. 1 and 350 lineal feet containing 3,700 cubic yards in Trench No. 2 for a total of 6,150 cubic yards. Final calculations show trenching cost of $0.72 per lineal foot or $0.76 per cubic yard. Treatment of the 6,150 cubic yards in the washing-jig plant cost $0.85 per cubic yard for a total actual mining and treatment cost of $1.71 per cubic yard. A systematic mining plan should reduce the mining costs materially. The milling cost could be reduced materially after the plant was properly adjusted and operating without shutdowns.

High costs are attributed to the usual adjustments and delays common to a new operation.

A total of 65.84 short ton units of WO_3 were recovered and sold for a total of $2,600.38 equivalent to $39.50 per unit. Since certification of discovery has not been made, royalty payment to the Government is not due.

Equipment

All of the equipment was either rented or furnished by the Operators on a depreciation allowance basis.

New building and improvement expenditures were largely for labor and miscellaneous small supplies for installation of the washing-jig plant and slusher hoist equipment. There were no unused supplies. The building has little salvage value; therefore, it is recommended that any Government claim be waived.

Discussion of Conclusions

Mr. Collard, president of Mullin Mines, Inc., visited the Spokane office of the Bureau of Mines in December 1951 with high-grade specimens of scheelite-bearing quartz float and several sample sacks of scheelite concentrates which had been recovered from the alluvium in a placer jig. A sample of this low-grade concentrate containing about 19.5 percent WO_3 was upgraded to 72.4 percent WO_3 with 99 percent recovery by screening, hydraulic classification, tabling, jigging and magnetic separation at the Albany, Oregon, laboratories of the Bureau of Mines. According to Mr. Collard, 45 cubic yards of alluvium were trucked to a gold dredge equipped with placer jigs and concentrated. Six hundred pounds of concentrates were reported recovered, from which 100 pounds of the rougher jig concentrates were separated for hand-cleaning. The 100 pounds yielded a clean, hand-cobbed product assaying 63 percent WO_3 and the remaining 500 pounds assayed 16.9 percent WO_3.

The underground and surface scheelite occurrences and the jig concentration test results seemed to justify this prospect as an interesting, small exploration project.

The Operators were sincere in their belief that the Tungstar placer deposit could be operated profitably and demonstrated this by installing most of the mine and washing-jig plant at their own expense before the Government exploration contract was known to be approved. The Operators prosecuted the contract work diligently and without appreciable delay.

The two trenches did not expose any significant scheelite-bearing veins in the bedrock.

The Operators did not fully realize until the end of the project that some grinding of the scheelite-bearing material in the alluvium is required to liberate the scheelite from the gouge, nor that the plant concentrates should be reground for upgrading to products marketable at prices near the maximum. The Operators finally decided that the deposit is too small to warrant the additional cost for grinding equipment and abandoned the property.

No recommendations for further exploration are warranted.

Attachments - 2
Distribution:
DMEA(4)
USBM(5)
USGS(SRO)
Docket
Nickalson

ANNEX

Costs to mine and treat 6,150 cubic yards of alluvium

Item	Total cost	Unit cost per cu. yd. mined & treated
(2) Labor and Supervision:		
Labor	$2,764.74	
Supervision	700.00	
Technical Services	200.00	
	$3,664.74	$0.60
(3) Operating Materials & Supplies:		
Timber	$ 100.80	
Diesel oil and gasoline	1,035.40	
Plant supplies	309.27	
	$1,445.47	$0.24
(4) Operating Equipment:		
Rental	$3,824.00	
Depreciation	130.00	
	$3,954.00	$0.64
(6) New Buildings, Improvements, etc.	$ 885.14	$0.14
(7) Miscellaneous:		
Sampling and analysis	$ 203.90	
Payroll taxes	176.09	
Liability insurance	146.74	
	$ 526.73	$0.09
Total Items of Costs	$10,476.08	$1.71

Note: Operator's work sheets were not available to determine how the separate trenching and treatment costs were calculated so the two were combined here.

2,313 man-hours were expended to trench and treat 6,150 cubic yards, or 0.38 man-hours per cubic yard.

400

FILE COPY
SURNAME: 9/B

Chapman
Martin
Selfridge
Johnson
Matteucci

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

DEC 16 1953

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

Re: Docket No. DMEA 2474 - Tungsten
Mullin Mines, Co. Inc.
Tungstar Mine
Idaho County, Idaho
Contract Idm-E394

Dear Mr. Weissenborn:

On reviewing our records we find that we have not received the Field Team's final report on the subject property. We would appreciate it, therefore, if you would submit the report at your early convenience so that we may close our files on the project.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (2/B)

APPROVED:

J. H. Hedges (2/B)
Member, Bureau of Mines

D. M. Larrabee (2/B)
Member, Geological Survey

TLChapman:foc
12-14-53
cc: Docket
Code 400
FT. Reg. # 2
Operating Comm.
Admr. Reading File
R.W. Geehan, USBM
T. P. Thayer, USGS

R. C. G.
12-16-53

FILE COPY
SURNAME:

Chambers

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

AUG 20 1953

Mr. Robert M. Hull
IMEA Auditor
1201 North Division Street
Spokane 2, Washington

Re: Idm-E394, DMEA-2474
Mullin Mines Company, Inc.

Dear Mr. Hull:

Receipt is acknowledged of your transmittal letter of August 14, 1953, submitting Report of Review for the above-cited contract.

In approving this Report of Review I am assuming that no maximum items were exceeded in the prosecution of the project. This point could not be checked here since we do not have the final MF-104.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Chief
Contract Administration
and Audit Division

JLChambers/wb
August 20, 1953

Copy to: Docket
Admr. Reading File
Mr. Chambers

8-20-53

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D. C.~~
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 21 1953

August 18, 1953

Mr. R. J. Hindman, Certifying Officer
DMEA Field Team, Region II
1201 North Division Street
Spokane 2, Washington

Re: Docket No. DMEA-2474 (Tungsten)
Mullin Mines Company
Idaho County, Idaho
Contract No. Idm-E394

Dear Mr. Hindman:

This is to inform you that work under the subject contract has been completed. The Operator has submitted his final report which has been accepted by the Executive Officer. The Field Team's final report has not been written, but we have advised the Operating Committee that we will not recommend a certification of discovery.

There were no unused supplies remaining from contract work. A shed was constructed with project funds but as most of the cost was for labor and as it has no resale value, the Executive Officer hereby waives all Government interest in the building.

Inasmuch as all requirements have been met, it is requested that the Operator's final invoice be accepted for vouchering and payment.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

cc: USBM (2)
DMEA (2)
Auditor, Region II
Com. Adm. & Aud. Div., Wash., D. C.
Geologist

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

1201 N. Division St.
Spokane 2, Washington
July 21, 1953

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

Subject: Docket No. DMEA 2474 (tungsten)
Contract Idm-E394
Mullin Mines, Inc., Tungstar Mine
Idaho County, Idaho

Dear Mr. Selfridge:

The Field Team accepted and transmitted the Operator's final report on the subject project to the Operating Committee on February 6, 1953. The final audit has not yet been made; however, if our interpretation of the contract is correct, the Operator and the property owners must be notified of a certification of discovery, if one is to be made, before August 6, 1953. Therefore, we believe it advisable to submit our recommendation in advance of our final report, which is not yet complete.

Estimates indicate the possibility of 230 short ton units of recoverable tungsten remaining in the alluvium at the Tungstar mine. The sale of the tungsten concentrates from the mill test run last fall netted an average of $39.50 per unit of tungsten, or $0.41 per cubic yard of material. At this rate the total net value of the remaining recoverable tungsten is about $9,100. The actual operating cost of mining and washing the alluvial was $1.55 per cubic yard.

The Operator has terminated his lease and abandoned the property.

The Field Team is of the opinion that the amount of recoverable tungsten is too small to be of consequence and that the property will not support a commercial enterprise. We recommend that no mineral discovery be certified.

By Field Team, Region II

J. J. Quinlan, Acting Member
U. S. Geological Survey

M. E. Volin, Acting Exec. Officer
U. S. Bureau of Mines

Docket

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

Spokane, Washington
March 19, 1953

Mr. James Collard
Box 261
Johannesburg, Calif.

WSM

Subject: Docket No. DMEA 2474 (tungsten)
Contract Idm-E394
Tungstar Property
Idaho County, Idaho

Dear Mr. Collard:

This will acknowledge receipt of your letter of March 12, 1953, to Mr. Bardill enclosing a check for $39.01 in payment of royalties on low grade concentrates produced as a result of the DMEA project. The check is returned herewith for reasons set forth below.

It has been determined, since your last visit to this office, that the rate of royalty repayment should be based on the value per ton of the product sold rather than the value per ton of the original ore. Therefore, the payment should be 5 percent of the net returns rather than 1-1/2 percent as you were previously informed.

The payment need not be made, however, until you receive notification that a discovery or development has been certified. When you receive such notification a check in the proper amount, made payable to the Treasurer of the United States and accompanied by copies of the appropriate settlement sheets, should be mailed to the Executive Officer, Region II, at the address given below.

By Field Team, Region II

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey
157 South Howard Street

Copy retained 400

M. E. Volin, Member
U. S. Bureau of Mines
1201 N. Division Street

Enclosure

cc: DMEA, Wash. (3)
USGS (2)
DMEA
AD

TEH/bo

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D. C.~~
Spokane, Washington
February 6, 1953

BL

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 13 1953

MEMORANDUM

To: Chairman, Operating Committee, DMEA, Washington, D. C.

From: Field Team, Region II

Subject: Docket No. DMEA 2474 (Tungsten)
Contract Idm-E394, Mullen Mines, Inc.,
Tungstar Mine, Idaho County, Idaho
Operator's final report.

Enclosed are three copies of the Operator's final report on the subject property, together with four copies of a memorandum to the Field Team from John D. Bardill, Bureau of Mines, explaining certain discrepancies in the report.

Our final report on the project is being prepared and will be forwarded at an early date.

By Field Team, Region II

A. E. Weissenborn

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey
So. 157 Howard Street

M E Volin

M. E. Volin, Member
U. S. Bureau of Mines
1201 N. Division Street

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

~~WASHINGTON 25, D. C.~~

Spokane, Washington
February 6, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 13 1953

MEMORANDUM

To: Chairman, Operating Committee, DMEA, Washington, D. C.

From: Field Team, Region II

Subject: Docket No. DMEA 2474 (Tungsten)
Contract Idm-8394, Mullen Mines, Inc.,
Tungster Mine, Idaho County, Idaho
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A. E. Weissenborn, Exec. Officer
U. S. Geological Survey
So. 157 Howard Street

M. E. Volin, Member
U. S. Bureau of Mines
1201 N. Division Street

Enclosures

Orig. & 3 - Wash.
USGS - 2
DMEA
M/D
JDB

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~
Spokane, Washington
February 6, 1953

MEMORANDUM

To: Chairman, Operating Committee, DMEA, Washington, D. C.

From: Field Team, Region II

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Contract Idm-E394, Mullen Mines, Inc.,
Tungstar Mine, Idaho County, Idaho
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By Field Team, Region II

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey
So. 157 Howard Street

M. E. Volin, Member
U. S. Bureau of Mines
1201 N. Division Street

Enclosures

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UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~

1201 N. Division St.
Spokane 2, Washington
February 5, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 13 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: John D. Bardill, Bureau of Mines

Subject: Contractor's final report, DMEA Docket No. 2474 (tungsten) Contract Idm-E394, Mullin Mines Co., Inc., Tungstar Mine, Idaho County, Idaho

Enclosed are the original and four copies of the Mullins Mines Company final report with addenda and maps to accompany it.

The report was prepared by Mr. L. C. Clark, mining engineer, who was retained by the company as a mining and metallurgical consultant. Mr. Clark left for Korea before the weights and analyses of the concentrate and sorted rock products were available; consequently, the report was incomplete at the time of his departure. Some of the spaces for assays, weights and values were left blank in the report and were to be filled in later. Mr. Clark erroneously estimated a cubic yard of alluvium to weigh about 4,500 pounds, which led him to some incorrect conclusions. A more reasonable estimate would have been about 2,700 pounds.

In reply to my inquiry about discrepancies in Clark's report, Mr. James Collard, president of Mullin Mines Company, in a letter to Mr. Volin explained some of the differences and enclosed a substitute data sheet on milling which, with the letter, is appended to the report.

In a separate communication to me, Mr. Collard stated that he had Clark's consent to delete the second paragraph in the summary of the report which concludes that a $15,000 operating profit could be made. Please note this correction.

John D. Bardill

John D. Bardill

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
JDB

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION
~~XXXXXXXXXXXXXXXXXX~~
WASHINGTON 25, D. C.
1201 N. Division St.
Spokane 2, Washington
February 5, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 13 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: John D. Bardill, Bureau of Mines

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UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION
~~xxxxxxxxxxxxxxxxxx~~
WASHINGTON 25, D. C.

1201 W. Division St.
Spokane 2, Washington
February 5, 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: John D. Bardill, Bureau of Mines

Subject: Contractor's final report, DMEA Docket No. 2474 (tungsten) Contract Idm-8394, Mullin Mines Co., Inc., Tungstar Mine, Idaho County, Idaho

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John D. Bardill

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
JDB

November 19, 1952
Golden, Idaho

Mr. James E. Collord, Pres.
Mullin Mines Co., Inc.
Golden, Idaho

Dear Mr. Collord:

Re: Tungstar Mining Property
Mullin Mines Co., Inc.

The following are my conclusions after observing this property the last two months, and are submitted under the following heads:

Summary
Mining
Geology
Development
Milling
Map

The map is submitted to show graphically, the positions occupied by the faulted segments of quartz and the simplicity of operation, and the ease with which a re-arrangement of methods now in use can be utilized to improve the overall economics.

Respectfully submitted,

L. C. Clark

L. C. Clark, Mining Engineer

Nov. 19, 1952

Golden, Idaho

REPORT ON TUNGSTAR MINING PROPERTY

OF

MULLIN MINES CO., INC., GOLDEN, IDAHO

SUMMARY:

This investigation has dealt mainly with the orebody in an effort to find concrete evidence on which to base an opinion on whether or not further operation should be attempted. The underground and surface workings were mapped and quite definite conclusions were made. Sampling of the orebody is not practicable, due to the very erratic occurrence of the scheelite, so it was arranged that a one-week plant run should be considered a sampling test. This served another purpose — to get figures on plant operation.

As a result of the geologic investigations, there appears to be sufficient ore for a three-shift operation for about forty-five days, and in this period the operating profit should be $15,000.00 and produce 500 units of tungsten.

Changes suggested to accomplish this are minor, with no great capital outlay. The first of these is to change the direction of the main slusher to operate immediately within the ore zone, N20W-S20E; this will necessitate a secondary slusher to deliver the rock to the plant, but this method is essential to avoid dilution. A pump should be installed to deliver a low grade table product to the cleaner jig, thus increasing recovery. Arrangements should be made at a nearby mill to efficiently process the quartz oversize sorted out on the picking belt. Test work should be conducted to determine a method of making a saleable product from the table concentrate.

MINING:

The accompanying map shows clearly the method of operating the tractor trenches for transporting the broken rock to the slusher trench, then directly to the plant. This is simple and efficient and cannot be improved except in one respect — dilution. The metallurgical investigation, as indicated below, shows dilution to be a very serious factor and one which necessarily must be corrected. To accomplish this the slusher trench should be oriented along the trend of the several segments of quartz in order that efficient mining can be accomplished. This operation will require a secondary slusher, but the economies appear to warrant it. With this arrangement, the tractor operator will have the choice of moving ore to the trench or waste away from it. In the past most tonnage has come from block "C" and has contained much waste, mainly because of the inconvenience of stockpiling it in areas where it would again have to be moved.

All the rock breaks easily, with the exception of the quartz. By the time it has been mined and scraped to the mill, most of the available scheelite is free from attachment with other crystals. The quartz is handled separately in the plant.

GEOLOGY:

The discussion of this subject will be confined to the position of several blocks of mineralized quartz and pegmatite which are the subjects of greatest interest. The rocks involved are biotite gneiss, pegmatite and quartz. The latter two, in general, have been injected into the gneiss, or have replaced it, and have assumed its form so they appear themselves to have been bent and contorted. This is a confusing aspect until their origin is recognized.

Much of the original gneiss was oriented northwest-southeast, and east-west; thus the present picture is one of contorted quartz veins striking in these directions. However, the essential point is the recognition of movement along north-south structures, which has distributed segments of quartz at intervals of about fifty feet for three hundred feet. The segments trend N 20 W and are shown on the accompanying map.

Scheelite is found in the pegmatite, as well as in the quartz. Crystals of nearly pure mineral, several inches on a side, are found in both rocks. Concrete evidence to substantiate the depth to which the scheelite may go is lacking. Block "F", on the map, is fairly well mineralized and may be considered to be the extention of Block "B". If this is true, it may be safe to project to this depth but certainly not beyond it. This gives a block 30 feet in width by 65 feet in depth by 300 feet in length, or 49,000 tons.

DEVELOPMENT:

It is probable that the estimate of tonnage could be increased considerably by work at several points. However, if mining is carried on, these will be developed in the process.

Surface trenching between point "1" as indicated on the map, and Block "B", may indicate another segment. Development of Block "C" at depth could be done by driving a short drift to the north, parallel to the structure indicated on the map in the Lower Tunnel at point "2". This would be about 60 feet in length and there is considerable likelihood a raise in the quartz found there would be necessary to determine the bottom limit of tungsten mineralization.

MILLING:

The mill essentially is a washing plant. No crushing or grinding is done and it appears the process is reasonably efficient, or can be made so. A slusher brings the rock directly from the mine to a rotating trommel, where water sprays wash out the minus 3/8 material which passes directly to two two-compartment 42x42-inch, Pan American rougher jigs. Rougher tails go to waste and hutch product to one two-compartment 16x24-inch Pan American cleaner jig. The cleaner concentrate is tabled on a half-size sand table and a cut made between concentrate and tail. The table tail and cleaner jig tail are returned to the trommel wash water. Concentrates produced are from the rougher and cleaner jig beds and from the table.

The jig bed concentrate needs no further treatment; however, the table concentrate contains much metallic iron, zircon, garnet and magnetite and runs only 20% WO_3. One attempt has been made to upgrade these concentrates magnetically, but this was not successful. The final concentrate assayed 23% WO_3. By inspection it appears only metallic iron and magnetite were removed. Test work certainly is in order to determine if a good concentrate can be produced from the table concentrate. Also, a low grade cut should be made of the table concentrate and returned directly to the cleaner jig. The present practice of returning this product to the trommel increases losses considerably.

Milling, Cont'd:

During the recent operation, 6150 yards (13,800 tons) were treated which produced pounds of percent concentrate and pounds of concentrate. A consideration of products follows:

Product	Wt. Tons	Assay. WO_3	S.T.U.
Heads	13,800		
Table Cons.			
Jig Bed Cons.			

A metallurgical balance is not attempted because of the nature of the operation - a placer washing plant. If dilution - the introduction of waste rock during mining - is considered to be 50% this brings the estimate of the original recoverable head to % WO_3.

During October a consistant plant run of seven days was made with the following results:

Product	Wt. Tons	Assay. WO_3	S.T.U.
Heads	2800.		
Table Cons.	.223		
Jig Bed Cons.	.053		
Sorted Rock	2.540		

If 50% again is used for the amount of dilution which took place this indicates the rock to run approximately percent or have a value of $ per ton, based on a sale price of $38.00 per unit and to have a present market value of $ per ton, or $ per yard.

If recovery is increased to 60%, this indicates recovered per yard. The present operating costs are about $150.00 per shift, but on a three-shift basis will be near $135.00, or, based on 160 yards per shift, 85 cents per yard. The plant has ample capacity for this yardage

and should produce short ton units per day at a of cents per yard. The 49,000 tons mentioned above as an estimate of probable ore will then represent 21,800 yards or 45 operating days.

L. C. Clark

L. C. Clark

Milling, Cont'd:

During the recent operation, 6150 cubic yards (8302.5 tons) were treated which produced 539 pounds of 46.19 percent concentrate and 7,452 pounds of 14.36 percent concentrate. A consideration of products follows:

Product	Wt. Tons	Assay. %WO_3	S.T.U.
Heads	8302.5	———	———
Table Cons.	3.726	14.36	53.51
Jig Bed Cons.	0.267	46.19	12.327

A metallurgical balance is not attempted because of the nature of the operation - a placer washing plant. If dilution - the introduction of waste rock during mining - is considered to be 50% this brings the estimate of the original recoverable head to 0.009545 WO_3.

During October a consistent plant run of seven days was made with the following results:

Product	Wt. Tons	Assay. % WO_3	S.T.U.
Heads	2800.		
Table Cons.	.223	14.36	3.202
Jig Bed Cons.	.053	46.19	2.443
Sorted Rock	2.54	2.26	5.74

To arrive at a logical conclusion of the worth of both the Tungstar alluvial deposit and the tests conducted thereon last summer, the total value of the products recovered should be computed against the total of the tonnage treated. The sorted ore from the belt cannot be involved in this computation, as the tonnage required for marketing purposes has not been met in our tests. The jig bed concentrates consisting of 534 pounds (dry wt.) of 46.19% WO_3 material was sold to the Wah Chang Corporation for a total of $567.04. The table concentrates consisting of 7452 pounds (dry wt.) of 14.36% WO_3 material was sold to the U. S. Vanadium Corporation for a total of $2033.38. This is a total of $2600.42 recovered from 8302.5 tons of alluvial material treated, which is $0.319 recoverable per ton of alluvial washed, or $0.407 per cu. yd.

The cost of mining and washing the alluvial at the Tungstar property was $1.55 per cubic yard, which leaves us a net loss of $1.141 per cubic yard treated. This computation is without the attending marketing costs, but is also without the value of the sorted rock figured.

The expectation of improvement both to the dilution problem and the recovery of WO_3 in the Tungstar alluvial is not enough to warrant further work with the washing plant.

COPY

DMEA Docket No. 2474
Contract Idm-X394
Mullin Mines Co., Inc.
Tungstar Mine, Idaho County,
Idaho------- Tungsten

M. E. Volin
DMEA Field Team, Region 2
U. S. Bureau of Mines, 1201 N. Division,
Spokane, Washington

Dear Mr. Volin:

I have a letter from Mr. J. D. Bardill requesting some corrections in our project report, considering the results of the sampling and sale of our tungsten concentrates made during our tests last fall.

(1) Clark indicates the 6,150 cubic yards of material fed to the plant to have a total weight of 13,800 tons. This is, in my opinion, quite high, and my own estimates on the conversion figures would be 2,700 pounds, per cubic yard, making a total for the 6,150 yards to read 8,302.5 tons treated.

The original measurements of the ground to be fed to the washing plant was on a yardage basis, not tons.

(2) The seven day plant run used for calculating values recovered in October yielded 2.54 tons of rock which assayed 2.26 per cent WO_3.

This rock, if sold as it is, would bring $37.00 per STU of WO_3 contained, F.O.B. the U. S. Vanadium plant in Bishop. This would be a gross dollar value of $83.62 per ton. The freight to Bishop, Calif. is $48.00 per ton. This would leave an indicated profit of $35.62 per ton. The freight rate of $48.00 per ton is based on a minimum of 50 tons for haulage, and the U. S. Vanadium price of $37.00 per STU is based on a minimum of 100 tons in each lot, or delivered shipment.

Due to the very small tonnage picked from the belt during the test operation, and the small tonnage of this product indicated in future operations, we will make no arrangements for disposition of this product. The cost of regrinding and metallurgical treatment of the picked rock is too costly to even approach an estimate, due to the small amount of this product indicated.

(3) Clark states "If recovery is increased to 60%, this indicates $1.52 recovered per yard."

This statement was based on an optimum of both values and dilution to be obtained in a future mining and washing operation. Clark figured the dilution could be cut 50% under the amount calculated in the test run, and used a 10% addition to the recovery by using a Diester Diagonal Deck table, and a sand pump for return of the middlings to the rougher jigs. Both these percentage figures were based on plant feet, calculated in yards of 4500 pounds each.

I am sure that neither the dilution or the recovery figures are correct, in any way. To improve the dilution would require an investment of $4,200.00 and would require an extra man for three shifts per day.

The additional recovery of 10% would require an investment of $7,800.00.

The results of our test run last summer and fall indicate neither of these investments are justified. The Mullin Mines Co. is dropping their bond on the Tungstar property, and have suspended mining operations there.

/s/
James Collord, President
Mullin Mines Col.

SUBSTITUTE FOR VENDORS INVOICE
Vendor does not render invoice

Date December 23, 1952

Bought from Mellin Mines Company
c/o J. Ellis Frank

Street & No. 5707 Emerald Street, Rt. 7

Town & State Boise, Idaho

Sold to: UNITED STATES VANADIUM COMPANY

Transportation terms - Account of Seller

Tentative Settlement on WO3 Low Grade Concentrates Loads 1 Checks
received December 15, 1952

53.51 Units WO3 contained in 7,452 dry pounds of low grade concentrates
@ $ 38.00 per unit WO3. $ 2033.38

Detail of Material included in this settlement.

Lot No.	Net Weight	Sack Weight	%H2O	Net Dry Weight	%WO3	Units WO3	Per Unit	Amount
12-3	7,710	67	3.50	7,452	14.36	53.51	38.00	2033.38

Total

Request for Umpire must be made within 30 days from the date of this settlement, or by
January 23, 1953

Date December 15, 1952

Material scheelite concentrates

Lot No. NH-311
Seller's lot No. 2

No. of Containers 6 sacks
cans

PURCHASED FROM:

Name Mullin Mines Co.
Boise, Idaho

Address

Mine Location:

Copy for:

Mr. J. D. Bardill
U.S. Bureau of Mines
1201 N. Division
Spokane, Washington

Gross Wt. 539 lbs. dry

Wt. of Truck lbs.

Wt. of Tare 3 lbs.

Moisture 2

Net Wt. 534 lbs. dry

WO_3 46.19 %

Wt. of WO_3 246.546 lbs.

No. of S.T.U. 12.327

Contract Price per S.T.U. $46.00

If W03 is 60% or better, the price will be $60.00 per s.t.u., if below 60% W03 the price will be $1.00 per % W03.

Total Value ..... $567.04 By Check No.

Amount Advanced ..... $200.00 By Check No. BA-482

Other Deductions 4.00

Final Settlement ..... $363.04 By Check No. BA-511

OTHER ASSAYS

%	%
%	%
%	%
%	%
%	%

FINAL SETTLEMENT WILL BE MADE UPON RECEIPT OF ASSAYS

BUYER:

~~Blackrock Mining Corporation~~ National Hardware & Supply Co.
137 Clarke St.
Bishop, California.

Seller's acceptance of this payment constitutes acknowledgment of buyer's equity in this ore. The owner warrants the unencumbered ownership and the right to sell and transfer the material to the buyer.

SELLER Mullin Mines Co.
by: James Cole

November 19, 1952
Golden, Idaho

Mr. James E. Collord, Pres.
Mullin Mines Co., Inc.
Golden, Idaho

Dear Mr. Collord:

Re: Tungstar Mining Property
Mullin Mines Co., Inc.

The following are my conclusions after observing this property the last two months, and are submitted under the following heads:

Summary
Mining
Geology
Development
Milling
Map

The map is submitted to show graphically, the positions occupied by the faulted segments of quartz and the simplicity of operation, and the ease with which a re-arrangement of methods now in use can be utilized to improve the overall economics.

Respectfully submitted,

L. C. Clark

L. C. Clark, Mining Engineer

Nov. 19, 1952

Golden, Idaho

REPORT ON TUNGSTAR MINING PROPERTY

OF

MULLIN MINES CO., INC., GOLDEN, IDAHO

SUMMARY:

This investigation has dealt mainly with the orebody in an effort to find concrete evidence on which to base an opinion on whether or not further operation should be attempted. The underground and surface workings were mapped and quite definite conclusions were made. Sampling of the orebody is not practicable, due to the very erratic occurrence of the scheelite, so it was arranged that a one-week plant run should be considered a sampling test. This served another purpose — to get figures on plant operation.

As a result of the geologic investigations, there appears to be sufficient ore for a three-shift operation for about forty-five days, and in this period the operating profit should be $15,000.00 and produce 500 units of tungsten.

Changes suggested to accomplish this are minor, with no great capital outlay. The first of these is to change the direction of the main slusher to operate immediately within the ore zone, 820W-820E; this will necessitate a secondary slusher to deliver the rock to the plant, but this method is essential to avoid dilution. A pump should be installed to deliver a low grade table product to the cleaner jig, thus increasing recovery. Arrangements should be made at a nearby mill to efficiently process the quartz oversize sorted out on the picking belt. Test work should be conducted to determine a method of making a saleable product from the table concentrate.

MINING:

The accompanying map shows clearly the method of operating the tractor trenches for transporting the broken rock to the slusher trench, then directly to the plant. This is simple and efficient and cannot be improved except in one respect -- dilution. The metallurgical investigation, as indicated below, shows dilution to be a very serious factor and one which necessarily must be corrected. To accomplish this the slusher trench should be oriented along the trend of the several segments of quartz in order that efficient mining can be accomplished. This operation will require a secondary slusher, but the economics appear to warrant it. With this arrangement, the tractor operator will have the choice of moving ore to the trench or waste away from it. In the past most tonnage has come from block "C" and has contained much waste, mainly because of the inconvenience of stockpiling it in areas where it would again have to be moved.

All the rock breaks easily, with the exception of the quartz. By the time it has been mined and scraped to the mill, most of the available scheelite is free from attachment with other crystals. The quartz is handled separately in the plant.

GEOLOGY:

The discussion of this subject will be confined to the position of several blocks of mineralized quartz and pegmatite which are the subjects of greatest interest. The rocks involved are biotite gneiss, pegmatite and quartz. The latter two, in general, have been injected into the gneiss, or have replaced it, and have assumed its form so they appear themselves to have been bent and contorted. This is a confusing aspect until their origin is recognized.

Much of the original gneiss was oriented northwest-southeast, and east-west; thus the present picture is one of contorted quartz veins striking in these directions. However, the essential point is the recognition of movement along north-south structures, which has distributed segments of quartz at intervals of about fifty feet for three hundred feet. The segments trend N 20 W and are shown on the accompanying map.

Scheelite is found in the pegmatite, as well as in the quartz. Crystals of nearly pure mineral, several inches on a side, are found in both rocks. Concrete evidence to substantiate the depth to which the scheelite may go is lacking. Block "F", on the map, is fairly well mineralized and may be considered to be the extention of Block "B". If this is true, it may be safe to project to this depth but certainly not beyond it. This gives a block 30 feet in width by 65 feet in depth by 300 feet in length, or 49,000 tons.

DEVELOPMENT.

It is probable that the estimate of tonnage could be increased considerably by work at several points. However, if mining is carried on, these will be developed in the process.

Surface trenching between point "1" as indicated on the map, and Block "B", may indicate another segment. Development of Block "C" at depth could be done by driving a short drift to the north, parallel to the structure indicated on the map in the Lower Tunnel at point "2". This would be about 60 feet in length and there is considerable likelihood a raise in the quartz found there would be necessary to determine the bottom limit of tungsten mineralization.

MILLING:

The mill essentially is a washing plant. No crushing or grinding is done and it appears the process is reasonably efficient, or can be made so. A slusher brings the rock directly from the mine to a rotating trommel, where water sprays wash out the minus 3/8 material which passes directly to two two-compartment 42x42-inch, Pan American rougher jigs. Rougher tails go to waste and hutch product to one two-compartment 16x24-inch Pan American cleaner jig. The cleaner concentrate is tabled on a half-size sand table and a cut made between concentrate and tail. The table tail and cleaner jig tail are returned to the trommel wash water. Concentrates produced are from the rougher and cleaner jig beds and from the table.

The jig bed concentrate needs no further treatment; however, the table concentrate contains much metallic iron, zircon, garnet and magnetite and runs only 20% WO_3. One attempt has been made to upgrade these concentrates magnetically, but this was not successful. The final concentrate assayed 28% WO_3. By inspection it appears only metallic iron and magnetite were removed. Test work certainly is in order to determine if a good concentrate can be produced from the table concentrate. Also, a low grade cut should be made of the table concentrate and returned directly to the cleaner jig. The present practice of returning this product to the trommel increases losses considerably.

Milling, Cont'd:

During the recent operation, 6150 yards (13,800 tons) were treated which produced pounds of percent concentrate and pounds of concentrate. A consideration of products follows:

Product	Wt. Tons	Assay. WO_3	S.T.U.
Heads	13,800		
Table Cons.			
Jig Bed Cons.			

A metallurgical balance is not attempted because of the nature of the operation - a placer washing plant. If dilution - the introduction of waste rock during mining - is considered to be 50% this brings the estimate of the original recoverable head to % WO_3.

During October a consistant plant run of seven days was made with the following results:

Product	Wt. Tons	Assay. WO_3	S.T.U.
Heads	2800.		
Table Cons.	.223		
Jig Bed Cons.	.053		
Sorted Rock	2.540		

If 50% again is used for the amount of dilution which took place this indicates the rock to run approximately percent or have a value of $ per ton, based on a sale price of $33.00 per unit and to have a present market value of $ per ton, or $ per yard.

If recovery is increased to 60%, this indicates recovered per yard. The present operating costs are about $150.00 per shift, but on a three-shift basis will be near $135.00, or, based on 160 yards per shift, 85 cents per yard. The plant has ample capacity for this yardage

and should produce short ton units per day at a of

cents per yard. The 49,000 tons mentioned above as an estimate of probable ore will then represent 21,800 yards or 45 operating days.

L. C. Clark

L. C. Clark

Milling, Cont'd:

During the recent operation, 6150 cubic yards (8302.5 tons) were treated which produced 539 pounds of 46.19 percent concentrate and 7,452 pounds of 14.36 percent concentrate. A consideration of products follows:

Product	Wt. Tons	Assay. %WO_3	S.T.U.
Heads	8302.5	———	———
Table Cons.	3.726	14.36	53.51
Jig Bed Cons.	0.267	46.19	12.327

A metallurgical balance is not attempted because of the nature of the operation - a placer washing plant. If dilution - the introduction of waste rock during mining - is considered to be 50% this brings the estimate of the original recoverable head to 0.009545 WO_3.

During October a consistent plant run of seven days was made with the following results:

Product	Wt. Tons	Assay. % WO_3	S.T.U.
Heads	2800.		
Table Cons.	.223	14.36	3.202
Jig Bed Cons.	.053	46.19	2.448
Sorted Rock	2.54	2.26	5.74

To arrive at a logical conclusion of the worth of both the Tungstar alluvial deposit and the tests conducted thereon last summer, the total value of the products recovered should be computed against the total of the tonnage treated. The sorted ore from the belt cannot be involved in this computation, as the tonnage required for marketing purposes has not been met in our tests. The jig bed concentrates consisting of 534 pounds (dry wt.) of 46.19% WO_3 material was sold to the Wah Chang corporation for a total of $567.04. The table concentrates consisting of 7452 pounds (dry wt.) of 14.36% WO_3 material was sold to the U. S. Vanadium Corporation for a total of $2033.39. This is a total of $2600.43 recovered from 8302.5 tons of alluvial material treated, which is $0.319 recoverable per ton of alluvial washed, or $0.407 per cu. yd.

The cost of mining and washing the alluvial at the Tungstar property was $1.55 per cubic yard, which leaves us a net loss of $1.141 per cubic yard treated. This computation is without the attending marketing costs, but is also without the value of the sorted rock figured.

The expectation of improvement both to the dilution problem and the recovery of WO_3 in the Tungstar alluvial is not enough to warrant further work with the washing plant.

COPY

DMEA Docket No. 2474
Contract Idm-2994
Mullin Mines Co., Inc.
Tungsten Mine, Idaho County,
Idaho——— Tungsten

M. E. Volin
DMEA Field Team, Region 2
U. S. Bureau of Mines, 1201 N. Division,
Spokane, Washington

Dear Mr. Volin:

I have a letter from Mr. J. D. Burdill requesting some corrections in our project report, considering the results of the sampling and sale of our tungsten concentrates made during our tests last fall.

(1) Clark indicates the 6,150 cubic yards of material fed to the plant to have a total weight of 13,800 tons. This is, in my opinion, quite high, and my own estimates on the conversion figures would be 2,700 pounds, per cubic yard, making a total for the 6,150 yards to read 8,302.5 tons treated.

The original measurements of the ground to be fed to the washing plant was on a yardage basis, not tons.

(2) The seven day plant run used for calculating values recovered in October yielded 2.54 tons of rock which assayed 2.26 per cent WO_3.

This rock, if sold as it is, would bring $37.00 per STU of WO_3 contained, F.O.B. the U. S. Vanadium plant in Bishop. This would be a gross dollar value of $83.62 per ton. The freight to Bishop, Calif. is $43.00 per ton. This would leave an indicated profit of $35.62 per ton. The freight rate of $43.00 per ton is based on a minimum of 50 tons for haulage, and the U. S. Vanadium price of $37.00 per STU is based on a minimum of 100 tons in each lot, or delivered shipment.

Due to the very small tonnage picked from the belt during the test operation, and the small tonnage of this product indicated in future operations, we will make no arrangements for disposition of this product. The cost of regrinding and metallurgical treatment of the picked rock is too costly to even approach an estimate, due to the small amount of this product indicated.

(3) Clark states "If recovery is increased to 60%, this indicates $1.52 recovered per yard."

This statement was based on an optimum of both values and dilution to be obtained in a future mining and washing operation. Clark figured the dilution could be cut 50% under the amount calculated in the test run, and used a 10% addition to the recovery by using a Diester Diagonal Deck table, and a sand pump for return of the middlings to the rougher jigs. Both these percentage figures were based on plant feet, calculated in yards of 4500 pounds each.

I am sure that neither the dilution or the recovery figures are correct, in any way. To improve the dilution would require an investment of $4,200.00 and would require an extra man for three shifts per day.

The additional recovery of 10% would require an investment of $7,800.00.

The results of our test run last summer and fall indicate neither of these investments are justified. The Mullin Mines Co. is dropping their bond on the Tungsten property, and have suspended mining operations there.

/s/
James Collord, President
Mullin Mines Col.

SUBSTITUTE FOR VENDORS INVOICE
Vendor does not render invoice

Date December 23, 1952

Bought from Mullin Mines Company
c/o J. Willis Black
Street & No. 5707 Emerald Street, Rt. #7

Town & State Boise, Idaho

Sold to: UNITED STATES VANADIUM COMPANY

Transportation terms - Account of Seller

Tentative settlement on WO3 Low Grade Concentrates Loads 1 Month
received December 15, 1952

53.51 Units WO3 contained in 3,652 dry pounds of low grade concentrates
@ $ 38.00 per unit WO3. $2033.38

Detail of Material included in this settlement.

Lot No.	Wet Weight	Sack Weight	H2O	Net Dry Weight	WO3	Units WO3	Per Unit	Amount
12-3	7,710	67	2.50	7,652	14.36	53.51	38.00	2033.38

Total

Request for Umpire must be made within 30 days from the date of this settlement, or by
January 23, 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
1201 North Division St.
Spokane 2, Washington
January 27, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 5 1953

Reply to: M. E. Volin, Member
DMEA Field Team, Reg. II

Mr. James Collord, President
Mullin Mines Company
c/o R. J. McRae
Stibnite, Idaho

Subject: DMEA Docket No. 2474, Contract Idm-E394
Mullin Mines Co., Inc., Tungstar Mine
Idaho County, Idaho (tungsten)

Dear Jim:

Thanks for your letter of January 13th clarifying Mr. Clark's report.

I have just started to draft the final report on the Tungstar Mine project and wish to have the cost data complete and correct. Is the November voucher in the amount of $651.49 the final one? If not, please send the final voucher so that an audit and reimbursement can be made.

One sale of low-grade scheelite concentrates to United States Vanadium Company in the amount of $2,033.38 and another sale of concentrates to National Hardware and Supply Company in the amount of $567.04 are subject to a 1-1/2% repayment royalty according to your Contract Idm-E394. Please forward your check for $39.01 payable to the Treasurer of the United States of America for this royalty. The total proceeds of $2,600.42 resulted from the mining and milling of an estimated 8,302.5 tons equivalent to $0.319 per ton.

Sincerely yours,

John D. Bardill
Chief, DMPA Section
Bureau of Mines, Region II

cc: Wash - 2
USGS - 2
DMEA
M/D
JDB
A/D

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 12 1953

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

1201 North Division St.
Spokane 2, Washington
January 8, 1953

Reply to: M. E. Volin, Member
DMEA Field Team, Reg. II

Mr. James Collord, Pres.
Mullin Mines Co., Inc.
c/o R. J. McRae
Stibnite, Idaho

Subject: DMEA Docket No. 2474, Contract Idm-E394,
Mullin Mines Co., Inc., Tungstar Mine,
Idaho County, Idaho (tungsten)

Dear Jim:

Enclosed are ozalid copies of settlement sheets for the table and jig bed scheelite concentrates recovered from the plant during the tests this summer and early fall.

I am returning portions of the final project report which you had prepared by Mr. L. C. Clark, mining engineer, before he left for Korea, for your correction and approval before submitting it to the Field Team. Mr. Clark left some of the spaces in the report blank for assays, weights and values which were to be filled in by me upon receipt of the sales settlement sheets. These receipts arrived several days ago and I have made the necessary calculations. Clark's original estimates were quite high, and several points in the final report need clarification.

Please refer to the enclosed section on milling which I have marked.

1. Clark indicates the 6,150 cubic yards to weigh 13,800 tons which is equivalent to 4,500 pounds or approximately the weight of a cubic yard of solid quartz. My estimate would be 2,700-3,000 pounds. Were original measurements of gravel fed to the washing plant on a yardage or tonnage basis?

2. The seven day plant run in October yielded 2.54 tons of sorted rock which you state assayed 2.26 percent WO_3 in addition to table and jig bed concentrates. The total WO_3 content of the sorted rock equals the WO_3 content of the two concentrates.

a. What disposition would be made of the sorted rock?
b. What would be the sale price of this rock?
c. What would the freight and other costs indicental to the sale of the rock be?
d. Would this rock be ground and retreated?

Unless the scheelite is recovered from the sorted rock the recoverable values per cubic yard will be halved. Why not sell the jig bed concentrate at $46 per unit instead of $38?

According to Clark's method of computing with 50 percent waste dilution and <u>including the sorted rock</u>, my calculations indicate undiluted gravel to have recoverable values of about $0.309 per ton. Using 2700 pounds per cubic yard , the value would be $0.417 per cubic yard instead of $0.695 when using 4500 pounds.

I think the value of the alluvium should be calculated on the basis of actual material mined and treated in the plant rather than on the basis of undiluted alluvium. The latter assumes an optimum unobtainable condition.

Assuming the 2,800 tons of alluvium including waste dilution is correct and the weight of a cubic yard is 2,700 pounds, then 2,075 cubic yards were mined and treated. At $38 per unit WO_3 the recoverable value per cubic yard including the sorted rock is about $0.209. Excluding the sorted rock, the value becomes $0.103. Unless the sorted rock was marketed as is, it will be necessary to add crushing and grinding equipment to the plant for retreatment of this material.

3. Clark states "If recovery is increased to 60%, this indicates _____ recovered per yard." Does he mean that recovery from the gravel would be increased to 60 percent from what previous percent recovery? Or, does he mean that the dilution would be reduced from 50 percent to 40 percent?

Clark estimates the mining and treatment cost at $0.85 per cubic yard. Trenching costs were $0.706 per cubic yard and treatment costs were $0.845 or a total of $1.55 according to the Operator's Unit Cost and Progress Report for October when operations were completed. Do you think his estimate is

correct, if not what would be your estimate? Using Clark's $0.85 estimate a loss of from $0.64 to $0.75 per cubic yard would be expected, depending upon the amount of tungsten recovered from the sorted rock.

Paragraph 2 in the summary of Clark's report needs correction to show an operating loss instead of a profit.

Please correct the section on milling according to your best knowledge and return to me. I shall have it retyped.

Sincerely yours,

John D. Bardill
Chief, DMPA Section,
Region II

Enclosures

JDB/vf

cc: DMEA, Wash., - 2
USGS - 2
DMEA
MD
DF
JDB

Milling, Cont'd:

(1) — During the recent operation, 6150 yards (13,800 tons) were treated which produced 539 pounds of 46.19 percent concentrate and 7,452 pounds of 14.36% concentrate. A consideration of products follows:

Product	Wt. Tons	Assay, WO_3	S.T.U.
Heads	13,800	—	—
Table Conc.	3,726	14.36	53.51
Jig Bed Conc.	0.267	46.19	12.327

A metallurgical balance is not attempted because of the nature of the operation - a placer washing plant. If dilution - the introduction of waste rock during mining - is considered to be 50% this brings the estimate of the original recoverable head to 0.00954 % WO_3.

During October a consistent plant run of seven days was made with the following results:

Product	Wt. Tons	Assay, WO_3	S.T.U.
Heads	2800. 2075 cu. yds	—	3.202
Table Conc.	.223	14.36	2.448
Jig Bed Conc.	.053	46.19	5.740
(2) — Sorted Rock	2.540	3.26	

If 50% again is used for the amount of dilution which took place this indicates the rock to run approximately 0.00813 percent or have a value of $0.309 per ton, based on a sale price of $38.00 per unit WO_3 ~~and to have~~ ? ? ~~a present market value of $ per ton~~, or $0.695 ? per yard.

(3) If ~~recovery is increased to 60%~~ dilution is reduced to 40%, this indicates ? recovered per yard. The present operating costs are about $150.00 per shift, but on a three-shift basis will be near $135.00, or, based on 160 yards per shift, 85 cents per cubic yard. The plant has ample capacity for this yardage

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NOV 10 1952

So. 157 Howard Street
Spokane 4, Washington

DMEA

November 4, 1952

Memorandum

To: Field Team, Region II

From: Howard B. Nickelson, Geologist, U. S. Geological Survey

Subject: Routine inspection of Mullin Mines Co., Idaho County, Idaho
Contract Idm-E394, Docket No. DMEA-2474

On October 24 and 25 I visited the Tungsten group of claims at Clear Creek for a routine inspection. Mr. Jim Collard accompanied me around the property. I spent the afternoon examining the outcrop of several quartz and quartz-granite pegmatites uncovered by previous and DMEA trenches. The mill was down the morning I arrived due to a broken sheave on the dozer, but it resumed operation the following morning.

Mr. Collard informed me he planned on closing the mill in the near future due to freezing conditions; also he had obtained almost all of the milling information from the No. 2 Pit which was about completed. On November 1 I saw Mr. Collard in Grangeville and he informed me he had closed the mill the day before.

Mr. Clarke, consultant geologist, has almost completed the geologic mapping and mill recovery calculation. Mr. Collard informed me on November 1, that Mr. Clarke and he will visit the Spokane office sometime during the second week of November with complete information regarding the completed operation. The time between November 1 and about the 15th will be spent exposing any outcrops necessary for the geologic map, sampling the exposures, and completing the information required in the contract.

Trench No. 1 exposed a quartz pegmatite vein about 2 to 3 feet wide for a distance of about 100 feet along the north edge of the pit. It strikes N 30°W and dips 35° NE. The footwall of this quartz structure consists of pegmatitic granite, some small quartz pods and veins but Mr. Collard does not think these occurrences will be of much economic value. The trench is now being used as a slusherway to the mill for the material being tested from Trench No. 2. Trench No. 1 exposed bedrock its full length and a vertical section has been mapped by Mr. Clarke.

Trench No. 2 has exposed a narrow quartz body north of Trench No. 1 and several quartz blobs just south of Trench No. 1. These small quartz bodies contain some scheelite. Two hundred feet south of Trench No. 1 and in Trench No. 2, 25 feet of quartz was exposed but when I talked to Mr. Collard November 1, he said he had dug it all out with the dozer. A granitic quartz pegmatite shown on the map as "Outcrop A" has been exposed by Trench No. 2 and contains scheelite. This body strikes N 56°W and dips about 50° to 60° to the northeast.

An irregular quartz pegmatite located 175 feet up Trench No. 2 and about 50 feet to the N W, has been exposed enough to show a very limited vertical height. This pegmatite dips 55 to 60° N E and strikes N 55° W. A fault dipping about 15 degrees to the Northwest and striking about N 13° E faulted this pegmatite off. The fault gauge contains fragments of quartz to the north of the pegmatite. This pegmatite yielded a good amount of scheelite.

The general geology consists of small bodies of quartz and quartz-granitic pegmatites intruded into a gneiss. These bodies strike about north 50 to 60° W and dip from 35 to 60° to the northeast. Almost all of the quartz pegmatites contain scheelite. Some scheelite is found in the gneiss associated with small quartz blobs. The scheelite occurs in bunches the size of your hand to large irregular masses 2 feet to 3 feet in diameter mixed with the quartz.

Considerable tonnage of placer dirt is present which could be mined if the mill tests from this summer's work are favorable. Small drifts or open cuts in the exposed outcrops probably could be worked at a profit. Underground mining would be rather risky because the ore bodies are small and the location of the bodies are very problematical.

Howard B. Nickelson
Geologist

Dist: DMEA-Orig and 3
USBM (2)
Nickelson
Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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OCT 27 1952

October 24, 1952

Dmea 2474

Mr. James Collard
Mullin Mines Company, Inc.
Golden, Idaho

Dear Mr. Collard:

Enclosed is your copy of Amendment No. 1 which is to be attached to your copy of Exploration Project Contract Idm-E394.

Sincerely yours,

Thor H. Kiilsgaard
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure

cc: DMEA (2)
USBM (2)
Nickelson

cc 10-28

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D.C.
No. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
OCT 27 1952

October 24, 1952

Mr. Frank E. Johnson, Chairman
Operating Committee, DMEA
Washington 25, D. C.

Re: Docket DMEA-2474 (Tungsten)
Mullin Mines Company, Inc.
Idaho County, Idaho
Contract Idm-2374

Dear Mr. Johnson:

Enclosed are the original and two signed copies of Amendment No. 1 to the subject contract to which is attached the justification, which is self-explanatory.

A copy of the amendment is being retained for the files of this office, a copy is today being mailed to the Operator, and by a carbon copy of this letter the Regional Finance Officer's copy is being mailed to him.

Sincerely yours,

Thor H. Killagard
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosures
cc: DEM (2)
Reg. Finance Officer w/encl.
Nickelson

case 11-6

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 2 0 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~
1201 N. Division St.
Spokane 2, Washington

October 21, 1952

MEMORANDUM

To: Field Team, DMEA, Region II

From: John D. Bardill, Chief, DMPA Section, Bureau of Mines

Subject: Interim Inspection Report--Mullin Mines Company, Inc., Tungstar claims, Golden, Idaho County, Idaho, Contract Idm-E394, Docket No. DMEA 2474

This property was visited September 23 and again on October 3, 1952, to inspect the progress of this project.

The contract had been approved in Washington, D. C. on September 3, 1952, and immediately upon receipt of this information applicant commenced work under the contract on September 4. Applicant has been working spasmodically most of the summer erecting the washing plant to the extent of his limited finances. Several days prior to Washington's approval of the contract, applicant having abandoned hope of approval, started excavation on his own account of a trench to sample the alluvium and uncover bedrock in search of tungsten minerals. This trench was more conveniently located by applicant about half way between the proposed locations in his contract application. Rather than abandon this trench and start anew it was completed under the contract by the end of the month.

The feed to the original proposed washing plant flowsheet was to be discharged into a hopper then into a 54"x22' trommel with ½" openings. The oversize dropped on to a stacker-sorting belt 26"x50' from which coarse and fine tungsten-bearing minerals were picked and stockpiled. The ½" trommel undersize was distributed to two banks of 2-cell 42" Pan-American end flow rougher jigs. Rougher jig tailings were discharged to waste. A high grade scheelite bed concentrate was removed from time to time for stockpiling and subsequent shipment to market. The jig hutch product was fed to a 26" 2-cell Pan-American jig. The clean (?) hutch product was only believed to contain about 12 percent WO_3 and the tailings about the same. A shaking table was later placed in the circuit to concentrate both the cleaner hutch product and tailings to produce a medium grade table concentrate and tailings,

which was returned to the head of the circuit. The table concentrate is planned to be upgraded at the Bradley Mining Company mill at Stibnite in a high intensity magnetic separator. All products are being stockpiled for weighing, sampling and assaying at the end of the project to determine the value per yard of the alluvium.

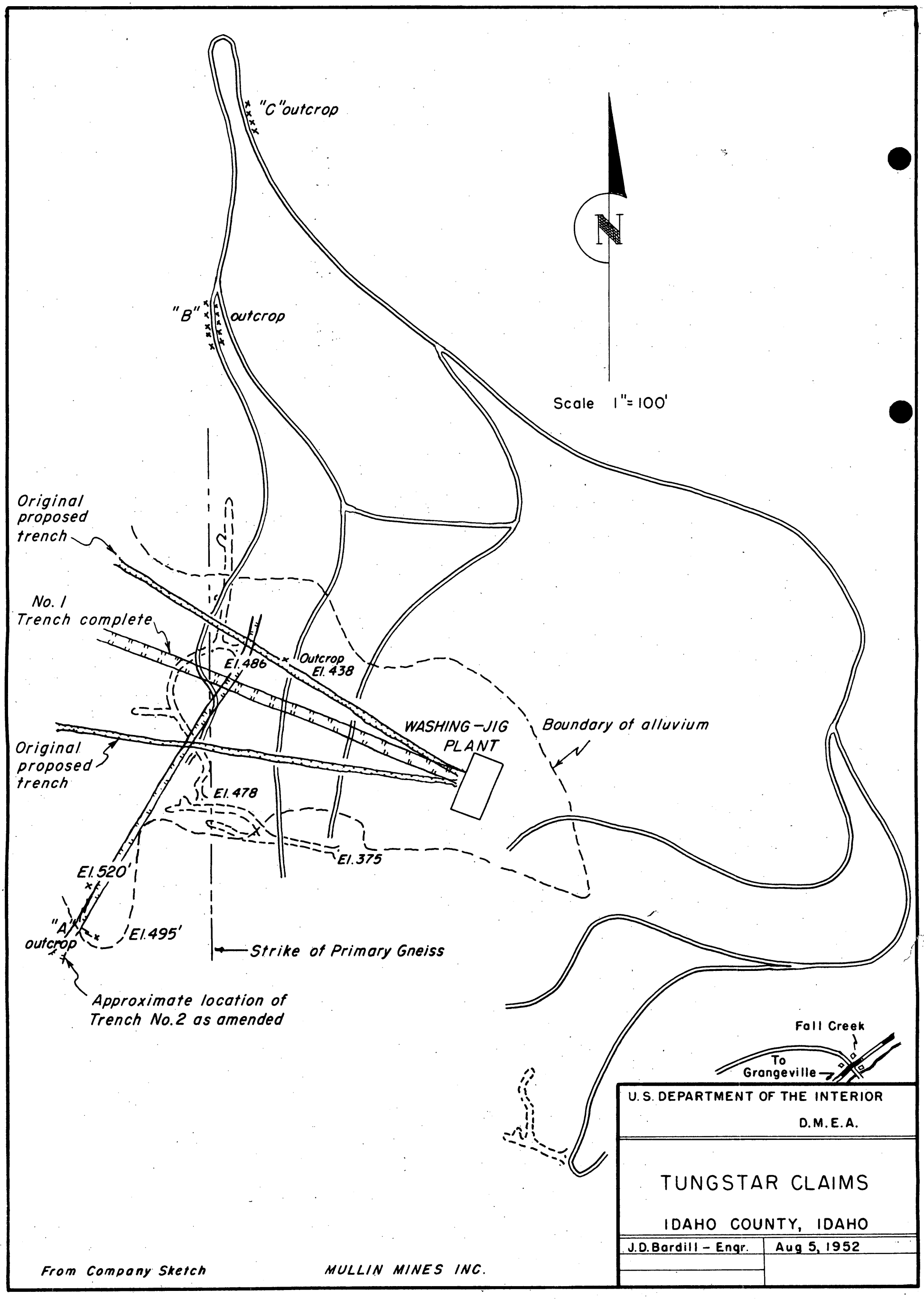
A second trench, because of the terrain, would have had to have been placed only about 50 feet to the south of the first trench which would have been almost an unnecessary duplication of the first. No tungsten mineralization of consequence was found in bedrock.

Approval was obtained from Washington to amend the contract to include the first trench and to provide for a second trench about 350 feet long normal in direction to the first. This second trench would cross instead of parallel the natural downward path of any tungsten-bearing float as well as expose bedrock which should prospect them thoroughly. The locations of these trenches are shown on the attached sketch map.

John D. Bardill

CC: 3-Wash.
2-WGS
DMEA
M/D
JDB

JDB:kt


"C" outcrop
"B" outcrop
N
Scale 1" = 100'
Original proposed trench
No. 1 Trench complete
El. 486
Outcrop El. 438
WASHING-JIG PLANT
Boundary of alluvium
Original proposed trench
El. 478
El. 375
El. 520'
"A" outcrop
El. 495'
Strike of Primary Gneiss
Approximate location of Trench No. 2 as amended
Fall Creek
To Grangeville
U.S. DEPARTMENT OF THE INTERIOR
D.M.E.A.
TUNGSTAR CLAIMS
IDAHO COUNTY, IDAHO
J.D. Bardill - Engr.
Aug 5, 1952
From Company Sketch
MULLIN MINES INC.

400 Docket

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

October 7, 1952

MEMORANDUM

For the Files.

Re: Docket No. DMEA 2474X - Tungsten
Tungstar Mine
Mullin Mines Co., Inc.
Idaho County, Idaho
Contract No. Idm-E-394

The subject contract was discussed with Mr. Weissenborn by telephone. The writer was informed that the Operator had excavated a single trench through the length of the deposit as originally proposed in his application instead of excavating two trenches in the form of a "V", as shown on the map accompanying the contract. The material from the trench had been treated in the washing plant and some low grade concentrate made. The Operator was going to send this to the Ima Mine of the Bradley Company for upgrading. Mr. Weissenborn had no information concerning what had been found in the trench or the per yard value of the excavated material. Mention was made of a 20 percent recovery. The Operator has requested an amendment for a cross trench and Mr. Weissenborn wished to discuss this with Washington before allowing such an amendment. Since no definite data were available concerning the results of the single trench, he was informed that Washington would not be opposed to one cross trench provided it was limited in width and cost on the order of $500 or $600, as mentioned by Mr. Weissenborn during the telephone conversation. He was informed that Washington did not want to mine the deposit under the guise of exploration.

G. C. Selfridge.

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
1005 Division St.
Spokane 2, Washington

September 9, 1952

Mr. James Collard
Mullin Mines Co., Inc.
Golden, Idaho

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 15 1952

Subject: Docket No. DMEA 2474 (Tungsten)
Tungstar Mines, Idaho County, Idaho,
Exploration Project Contract Idm-E394

Dear Mr. Collard:

Enclosed are the original and five copies of the above captioned contract. If the terms and conditions set forth are satisfactory all six copies should be signed by an authorized official of the company, the copy marked "Operator's copy" retained for your files and the remaining five copies returned to this office.

You will note that Article 3 of the contract has not been completed with respect to the starting date. Please insert in the appropriate blank space the number of days from date of contract within which you can commence work.

Also enclosed are six copies of Owners Consent to Lien signed by three of the six lessors. These must be signed, in addition, either by the other three lessors who are the wives (or partners) of the first three, or be signed on their behalf by their husbands (or partners). In the latter case, satisfactory Power of Attorney authorizing their husbands (or partners) to sign on behalf of the wives (or partners) must be presented. The contract cannot be considered effective until these additional signatures are obtained. A copy of the completed Consent to Lien should be attached.

Sincerely yours,

M. E. Volin, Chief
Mining Division

Enclosures

CC: 2-Wash.
2-USGS
DMEA
D/F

Copy retained 400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
So. 157 Howard Street
Spokane 4, Washington

August 8, 1952

Mr. Frank E. Johnson
Chairman, Operating Committee
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA 2474X (Tungsten)
Mullin Mines Co., Inc.
Tungstar Mine, Idaho County, Idaho

Dear Mr. Johnson:

We are submitting herewith a revised exploration program with sample contract, for the subject application, accompanied by a memorandum by J. D. Bardill of the Bureau of Mines dated August 6, 1952.

The original application, dated March 12, 1952, was denied on the basis that the sample to be taken of the alluvial material was too large and actually constituted a production operation. A test pitting program was suggested by the Iron and Ferro-Alloy Division as a substitute for the trenching.

One important factor was overlooked in the original analysis of the project and subsequent recommendations by the Ferro-Alloys Division--namely, that the testing of the alluvium is only half of the objective; the other half was to uncover and sample possible scheelite-bearing veins in bedrock beneath the alluvium.

The program has been revised and is outlined in considerable detail in Bardill's memorandum. Supporting evidence for the possible importance of the veins is contained in Fryklund's memorandum dated March 27, extra copies of which are attached herewith.

We may point out that the equipment for sampling the alluvium is nearly all installed and the job can be started very shortly after a contract is approved. The project was previously recommended very highly and on the basis of developments since the first approval, we feel it warrants even more consideration. As a consequence of the delays, and the heavy cost of installing their own equipment, the company finds itself in a serious financial

Reviewed by
DMEA OPERATING COMMITTEE
8-15-52
(date)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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AUG 11 1952

condition. There will be no difficulty in raising the money to do the exploration work if a contract is approved, and should you agree to the proposal we urge all possible speed in processing to enable the company to receive a contract while still able to act on it.

By DMEA Field Team, Region II

for Glenn A. Rice
M. E. Volin, Acting Exec. Officer
(U. S. Bureau of Mines)

Enclosures 3

S. Warren Hobbs
S. Warren Hobbs, Member
(U. S. Geological Survey)

cc: USBM (2)
USBM, Albany (1)
V.C.Fryklund

M. E. Volin, Member, DMEA Field Team, Region II Aug. 6, 1952

John D. Bardill, Metallurgist, DMPA Field Team, Region II

Application for DMEA assistance to prospect and sample tungsten alluvial and lode deposits, Mullin Mines Company, Inc., Docket No. DMEA 2474, Tungsten, Tungstar Mine, Idaho County, Idaho

I visited the subject property July 29, 1952, and examined the alluvial tungsten deposit, tungsten-bearing outcroppings and washing plant under construction. The letter of George C. Selfridge dated April 22 and Mr. C. O. Mittendorf's letter of May 8 directed to Mr. Collard suggesting alternative methods of exploring the prospect were discussed with him.

Attached are four pictures which may help to clarify the nature of the alluvial deposit. Figures 1 and 2 show the alluvium to be reposing on a steep hill inclined about 35 degrees to normal. Figures 3 and 4 show the washing-jig plant now under construction.

Unfortunately, Collard and his associates have depleted their funds purchasing and renting equipment for the washing-jig plant, Diesel-electric plant, pump and slushing equipment. All necessary equipment is on the property, which is owned outright or held on purchase rental agreements. Now they find themselves short of funds to complete construction of the washing plant, meet their purchase rental obligations and carry a payroll to sample the alluvial and bedrock.

Mr. Selfridge in his letter of April 22 denied a request for a $26,154 exploration assistance contract to prospect and sample tungsten alluvial and lode deposits. Denial was based on applicants proposal to take a large quantity of alluvial for samples which allegedly would approach a production operation.

A production loan had previously been denied because applicants bulk sample of 45 cubic yards was too small and test results were said to have been inconclusive.

Applicant proposed:

1. Trenching with dragline and bulldozer
   a. To systematically sample the alluvium
   b. To expose bedrock by a crosscut slusher trench thereby thoroughly prospecting for the tungsten-bearing veins indicated in outcrops and road cuts and inferred as the source of the placer scheelite.

2. Bulldozer trenches along the strike of tungsten-bearing veins exposed by the crosscut slusher trench.

3. Wash the alluvium samples in a washing-jig plant to determine the tungsten values.

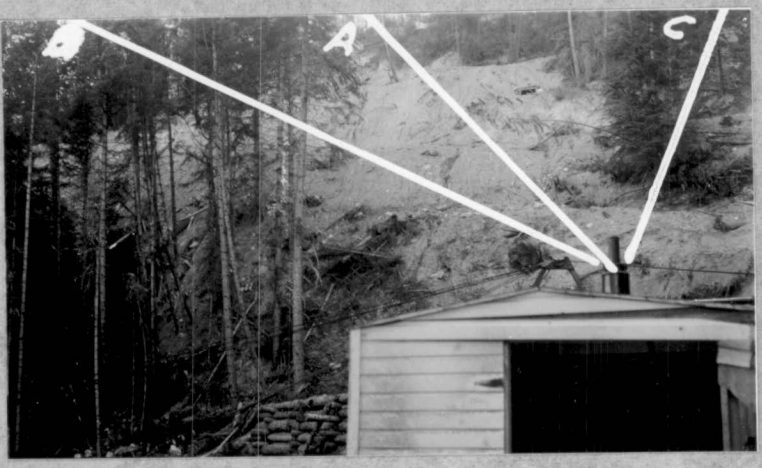

Fig. 1 - Alluvial deposit looking west uphill from Diesel-electric power plant at washing plant. A, B and C are suggested crosscut slusher trenches.

Fig. 2 - Alluvial deposit on side hill looking south showing approximate 35 degree slope.

Fig. 3.- Washing-jig plant under construction looking downhill. Hopper visible in foreground, slusher hoist on platform and power plant in shed.

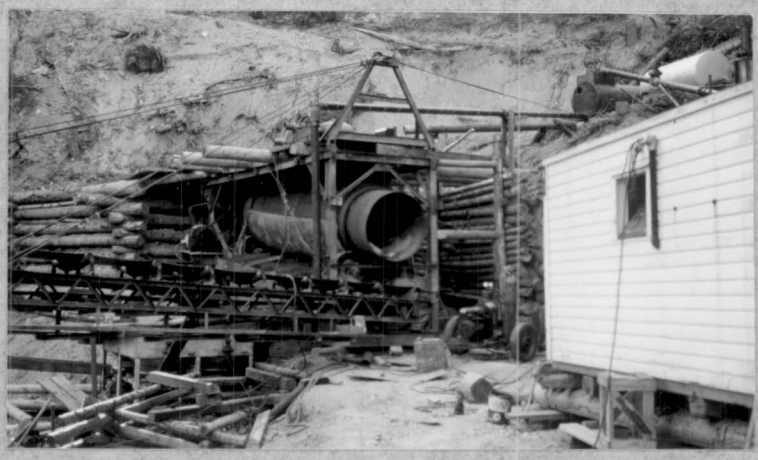

Fig. 4 - View of washing-jig plant looking west with trommel in center, tailing stacker at left, power plant at right with slusher hoist on platform above trommel.

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4. Sample and assay samples of vein material exposed by the trenching.

The proposal outlined in the April 22 letter would in my estimation fail in most respects to obtain the above results to evaluate the alluvium deposit and potentialities of the tungsten-bearing veins which have been partially exposed; because:

1. The alluvium covered veins should be crosscut by trenches. It would only be by sheer luck that test pits would actually locate and expose unknown veins in bedrock. Almost invariably the pits would be to one side or the other of the veins which may be quite narrow. If the alluvium overburden depth exceeded the suggested 7½ feet, the pit would not expose a vein in bedrock, even if by chance the pit should be located directly over the vein. The overburden thickness will probably vary from a few feet to not in excess of about 25 feet and may average approximately 15 feet.

2. The alluvium is on a side hill which if prospected by pits would require inclined timbered pits or longer vertical timbered pits. Deeper pits cost considerably more than shallow pits. Dollar for dollar, many times more volume of material may be excavated by dragline or bulldozer than by expensive timbered test pits.

3. The tungsten-bearing veins may be more important than the alluvium and should be properly prospected and sampled.

4. Applicants washing-jig plant should be capable of handling a relatively large volume of material which would make the sampling correspondingly more accurate. Applicant was originally criticised for inadequate sampling.

Based on estimates of local miners who might be interested in sinking test pits on contract, the following data evolved:

Assume 80 test pits at 4½' x 4½' x 15' deep = 11.25 cu. yd. per pit or a total of about 900 cu. yds.

Estimated cost per foot to excavate and timber pits @ $25.00, 80 x 15' x $25.00 =	$30,000
Estimated cost to transport 900 cu. yds. from pits to washing plant @ $1.00/cu. yd.	900
Estimated cost to treat 900 cu. yds. in washing plant @ $1.00/cu. yd.	900
Estimated total cost	$31,800

This scheme is not practical because:

1. Applicant could not finance his share of such a costly project.
2. Local labor in sufficient quantity to complete the project within a reasonable time would probably not be available.
3. The sampling should be completed this summer to permit an early start of work in the spring if the sampling indicates.
4. Trenching can be accomplished at considerably less cost.

Since applicant requested Government exploration assistance on March 12, 1952, (Docket No. DMEA 2474) they have installed equipment almost to the point where operation may be started.

As a result of discussions in the field applicant wishes to revise the request downward as outlined below.

1. Excavate two trenches as indicated on Figure 1. Suggested choices might be A & B, B & C, or A & C. Trenches would be excavated with slusher equipment now being installed to an estimated average depth of about 15 feet, and length of approximately 450 feet with a width of roughly 5 feet at the bottom exposing bedrock.

2. Tungsten-bearing vein exposed on bedrock by the cross-cut trenches will be further prospected by bulldozer trenches along their strike.

3. Excavated material would be treated in the washing-jig plant to determine removable placer scheelite per cubic yard of alluvium.

4. Sample tungsten-bearing veins exposed in the trenches.

5. Estimated overall length of time to complete the project is two months which includes time necessary to complete installation of equipment.

6. Estimated total cost of project is not to exceed $13,000 detailed as follows:

<u>Rental Equipment</u>

1 - No. 13000 Caterpillar Diesel-electric plant, 130 H.P., 75 KVA, complete with panel, 2 month @ $500	$1,000
1 - Double drum Lidgerwood hoist with 50 H.P. motor, 6000 lb. line pull, 2 months @ $275	550
1 - Bodisan built washing plant with 54" x 22' trommel driven by 30 H.P. motor 2 months @ $210	420

1 - Jaeger high pressure gas driven pump, 550 gal./min. at 400' head, 2 months @ $180	360
1 - D6 Bulldozer, 2 months @ $750	1,500
1 - Pacific slusher, 2 months @ $65	130
	$3,960

Note: Bulldozer required to clear land of trees and brush and to help feed the washing plant, and trenching.

Depreciation on furnished equipment:

5 - Pan-American placer jigs, 54" fair value $3,000 @ 1/60, for 2 months	$ 100
1 - Jeep, value $1,000 @ 1/60, for 2 months	30
	$130

Labor costs for sampling and plant operation:

1 - Bulldozer operator @ $2.25 per hour, 8 hr. day, 20 days per month for 2 months	$ 720
2 - Plant operators @ $1.25 per hour, 8 hr. day, 20 days per month for 2 months	800
1 - Slusher operator and miner @ $1.50 per hour, 8 hr. day, 20 days per month for 2 months	960
1 - Mechanic and handyman @ $1.50 per hour, 8 hr. day, 20 days per month for 2 months	480
1 - Supervisor and engineer @ $500 per month for 2 months	1,000
1 - Part-time geologist for mapping, payroll, taxes and insurance at 12 percent of payroll	470
Total labor	$4,530

Operating costs on bulldozer @ $3.50 per hour for 8 hr. day, 20 days for 1 month	$ 560
Operating costs on slusher for 2 months	640
Operating costs on pump @ $2.50 per hour for 8 hr. day, 20 days per month for 2 months	800
Fuel for Diesel-electric plant	500
Labor and supplies to complete installation, slushing and washing-jig plant installation	1,000
Assaying	380
Miscellaneous repairs	500
	$4,500
Grand Total	$13,000

The revised cost estimate of the project is about half of the previous estimate of $26,154 because applicant has continued work on their own account in the meantime to the point of depleting their funds.

Applicant now advises that if they had a Government exploration contract, the machinery companies would probably extend their rental agreements and that a working crew might forego their wages until funds were paid under the contract and if not they assured me the necessary funds could be borrowed. Applicant is prepared to participate to the extent required of them.

John D. Bardill

John D. Bardill

CC-4-Wash.
2-USGS
Albany
JDB
DMEA

COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
So. 157 Howard Street
Spokane 4, Washington

March 27, 1952

Memorandum

To: A. E. Weissenborn, Executive Officer, Field Team, Region II

From: Verne C. Fryklund, Jr., U. S. Geological Survey

Subject: Property of Mullins Mines, Idaho County, Idaho, DMPA Docket 2250.

I visited the Mullins Mines property July 3, 1951. I had just finished my examination of the Shamrock Gold mine, and I had heard of the interesting scheelite ore which was being exposed. My visit was short, lasting about three hours late in the afternoon.

A brief report (see Tungstar Group Tungsten Property) was prepared for the regional file. This report in full follows.

"The Tungstar group is located in sec. 26, T. 29 N., R. 6 E., about $\frac{1}{4}$ mile northwest of Fall Creek, Idaho. Fall Creek is two miles up the south fork of the Clearwater River from Golden, Idaho.

The Tungstar group was located by Mr. Felix Funk, the present owner, when scheelite was discovered in float boulders. The property was leased to Molybdenum Corp. of America but dropped when the source of the float could not be located. Bradley leased the property in 1945 and opened the several cuts. They did not locate the veins either and dropped the property. Mr. James Collard, formerly a Bradley engineer, leased the property in 1950 and he has now located at least two scheelite-bearing veins which are probably the source of the float. Most of his work has been done in the area previously explored by Bradley.

The country rock of the veins is mainly a decomposed gneiss although the footwalls of the two veins seen were decomposed pegmatite which also contained some scheelite.

The smallest quartz vein strikes N. 16° W. and dips 40° E. It is exposed for about 20 feet and ranges from $1\frac{1}{2}$ to 2 feet in width. The largest quartz vein strikes N. 20° W., and dips 80° E. ranges from 4 to 10 feet in width and is exposed along the strike for about 180 feet. Other quartz veins are present to the north-

west, up the hill, but the surface outcrops are barren of scheelite.

Sampling the veins is presenting a problem to the operator but he estimates that the largest vein may average as high as 4 to 5 percent WO_3.

The largest scheelite mass seen was irregular in shape and about 8 inches long. There appeared to be a complete range in size down to microscopic particles. Most of the scheelite, however, is visible to the unaided eye without ultra-violet light. There would be little difficulty in sorting out most of the scheelite.

In my opinion detailed mapping of the property would be of considerable value to the operator and might well result in locating other areas in the immediate vicinity which would be productive."

Mr. Collard showed me the cuts in the "alluvial" material, but we were mainly interested in the scheelite content of the quartz boulders. The material partially fills an old gully, and it should more properly be designated a partially decomposed talus. As I was interested in the quartz veins, I made no measurements as to the length, width or thickness of the talus material. The cuts are parallel to the hill slope and were all over 6 feet deep. None had reached bed rock.

The cuts had been located by a transit survey and I believe the applicant's map is accurate.

In my opinion, the quartz veins alone would have warranted an exploration loan. The only qualification I would make in recommending approval of the loan is with respect to the sample cuts. I would suggest that perhaps 75 foot intervals would be adequate.

cc: USBM, Spokane
USBM, Albany

EXPLORATION PROJECT CONTRACT
MULLIN MINES CO., INC.
TUNGSTAN CLAIMS
DOCKET NO. DMEA-2474

EXHIBIT "A"

Statement of the Work

1. Complete installation of slusher and washing plant equipment.

2. Excavate two trenches with slusher and bulldozer to bedrock, each about 450 feet long, approximately 5 feet wide at the bottom and probably averaging about 15 feet deep. See attached map for approximate location of trenches.

3. Sample tungsten-bearing veins on bedrock and have samples assayed.

4. Yardage of alluvium excavated will be estimated and alluvium will be treated in washing-jig plant to recover placer scheelite. Recovered scheelite will be weighed and assayed and results will be basis for computing tungsten values per cubic yard.

5. Tungsten-bearing veins exposed on bedrock by the crosscut trenches will be further prospected by bulldozer trenches along their strike.

Estimated Costs of Project

(Items followed by an asterisk are allowable maximums)

(1) Independent Contracts
None

(2) Labor, Supervision, Consultants

Wages for 1 bulldozer operator at $18 per day for 40 days 1/	$720	
Wages for 2 plant operators at $10 per day for 40 days 1/	800	
Wages for slusher operator, miner and mechanic at $12 per day each for 40 days 1/	1,440	
Salary for supervisor-engineer at $500 per month for 2 months	1,000	
Part-time geologist, as needed, to do sampling and mapping	100	$4,060

1/ Part of the labor may be performed by the officers of the company at the specified rate.

(3) Operating Materials and Supplies

Water pipe and hose, hoist cable, supplies for washing-jig plant and slusher, hoist and bulldozer, gasoline, fuel oil, oil, explosives and any other supplies and materials necessary to complete this project — $3,000*

(4) Operating Equipment

To be Rented

1 - No. 13000 Caterpillar Diesel-electric plant, 130 H.P., 75 KVA complete with panel, 2 months @ $500	1,000	
1 - Double Drum Lidgerwood hoist with 50 H.P. motor, 6000 lb. line pull, 2 months @ 275	550	
1 - Bodinson built washing plant with 54" x 22' trommel driven by 30 H.P. motor, 2 months @ $210	420	
1 - Jaeger high pressure gas driven pump, 550 gal/min. at 440' head, 2 months $180	360	
1 - D6 bulldozer with blade for clearing trees, trenching along the strike of the vein, 2 months @ $750	1,500 —	
1 - Pacific slusher, 2 months @ $65	130	
	3,960 —	

To be furnished by Operator

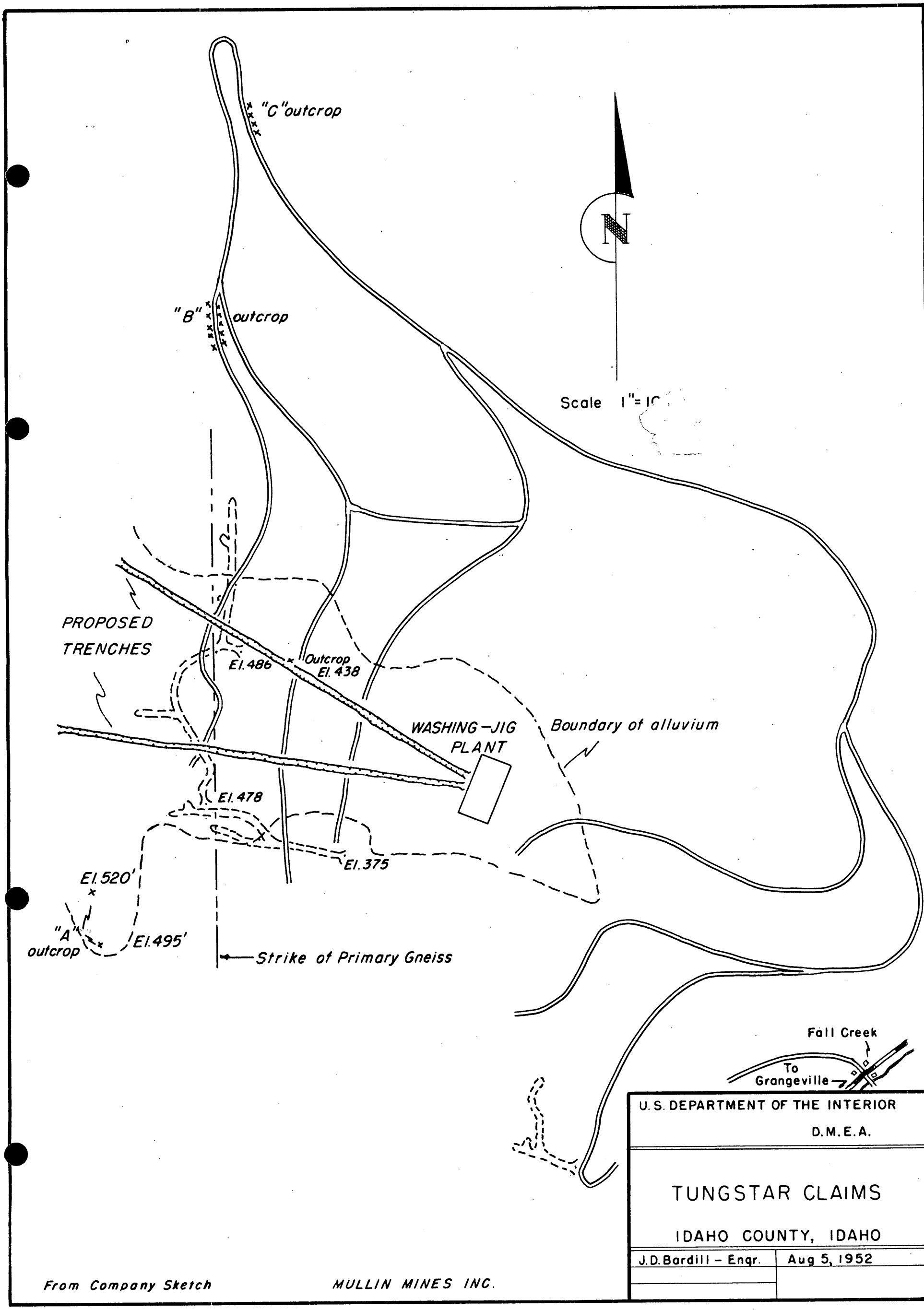
5 - Pan-American placer jigs, 54" fair value $3,000, depreciation allowance $50 per month for 2 months	100*	
1 - Jeep, value $1,000, depreciation allowance at $15 per month for 2 months	30*	
	130	$4,090

(5) Rehabilitation and Repairs

None

(6) Labor, Material and Supplies necessary to complete installation of washing-jig plant and slusher-hoist equipment — $1,000*

(7) Miscellaneous		
Assays	$380	
Workmen's compensation and employee's liability insurance, payroll and sales taxes	470	850
Total estimated cost		$13,000.00
Government's participation at 75%		$ 9,750.00



From Company Sketch

MULLIN MINES INC.

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 9-19-52

REFERRED TO:

1. Code 400
2.
3.
4.

FOR:

..... Action	..... Recommendation
..... Approval	..... Record
..... Comment	of .....
..... Conference	..... Referring
..... Consideration	to .....
..... Filing	..... Reply for signa-
..... Instructions	ture of .....
..... Investigation	..... Rewriting
..... Initials	..... Signature
..... Mailing	..... Suggestions
..... Previous correspondence	..... Your information

REMARKS: .....

Check (X) before the items needing attention.

ROBERT E. ADAMS

Initials of sender.

GPO 16—63815-1

FILE COPY
SURNAME:

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

140

Rubin

September 2, 1952

N.S in R. v R.

Memorandum

To: Acting Administrator

Through: G. C. Selfridge

From: Chief Counsel

Subject: Contract Docket No. DMEA-2474, Mullin Mines, Inc.

There is attached, in satisfactory legal form for execution, a contract covering the subject project. However, prior to the execution of the contract, the signatures to an Owner's Consent to Lien form must be obtained from those lessors who have not signed the one in the file, and the form must be attached to the contract (there are six lessors and only three of them have signed). Also, the map referred to in Exhibit "A" must be attached to the contract prior to execution.

J. L. Hofflund

J. L. Hofflund
Chief Counsel

Attachments 7

HCRubin/ema
cc: Mails & Files
G. C. Selfridge
J. L. Hofflund
H. C. Rubin
Chron.

FILE COPY 000
SURNAME:

Goss

Martin
Guhen

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

SEP 3 1952

Mr. A. E. Weissenborn
Executive Officer, Region II
South 157 Howard Street
Spokane 8, Washington

Re: Docket No. DMEA 2474 - Tungsten
Mullin Mines Company, Inc.
Tungstar Mines
Ten Mile Mining District
Idaho County, Idaho

Dear Mr. Weissenborn:

We are enclosing the original and five copies of the above referenced exploration contract signed by this office for the Government, together with Annex I (1 page), Exhibit "A" (4 pages) and Owner's Consent to Lien. Also enclosed is one copy of J. D. Hardill's map of August 5, 1952. It will be appreciated if you will have additional prints prepared and attach one to each copy of the contract.

If the terms and conditions of this contract are satisfactory to you and the Operator, all six copies should be signed by a duly authorized official of the company. The "Operator's Copy" is to be given to the Operator; the "Field Team's Copy" retained by your office; the "Finance Officer's Copy" is to be sent to the Regional Finance Officer; and the remaining three copies returned to this office.

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 are to be returned to this office, together with the proposed changes for consideration.

These copies of Owner's Consent to Lien are signed by only three of the six lessors. They must be signed, in addition, either by the other three lessors who are the wives (or partners) of the first three who signed or on their behalf by their husbands (or partners). In the latter case, before such signatures can be accepted, satisfactory Power of Attorney authorizing their husbands (or partners) to sign on behalf of the wives (or partners) must be presented.

The following revisions have been made in the proposed Exhibit "A" as sent to us with your letter of August 8, 1952:

1. A geologic map has been requested.

2. The program of crosscut bulldozer-trenches has been omitted after due consideration.

The above change decreases the amount of the contract from $13,000.00 to $12,400.00.

Sincerely yours,

J.H.
9-3-52

Ernest Wm. Ellis (JHB)
ACTING Chairman, Operating Committee

Enclosures

Approved:

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

D. M. Lemmon (JHB)
Member, Geological Survey

WSMartin'lm
9/3/52

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. II
Operating Committee
W. S. Martin

UNITED STATES
DEPARTMENT OF THE INTERIOR 140
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

September 2, 1952

Memorandum

To: Acting Administrator

Through: G. C. Selfridge

From: Chief Counsel

Subject: Contract Docket No. DMEA-2474, Mullin Mines, Inc.

There is attached, in satisfactory legal form for execution, a contract covering the subject project. However, prior to the execution of the contract, the signatures to an Owner's Consent to Lien form must be obtained from those lessors who have not signed the one in the file, and the form must be attached to the contract (there are six lessors and only three of them have signed). Also, the map referred to in Exhibit "A" must be attached to the contract prior to execution.

J. L. Hoffiund
Chief Counsel

Attachments 7

Power of Atty vested in one man to sign for others. (We do not have)
Phone call 9/2 between Collard & Com.
Told him case would come before Oper Com tomorrow.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

September 2, 1952

Memorandum

To: Acting Administrator

Through: G. C. Selfridge

From: Chief Counsel

Subject: Contract Docket No. DMEA-2474, Mullin Mines, Inc.

There is attached, in satisfactory legal form for execution, a contract covering the subject project. However, prior to the execution of the contract, the signatures to an Owner's Consent to Lien form must be obtained from those lessors who have not signed the one in the file, and the form must be attached to the contract (there are six lessors and only three of them have signed). Also, the map referred to in Exhibit "A" must be attached to the contract prior to execution.

J. L. Hofflund

J. L. Hofflund
Chief Counsel

Attachments 7

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Mr. J. L. Hofflund, Chief Counsel, DMEA

DATE: August 22, 1952

FROM : Iron and Ferro-Alloy Division, DMEA

RECEIVED
AUG 22 1952
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

SUBJECT: Contract for review and final preparation
Docket No. DMEA 2474 - Tungsten
Mullin Mines Company, Incorporated
Tungstar Claims
Ten Mile Mining District
Idaho County, Idaho

Attached is a rough draft of the subject contract including Form MF-200, Exhibit "A" (3 pages), Annex I and a copy of J. D. Bardill's map of August 5, 1952, showing location of proposed trenches.

Owner's Consent to Lien is also attached, and 5 copies of the same can be found in Docket No. DMEA 2474.

Further attached is Defense Materials Procurement Agency Docket No. 2250 which contains the following photostats pertinent to the above contract:

1. Option Agreement of April 30, 1951, between Felix C. Funke et al and Mullin Mines Company.

2. Conveyance Agreement, Exhibit "A" of the same Option Agreement.

3. Escrow Agreement, Exhibit "B" of the same Option Agreement.

4. Agreement of April 30, 1951, modifying the same Option Agreement with respect to 40 tons of ore ready for shipment at that date from the Tungstar group of claims. We believe that the shipment of 45 yards of material to Tyee Mining Company's gold dredge (as reported in Form MF-102 received from Mullin Mines Company, Inc. on December 18, 1951) constitutes substantial completion of the 40 ton shipment.

5. Plat of the Tungstar group, Scale 1" = 500'.

G. C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

Attachments

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

DOCKET NO. DMEA 2474

COMMODITY Tungsten

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] Mullan Mines Company, ~~Incorporated~~ a corporation organized and existing under the laws of the State of Idaho, Golden, Idaho ~~address~~ ~~partnership~~ ~~individual~~ 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 Idaho, County of Idaho, described as follows:[3] Tungsten Group of Claims located in Sec. 26, T. 29 N., R. 6 E., about 1/4 mile northwest of Fall Creek, Idaho. Fall Creek is two miles up the south fork of the Clearwater River from Golden, Idaho. The property is further described in Annex I, attached hereto and made a part hereof.

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 holds an option to purchase, is)

(*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 ~~[illegible]~~ days from the date of this contract shall commence work on a project of exploration for[5] Tungsten

in or upon the described land; and shall bring the project to completion within a period of 3 months 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:

(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 ~~[illegible]~~ 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 [illegible] production from which is not to be subject to the Government's percentage royalty.
[illegible] ut the provision not applicable.
[illegible] f mineral or minerals.

(*b*) The Government's payments [illegible]ll cases will be based on actual, necessary [illegible]sts (including contract unit prices) incurred not in excess of any "allowable [illegible]aximum," and not in excess of the fixed percent[illegible]e 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 75 percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $9,300.00, which is 75 percent of $12,400.00, 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 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.

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.* _____

_____

_____

_____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

_____
(Operator)

By _____

By _____

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

ANNEX I

Twelve unpatented mining claims in the Ten Mile Mining District, Idaho County, Idaho, fully described in Certificates of Location recorded in the office of the County Recorder of Idaho County, Idaho, as follows:

Name of Claim	Quartz	Book	Page
Tungstar No. 1	"	72	547
2	"	72	562
3	"	72	563
4	"	72	564
5	"	72	565
6	"	72	566
7	"	72	567
8	"	72	568
9	"	72	569
10	"	72	570
11	"	72	571
12	"	75	160

One patented mining claim, Sacramento No. 2 - Survey No. 3140, the United States patent for which is of record in the office of said County Recorder in Book One of Mineral Patents at page 497, excluding a portion of the surface of said Sacramento No. 2, described as follows: "Beginning at corner No. 1 of said Sacramento No. 2, Survey No. 3140, thence north 58° 10' W. 600 feet; thence South 31° 50' W. 600 feet; thence South 58° 10' E. 600 feet to corner No. 4; thence North 31° 50' E. 600 feet to corner No. 1, the place of beginning". Within the last described fraction the surface rights are reserved and the mineral rights are granted subject to the proviso that exploration for, and extraction of minerals shall be done in such a manner as will not interfere with the beneficial use of the surface by the owners.

Exploration Project Contract
Mullin Mines Company, Incorporated
Tungstar Claims
Docket No. DMEA 2474

Exhibit "A"

Description of the Work

The project consists of the following items of work:

1. Complete installation of slusher and washing plant equipment.

2. Excavate two trenches with slusher and bulldozer to uncover bedrock, each trench about 450 feet long, about 5 feet wide, and probably averaging about 15 feet deep. Maintain the sides of the excavations at the angle of repose ~~a slope that allows samplers to work safely in the trench bottom which should be nearly the same width as the slusher.~~ of the alluvium. See attached map for approximate location of trenches.

3. Make geologic map of bedrock exposed in the trenches, and sample and assay any tungsten-bearing veins exposed therein.

4. Treat alluvium excavated from trenches in washing-jig plant. On basis of estimated yardage of alluvium excavated from each trench individually, and the corresponding weight and assay of scheelite recovered, compute recoverable tungsten per cubic yard. Estimated yardage of tailings should confirm the above calculation.

Estimated Costs of Project

(Items followed by an asterisk are allowable maximums)

(1) Independent Contracts

None

(2) Labor, Supervision, Consultants

Wages for 1 bulldozer operator at $18/day, 20 days 1/	360.00	
Wages for 2 plant operators at $10/day each, 40 days 1/	800.00	
Wages for slusher operator, miner and mechanic at $12/day each, 40 days 1/	1,440.00	
Salary for supervisor-engineer at $500/Mo.*, 2 months* 2/	1,000.00*	
Part time geologist, as needed, to do sampling and geologic mapping	600.00*	4,200.00

1/ Part of the labor may be performed (at the specified rates) by ~~the~~ officers of the company. ~~at the specified rate.~~ ~~as are not also paid~~ Payment for labor may not be made to an officer who serves as supervisor-engineer or geologist.

2/ The supervisor-engineer shall direct the exploration project and do the engineering. He shall be responsible for the subsequent handling of representative samples cut by the geologist and for the inclusion of adequate maps or sketches showing progress of the exploration and assay results in the ~~monthly~~ reports ~~as~~ required under Article 7~~(a)~~ of the ~~project~~ contract form.

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(3) Operating Materials and Supplies

Water pipe and hose, hoist cable, supplies for washing-jig plant and slusher, hoist and bulldozer, gasoline, fuel oil, oil, explosives and any other supplies and materials necessary to complete this project	3,000.00*

(4) Operating Equipment

To be rented

1 - No. 13000 Caterpillar Diesel-electric plant, 130 H.P., 75 KVA complete with panel, 2 months @ $500	1,000.00
1 - Double Drum Lidgerwood hoist with 50 H.P. motor, 6000 lb. line pull, 2 months @ $275	550.00

1 - Bodinson built washing plant with 54" x 22' trommel driven by 30 H.P. motor, 2 months @ $210	420.00	
1 - Jaeger high pressure gas driven pump, 550 gal/min. at 440' head, 2 months @ $180	360.00	
1 - D6 bulldozer with blade for clearing trees, and starting or cleaning trenches [illegible], 1 month @ $750	750.00	
1 - Pacific slusher, 2 months @ $65	130.00	
	3,210.00	
To be furnished by Operator		
5 - Pan-American placer jigs, 54" fair value $3,000, depreciation allowance $50/Mo., 2 months	100.00*	
1 - Jeep, value $1,000, depreciation allowance $15/Mo., 2 months	30.00*	
	130.00*	3,340.00
(5) **Rehabilitation and Repairs**		
None		
(6) ~~Labor, Material and Supplies~~ New buildings, improvements, installations Labor, materials and supplies necessary to complete installation of washing-jig plant and slusher-hoist equipment		1,000.00*
(7) **Miscellaneous**		
Assays	380.00	
Workmen's Compensation and Employee's Liability Insurance, payroll and sales taxes	480.00	860.00
ESTIMATED TOTAL COST of Project		$12,400.00*
ESTIMATED GOVERNMENT PARTICIPATION AT 75%		$ 9,300.00*

FILE COPY 400
SURNAME:

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

Mr. J. L. Hoffland, Chief Counsel, DMEA August 22, 1952

Martin
Selfridge

Iron and Ferro-Alloy Division, DMEA

Contract for review and final preparation
Docket No. DMEA 2474 - Tungsten
Mullen Mines Company, Incorporated
Tungstar Claims
Ten Mile Mining District
Idaho County, Idaho

Attached is a rough draft of the subject contract including Form MF-200, Exhibit "A" (3 pages), Annex I and a copy of J. D. Bardill's map of August 5, 1952, showing location of proposed trenches.

Owner's Consent to Lien is also attached, and 5 copies of the same can be found in Docket No. DMEA 2474.

Further attached is Defense Materials Procurement Agency Docket No. 2250 which contains the following photostats pertinent to the above contract:

1. Option Agreement of April 30, 1951, between Felix C. Funke et al and Mullin Mines Company.

2. Conveyance Agreement, Exhibit "A" of the same Option Agreement.

3. Escrow Agreement, Exhibit "B" of the same Option Agreement.

4. Agreement of April 30, 1951, modifying the same Option Agreement with respect to 40 tons of ore ready for shipment at that date from the Tungstar group of claims. We believe that the shipment of 45 yards of material to Tyee Mining Company's gold dredge (as reported in Form MF-102 received from Mullin Mines Company, Inc. on December 18, 1951) constitutes substantial completion of the 40 ton shipment.

5. Plat of the Tungstar group, Scale 1" = 500'.

WSMartin'lm
8/22/52

George C. Selfridge

cc: Admn. Reading File
Docket
G. C. Selfridge
W. S. Martin

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

Exploration Project Contract
Mullin Mines Company, Incorporated
Tungstar Claims
Docket No. DMEA 2474

Exhibit "A"

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3. Make geologic map of bedrock exposed in the trenches and sample and assay any tungsten-bearing veins exposed therein.

4. Treat alluvium excavated from trenches in washing-jig plant. On basis of estimated yardage of alluvium excavated from each trench individually and corresponding weight and assay of scheelite recovered, compute recoverable tungsten per cubic yard. Estimated yardage of tailings should confirm the above calculation.

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(Items followed by an asterisk are allowable maximums)

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None

(2) Labor, Supervision, Consultants

Wages for 1 bulldozer operator at $18/day, 20 days 1/	360.00	
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Salary for supervisor-engineer at $500/Mo.*, 2 months 2/	1,000.00 *	
Part time geologist, as needed, to do sampling and geologic mapping	600.00 *	4,200.00

1/ Part of the labor may be performed at the specified rates by ~~by the~~ officers of the company. ~~at the specified rate.~~ Payment for labor may not be made to an officer who serves as supervisor-engineer or geologist.

2/ The supervisor-engineer shall direct the exploration project and do the engineering. He shall be responsible for the subsequent handling of representative samples cut by the geologist and for the inclusion of adequate maps or sketches showing progress of the exploration and assay results in the monthly reports as required under Article 7(a) of the project contract.

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(3) Operating Materials and Supplies

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	130.00	3,340.00
(5) Rehabilitation and Repairs		
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(6) Labor, Material and Supplies		
necessary to complete installation of washing-jig plant and slusher-hoist equipment		1,000.00*
(7) Miscellaneous		
Assays	380.00	
Workmen's Compensation and Employee's Liability Insurance, payroll and sales taxes	480.00	860.00
ESTIMATED TOTAL COST		$12,400.00*
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ANNEX I

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12	"	75	160

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

DOCKET NUMBER 2474

COMMODITY Tungsten

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] Mullin Mines Company, Incorporated, a corporation organized and existing under the laws of the State of Idaho, Golden, Idaho

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 Idaho, County of Idaho, described as follows: [3] Tungsten Group of claims located in Sec. 26, T. 29 N., R. 6 E., about 1/4 mile northwest of Fall Creek, Idaho. Fall Creek is two miles up the south fork of the Clearwater River from Golden, Idaho. The property is further described in Annex I, attached hereto and made a part hereof.

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 holds an option to purchase

(*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

in or upon the described land; and shall bring the project to completion within a period of 3 months 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:

(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 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 [illegible]ll cases will be based on actual, necessar[illegible]ts (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 75 percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $9,300.00, which is 75 percent of $12,400.00, 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 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.

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.* _____

_____

_____

_____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

_____
(Operator)

By _____

By _____

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

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 8-25-52

REFERRED TO:

1. Code 400-Rm 3538
2.
3.
4.

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
..... Comment	..... Referring to .....
..... Conference	..... Reply for signature of .....
..... Consideration	..... Rewriting
..... Filing	..... Signature
..... Instructions	..... Suggestions
..... Investigation	..... Your information
..... Initials	
..... Mailing	
..... Previous correspondence	

REMARKS: .....

Check (X) before the items needing attention.

Adams (AL)
Initials of sender

GPO 16—63815-1

IN REPLY REFER TO:
G-MD-CF

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

August 20, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Field Report DMEA 2474 - Tungsten
Mullin Mines Co., Inc.
Idaho County, Idaho

The property of Mullin Mines Co. was examined July 29, 1952 by J. D. Bardill, metallurgist, Bureau of Mines. His report, dated August 6 and the letter of transmittal from the Field Team recommend a revised exploration project to test the scheelite placer and to search for scheelite-bearing veins in bedrock, at a cost not to exceed $13,000.

Unfortunately no statement is made about the accessibility of underground workings shown on the company map of workings, and no geological information is given about these workings. Also, the vein outcrops were not sampled. Despite the lack of this information, I concur with the Field Team recommendation that the revised application be approved. The applicant can accomplish the work this fall with equipment on hand if a contract is prepared promptly. He will probably be unable to finance work at a later date.

D. M. Lemmon

Copy retained 400

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 25 1952

IN REPLY REFER TO:
G-MD-CF

UNITED STATES
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GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

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DMLemmon:gt

IN REPLY REFER TO:
G-MI-CF

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

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DMLemmon:gt

400

FILE COPY
SURNAME:

Selfridge

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

AUG 5 1952

Mr. James Collard, President
Mullin Mines Company, Inc.
Golden, Idaho

Re: Docket No. DMEA 2474 - Tungsten
Tungstar Mine
Idaho County, Idaho

Dear Mr. Collard:

We are in receipt of your letter of July 14, 1952, which comments further on your application for exploration assistance.

We understand that Mr. Bardill of the DMEA Region II Field Office already has or will visit your property in the near future. As soon as we hear from the Field Office, we shall write you further concerning your application.

Sincerely yours,

C. O. Mittendorf (fw)

Acting Administrator
Defense Minerals Exploration
Administration

GCSelfridge:ls
8/4/52

cc: Docket
Admn. Read File
Field Team, Reg. 2
G. C. Selfridge
D. M. Lemmon, USGS
R. W. Geehan, USBM

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 7/28/52

REFERRED TO:

1. ~~C. O. Mittendorf Rm. 4624~~
2. ~~Dupuis~~
3. ~~Hilton~~
4. Selfridge

FOR:

---------- Action	---------- Recommendation
---------- Approval	---------- Record of ----------
---------- Comment	---------- Referring to ----------
---------- Conference	---------- Reply for signature of ----------
---------- Consideration	---------- Rewriting
---------- Filing	---------- Signature
---------- Instructions	---------- Suggestions
---------- Investigation	---------- Your information
---------- Initials	
---------- Mailing	
---------- Previous correspondence	

REMARKS: How do you react? Before can be approved.

Check (X) before the items needing attention.

G. C. Selfridge/lm
Initials of sender.

GPO 16—63815-1

STATES
THE INTERIOR
ATION ADMINISTRATION
N 25, D. C.

e: Docket No. DMEA 2474 - Tungsten
Tungstar Mine
Idaho County, Idaho

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exploration assistance requested by

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ng the talus was related more to
is beyond our authority.) — unprove.

In your letter of April 28, 1952, you advise us that the main idea of the work is to uncover the ground so that known vein and assumed vein outcrops can be sampled. It would appear to us under these conditions that cutting several longitudinal trenches would be more advantageous than the cross trenches to uncover veins that are crossing the area.

In our letter of May 8, 1952, we asked you concerning the underground work that has already been done on the property. According to the map which you sent in with your application, there is about 250 feet of crosscutting and 350 feet of drifting. It appears to us that this work should have given a ~~pretty~~ good idea ~~of the vein possibilities~~ in ~~of~~ the area. To date, we do not know by whom this work was done ~~and~~ or the results obtained. Apparently ~~they~~ were poor.

No assay results have ever been presented to us ~~from~~ the known vein exposures. As we advised you in our letter of May 8, 1952, it

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 7/28/52

REFERRED TO:

1. ~~C. O. Mittendorf Rm. 4624~~
2. ~~Hyatt~~
3. ~~Miller~~
4. Selfridge

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
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..... Filing	..... Signature
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REMARKS: How do you react? Believe can be improved.

Check (X) before the items needing attention.

G. C. Selfridge/lm
Initials of sender.

GPO 16—63815-1

CSM

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

Mr. James Collard, President
Mullin Mines Company, Inc.
Golden, Idaho

Re: Docket No. DMEA 2474 - Tungsten
Tungstar Mine
Idaho County, Idaho

Dear Mr. Collard:

We are in receipt of your letter of July 14, 1952, concerning the status of the application for exploration assistance requested by you on the above property.

We assure you that we are very much interested in assisting applicants to explore their properties for tungsten and other minerals.

As we advised you in our letter of April 22, 1952, the proposal you submitted for sampling the talus was related more to production than exploration (which is beyond our authority.) — improve.

In your letter of April 28, 1952, you advise us that the main idea of the work is to uncover the ground so that known vein and assumed vein outcrops can be sampled. It would appear to us under these conditions that cutting several longitudinal trenches would be more advantageous than the cross trenches to uncover veins that are crossing the area.

In our letter of May 8, 1952, we asked you concerning the underground work that has already been done on the property. According to the map which you sent in with your application, there ~~is~~ are about 250 feet of crosscutting and 350 feet of drifting. It appears to us that this work should have given a ~~pretty~~ good idea ~~of the vein possibilities~~ in ~~of~~ the area. To date, we do not know by whom this work was done ~~and~~ or the results obtained. Apparently ~~they~~ which were poor. as to the possible veins

No assay results have ever been presented to us ~~from~~ of the known vein exposures. As we advised you in our letter of May 8, 1952, it

appears to us that there are sufficient exposures to warrant some underground work, providing the work already done does not eliminate these possibilities.

We wish to assure you that we would be very pleased to be of assistance to you, but with the data that have been presented to us, we do not feel that we can go beyond the suggestions we have presented in our previous correspondence.

Sincerely yours,

Acting Administrator
Defense Minerals Exploration
Administration

UNITED STATES 13771

DEPARTMENT OF THE INTER

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REFERENCE SLIP

DATE 7-21-52

REFERRED TO:

1. ~~[illegible] 3538~~
2. .....
3. .....
4. .....

FOR:

.....Action	.....Recommendation
.....Approval	.....Record of.....
.....Comment	.....Referring to.....
.....Conference	.....Ready for signature of.....
.....Consideration	.....Rewriting
.....Filing	.....Signature
.....Instructions	.....Suggestions
.....Investigation	.....Your informtion
.....Initials	
.....Mailing	
.....Previous correspondence	

REMARKS: .....

Check (X) before the items needing attention.

Adams (AL)

INT.-DUP. SEC., WASH., D.C. Initial of sender

Re: Docket No. DMEA 2474, Tungsten
Tungstar Mine, Idaho County, Idaho

July 14, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 21 1952

Mr. C.O.Mittendorf
Defense Minerals Exploration Administration
Washington 25, D.C.

Dear Mr. Mittendorf:

I have your letter of the 9th, July 1952, asking if we are interested in proceeding with our loan application. I am sure, if you will take the trouble to check, that you will find we have explained our feelings on this matter fully to your Spokane office. I would suggest you check with Mr. John D. Bardill, U.S. Bureau of Mines, 1201 North Division St., Spokane, Wn., as Mr. Bardill is the official of the Spokane office with whom we were in contact ~~with~~ on our application.

We are interested in the production of Tungsten, not the spending of our verv limited funds on the endless red tape connected with the processing of an exploration loan. We have expended more than $1000.00 trying to get a loan of $26000.00 from your office. We have had the field Geologist from the Spokane office on the property, we have also had the very excellent services of four private engineers on this prospect. Their opinions as to the method of exploration all indicated the approach we tried with our loan application. I personally feel these men, having been on the ground, would have just a little better idea of exploration than some one in Washington explaining that we could not expect to find ore in situ, under our proposed placer cuts. We find boulders of float ore that will weigh 11 tons on the face of a hill with a 30 degree slope, and I still am of the opinion that rocks of this size are nearly in situ.

We shipped 33.57 tons of this float ore last summer to Bishop for treatment, and as indicated in our application, this ore was of a grade to warrant milling. We then hauled 45 yards of the placer material to a gold dredge, from which we saved 600 pounds of tungsten concentrates that ran 20% WO_3. I can not understand what more our Government would want in the way of a prospect, unless, of course, they are just pulling the prospectors leg. I can tell you for dam sure that the next time I believe a government bulletin on the help they are trying to give the prospector, I won't.

I have been in the mining game all my life. I worked for six years as field man for Mr. L. K. Requa, and in the course of my employment as scout have been to a few of the foriegn countries, and I have not seen, to date, a prospect that warrants the chance this particular tungsten property does, and still we can not raise $26000.00 to help put it over.

I am not sure we can carry out our proposed program we outlined in our application, due to the shortage of finances, but we are sure going to try, as every engineer that has been on the property has advised that procedure. I would suggest that if your office is still interested in an alternate program, that you send one of your men down to see the property again. We are very much interested in procuring some of the Government money, if it is available, to help out with our exploration, but I am at a complete loss as how to proceed to get

such help. I can assure you that it would be with great reluctance that I would proceed on an application for a loan against the judgement of men that have been on the property.

I intend to find out why, through any channel at my disposal, we can not get an exploration loan on this property.

I sincerely hope I have made my feelings clear to you on this particular loan problem, and I also hope you can reconsider your stand on the matter, and give us some help, which we desperately need.

Yours very truly,

James Collord

James Collord
Mullin Mines Co., Inc.
Golden, Idaho

cc: H. Welker
J. Bardill

400

FILE COPY
SURNAME:
to
Selfridge

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

Mr. James Collord, President
Mullin Mines Company, Inc.
Golden, Idaho

Re: Docket No. DMEA 2474 -
Tungsten
Tungstar Mine
Idaho County, Idaho

Dear Mr. Collord:

Review of the subject docket shows that we have not heard from you since writing you on May 8, 1952. Will you please advise us at your earliest convenience whether or not you intend to proceed with your application along either of the lines suggested in our May 8 letter or do you have an alternate proposal?

Sincerely yours,

C. O. Mittendorf (fw) ce 7/9/52

Acting Administrator
Defense Minerals Exploration
Administration

GCSelfridge:ls 7/8/52

CC: Docket
Admn. Reading File
G. C. Selfridge
Field Team, Reg. 2
D. M. Lemmon, USGS
R. W. Geehan, USBM

7/3/52

Mr. Selfridge:

Your letter of May 8 outlined an exploration program to this applicant, but to date he has not advised whether he is interested. You will no doubt wish to jog his memory with a follow-up?

ls

FILE COPY
SURNAME:

Chapman
Selfridge

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

MAY 8 1952

Mr. James Collord, President
Mullin Mines Co., Inc.
Golden, Idaho

Re: Docket No. DMEA 2478 - Tungsten
Tungstar Mine
Idaho County, Idaho

Dear Mr. Collord:

This is to acknowledge receipt of your letter of April 28, 1952, in which you state that the actual potential of the Tungstar Mine falls in the hard rock category.

We were under the impression that primarily the proposed project was to sample the placer. Since we are governed by certain rules and regulations regarding exploration, we suggested the conventional pitting method for sampling rather than the proposed erection of a plant and sampling on a production basis. At 500 yards daily as originally proposed, the deposit would be exhausted in approximately 90 days. If you are interested in the exploration of the placer, we would be willing to consider the pit sampling as previously written you.

With regard to the veins, it appears that in your original application to the Defense Materials Procurement Agency they were only a secondary consideration. If you are interested primarily in the veins, then it would appear that you would wish to do some work, if warranted, directly on the present exposures. If it were necessary to do some trenching to expose what might lie in the narrow valley, we would consider a couple of longitudinal trenches, more or less similar to the proposed scraper trench, which would divide the "alluvium" into three more or less equal sections. This trenching should disclose any veins of importance and it could also be sampled for the placer information without erection of a plant such as you propose.

We note that there are several outcrops, A, B, C, D, and adit portals, that show scheelite. Might it not be advisable to consider a plan for underground exploration from one or more of the above outcrops? This would probably entail sinking and drifting. If you are interested in such a program, we shall be glad to consider it but request that assays of samples from the various outcrops be submitted along with a plan of the proposed exploration.

It is assumed that the underground workings shown on the map are inaccessible. It appears that these crosscut the subject area for quite some distance in both directions. What is known of the results of the drifting? Is it your belief that the scheelite-bearing "alluvium" now covering the subject area originated practically in situ? It would seem that originally it came from a higher elevation and would not necessarily indicate the presence of important tungsten veins immediately below.

Sincerely yours,

C. O. Mitzendorf (for) 5/8

Acting Administrator
Defense Minerals Exploration
Administration

TLChapman:GCSelfridge:ls
5/5/52

cc: Admn. Reading File
Docket
Field Team, Region II
G. C. Selfridge
D. M. Lemmon, USGS
R. W. Geehan, USBM

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

May 6, 1952

Memorandum

To: George C. Selfridge, DMEA

From: Robert W. Geehan, Bureau of Mines

Subject: DMEA 2474 - Tungsten
Mullin Mines Co., Inc.
Golden, Idaho

This application apparently is an attempt to cover both the placer deposit and quartz veins. If the placer deposit is worked, the quartz might automatically be exposed. On the other hand, if the applicant is no longer interested in the placer ground, and wishes to explore the quartz veins, a new program specifically designed for the purpose is needed.

If the company insists on a program as outlined in this docket, it is recommended that the application be rejected.

Robert W. Geehan

Robert W. Geehan

Attachment

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 7 1952

Copy retained 400

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

Not To Be Filled in by Applicant

Docket No. DMEA-2474
Metal or Mineral
Date Received 4-7-52
Amount $
Participation (Government %)

MULLIN MINES CO., INC.
GOLDEN, IDAHO

See DMPA 2250

Name and address of applicant

Date MARCH 12, 1952

If you have already filed MF-100, give date filed MAY 16, 1951, type of assistance requested priorities,

DMA Docket Number (if available) ~~DMPA - 2250~~

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

11. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

CERTIFICATION

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

MULLIN MINES CO., INC.
(Name of company)

By James Collord
(Signature of authorized official)

MARCH 12, 1952
(Date)

President
(Title)

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—64067-2

Mullin Mines Co., Inc., Golden, Idaho

Question No.1

(a).

Refer to DMPA docket 2250

(b)

Copy of option agreement contained in DMPA docket2250. Owners subordination enclosed herein.

(c)

DMPA docket 2250.

Rec'd 1-17-52

Question No.2

(a)

Refer to DMPA docket 2250

(b)

" " " " "

Question No. 3.

(a)

Description of proposed work and cost of project.

The proposed project is to sample thoroughly, the scheelite bearing alluvial and to expose the bedrock in order to define and sample the ore bodies in place now covered by alluvium.

The alluvial will be sampled by means of cross-cuts across the body of the deposit with cross-cuts spaced at 50 foot intervals along the longitudinal dimension of the alluvial deposit. The enclosed sketch outlines this program. Each cut will be taken down to solid formation in order to establish geological information concerning the ore body or bodies in place.

The difficulties encountered in doing a systematic job of projecting the quartz in place without the removal of considerable of the overburden is not feasable at the present time. There are several outcrops such as the tunnel portals and at points "A" and "D", also exposures of scheelite in place at road cuts "B" and "C". (see sketch). However the area between those points is covered by a mantle of scheelite bearing alluvial with an established depth of 15 feet. In order to to connect the relationship of those scheelite outcrops and exposures it is necessary to remove considerable of the alluvium. At the same time the material removed will constitute the samples to be taken on the alluvial deposit. The outcrops at points "A" and the exposures at points "B" and "C" appear to indicate a general strike trend of the mineralized zone to be outlined by this project.(Colored area of sketch).

The connections or relationship of these points will be established when solid formation is exposed in the cross-cuts. The formation thus exposed will be cleaned,drilled and shot lightly to expose a fresh area for sampling any ore encountered and mapping of geologic information.

The test run on a bulked sample of the alluvial as described in forms MF-100 and 102 previously submitted to DMPA under docket 2250 indicated a tungsten value of $ 8.22 per cubic yard for this part of the deposit. Also a shipment of coarse float ore is described in the above docket 2250,this indicated a value of 1.1% WO3 for this picked sample.

Due to the steepness of the hillside,from which the overburden should be removed, the most practical and economical method of removal is by a combination of bulldozer and Sauerman type slack line scraper.

The main haulageway of the scraper will first be established to bedrock along the centerline of the area(see sketch). The material taken from the cross-cuts on each side of the main haulageway will be fed to the scraper by the bulldozer. The scraper then transports the material to the test plant located at the lower extremity of the area to be sampled. Each cut will constitute a seperate sample of large enough bulk to give a close estimate of that area from which it came. The haulageway and plant will be cleaned down after each sample is run and before the next sample is started through. The bulk or yardage of each sample is to be determined by measuring the volume of the cut from which it was taken.

In the plant the material passing through the screen will be treated by jigs to remove the scheelite values. The oversize material,too large to pass the screen,will be hand picked from the conveyor belt with the use of Ultra-Violet light. This will enable the engineer in charge to combine both the fine and coarse values to apply them to the bulk sample removed from the cut. It is requested that the Bureau of Mines have an engineer present to check the sampling.

The equipment comprising the test plant has been purchased by Mullin Mines Company but the plant is not erected on the property. Provisions have been made in this application for the funds necessary to erect the plant on the site indicated on the accompanying sketch. The cost of erecting this plant is much less than purchasing special equipment for the tests. The equipment has the size and flexibility to handle the large bulk samples required to get accurate information on the alluvial deposit. Also the equipment is of large enough capacity to enable the plant to be put on limited production if the results of the tests indicate such an operation to be feasable.

3 (a) cont.

Total estimated cost of the project is $ 26,154.00

3
(b)
The project to be started April 15,1952 and to be completed September 15,1952. This period being divided into a two month period for the erection of the plant and a three month period for the testing program.

Question 4.
See DMPA docket 2250 and enclosed sketch of property.

Question 5.
None.

Question 6.
Test plant comprised of equipment owned by Mullin Mines Company to be erected at a cost of $ 5710.00.

Question 7
(a). Operating equipment to be rented.

1-D-6 Cat dozer @ $750.00 per Month for 5 months - - - - $3750.00

1-Sauerman type scraper complete with power,cable,bucket and sheaves. @ $400.00 per month for three months - - - - 1200.00

1-Gas driven water pump to furnish 550 GPM against a total head of 350 feet. 3 months at $550 per month- - - - 1650.00

Total rental on equipment for project period- - - -$6600.00

(b).
No other equipment is to be purchased.

(c).
Equipment furnished.

1- 110CFM Ingersoll-Rand,Gas powered,portable compressor with hammers,hoses and steel. Intermittent operating costs for three months. - - - - - - - - - @ $110.00 per month- - - $ 330.00
Depreciation on Cost of $1800.00 at the rate of 1/60 th of cost for three months, @ $30.00 per month. - - - - - - - - 90.00

1-Diesel-electric plant consisting of an Allis-Chalmers UD 24 direct connected to a G.E. 100 KW 3 Phase 220/440 volt generator with panel. Operating cost for three months at $600.00 per month. - - - - - - - - - - - - - - - - 1800.00
Depreciation 1/60($8000.00) per month for three months 399.00

7 (c) cont.

1- Test plant comprised of a 54" X 22' trommel screen with 12 feet of screening surface consisting of ½ inch holes punched in AR steel plate and two blank scrubber sections each five feet long. The screen is driven by a gear-head 20 HP motor,Chain connected to the sprocket on the screen. Oversize from the screen is discharged onto a 26" X 50' conveyor for hand sorting of the coarse material. The material passing the screen is collected and fed to a two cell series 42" Pan-American rougher jig. Hutch concentrate from the rougher jig is re-concentrated by a two-cell series 24" Pan-American cleaner jig. Bed concentrates from both jigs is combined with the final hutch concentrate to give overall recovery.

Operating costs of the plant for the three month test period at a monthly cost of $ 600.00 - - - - - - - - - - - - - - $ 1800.00
Depreciation on the installed value of the plant($10,000) at 1/60th of cost per month(1/60x10,000) $300.00 for three month operating period.- 900.00

Summary of operating costs for three months on furnished equipment:

Compressor - - - - - - - -	$ 550.00
Diesel-electric plant - -	1600.00
Test plant - - - - - - -	1800.00
Total - - - -	$ 3950.00

Depreciation on furnished equipment at 1/60th of the value per month. - - - - - - - - - three month period.

Compressor - - - - - - - -	$ 90.00
Diesel plant - - - - - - -	399.00
Test plant- - - - - - - -	900.00
total depreciation- - - -	$1389.00

Question 8.
Labor costs;
Erection of test plant:

5 men, common labor, @ $1.25 per hour, 8 hour day, 20 working days per month for two months. - - - -	$ 2000.00
1 cat operator @ $2.25 per hour, 8hour day 20 day month for two months. - - - - - - - - - - - -	720.00
1 supervisor and engineer @ $400.00 per month for two months.- - - - - - - - - - - - - - - - - - - -	800.00
Payroll taxes and insurance @ $95.00 per month for two months. -	190.00
Total labor costs for erection of test plant.- -	$3710.00

Labor costs for sampling and testing:

2 plant operators and pickers @ $ 1.25 per hour 8 hour day, 20 day month for three months. - - - - -	$ 1200.00
1 cat operator @ $2.25 per hour .8 hour day, 20 day month for three months. - - - - - - - - - - -	1080.00
1 slackline operator and miner $ 1.50 per hour, 8 hour day, 20 day month for three months. - - - - -	720.00
1 supervisor and engineer @ $400.00 per month for three months. -	1200.00
Payroll taxes and insurance @ $ 95.00 per month for three months. -	285.00
Total labor for three month test program	$ 4485.00
Total labor costs for entire project.- - - -	$ 8195.00

Question 9.
Costs not covered in above listings:

Operating costs on bulldozer @ $3.50 per hour for 8 hour day, 20 days month for five months. - - - - - -	$ 2800.00
Operating costs on slackline scraper for 5 months - -	960.00
Operating costs on pump @ $2.50 per hour for 8 hour day, 20 day month for three months. - - - - - - - - -	1200.00
Detachable bits, 300 per month for three months at $0.30 each. -	270.00
Powder, 400 lbs per month for three months @ $22.50 cwt.	270.00
Caps and fuse @ $40.00 per month for three months. - -	270.00
Estimated costs of assaying samples for three months. -	420.00
Total - - - - - - -	$6040.00

Summary of costs:

Rentals on equipment - - - - - - - - - - - - - - -	$ 6600.00
Operation of furnished equipment - - - - - - - -	3950.00
Depreciation on furnished equipment - - - - -	1389.00
Total labor costs of project - - - - - - - - - -	8195.00
Misc. operating costs and materials - - - - - - -	6040.00
Overall cost of project. - - - - - - - - - - -	$ 26,154.00

Question 10.
(a). Mullin Mines is prepared to contribute $ 6,538.50 to this program.

(b). This is sufficient to pay our part of the cost of the project, in accordance with Sec.9 of EO-5.

Question 11.

Reference is made to our application for a production loan and contained in DMPA docket dated December 8, 1951.

This application was rejected on the basis of inconclusive sampling to establish the yardage and values of the ore in both the alluvial portion and the ore in place. This application for an exploration loan is, at the suggestion of Mr. Tom Lyon, for the purpose of sampling and testing the property in a manner and volume sufficient to make the information as to yardage and value of the alluvial more conclusive. In addition the work will serve the dual purpose of opening the ore in place for survey and sampling of the mineralized zone.

The equipment to be used for the test plant is equipment purchased by Mullin Mines Company for the purpose of going into production. However this equipment will serve the purpose of making large scale sample tests to determine the potential of the property. Any small sample tests on the alluvial would be open to considerable error. Thus in order to get a representative sample a large amount of material must be taken.

In conjunction with this application Mr. Holder of DMPA has advised us that he will turn over to DMPA our file in docket DMPA No.2250 which contains all information missing in this file but necessary for the complete application.

April 28,1952

G.C.Selfridge,Chief
Iron and Ferro-Alloy Division
Defense Minerals Exploration Administration
Washington 25,D.C.

Dear Mr. Selfridge:

Re: Docket No. 2474x
Tungstar Mine

I have your letter of the 22nd, denying our application for aid in the exploration program we contemplate here in Idaho, at the Tungstar Mine.

I would judge from your letter that you have treated the application as an aid to a placer project for the recovery of Scheelite concentrates only. This placer is only the small part of our program. The actual potential of the Tungstar Mine, as a Tungsten producer, falls in the ore, or hard rock category. This was, and is, the motivating fact in our applying for aid from the DMEA.

I fail to see how we can determine where, and how, the ore in place can be found by the test pits you outlined. I feel sure it was unfortunate that we had to bulk the only placer sample we have taken, and would like very much to pin-point the placer deposit by test pits, but still feel the potential is with the hard rock, and that can not be explored by test pits.

I am sure, if you will reexamine our application for aid, you can readily see the feasibility of our proposed plan, as presented.

Yours very truly,

James Collord

James Collord
Mullin Mines Co., Inc.
Golden, Idaho

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY - 2 1952

FILE COPY
SURNAME:

Chapman
Selfridge
Nicott

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

APR 22 1952

Mullin Mines Co., Inc.
Golden, Idaho

Re: Docket No. DMEA 2474X - Tungsten
Tungstar Mine
Idaho County, Idaho

Gentlemen:

Your application for assistance in exploring the above stated project has been reviewed by the Iron and Ferro-Alloy Division of the Defense Minerals Exploration Administration.

We find your proposal calls for taking from 15 to 20 per cent of the material contained in the proposed project for a sample. This would practically be a production operation and would not come under the head of exploration.

If you are agreeable to submitting a project for a pit sampling operation, with the attendant costs, we would be willing to give it further consideration.

A sampling project of this order would require a sample of about 450 cubic yards or 1 per cent of the material available. As a suggestion, we believe the pits would be at about 50 foot intervals. On this basis it would take about 80 pits, 4-1/2 feet x 4-1/2 feet x 7-1/2 feet deep.

We believe that if this sampling shows results similar to your 45 yard sample, that you possibly would then be in line for a production loan.

Sincerely yours,

TLChapman'lm
4/21/52

cc 4/22

George C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

cc: Admn. Reading File
Docket
Field Team Reg. II
R. W. Geehan, USBM
D. M. Lemmon, USGS
G. C. Selfridge
T. L. Chapman

IN REPLY REFER TO:

G-MD-DML

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

April 15, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Exploration application $26,154 DMEA 2474 - Tungsten
Mullin Mines Co., Inc.
Golden, Idaho

Property: Tungstar claims
Sec. 26, T. 29 N, R 6 E
40 miles S. E. from Grangeville
Idaho County, Idaho

This proposal was submitted December 11, 1951 to DMPA as a request for a production loan of $45,530 (DMPA 2250). The application was denied because sufficient proof of reserves was not available. The DMPA docket, which contains the lease agreements, is available through Mr. Holderer.

The exploration application is approximately the same proposal as the former production application, and the total cost is decreased by substituting rental equipment for purchase of equipment.

The applicant proposes to sample a placer by cutting bulldozer trenches at 50 foot intervals at right angles to a central drag-line trench and then concentrating the material excavated. A placer plant, with a trommel, picking belt, and 3 jigs, will be built to treat the material. Any veins found in the bedrock will be sampled.

It appears to me that 15 to 20 percent of the placer will be used up in the sampling process and that the distribution of scheelite will not be determined. The deposit will be placed in production without preliminary sampling.

No adequate description is given of the underground workings or of the outcrops of veins. If scheelite is exposed in veins at points B and C, these veins should be sampled. If exploration for veins is a primary objective, trenches should be at right angles to the assumed strike through points A, B and C.

Copy retained 400

The computations of expectable recovery are confused, partially because of misconceptions about quantity and value of WO_3 in scheelite concentrates. Assuming the correctness of the applicant's estimate of yardage and tungsten content, the gross value of the product would be about $207,000, which might warrant government participation in a sampling project to the extent of $10,000 if repayment is expected.

The property was visited briefly July 3, 1951 by Verne C. Fryklund of the Geological Survey (See Field Team memo dated March 27, 1952). Fryklund took no samples, made no map or sketch, and did not clearly indicate how much scheelite was present in the 2 quartz veins, or how it was distributed. The Field Team recommends approval of the project as proposed by the applicant.

Recommendation: The placer should be sampled by conventional methods before production is started. I recommend that favorable consideration be given to a modest program of pitting and sampling. If any exploration is to be done in bedrock, more information should first be obtained, about exposures in the underground workings and in the road cuts.

Sampling programs on placer deposits have been approved previously by DMEA for columbite in the Black Hills and monazite in Idaho (possibly others).

Dwight M. Lemmon

IN REPLY REFER TO:

G-MD-DMI.

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GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

April 15, 1952

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DM Lemmon

IN REPLY REFER TO:

G-MD-DML

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

April 15, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Exploration application #26,154 DMEA 2474 - Tungsten
Mullin Mines Co., Inc.
Golden, Idaho

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Sec. 26, T. 29 N, R 6 E
40 miles S. E. from Grangeville
Idaho County, Idaho

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12/28/57

DMPA 2250
(= DMEA 2474)

George B. Holderer, DMPA

D. M. Lemmon, U.S. G. S.

Loan Application $45,530, DMPA-2250, Tungsten
Mullin Mines Co., Inc.
Golden, Idaho

Property Tungstar group and Sacramento No. 2 Claims
Sec 26, T 29 N, R6E, 40 miles SE from Grangeville,
Idaho County, Idaho

The single bulk sample of 45 yards is not adequate to disclose the content of WO_3 in the placer. The results of treating this sample in the Tyee gold dredge are also inconclusive, for the entire yardage was not treated and the content of WO_3 in the various concentrates and ore is only estimated.

Before a production loan is warranted on this property a thorough job of sampling must be done. The sampling should show distribution of WO_3 through the placer, not just an average of the entire mass.

The application does not contain a breakdown of proposed expenditures, and does not show that the oversize sorted ore can be successfully treated by the method proposed.

The field team examined the property and verified the yardage claimed as a conservative estimate. The field team cannot undertake sampling of the deposit, which could be handled as an exploration project if the applicant desires.

It is recommended that the production loan be denied because of insufficient data to show reserves and that the applicant be advised of regulations for exploration loans.

cc Selfridge

Dwight Lemmon

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

Not To Be Filled in by Applicant

Docket No. DMEA-2474
Metal or Mineral
Date Received 4-7-52
Amount $
Participation (Government %)

MULLIN MINES CO., INC.
GOLDEN, IDAHO

Name and address of applicant

Date MARCH 12, 1952

If you have already filed MF-100, give date filed May 16, 1952, type of assistance requested priorities,

DMA Docket Number (if available) ~~DMPA--2250~~

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO-5)?

11. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

CERTIFICATION

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

MULLIN MINES CO., INC.
(Name of company)

By James Colland
(Signature of authorized official)

MARCH 12, 1952
(Date)

President
(Title)

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—64067-2

Mullin Mines Co.,Inc.,Golden,Idaho

Question No.1

(a).

Refer to DMPA docket 2250

(b)

Copy of option agreement contained in DMPA docket2250. Owmers subordination enclosed herein.

(c)

DMPA docket 2250.

Question No.2

(a)

Refer to DMPA docket 2250

(b)

" W " " "

Question No. 3.

(a)

Description of proposed work and cost of project.

The proposed project is to sample throughly,the scheelite bearing alluvial and to expose the bedrock in order to define and sample the ore bodies in place now covered by alluvium.

The alluvial will be sampled by means of cross-cuts across the body of the deposit with cross-cuts spaced at 50 foot intervals along the longitudinal dimension of the alluvial deposit. The enclosed sketch outlines this program. Each cut will be taken down to solid formation in order to establish geological information concerning the ore body or bodies in place.

The difficulties encountered in doing a systematic job of projecting the quartz in place without the removal of considerable of the overburden is not feasable at the present time. There are several outcrops such as the tunnel portals and at points "A" and "D", also exposures of scheelite in place at road cuts "B" and "C". (see sketch). However the area between these points is covered by a mantle of scheelite bearing alluvial with an established depth of 15 feet. In order to to connect the relationship of these scheelite outcrops and exposures it is necessary to remove considerable of the alluvium. At the same time the material removed will constitute the samples to be taken on the alluvial deposit. The outcrops at points "A" and the exposures at points "B" and "C" appear to indicate a general strike trend of the mineralized zone to be outlined by this project.(Colored area of sketch).

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

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, $300.
(PMGC)

Mr. James Collard, President
Mullin Mines Company, Inc.
Golden, Idaho

The connections or relationship of these points will be established when solid formation is exposed in the cross-cuts. The formation thus exposed will be cleaned,drilled and shot lightly to expose a fresh area for sampling any ore encountered and mapping of geologic information.

The test run on a bulked sample of the alluvial as described in forms MF-100 and 102 previously submitted to DMPA under docket 2250 indicated a tungsten value of $ 8.22 per cubic yard for this part of the deposit. Also a shipment of coarse float ore is described in the above docket 2250,this indicated a value of 1.1% WO3 for this picked sample.

Due to the steepness of the hillside,from which the overburden should be removed, the most practical and economical method of removal is by a combination of bulldozer and Sauerman type slack line scraper.

The main haulageway of the scraper will first be established to bedrock along the centerline of the area(see sketch). The material taken from the cross-cuts on each side of the main haulageway will be fed to the scraper by the bulldozer. The scraper then transports the material to the test plant located at the lower extremity of the area to be sampled. Each cut will constitute a separate sample of large enough bulk to give a close estimate of that area from which it came. The haulageway and plant will be cleaned down after each sample is run and before the next sample is started through. The bulk or yardage of each sample is to be determined by measuring the volume of the cut from which it was taken.

In the plant the material passing through the screen will be treated by jigs to remove the scheelite values. The oversize material,too large to pass the screen,will be hand picked from the conveyor belt with the use of Ultra-violet light. This will enable the engineer in charge to combine both the fine and coarse values to apply them to the bulk sample removed from the cut. It is requested that the Bureau of Mines have an engineer present to check the sampling.

The equipment comprising the test plant has been purchased by Mullin Mines Company but the plant is not erected on the property. Provisions have been made in this application for the funds necessary to erect the plant on the site indicated on the accompanying sketch. The cost of erecting this plant is much less than purchasing special equipment for the tests. The equipment has the size and flexibility to handle the large bulk samples required to get accurate information on the alluvial deposit. Also the equipment is of large enough capacity to enable the plant to be put on limited production if the results of the tests indicate such an operation to be feasable.

3 (a) cont.

Total.estimated cost of the project is $ 26,154.00

3
(b)
The project to be started April 15,1952 and to be completed September 15,1952. This period being divided into a two month period for the erection of the plant and a three month period for the testing program.

Question 4.
See DMPA docket 2250 and enclosed sketch of property.

Question 5.
None.

Question 6.
Test plant comprised of equipment owned by Mullin Mines Company to be erected at a cost of $ 3710.00.

Question 7
(a). Operating equipment to be rented.

1-D-6 Cat dozer @ $750.00 per month for 5 months - - - - $3750.00

1-Sauerman type scraper complete with power,cable,bucket and sheaves. @ $400.00 per month for three months - - - - 1200.00

1-Gas driven water pump to furnish 550 GPM against a total head of 350 feet. 3 months at $550 per month- - - - 1650.00

Total rental on equipment for project period- - - -$6600.00

(b).
No other equipment is to be purchased.

(c).
Equipment furnished.

1- 110CFM Ingersoll-Rand,Gas powered,portable compressor with hammers,hoses and steel. Intermittent operating costs for three months. - - - - - - - - - @ $110.00 per month- - - $ 330.00
Depreciation on Cost of $1800.00 at the rate of 1/60 th of cost for three months,@ $30.00 per month. - - - - - - - - 90.00

1-Diesel-electric plant consisting of an Allis-Chalmers UD 24 direct connected to a G.E. 100 KW 3 Phase 220/440 volt generator with panel. Operating cost for three months at $600.00 per month. - - - - - - - - - - - - - - - 1800.00
Depreciation 1/60($8000.00) per month for three months 399.00

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Operating costs of the plant for the three month test period at a monthly cost of $ 600.00 - - --- - - - - - - - - - -	$ 1800.00
Deprectation on the installed value of the plant($18,000) at 1/60th of cost per month(1/60x18,000) $300.00 for three month operating period.- - - - - - - - - - - - - - - - - - - -	900.00

Summary of operating costs for three months on furnished equipment:

Compressor - - - - - - - -	$ 330.00
Diesel-electric plant - -	1800.00
Test plant - - - - - - -	1800.00
Total - - - - -	$ 3930.00

Depreciation on furnished equipment at 1/60th of the value per month. - - - - - - - - - three month period.

Compressor - - - - - - - -	$ 90.00
Diesel plant - - - - - - -	399.00
Test plant- - - - - - - -	900.00
total depreciation- - - -	$1389.00

Question 8.
Labor costs;
Erection of test plant:

5 men,common labor,@ $1.25 per hour,8 hour day, 20 working days per month for two months. - - - -	$ 2000.00
1 cat operator @ $2.25 per hour,8hour day 20 day month for two months. - - - - - - - - - - - -	720.00
1 supervisor and engineer @ $400.00 per month for two months.- - - - - - - - - - - - - - - - - - - -	800.00
Payroll taxes and insurance @ $95.00 per month for two months. -	190.00
Total labor costs for erection of test plant.- -	$3710.00

Labor costs for sampling and testing:

2 plant operators and pickers @ $ 1.25 per hour 8 hour day,20 day month for three months. - - - - -	$ 1200.00
1 cat operator @ $2.25 per hour .8 hour day, 20 day month for three months. - - - - - - - - - - - -	1080.00
1 slackline operator and miner $ 1.50 per hour, 8 hour day,20 day month for three months. - - - - -	720.00
1,supervisor and engineer @ $400.00 per month for three months. -	1200.00
Payroll taxes and insurance @ $ 95.00 per month for three months. - - - - - - - - - - - - - - - - - - -	285.00
Total labor for three month test program	$ 4485.00
Total labor costs for entire project.- - - -	$ 8195.00

Question 9.

Costs not covered in above listings:

Operating costs on bulldozer @ $3.50 per hour for 8 hour day, 20 dayy month for five months. - - - - -c-	$ 2800.00
Opeeating costs on slackline scraper for 3 months - -	960.00
Operating costs on pump @ $2.50 per hour for 8 hour day,20 day month for three months. - - - - - - - - -	1200.00
Detachable bits,300 per month for three months at $0.30 each.- -	270.00
Powder,400 lbs per month for three months @$22.50cwt.	270.00
Caps and fuse @ $40.00 per month for three months. - -	270.00
Estimated costs of assaying samples for three months. -	420.00
Total - - - - - -	$6040.00

Summary of costs:

Rentals on equipment - - - - - - - - - - - - - - -	$ 6600.00
Operation of furnished equipment - - - - - - - -	3930.00
Depreciation on furnished equipment - - - - -	1389.00
Total labor costs of project - - - - - - - - - -	8195.00
Misc. operating costs and materials - - - - - - -	6040.00
Overall cost of project. - - - - - - - - - - -	$ 26,154.00

Question 10.
(a). Mullin Mines is prepared to contribute $ 6,538.50 to this program.

(b). This is sufficient to pay our part of the cost of the project, in accordance with Sec.9 of MO-5.

Question 11.

Reference is made to our application for a production loan and contained in DMPA docket dated December 8,1951.

This application was rejected on the basis of inconclusive sampling to establish the yardage and values of the ore in both the alluvial portion and the ore in place. This application for an exploration loan is, at the suggestion of Mr. Tom Lyon, for the purpose of sampling and testing the property in a manner and volume sufficient to make the information as to yardage and value of the alluvial more conclusive. In addition the work will serve the dual purpose of opening the ore in place for survey and sampling of the mineralized zone.

The equipment to be used for the test plant is equipment purchased by Mullin Mines Company for the purpose of going into production. However this equipment will serve the purpose of making large scale sample tests to determine the potential of the property. Any small sample tests on the alluvial would be open to considerable error. Thus in order to get a representative sample a large amount of material must be taken.

In conjunction with this application Mr Holder of DMPA has advised us that he will turn over to DMEA our file in docket DMPA No.2250 which contains all information missing in this file but necessary for the complete application.

DMEA-2474

OFFICE OF THE ADMINISTRATOR

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 7 1952

Reviewed by
DMEA OPERATING COMMITTEE
4-11-52
(NB) (date)

So. 157 Howard Street
Spokane 4, Washington

March 27 , 1952

Memorandum

To: A. E. Weissenborn, Executive Officer, Field Team, Region II

From: Verne C. Fryklund, Jr., U. S. Geological Survey

Subject: Property of Mullins Mines, Idaho County, Idaho, DMPA Docket 2250.

I visited the Mullins Mines property July 3, 1951. I had just finished my examination of the Shamrock Gold mine, and I had heard of the interesting scheelite ore which was being exposed. My visit was short, lasting about three hours late in the afternoon.

A brief report (see Tungstar Group Tungsten Property) was prepared for the regional file. This report in full follows.

"The Tungstar group is located in sec. 26, T. 29 N., R. 6 E., about $\frac{1}{4}$ mile northwest of Fall Creek, Idaho. Fall Creek is two miles up the south fork of the Clearwater River from Golden, Idaho.

The Tungstar group was located by Mr. Felix Funk, the present owner, when scheelite was discovered in float boulders. The property was leased to Molybdenum Corp. of America but dropped when the source of the float could not be located. Bradley leased the property in 1945 and opened the several cuts. They did not locate the veins either and dropped the property. Mr. James Collard, formerly a Bradley engineer, leased the property in 1950 and he has now located at least two scheelite-bearing veins which are probably the source of the float. Most of his work has been done in the area previously explored by Bradley.

The country rock of the veins is mainly a decomposed gneiss although the footwalls of the two veins seen were decomposed pegmatite which also contained some scheelite.

The smallest quartz vein strikes N. 16° W. and dips 40° E. It is exposed for about 20 feet and ranges from $1\frac{1}{2}$ to 2 feet in width. The largest quartz vein strikes N. 20° W., and dips 80° E. ranges from 4 to 10 feet in width, and is exposed along the strike for about 180 feet. Other quartz veins are present to the north-

Copy retained 400

west, up the hill, but the surface outcrops are barren of scheelite.

Sampling the veins is presenting a problem to the operator but he estimates that the largest vein may average as high as 4 to 5 percent WO_3.

The largest scheelite mass seen was irregular in shape and about 8 inches long. There appeared to be a complete range in size down to microscopic particles. Most of the scheelite, however, is visible to the unaided eye without ultra-violet light. There would be little difficulty in sorting out most of the scheelite.

In my opinion detailed mapping of the property would be of considerable value to the operator and might well result in locating other areas in the immediate vicinity which would be productive."

Mr. Collard showed me the cuts in the "alluvial" material, but we were mainly interested in the scheelite content of the quartz boulders. The material partially fills an old gully, and it should more properly be designated a partially decomposed talus. As I was interested in the quartz veins, I made no measurements as to the length, width or thickness of the talus material. The cuts are parallel to the hill slope and were all over 6 feet deep. None had reached bed rock.

The cuts had been located by a transit survey and I believe the applicant's map is accurate.

In my opinion, the quartz veins alone would have warranted an exploration loan. The only qualification I would make in recommending approval of the loan is with respect to the sample cuts. I would suggest that perhaps 75 foot intervals would be adequate.

cc: USBM, Spokane
USBM, Albany

DMEA-2474

OFFICE OF THE ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
1201 N. Division St.
Spokane 2, Wash.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 7 1952

March 26, 1952

MEMORANDUM

To: Chairman, Operating Committee, DMEA, Washington, D. C.

From: Field Team, Region II

Subject: Application for loan to prospect and sample tungsten alluvial and lode deposits - Mullins Mines Company, Inc., Golden, Idaho - DMPA Docket 2250
DMEA " 2474

By memorandum dated January 22, 1952, from George B. Holderer, Chief, Ferro-Alloys Branch, applicant was denied a request for a production loan in the amount of $45,530 to exploit a tungsten placer deposit in Ten Mile Mining District, Idaho County, Idaho. Basis for denial was that the 45 cubic yard bulk sample was not representative enough to estimate the WO_3 content and that the results of treating the sample in the Tyee gold dredge were inconclusive. An exploratory project to sample the deposit and make a mill test was suggested.

Applicant has now submitted the attached application for an exploration contract in the amount of $26,154 with a proposal to systematically trench the deposit and treat the excavated alluvium in a washing-jig plant. The samples will be of sufficient volume to conclusively establish the average WO_3 content of the alluvium. Applicant also proposes to expose bedrock and blast out samples from any scheelite veins in place which are found. The existence of such veins is indicated in old underground workings, surface outcrops, and exposures in road cuts. Sampling of the scheelite veins in bedrock was not planned in the original proposal.

The washing plant may seem too large for sampling, but its use will enable handling of large enough volumes to obviate objections that samples are too small. The plant is owned or optioned by the company so that only the cost of its installation is requested.

The Field Team believes that the exploratory proposal is reasonable and recommends it for approval.

By Field Team, Region II

A. E. Weissenborn
A. E. Weissenborn, Exec. Officer

M. E. Volin
M. E. Volin, Member

Enclosures

cc: USGS, Spokane

Copy retained 400

EXPLORATION

Subject: DMEA-2474
Re: Exploration Loan
Tungstar Claims
April 8, 1952

Mr. James Collord, President
Mullin Mines Co. Inc.
Golden, Idaho

My dear Mr. Collord:

This will acknowledge receipt of your application dated March 12, 1952 for a loan under the Defense Production Act of 1950.

Your application was assigned Docket Number DMEA-2474 and referred to the Iron and Ferro-Alloys Division.

Kindly refer to DMEA-2474 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams
Acting Administrative Officer

7862

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

Not To Be Filled in by Applicant

Docket No. DMEA-2474
Metal or Mineral
Date Received 4-7-52
Amount $
Participation (Government %)

MULLIN MINES CO. INC.

GOLDEN, IDAHO

Name and address of applicant

Date MARCH 12, 1952

If you have already filed MF-100, give date filed May 16, 1951, type of assistance requested priorities,

DMA Docket Number (if available) DMPA--2250

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

11. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

CERTIFICATION

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

MULLIN MINES CO., INC.
(Name of company)

By James Collard
(Signature of authorized official)

MARCH 12, 1952
(Date)

President
(Title)

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—64067-2

Mullin Mines Co.,Inc.,Golden,Idaho

Question No.1

(a).

Refer to DMPA docket 2250

(b)

Copy of option agreement contained in DMPA docket2250. Owners subordination enclosed herein.

(c)

DMPA docket 2250.

Question No.2

(a)

Refer to DMPA docket 2250.

(b)

" " " " ".

Question No. 3.

(a)

Description of proposed work and cost of project.

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Depreciation on Cost of $1800.00 at the rate of 1/60 th of cost for three months,@ $30.00 per month. - - - - - - - - 90.00

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Diesel-electric plant - -	1800.00
Test plant - - - - - - -	1800.00
Total - - - - -	$ 3930.00

Depreciation on furnished equipment at 1/60th of the value per month. - - - - - - - - - three month period.

Compressor - - - - - - - -	$ 90.00
Diesel plant - - - - - - -	399.00
Test plant- - - - - - - -	900.00
total depreciation- - - -	$1389.00

Question 8.
Labor costs;
Erection of test plant:

5 men,common labor,@ $1.25 per hour,8 hour day, 20 working days per month for two months. - - - -	$ 2000.00
1 cat operator @ $2.25 per hour,8hour day 20 day month for two months. - - - - - - - - - - - -	720.00
1 supervisor and engineer @ $400.00 per month for two months.- - - - - - - - - - - - - - - - - - - -	800.00
Payroll taxes and insurance @ $95.00 per month for two months. - - - - - - - - - - - - - - - - - - -	190.00
Total labor costs for erection of test plant.- -	$3710.00

Labor costs for sampling and testing:

2 plant operators and pickers @ $ 1.25 per hour 8 hour day,20 day month for three months. - - - - - -	$ 1200.00
1 cat operator @ $2,25 per hour .8 hour day, 20 day month for three months. - - - - - - - - - - -	1080.00
1 slackline operator and miner $ 1.50 per hour, 8 hour day,20 day month for three months. - - - - -	720.00
1,supervisor and engineer @ $400.00 per month for three months. -	1200.00
Payroll taxes and insurance @ $ 95.00 per month for three months. - - - - - - - - - - - - - - - - - - -	285.00
Total labor for three month test program	$ 4485.00
Total labor costs for entire project.- - - -	$ 8195.00

Question 9.

Costs not covered in above listings:

Operating costs on bulldozer @ $3.50 per hour for 8 hour day, 20 dayy month for five months. - - - - - -	$ 2800.00
Opeeating costs on slackline scraper for 3 months - -	960.00
Operating costs on pump @ $2.50 per hour for 8 hour day,20 day month for three months. - - - - - - - - -	1200.00
Detachable bits,300 per month for three months at $0.30 each.- -	270.00
Powder,400 lbs per month for three months @$22.50cwt.	270.00
Caps and fuse @ $40.00 per month for three months. - -	270.00
Estimated costs of assaying samples for three months. -	420.00
Total - - - - - -	$6040.00

Summary of costs:

Rentals on equipment - - - - - - - - - - - - - -	$ 6600.00
Operation of furnished equipment - - - - - - - -	3930.00
Depreciation on furnished equipment - - - - - -	1389.00
Total labor costs of project - - - - - - - - - -	8195.00
Misc. operating costs and materials - - - - - - -	6040.00
Overall cost of project. - - - - - - - - - - -	$ 26,154.00

Question 10.
(a). Mullin Mines is prepared to contribute $ 6,538.50 to this program.

(b). This is sufficient to pay our part of the cost of the project, in accordance with Sec.9 of MO-5.

Question 11.

Reference is made to our application for a production loan and contained in DMPA docket dated December 8,1951.

This application was rejected on the basis of inconclusive sampling to establish the yardage and values of the ore in both the alluvial portion and the ore in place. This application for an exploration loan is, at the suggestion of Mr. Tom Lyon, for the purpose of sampling and testing the property in a manner and volume sufficient to make the information as to yardage and value of the alluvial more conclusive. In addition the work will serve the dual purpose of opening the ore in place for survey and sampling of the mineralized zone.

The equipment to be used for the test plant is equipment purchased by Mullin Mines Company for the purpose of going into production. However this equipment will serve the purpose of making large scale sample tests to determine the potential of the property. Any small sample tests on the alluvial would be open to considerable error. Thus in order to get a representative sample a large amount of material must be taken.

In conjunction with this application Mr. Holder of DMPA has advised us that he will turn over to DMEA our file in docket DMPA No.2250 which contains all information missing in this file but necessary for the complete application.

VIA AIR MAIL

AIR MAIL 6¢ U.S. POSTAGE

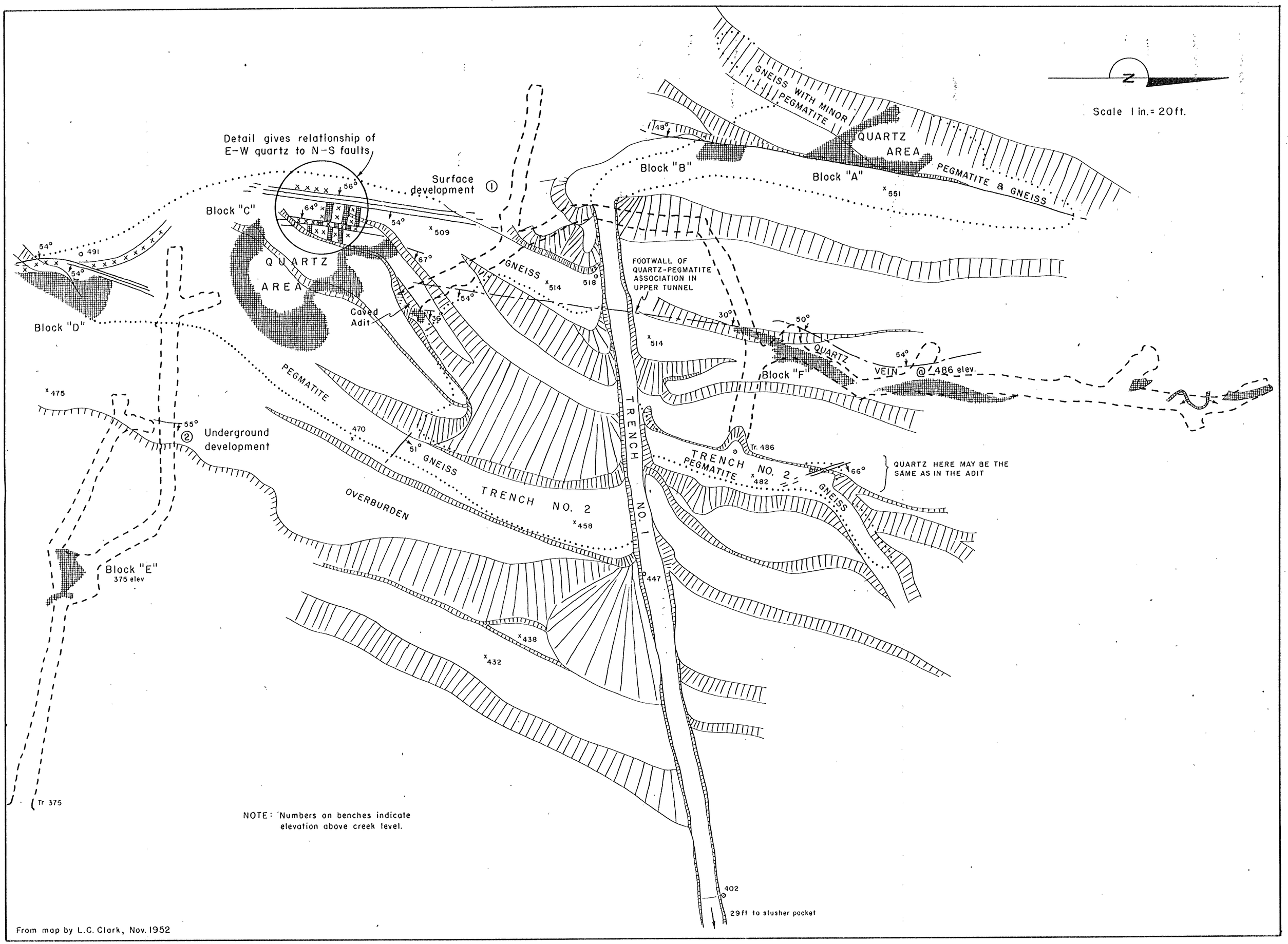
Mr. C. O. Mittendorf, Acting Administrator

Defense Minerals Exploration Administration

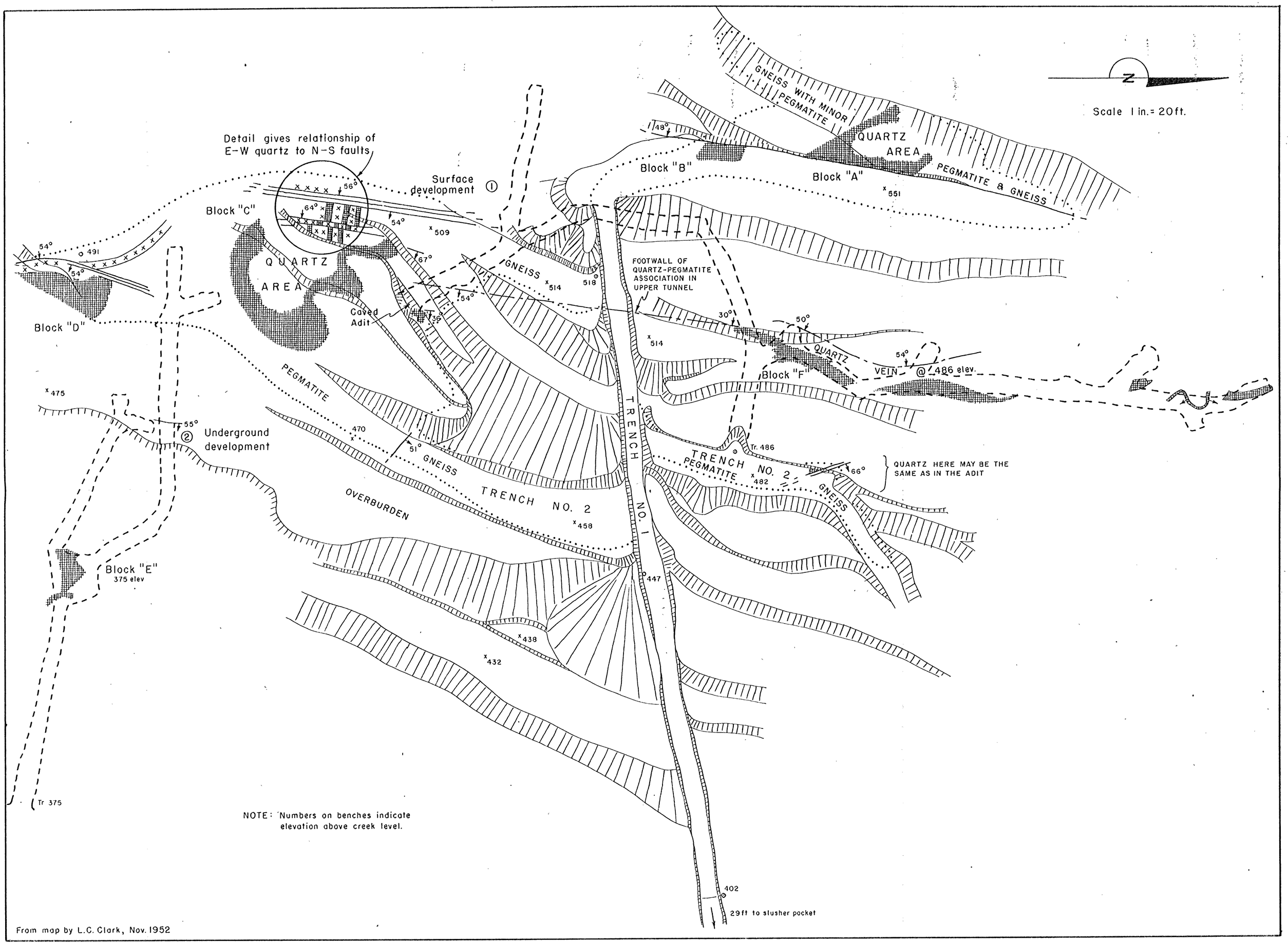
Department of Interior

Washington 25, D. C.

VIA AIR MAIL



Composite of surface & underground workings, Tungstar mine, Idaho County, Idaho



Composite of surface & underground workings, Tungstar mine, Idaho County, Idaho

Scale 1" = 100'

Plat of the
WORKINGS
Showing
Some Outcrops
and
Sampling
Cuts
proposed
on
Tungstar
Claims

Mullin Mines Inc.

Scale 1" = 100'

Plat of the
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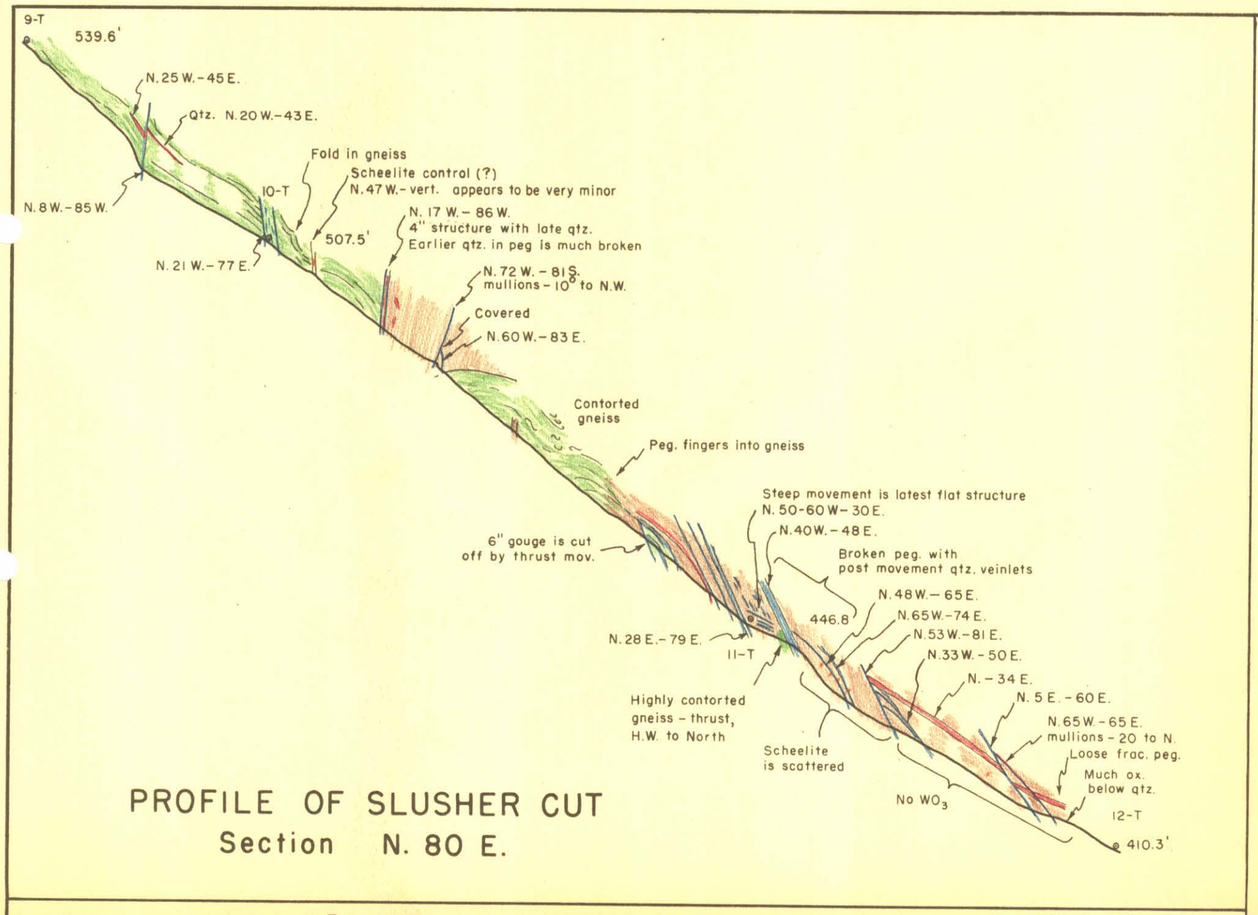
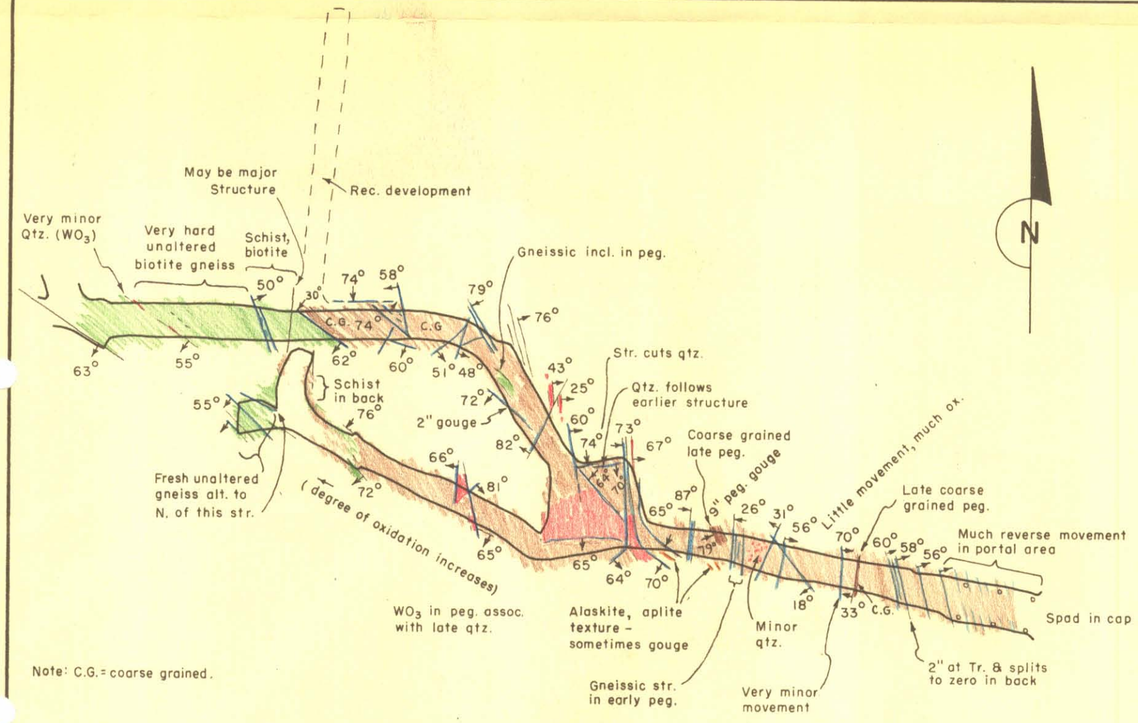


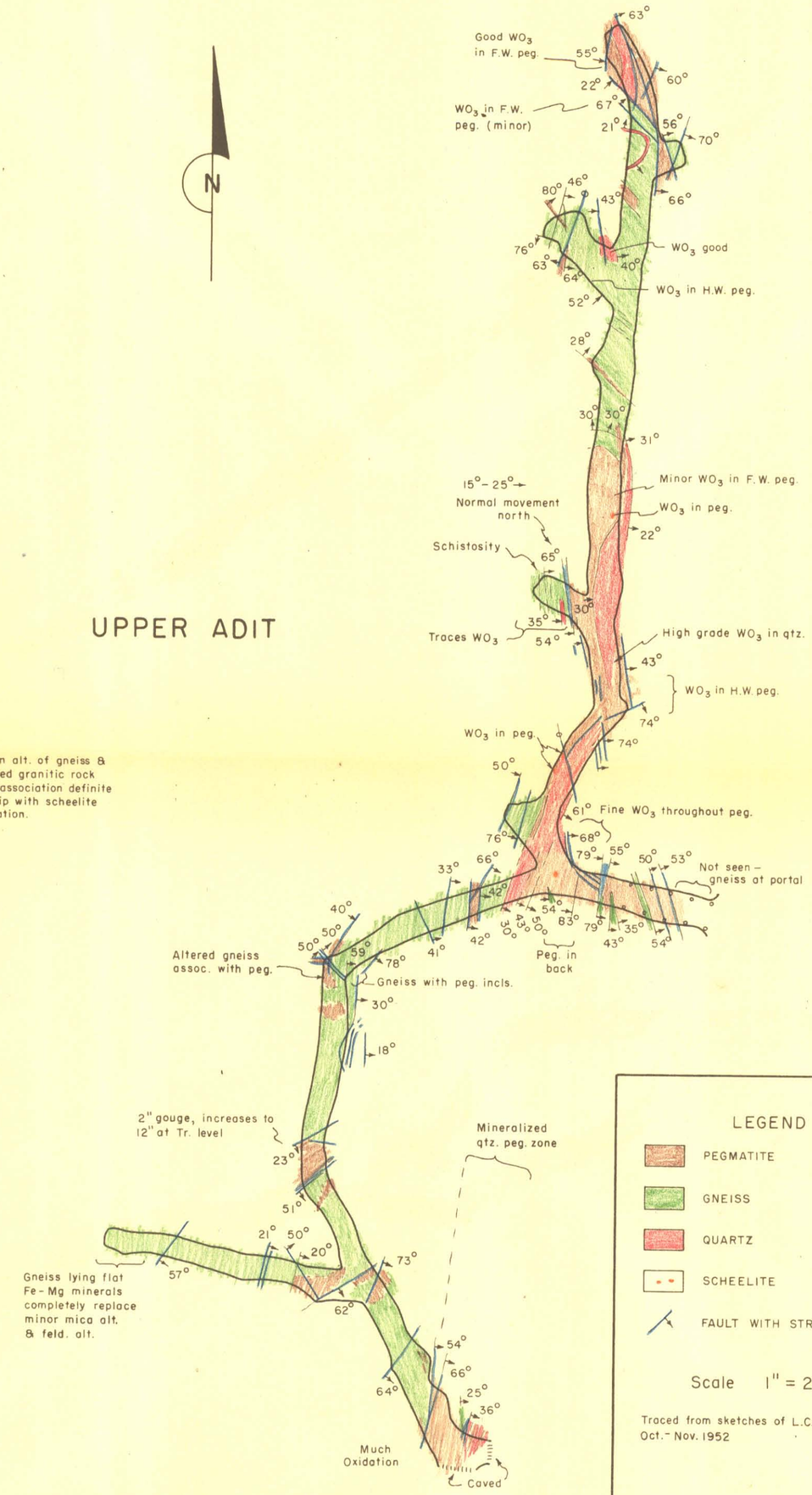
PROFILE OF SLUSHER CUT
Section N. 80 E.



LOWER ADIT
Plant elev.

UPPER ADIT

Note: Dark brown alt. of gneiss & fine grained granitic rock shows by association definite relationship with scheelite mineralization.



Tungstar mine, Idaho County, Idaho